Structural Calculations:

Turnlok 460 Access System

BS EN 12811 Checks and Safe Working Height Tables

Client: VR Access Solutions Ltd.

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Introduction

The following calculations assess the system scaffold against the requirements of BS EN 12811, and derive a set of safe working height tables for inclusion into the user guide if required. The calculations are split into two main sections, which cover the assessment of the working platform (Deck Assessments) and the calculation of the safe working height tables.

The method and results of the calculations are discussed in the following sections. The relevant analysis output is given in the Appendices at the end of the document.

Deck Assessments

The following deck arrangements are checked against the requirements of BS EN 12811 for Load Classes 1 – 6 with up to 3 inside boards:

- 2.5m x 1.3 Tubular Transom, Timber Board Deck
- 1.8m x 1.3 Tubular Transom, Timber Board Deck
- 2.5m x 1.3 Omega Transom, Steel Batten Deck
- 1.8m x 1.3 Omega Transom, Steel Batten Deck

The analysis shows that the above deck configurations are able to accommodate the requirements of Load Class 4 (+0 inside boards). The analysis output is given in Appendix A

System Safe Working Height Tables

Each scaffold configuration should comply with the requirements of cl 6.2.9.2 of BS EN 12811.1 for the following load combinations:

In Service Condition

Includes:

- Self weight
- Load class live load – 100% to primary level
- Load class live load – 50% to secondary level
- Working wind load to cl 6.2.7.4.2 or horizontal working load to cl 6.2.3

Working wind load = 0.2 kN/m^2 for full length of bay at 400mm high.

Horizontal working load = Minimum of 2.5% of live load or 0.3kN at working level. By inspection of bay geometry and loading, at maximum 2.5x1.3m and 3kN/m^2 the 0.3kN load is critical, therefore the 2.5% load is omitted from the analysis.

Out of Service Condition

Includes:

- Self weight
- Load class live load, on most unfavourable level, at:
  - Load class 1 0%
  - Load class 2,3 25%
  - Load class 4,5 50%

- Maximum wind load to cl 6.2.7.4.1 where:
  - Temporary nature factor is not less than 0.7
  - Loading is dependant on site location
  - For unsheeted scaffold a 200mm obstruction is allowed to the platform. On the loading spreadsheet this is allowed for by the toeboard area presented to the wind.

The critical condition from the above will control the safe working height.

Each wind/horizontal loading condition will produce a moment effect on the standards for each tie arrangement.

Using the known moment and axial capacity of the standard, a residual available axial capacity can then be determined. This can then be compared against axial loading for the number of lifts and a safe working height determined.

Wind Loading

Wind loadings to TG20:13 have been revised from those stated in TG20:08, however these calculations use the coefficients from TG20:08 with respect to the treatment of sheeting and netting.

TG20:08 (cl 39.10.4): $F = q \times C_{pe} \times A_e$

where C_{pe} = 0.5 for sheeting and 0.25 for netting.

TG20:13 (cl 4.2.3.1): $F = c_s \times c_f \times A \times q_p$

It can be seen that c_s and c_f combine to replace C_{pe} in the TG20:08 equation.

c_s and c_f vary depending on whether the applied wind is parallel or perpendicular to the frame, and whether the frame is windward or leeward. Combining the factors can cause a variation from 0.33 to 1.3 for a sheeted scaffold with wind normal, as an example.

As the subject of these calculations is typical assessments it is not possible to encompass all possibilities, and it is consider unconservative to adopt the upper bound figures for the wind factors, whilst the lower bound figures are below the original TG20:08 factors.

Therefore in the production of these calculations and resulting safe working height tables, the original TG20:08 factors are adopted in relation to sheeting (0.5) and netting (0.25).

Axial Loadings

- From the component weights and live loading conditions axial loads are determined for the bay sizes of 1.8m and 2.5m, each with a width of 1.3m.
- Axial loads are determined for the internal and external standards and the critical case used accordingly.
- The areas of wind loading at each lift are derived. For the unsheeted condition this is split into internal and external standards. For the debris netted and sheeted conditions the equivalent area, using the relevant porosity ratio, is calculated.

Frame Assessments

- The frames are modelled using software analysis. Geometric section properties are input as necessary. The testing phase of the project has derived the rotational stiffness of the transom-ledger and standard-ledger joints. This is represented as a spring stiffness applied to the node in the relevant axis of each of the joints.
- The frame is tied in accordance with the patterns A,B,D and E as identified in TG20:13 Fig 2.4 for an eight bay scaffold, and horizontal loads are applied to represent the various horizontal loading conditions.
- Within the frame analysis, out of service wind is applied as a unit load of 1 kN/m^2 and the bending effects of this are considered as a moment coefficient. This is later used to factor the moment up or down depending on the actual wind loading based on a site specific wind speed.
- Analysis of the frames makes provision for second order effects resulting from non linear geometry after the initial displacements occur.

Safe Working Height Tables

For the in service conditions, the status figure can be amended to reach unity by amending the number of lifts and therefore the axial loads. This will then provide a max height for each case, which can be compared to the out of service cases and the lower figure taken.

The out of service cases can be applied to numerous locations and wind intensity values as they are derived through the use of the 'S_{wind}' value – site wind speed, as defined by TG20:13. These site wind speeds are ultimately multiplied by the moment coefficient resulting from the unit wind load to provide an actual moment resulting from a specific wind load.

The resulting moment in the frame is then entered into a unity calculation using the known tube moment capacity and the axial capacity of the standard for the specific bay arrangement and tie pattern, yielding a residual axial capacity, which is then compared against the table of axial loads per number of lifts, giving a number of lifts allowed. Through this procedure, a safe working height can be given for each site wind speed.

A theoretical reduction is present where 2 and 3 board hop up brackets are used, as the diagonal strut element imposes a horizontal reaction into the standard, which is resisted by bending of the standard. The 1 board hop up is a simple cantilever with the ledger as the back span; as there is no strut, there is no reduction in bending of the standard. In reality the platforms are unlikely to be applied to the mid or lower levels where the maximum moment/axial combinations are commonly seen, and it is therefore considered to be excessively conservative to apply this reduction, and it is therefore omitted from the analysis.

The following tables give the safe working heights for the system for the configuration noted at the head of the table. The analysis output is given in Appendix B.

Wind Loads Normal to Façade

W'kg Wind Normal (kN/m^2) 0.20

1.80m Bays

OUT OF SERVICE CONDITION				IN SERVICE
Arrangement	Area (m^2)		Load (kN)	Load (kN)
	0.224		0.224	0.045
Std Ledger Sum	0.1x1.2 0.087x1.2 0.224			
	0.302		0.302	0.060
Std Ledger Brace Sum	0.1x1.2 0.087x1.2 0.13/2 x 1.2 0.302			
	1.15		1.150	0.230
Std Ledger 2 x Guard 0.2m Zone Sum With 0.4m Zone (no cp on 0.4)	0.1x1.2 0.087x1.2 0.087x2x1.2 0.36x2 1.15 1.15			
	1.228		1.228	0.246
Std Ledger 2 x Guard Brace 0.2m Zone Sum With 0.4m Zone	0.1x1.2 0.087x1.2 0.087x2x1.2 0.13/2 x 1.2 0.36x2 1.228 1.228			

2.50m Bays

OUT OF SERVICE CONDITION				IN SERVICE
Arrangement	Area (m^2)		Load (kN)	Load (kN)
	0.263		0.263	0.053
Std Ledger Sum	0.1x1.2 0.121x1.2 0.263			
	0.355		0.355	0.071
Std Ledger Brace Sum	0.1x1.2 0.121x1.2 0.154/2 x 1.2 0.355			
	1.556		1.556	0.311
Std Ledger 2 x Guard 0.2m Zone Sum With 0.4m Zone (no cp on 0.4)	0.1x1.2 0.121x1.2 0.121x2x1.2 0.5x2 1.556 1.556			
	1.648		1.648	0.330
Std Ledger 2 x Guard Brace 0.2m Zone Sum With 0.4m Zone	0.1x1.2 0.121x1.2 0.121x2x1.2 0.154/2 x 1.2 0.5x2 1.648 1.648			

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	28	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	32	6	30	6	28	8	30	8	28	6	30	6	28	8	30	8	28
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-0	40	0	16	0	16	4	18	4	18	0	16	0	16	4	18	4	18
	20	16	30	16	28	16	30	16	28	8	26	8	24	8	26	8	24
	24	16	30	16	28	16	30	16	28	8	26	8	24	8	26	8	24
	28	10	30	8	28	12	30	10	28	8	26	8	24	8	26	8	24
	32	4	28	4	28	8	28	8	28	4	26	4	24	8	26	8	24
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-1	40	0	16	0	16	0	18	0	16	0	16	0	16	0	18	0	16
	20	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	24	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	28	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	32	4	24	4	20	6	24	6	20	0	8	0	6	0	8	0	6
	36	0	22	0	20	4	22	4	20	0	8	0	6	0	8	0	6
3-5-2	40	0	16	0	14	0	18	0	16	0	8	0	6	0	8	0	6
	20	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	24	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	28	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	32	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	36	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
3-5-3	40	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	20	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	24	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	28	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	32	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	36	0	16	0	16	4	16	4	16	0	16	0	16	4	16	4	16
4-5-0	40	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	20	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	24	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	28	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	32	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	36	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
4-5-1	40	0	14	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	28	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	32	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	36	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	8	28	8	26	8	28	8	26	8	28	8	26	8	28	8	26
	24	4	26	4	24	6	26	6	26	4	26	4	24	6	26	6	26
	28	0	16	0	16	4	18	4	18	0	16	0	16	4	18	4	18
	32	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	36	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
3-5-0	40	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	20	4	26	4	24	4	26	4	24	0	20	0	16	0	20	0	16
	24	4	26	4	24	4	26	4	24	0	20	0	16	0	20	0	16
	28	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	16
	32	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	36	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
3-5-1	40	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6
	20	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	24	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	28	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	32	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	36	0	6	0	4	0	8	0	8	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
	20	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	24	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	28	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	32	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	36	0	4	0	4	0	6	0	4	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	24	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	28	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	32	0	10	0	8	0	12	0	10	0	10	0	8	0	12	0	10
	36	0	6	0	4	0	8	0	8	0	6	0	4	0	8	0	8
4-5-0	40	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
	20	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	24	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	28	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	32	0	8	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	36	0	4	0	4	0	8	0	8	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	0	16	0	16	0	18	0	16	0	16	0	16	0	18	0	16
	24	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
	28	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	16	0	14	0	16	0	14	0	10	0	8	0	10	0	8
	24	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	8
	28	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	6	0	4	0	6	0	4	0	0	0	0	0	0	0	0
	24	0	6	0	4	0	6	0	4	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0
	28	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	26	30	26	30	28	30	28	30	26	30	26	30	28	30	28	30
	28	18	30	18	30	18	30	18	30	18	30	18	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
3-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
3-5-1s	40	0	28	0	30	6	30	6	30	0	28	0	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	16	30	16	30	16	30	16	30
	24	26	30	26	30	26	30	26	30	16	30	16	30	16	30	16	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	16	30	16	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	4	30	4	30	8	30	8	30
3-5-2s	40	0	28	0	30	6	30	6	30	0	28	0	30	4	30	4	30
	20	24	30	24	30	24	30	24	30	6	26	6	22	6	26	6	22
	24	24	30	24	30	24	30	24	30	6	26	6	22	6	26	6	22
	28	16	30	16	30	18	30	18	30	6	26	6	22	6	26	6	22
	32	10	30	10	30	12	30	12	30	6	26	6	22	6	26	6	22
	36	6	30	6	30	8	30	8	30	4	26	4	22	6	26	6	22
3-5-3s	40	0	28	0	30	6	28	6	30	0	26	0	22	4	26	4	22
	20	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	24	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
4-5-0s	40	0	28	0	30	4	28	4	30	0	28	0	30	4	28	4	30
	20	22	30	22	30	22	30	22	30	12	30	12	26	12	30	12	26
	24	22	30	22	30	22	30	22	30	12	30	12	26	12	30	12	26
	28	16	30	16	30	18	30	18	30	12	30	12	26	12	30	12	26
	32	8	30	8	30	12	30	12	30	8	30	8	26	12	30	12	26
	36	4	30	4	30	8	30	8	30	4	30	4	26	8	30	8	26
4-5-1s	40	0	28	0	30	4	28	4	30	0	28	0	26	4	28	4	26
	20	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	24	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	28	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	32	8	30	8	30	12	30	12	30	0	12	0	8	0	12	0	8
	36	4	30	4	30	8	30	8	30	0	12	0	8	0	12	0	8
4-5-2s	40	0	28	0	30	4	28	4	30	0	12	0	8	0	12	0	8
	20	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	24	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	28	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	32	8	28	8	26	10	28	10	26	0	0	0	0	0	0	0	0
	36	4	28	4	26	8	28	8	26	0	0	0	0	0	0	0	0
4-5-3s	40	0	28	0	26	4	28	4	26	0	0	0	0	0	0	0	0

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	26	0	26	4	26	4	26	0	26	0	26	4	26	4	26
	36	0	18	0	18	0	20	0	20	0	18	0	18	0	20	0	20
3-5-0s	40	0	12	0	12	0	14	0	12	0	12	0	12	0	14	0	12
	20	20	30	20	30	22	30	22	30	20	30	20	30	22	30	22	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	36	0	18	0	16	0	20	0	18	0	18	0	16	0	20	0	18
3-5-1s	40	0	12	0	10	0	12	0	12	0	12	0	10	0	12	0	12
	20	20	30	20	30	22	30	22	30	12	30	12	30	12	30	12	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	36	0	18	0	16	0	20	0	18	0	18	0	16	0	20	0	18
3-5-2s	40	0	12	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	16	30	16	30	16	30	16	30	0	22	0	16	0	22	0	16
	24	10	30	10	30	12	30	12	30	0	22	0	16	0	22	0	16
	28	4	30	4	30	8	30	8	30	0	22	0	16	0	22	0	16
	32	0	26	0	24	4	26	4	26	0	22	0	16	0	22	0	16
	36	0	18	0	16	0	20	0	18	0	16	0	16	0	18	0	16
3-5-3s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	36	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	18
4-5-0s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	14	30	14	30	14	30	14	30	4	26	4	24	4	26	4	24
	24	10	30	10	30	12	30	12	30	4	26	4	24	4	26	4	24
	28	4	30	4	30	6	30	6	30	4	26	4	24	4	26	4	24
	32	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	36	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	18
4-5-1s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	8	30	8	28	8	30	8	28	0	8	0	4	0	8	0	4
	24	8	30	8	28	8	30	8	28	0	8	0	4	0	8	0	4
	28	4	30	4	28	6	30	6	28	0	8	0	4	0	8	0	4
	32	0	24	0	24	4	26	4	24	0	8	0	4	0	8	0	4
	36	0	16	0	16	0	18	0	18	0	8	0	4	0	8	0	4
4-5-2s	40	0	10	0	10	0	12	0	12	0	8	0	4	0	8	0	4
	20	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	24	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	28	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	32	0	24	0	22	0	24	0	22	0	0	0	0	0	0	0	0
	36	0	16	0	16	0	18	0	18	0	0	0	0	0	0	0	0
4-5-3s	40	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	24	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	28	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	4	0	0	0	6	0	6
3-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	6	30	6	30	4	30	4	30	4	30	4	30
	24	0	22	0	20	4	24	4	22	0	22	0	20	4	24	4	22
	28	0	12	0	12	0	14	0	12	0	12	0	12	0	14	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6
3-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	4	30	4	30	0	26	0	22	0	26	0	22
	24	0	22	0	20	0	22	4	22	0	22	0	20	0	22	0	22
	28	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	4
3-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	30	0	28	0	30	0	28	0	14	0	10	0	14	0	10
	24	0	22	0	20	0	22	0	22	0	14	0	10	0	14	0	10
	28	0	12	0	10	0	14	0	12	0	10	0	10	0	12	0	10
	32	0	6	0	6	0	8	0	8	0	6	0	4	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4
3-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	0
	20	0	28	0	26	0	28	0	26	0	14	0	10	0	14	0	10
	24	0	20	0	20	0	22	0	20	0	20	0	20	0	22	0	20
	28	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
4-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	28	0	24	0	28	0	24	0	16	0	14	0	16	0	14
	24	0	20	0	20	0	22	0	20	0	16	0	14	0	16	0	14
	28	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
4-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	22	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	24	0	20	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	28	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	32	0	6	0	6	0	8	0	8	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
4-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	24	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	28	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	32	0	6	0	4	0	8	0	8	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
4-5-3s	40	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0

2500 Bay Omega Transom

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	28	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	32	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
	36	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
3-5-0	40	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	20	30	30	30	30	30	30	30	30	28	30	28	30	28	30	28	30
	24	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	28	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	32	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
	36	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
3-5-1	40	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	20	24	30	24	30	24	30	24	30	10	30	10	30	10	30	10	30
	24	22	30	22	30	24	30	24	30	10	30	10	30	10	30	10	30
	28	12	30	12	30	14	30	14	30	10	30	10	30	10	30	10	30
	32	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
	36	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
3-5-2	40	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	20	16	30	16	30	16	30	16	30	0	16	0	16	0	16	0	16
	24	16	30	16	30	16	30	16	30	0	16	0	16	0	16	0	16
	28	12	30	12	30	14	30	14	30	0	16	0	16	0	16	0	16
	32	6	30	6	30	8	30	8	30	0	16	0	16	0	16	0	16
	36	0	30	0	30	6	30	6	30	0	16	0	16	0	16	0	16
3-5-3	40	0	24	0	22	4	24	4	24	0	16	0	16	0	16	0	16
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	28	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	32	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	36	4	30	4	28	6	30	6	30	4	30	4	28	6	30	6	30
4-5-0	40	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	20	16	30	16	30	16	30	16	30	4	26	4	24	4	26	4	24
	24	16	30	16	30	16	30	16	30	4	26	4	24	4	26	4	24
	28	12	30	12	30	14	30	14	30	4	26	4	24	4	26	4	24
	32	6	30	6	30	8	30	8	30	4	26	4	24	4	26	4	24
	36	4	30	4	28	6	30	6	28	4	26	4	24	4	26	4	24
4-5-1	40	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	20	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	24	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	28	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	32	6	30	6	28	8	30	8	28	0	0	0	0	0	0	0	0
	36	0	30	0	28	6	30	6	28	0	0	0	0	0	0	0	0
4-5-2	40	0	22	0	22	4	24	4	22	0	0	0	0	0	0	0	0
	20	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	24	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	28	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	32	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	36	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
4-5-3	40	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	32	0	14	0	14	0	18	0	16	0	14	0	14	0	18	0	16
	36	0	8	0	8	0	12	0	10	0	8	0	8	0	12	0	10
3-5-0	40	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	20	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	32	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
3-5-1	40	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	20	12	30	12	30	12	30	12	30	0	26	0	24	0	26	0	24
	24	4	30	4	30	8	30	8	30	0	26	0	24	0	26	0	24
	28	0	24	0	24	4	26	4	24	0	24	0	22	0	26	0	24
	32	0	14	0	14	0	16	0	16	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
3-5-2	40	0	4	0	4	0	8	0	6	0	4	0	4	0	6	0	6
	20	0	30	0	28	0	30	0	28	0	12	0	10	0	12	0	10
	24	0	30	0	28	0	30	0	28	0	12	0	10	0	12	0	10
	28	0	24	0	22	0	26	0	24	0	12	0	10	0	12	0	10
	32	0	14	0	12	0	16	0	14	0	12	0	10	0	12	0	10
	36	0	8	0	8	0	10	0	10	0	6	0	6	0	10	0	8
3-5-3	40	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	20	8	30	8	30	8	30	8	30	8	30	8	30	8	30	8	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	32	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
4-5-0	40	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	20	4	30	4	30	4	30	4	30	0	20	0	16	0	20	0	16
	24	4	30	4	30	4	30	4	30	0	20	0	16	0	20	0	16
	28	0	22	0	22	4	24	4	22	0	20	0	16	0	20	0	16
	32	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
4-5-1	40	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	20	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	24	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	28	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	32	0	14	0	12	0	16	0	14	0	0	0	0	0	0	0	0
	36	0	8	0	8	0	10	0	10	0	0	0	0	0	0	0	0
4-5-2	40	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0
	20	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	24	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	28	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	32	0	12	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	36	0	6	0	6	0	10	0	8	0	0	0	0	0	0	0	0
4-5-3	40	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	0	24	0	22	0	26	0	24	0	24	0	22	0	26	0	24
	24	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	28	0	6	0	4	0	8	0	8	0	6	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	24	0	22	0	24	0	24	0	24	0	22	0	24	0	24
	24	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	24	0	22	0	24	0	24	0	16	0	12	0	16	0	12
	24	0	12	0	10	0	14	0	12	0	10	0	10	0	12	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	20	0	16	0	20	0	16	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	28	0	4	0	4	0	8	0	6	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	22	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	22	0	20	0	22	0	20	0	8	0	6	0	8	0	6
	24	0	10	0	10	0	12	0	12	0	8	0	6	0	8	0	6
	28	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	12	0	10	0	12	0	10	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	10	0	0	0	0	0	0	0	0
	28	0	4	0	4	0	8	0	6	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	28	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
3-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
3-5-1s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	6	30	6	30	10	30	10	30
3-5-2s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	24	30	24	30	24	30	24	30
	24	30	30	30	30	30	30	30	30	24	30	24	30	24	30	24	30
	28	22	30	22	30	24	30	24	30	20	30	20	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
3-5-3s	40	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
4-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
4-5-1s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	12	30	12	30	12	30	12	30
	24	30	30	30	30	30	30	30	30	12	30	12	30	12	30	12	30
	28	22	30	22	30	22	30	22	30	12	30	12	30	12	30	12	30
	32	12	30	12	30	14	30	14	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
4-5-2s	40	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
	20	28	30	28	30	28	30	28	30	0	16	0	16	0	16	0	16
	24	28	30	28	30	28	30	28	30	0	16	0	16	0	16	0	16
	28	20	30	20	30	22	30	22	30	0	16	0	16	0	16	0	16
	32	12	30	12	30	14	30	14	30	0	16	0	16	0	16	0	16
	36	6	30	6	30	8	30	8	30	0	16	0	16	0	16	0	16
4-5-3s	40	4	30	4	30	6	30	6	30	0	16	0	16	0	16	0	16

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-0s	40	0	14	0	12	0	16	0	16	0	14	0	12	0	16	0	16
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-1s	40	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	12	30	12	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	4	30	4	30
	36	0	22	0	22	4	24	4	22	0	22	0	20	0	24	0	22
3-5-2s	40	0	14	0	12	0	16	0	14	0	12	0	12	0	16	0	14
	20	28	30	28	30	28	30	28	30	16	30	16	30	16	30	16	30
	24	12	30	12	30	16	30	16	30	12	30	12	30	14	30	14	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	4	30	4	30	0	30	0	30	4	30	4	30
	36	0	22	0	20	0	24	0	22	0	20	0	18	0	22	0	20
3-5-3s	40	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	20	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	20	4	22	4	22	0	22	0	20	4	22	4	22
4-5-0s	40	0	12	0	12	0	16	0	14	0	12	0	12	0	16	0	14
	20	26	30	26	30	26	30	26	30	22	30	22	30	22	30	22	30
	24	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	20	0	20	0	22	0	22	0	20	0	20	0	22	0	22
4-5-1s	40	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	20	24	30	24	30	24	30	24	30	4	30	4	30	4	30	4	30
	24	12	30	12	30	14	30	14	30	4	30	4	30	4	30	4	30
	28	6	30	6	30	8	30	8	30	4	30	4	30	4	30	4	30
	32	0	30	0	30	4	30	4	30	0	30	0	30	4	30	4	30
	36	0	20	0	20	0	22	0	22	0	20	0	18	0	22	0	20
4-5-2s	40	0	12	0	12	0	14	0	14	0	12	0	10	0	14	0	14
	20	16	30	16	30	16	30	16	30	0	14	0	12	0	14	0	12
	24	12	30	12	30	14	30	14	30	0	14	0	12	0	14	0	12
	28	6	30	6	30	8	30	8	30	0	14	0	12	0	14	0	12
	32	0	30	0	30	4	30	4	30	0	14	0	12	0	14	0	12
	36	0	20	0	20	0	22	0	22	0	14	0	12	0	14	0	12
4-5-3s	40	0	12	0	12	0	14	0	14	0	10	0	10	0	12	0	12

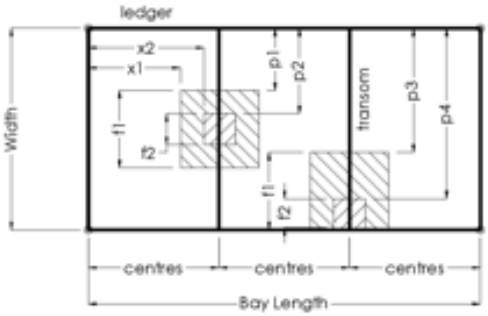
1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	28	0	26	4	28	4	26	0	28	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
3-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	26	0	26	4	28	4	26	0	26	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
3-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	26	0	26	0	28	4	26	0	26	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	12	0	16	0	14
	32	0	8	0	6	0	10	0	10	0	6	0	6	0	10	0	8
	36	0	4	0	4	0	6	0	6	0	4	0	0	0	6	0	6
3-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	26	4	28	4	26	0	26	0	24	0	26	0	26
	28	0	14	0	12	0	16	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	0	0	0	0	6	0	4
3-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	28	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
4-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	24	4	26	4	26	0	26	0	24	0	26	0	26
	28	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	10	0	8
	36	0	4	0	0	0	6	0	6	0	4	0	0	0	6	0	6
4-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	4	30	4	30	0	22	0	20	0	22	0	20
	24	0	26	0	24	4	26	4	26	0	22	0	20	0	22	0	20
	28	0	14	0	12	0	16	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	0	0	0	0	6	0	4
4-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	30	0	30	0	30	0	30	0	4	0	0	0	4	0	0
	24	0	26	0	24	0	26	0	26	0	4	0	0	0	4	0	0
	28	0	12	0	12	0	14	0	14	0	4	0	0	0	4	0	0
	32	0	6	0	6	0	8	0	8	0	4	0	0	0	4	0	0
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	0
4-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0

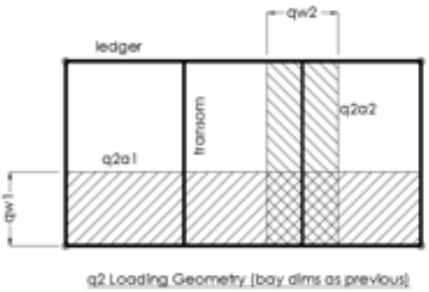
Appendix A – Deck Assessments

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Deck Geometry: Two tube transoms in 2.5m bay



q1, F1 and F2 and Bay Geometry



q2 Loading Geometry (bay dims as previous)

Bay Length:	2.5	m
Bay Width:	1.3	m
Centres:	0.833	m
f1:	0.5	m
f2	0.2	m
p1:	0.4	m
p2:	0.55	m
p3:	0.8	m
p4:	1.1	m
x1:	0.58	m
x2:	0.73	m
qw1,2:	Refer to 'Load to Transoms'	

Load Classes:

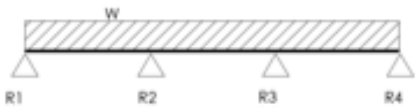
Class	q1 kN/m²	f1 kN	f2 kN	q2 kN/m²	a_p
1	0.75	1.5	1.0		
2	1.5	1.5	1.0		
3	2.0	1.5	1.0		
4	3.0	3.0	1.0	5.0	0.4
5	4.5	3.0	1.0	7.5	0.4
6	6.0	3.0	1.0	10.0	0.5

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Load to Transoms:

Treat boards over transoms as simply supported in accordance with guidance in TG20:13

q1: UDL General Case



R1	0.5	(Reaction co-efficients,
R2	1	ie load x board span x
R3	1	co-efficient = kN/m)
R4	0.5	

f1: Patch Load Specific to 833 Centres

R1	0.02
R2	0.95
R3	0.03
R4	0.00

f2: Patch Load Specific to 833 Centres

R1	0.0
R2	1.0
R3	0.0
R4	0.0

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

LC4	1.3	m^2
LC5	1.3	m^2
LC6	1.625	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

	qw1	qw2	
LC4	0.52	1.00	m
LC5	0.52	1.00	m
LC6	0.65	1.25	m

	A1	A2 LC4,5	A2 LC6	Specific to 833 Centres
R1	0.500	0.000	0.000	
R2	1.000	0.150	0.200	
R3	1.000	0.700	0.600	
R4	0.500	0.150	0.200	

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Transom Forces:

Assess as simply supported beams. This will be the case for intermediate transoms, but some fixity is present for transoms connected into the standards.

Notes on table:

1) Deck reaction is the applied load (x centres for UDLs) x reaction coefficients derived above. For Q2a2, total equals load x qw2 x coefficient

2) Load to transom is the total load. This is the reaction multiplied by the transom length for the q1 and q2a2 case, or the actual reaction for the patch loads

3) Transom bending moment and deflection:

UDL: $M = \frac{Wl}{8}$ $\delta = \frac{5Wl^3}{384EI}$

Patch loads are idealised as point loads about their centre:

CPL: $M = \frac{Pl}{4}$ $\delta = \frac{Pl^3}{48EI}$

Offset: $M = \frac{Pab}{l}$ $\delta = 1.025\left(\frac{Pl^3}{48EI}\right)\left(\frac{3a}{l} - 4\left(\frac{a}{l}\right)^3\right)$

where a is the smaller dimension from support to the point load

Moments are compared against known moment capacity of transom, stated below.
Deflections are compared against L/100

Deck Self Weight:	0.25	kN/m^2	38mm boards
Transom Moment Capacity	1.78	kN.m	
Transom Ixx	115856	mm^4	
Steel E	210000	N/mm^2	

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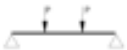
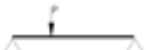
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		Deck Reaction kN or kN/m				kN	kn.m	mm			Transom Reactions kN	
Load	Class	R1	R2	R3	R4	Load to trans'	Trans' BM	Trans Δ	M check	Δ check	R_L	R_R
Deck		0.10	0.21	0.21	0.10	0.27	0.04	0.3	Pass	Pass	0.14	0.14
q1	1	0.31	0.63	0.63	0.31	0.81	0.13	1.0	Pass	Pass	0.41	0.41
	2	0.63	1.25	1.25	0.63	1.63	0.26	1.9	Pass	Pass	0.81	0.81
	3	0.83	1.67	1.67	0.83	2.17	0.35	2.5	Pass	Pass	1.08	1.08
	4	1.25	2.50	2.50	1.25	3.25	0.53	3.8	Pass	Pass	1.63	1.63
	5	1.88	3.75	3.75	1.88	4.88	0.79	5.7	Pass	Pass	2.44	2.44
	6	2.50	5.00	5.00	2.50	6.5	1.06	7.6	Pass	Pass	3.25	3.25
f1a	1	0.03	1.43	0.05	0.00	1.43	0.46	2.7	Pass	Pass	0.71	0.71
	2	0.03	1.43	0.05	0.00	1.43	0.46	2.7	Pass	Pass	0.71	0.71
	3	0.03	1.43	0.05	0.00	1.43	0.46	2.7	Pass	Pass	0.71	0.71
	4	0.06	2.85	0.09	0.00	2.85	0.93	5.4	Pass	Pass	1.43	1.43
	5	0.06	2.85	0.09	0.00	2.85	0.93	5.4	Pass	Pass	1.43	1.43
	6	0.06	2.85	0.09	0.00	2.85	0.93	5.4	Pass	Pass	1.43	1.43
f1b	1	0.03	1.425	0.045	0.00	1.43	Reactions derived only. F1a more critical for design of transom by inspection. Reactions used for ledger check as worst case.				1.15	0.27
	2	0.03	1.425	0.045	0.00	1.43					1.15	0.27
	3	0.03	1.425	0.045	0.00	1.43					1.15	0.27
	4	0.06	2.85	0.09	0.00	2.85					2.30	0.55
	5	0.06	2.85	0.09	0.00	2.85					2.30	0.55
	6	0.06	2.85	0.09	0.00	2.85					2.30	0.55
f2a	1	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
	2	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
	3	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
	4	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
	5	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
	6	0.00	1.00	0.00	0.00	1.00	0.33	1.9	Pass	Pass	0.50	0.50
f2b	1	0.00	1.00	0.00	0.00	1.00	Reactions derived only. F2a more critical for design of transom by inspection. Reactions used for ledger check as worst case.				0.92	0.08
	2	0.00	1.00	0.00	0.00	1.00					0.92	0.08
	3	0.00	1.00	0.00	0.00	1.00					0.92	0.08
	4	0.00	1.00	0.00	0.00	1.00					0.92	0.08
	5	0.00	1.00	0.00	0.00	1.00					0.92	0.08
	6	0.00	1.00	0.00	0.00	1.00					0.92	0.08
q2a1	1	n/a										
	2											
	3											
	4	1.08	2.17	2.17	1.08	2.17	0.45	1.471	Pass	Pass	1.73	0.43
	5	1.63	3.25	3.25	1.63	3.25	0.68	2.206	Pass	Pass	2.60	0.65
	6	2.71	5.42	5.42	2.71	5.42	1.32	5.875	Pass	Pass	4.06	1.35
q2a2	1	n/a										
	2											
	3											
	4	0.00	0.75	3.50	0.75	4.55	0.74	5.3	Pass	Pass	2.28	2.28
	5	0.00	1.13	5.25	1.13	6.83	1.11	8.0	Pass	Pass	3.41	3.41
	6	0.00	2.50	7.50	2.50	9.75	1.58	11.5	Pass	Pass	4.88	4.88

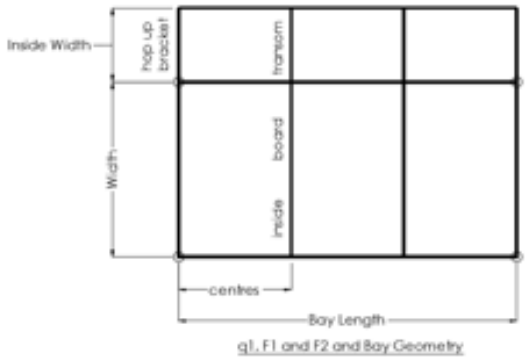
Ledger Assessments:

The reactions from the transom, calculated above, are applied to the ledgers as point loads at the relevant point and analysed using software to take advantage of the end fixity available. The following table summarises the loads and results. Refer to output for analysis details.

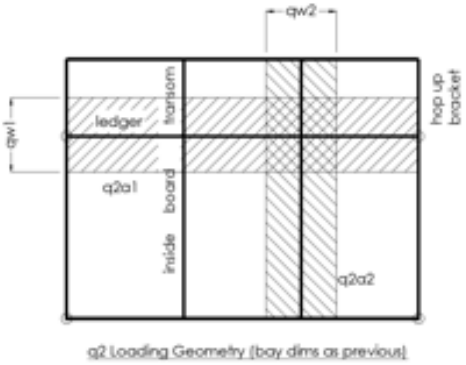
Ledger Moment Capacity, mid span sag: 1.78 kN.m
Ledger Moment Capacity, support hog: 2.05 kN.m

PC Load Ref	Type	 P =(kN)		 P= (kN)		M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check
D1	Deck	0.14	0.14	0.14	0.14						
L1	q1 LC1	0.41	0.41			0.25	0.23	5.22	Pass	Pass	Pass
L2	q1 LC2	0.81	0.81			0.43	0.39	8.81	Pass	Pass	Pass
L3	q1 LC3	1.08	1.08			0.55	0.5	11.2	Pass	Pass	Pass
L4	q1 LC4	1.63	1.63			0.79	0.71	16.2	Pass	Pass	Pass
L5	q1 LC5	2.44	2.44			1.14	1.04	23.4	Pass	Pass	Pass
L6	q1 LC6	3.25	3.25			1.49	1.36	30.7	Pass	Pass	Fail
F1	f1b LC4			2.30		0.7	0.8	12.1	Pass	Pass	Pass
	f1b LC5			2.30					Pass	Pass	Pass
	f1b LC6			2.30					Pass	Pass	Pass
F2	f2b LC4			0.92		0.32	0.36	5.8	Pass	Pass	Pass
	f2b LC5			0.92					Pass	Pass	Pass
	f2b LC6			0.92					Pass	Pass	Pass
J1	q2a1 4	1.73	1.73			0.83	0.75	17.1	Pass	Pass	Pass
J2	q2a1 5	2.60	2.60			1.21	1.1	24.9	Pass	Pass	Pass
J3	q2a1 6	4.06	4.06			1.85	1.68	38	Pass	Pass	Fail
K1	q2a2 4	2.28	0.49			0.76	0.83	13.9	Pass	Pass	Pass
K2	q2a2 5	3.41	0.73			1.1	1.21	20	Pass	Pass	Pass
K3	q2a2 6	4.88	1.63			1.54	1.7	27.9	Pass	Pass	Fail

Internal Board Arrangements:



q1, F1 and F2 and Bay Geometry



q2 Loading Geometry (bay dims as previous)

Inside Widths:	+1	0.290	m
	+2	0.515	m
	+3	0.745	m

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

	+1	+2	+3	
LC4	1.59	1.82	2.05	m^2
LC5	1.59	1.82	2.05	m^2
LC6	1.99	2.27	2.56	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

qw1 dimension

	+1	+2	+3	
LC4	0.64	0.73	0.82	m
LC5	0.64	0.73	0.82	m
LC6	0.80	0.91	1.02	m

qw2 dimension

	+1	+2	+3	
LC4	1.00	1.00	1.00	m
LC5	1.00	1.00	1.00	m
LC6	1.25	1.25	1.25	m

For qw2 use coefficients as derived previous due to similar widths

	A1	A2 LC4,5	A2 LC6
R1	0.500	0.000	0.000
R2	1.000	0.150	0.200
R3	1.000	0.700	0.600
R4	0.500	0.150	0.200

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For the configuration shown in the diagram, the reaction coefficients for the deck load reactions to the ledgers is as derived previously excepting as noted above for partial area loads. Therefore the kn/m = load intensity x centres x reaction coefficeint
For q2a1 kN/m is shown.
For q2a2 kN/m to transom is shown

		Deck Reaction kN/m			
Load	Class	R1	R2	R3	R4
Deck		0.10	0.21	0.21	0.10
q1	1	0.31	0.63	0.63	0.31
kn/m	2	0.63	1.25	1.25	0.63
	3	0.83	1.67	1.67	0.83
	4	1.25	2.50	2.50	1.25
	5	1.88	3.75	3.75	1.88
	6	2.50	5.00	5.00	2.50
f1		With respect to ledger and transom, worst case position of 'F' loads has been checked under the no inside board condition			
f2					
q2a1		n/a			
kN/m	4	2.08	4.17	4.17	2.08
	5	3.13	6.25	6.25	3.13
	6	4.17	8.33	8.33	4.17
q2a2		n/a			
kN/m	4	0.00	0.75	3.50	0.75
	5	0.00	1.13	5.25	1.13
	6	0.00	2.00	6.00	2.00

Inside board arrangements: Inside Board Transom Checks

Inside board transoms for +2 and +3 are two simply supported members with respect to the analysis. Therefore the transom check for +0 represents the worst case check (ie the largest span). For the +1 condition the transom cantilevers and this is checked for the bay configuration with one transom within the bay as the nominally worst case.

The transom loadings derived above are input into an analysis model representing the deck assembly, and the forces on the worst case ledger (which is between the main and internal platforms)are checked in the table below.

Inside board arrangements: Ledger Checks

The analysis of the ledgers where inside boards are present is done by software to take advantage of the end rotational fixity of the ledger to standard connection, and the interaction of the deck components. The 'R max' column is the reaction at the end of the ledger at the inside platform, and is applied as a point load (x2 for UDL) to the hop up bracket during analysis.

	PC Load Ref	Type	M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check	R Max
+1 inside board	D1	Deck							
	L1	q1 LC1	0.39	0.35	6.6	Pass	Pass	Pass	n/a
	L2	q1 LC2	0.65	0.59	11.2	Pass	Pass	Pass	n/a
	L3	q1 LC3	0.83	0.75	14.3	Pass	Pass	Pass	n/a
	L4	q1 LC4	1.18	1.07	20.3	Pass	Pass	Pass	n/a
	L5	q1 LC5	1.71	1.55	29.5	Pass	Pass	Fail	n/a
	L6	q1 LC6	2.24	2.04	38.7	Fail	Fail	Fail	n/a
	F1	f1b LC4 f1b LC5 f1b LC6							
	F2	f2b LC4 f2b LC5 f2b LC6							
	H1	q2a1 4 q2a1 5 q2a1 6	0.09	1.14	21.5	Pass	Pass	Pass	n/a
	H2	q2a2 4 q2a2 5 q2a2 6	0.71	1.25	19	Pass	Pass	Pass	n/a

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	D1	Deck							
	L1	q1 LC1	0.31	0.28	6.4	Pass	Pass	Pass	0.38
	L2	q1 LC2	0.52	0.47	10.7	Pass	Pass	Pass	0.62
	L3	q1 LC3	0.66	0.6	13.7	Pass	Pass	Pass	0.79
	L4	q1 LC4	0.95	0.86	19.4	Pass	Pass	Pass	1.11
	L5	q1 LC5	1.37	1.25	28.2	Pass	Pass	Fail	1.59
	L6	q1 LC6	1.79	1.63	36.9	Pass	Pass	Fail	2.07
+2 inside board	F1	f1b LC4 f1b LC5 f1b LC6							
	F2	f2b LC4 f2b LC5 f2b LC6							
	H1	q2a1 4 q2a1 5 q2a1 6	0.77	0.7	15.8	Pass	Pass	Pass	1.19
	H2	q2a2 4 q2a2 5 q2a2 6	0.97	1.12	17.1	Pass	Pass	Pass	1.04

	D1	Deck							
	L1	q1 LC1	0.38	0.35	7.8	Pass	Pass	Pass	0.45
	L2	q1 LC2	0.64	0.58	13.1	Pass	Pass	Pass	0.74
	L3	q1 LC3	0.82	0.75	16.8	Pass	Pass	Pass	0.94
	L4	q1 LC4	1.17	1.06	23.9	Pass	Pass	Pass	1.32
	L5	q1 LC5	1.69	1.54	34.6	Pass	Pass	Fail	1.9
	L6	q1 LC6	2.22	2.02	45.4	Fail	Fail	Fail	2.49
+3 inside board	F1	f1b LC4 f1b LC5 f1b LC6							
	F2	f2b LC4 f2b LC5 f2b LC6							
	H1	q2a1 4 q2a1 5 q2a1 6	0.97	0.89	19.9	Pass	Pass	Pass	1.05
	H2	q2a2 4 q2a2 5 q2a2 6	1.19	1.34	20.3	Pass	Pass	Pass	1.31

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Inside board arrangements: Hop up Brackets

The maximum transom deck reaction is used. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion The maximum is applied as calculated for f2 loads.

		Max Transom Load		Hop up Load kN		
Load	Class	kN/m	kN	+1	+2	+3
Deck		0.21		0.06	0.11	0.16
q1	1	0.63		0.18	0.32	0.47
	2	1.25		0.36	0.64	0.93
	3	1.67		0.48	0.86	1.24
	4	2.50		0.73	1.29	1.86
	5	3.75		1.09	1.93	2.79
	6	5.00		1.45	2.58	3.73
f1	1			0.87	1.50	1.50
	2			0.87	1.50	1.50
	3			0.87	1.50	1.50
	4			1.74	3.00	3.00
	5			1.74	3.00	3.00
	6			1.74	3.00	3.00
f2	1			1.00	1.00	1.00
	2			1.00	1.00	1.00
	3			1.00	1.00	1.00
	4			1.00	1.00	1.00
	5			1.00	1.00	1.00
	6			1.00	1.00	1.00
q2a2		n/a				
	4	3.50		1.02	1.80	2.61
	5	5.25		1.52	2.70	3.91
	6	6.00		1.74	3.09	4.47

NB - q2a2 is critical by inspection therefore q2a1 is omitted

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Inside board arrangements: Hop up Bracket Check

Analysis carried in software and results entered into table below for checking.
Loads derived above entered, with reaction of ledger (see ledger table) as an end point load.
Top member moment capacity at support: 2.05 kN.m
Top member axial tension capacity: 94.8 kN
Diagonal strut moment capacity: 1.1 kN.m
Diagonal strut axial capacity: 57.4 kN
NB strut capacity relates to +3 and is used throughout therefore is conservative

	PC Load Ref	Type	M_{hog} Support kN.m					Top Tube M Check
+1 inside board	D1	Deck						
	L1	q1 LC1	0.04					Pass
	L2	q1 LC2	0.06					Pass
	L3	q1 LC3	0.08					Pass
	L4	q1 LC4	0.11					Pass
	L5	q1 LC5	0.17					Pass
	L6	q1 LC6	0.22					Pass
	A1	f1 LC1	0.13					Pass
		f1 LC2						Pass
		f1 LC3						Pass
	A2	f1 LC4	0.26					Pass
		f1 LC5						Pass
		f1 LC6						Pass
	B1	f2 LC1	0.20					Pass
		f2 LC2						Pass
		f2 LC3						Pass
		f2 LC4						Pass
		f2 LC5						Pass
		f2 LC6						Pass
	C1	q2a2 4	0.16					Pass
	C2	q2a2 5						Pass
	C3	q2a2 6						Pass

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	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	
+2 inside board	D1	Deck						
	L1	q1 LC1	0.16	1.38	0.09	1.31	Pass	Pass
	L2	q1 LC2	0.26	2.25	0.14	2.14	Pass	Pass
	L3	q1 LC3	0.33	2.88	0.18	2.73	Pass	Pass
	L4	q1 LC4	0.47	4.07	0.25	3.85	Pass	Pass
	L5	q1 LC5	0.67	5.85	0.36	5.53	Pass	Pass
	L6	q1 LC6	0.88	7.63	0.47	7.21	Pass	Pass
	A1	f1 LC1	0.19	1.04	0.07	0.98	Pass	Pass
		f1 LC2					Pass	Pass
		f1 LC3					Pass	Pass
	A2	f1 LC4	0.38	2.01	0.14	1.89	Pass	Pass
		f1 LC5					Pass	Pass
		f1 LC6					Pass	Pass
	B1	f2 LC1	0.15	1.17	0.08	1.10	Pass	Pass
		f2 LC2					Pass	Pass
		f2 LC3					Pass	Pass
		f2 LC4					Pass	Pass
		f2 LC5					Pass	Pass
		f2 LC6					Pass	Pass
	C1	q2a2 4	0.23	1.2	0.08	1.13	Pass	Pass
	C2	q2a2 5					Pass	Pass
	C3	q2a2 6					Pass	Pass

	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	
+3 inside board	D1	Deck						
	L1	q1 LC1	0.27	1.92	0.16	1.88	Pass	Pass
	L2	q1 LC2	0.46	3.2	0.27	3.12	Pass	Pass
	L3	q1 LC3	0.58	4.07	0.34	3.97	Pass	Pass
	L4	q1 LC4	0.83	5.75	0.48	5.61	Pass	Pass
	L5	q1 LC5	1.20	8.31	0.70	8.09	Pass	Pass
	L6	q1 LC6	1.57	10.9	0.92	10.6	Fail	Pass
	A1	f1 LC1	0.30	1.57	0.13	1.49	Pass	Pass
		f1 LC2					Pass	Pass
		f1 LC3					Pass	Pass
	A2	f1 LC4	0.58	3.04	0.26	2.87	Pass	Pass
		f1 LC5					Pass	Pass
		f1 LC6					Pass	Pass
	B1	f2 LC1	0.21	1.48	0.13	1.40	Pass	Pass
		f2 LC2					Pass	Pass
		f2 LC3					Pass	Pass
		f2 LC4					Pass	Pass
		f2 LC5					Pass	Pass
		f2 LC6					Pass	Pass
	C1	q2a2 4	0.46	1.94	0.16	1.84	Pass	Pass
	C2	q2a2 5					Pass	Pass
	C3	q2a2 6					Pass	Pass

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group F1	Dead Load
Load Group F2	Dead Load
Load Group J1	Live Load
Load Group J2	Live Load
Load Group J3	Live Load
Load Group K1	Live Load
Load Group K2	Live Load
Load Group K3	Live Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F1

Load Case 008 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F2

Load Case 009 : D + q2 A1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J1

Load Case 010 : D + q2 A1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J2

Load Case 011 : D + q2 A1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J3

Load Case 012 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K1

Load Case 013 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K2

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Load Case 014 : D + q2 A2 LC6

Load Combination + 1.00 UT + 1.00 D1 + 1.00 K3

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	2.500	0.000	0.000

Member Properties

Member 1
M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

Member Loading

Member Self Weight Density Load Included in Load Group D1, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1

D1	PY	-000.140	0.833	(kN,m)
D1	PY	-000.140	1.667	(kN,m)
L4	PY	-001.630	0.833	(kN,m)
L4	PY	-001.630	1.667	(kN,m)
L5	PY	-002.440	0.833	(kN,m)
L5	PY	-002.440	1.667	(kN,m)
L6	PY	-003.250	0.833	(kN,m)
L6	PY	-003.250	1.667	(kN,m)
F1	PY	-002.300	0.833	(kN,m)
F2	PY	-000.920	0.833	(kN,m)
J1	PY	-001.730	0.833	(kN,m)
J1	PY	-001.730	1.667	(kN,m)
J2	PY	-002.600	0.833	(kN,m)
J2	PY	-002.600	1.667	(kN,m)
J3	PY	-004.060	0.833	(kN,m)
J3	PY	-004.060	1.667	(kN,m)
K1	PY	-002.280	0.833	(kN,m)
K1	PY	-000.430	1.667	(kN,m)
K2	PY	-003.410	0.833	(kN,m)
K2	PY	-000.640	1.667	(kN,m)
K3	PY	-004.880	0.833	(kN,m)
K3	PY	-000.910	1.667	(kN,m)
L1	PY	-000.410	0.833	(kN,m)
L1	PY	-000.410	1.667	(kN,m)
L2	PY	-000.810	0.833	(kN,m)
L2	PY	-000.810	1.667	(kN,m)
L3	PY	-001.080	0.833	(kN,m)
L3	PY	-001.080	1.667	(kN,m)

Nodal Loading and Support Conditions

NODES 1-2
UT Rs 1 1 1 0 0 0 (Pinned)
NODES 1-2
UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.920

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Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.594	-0.255	0.231	5.216
	2	0.000C	-0.594	-0.255	@ 1.198	@ 1.250

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.994	-0.429	0.390	8.805
	2	0.000C	-0.994	-0.429	@ 1.198	@ 1.250

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.264	-0.547	0.497	11.228
	2	0.000C	-1.264	-0.547	@ 1.198	@ 1.250

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.814	-0.787	0.714	16.164
	2	0.000C	-1.814	-0.787	@ 1.146	@ 1.250

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.624	-1.141	1.035	23.433
	2	0.000C	-2.624	-1.141	@ 1.146	@ 1.250

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.434	-1.495	1.356	30.701
	2	0.000C	-3.434	-1.495	@ 1.146	@ 1.250

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Member Forces (007 : D + F1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.812	-0.695	0.802	12.138
	2	0.000C	-0.857	-0.460	@ 0.833	@ 1.094

Member Forces (008 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.835	-0.323	0.360	5.761
	2	0.000C	-0.453	-0.230	@ 0.833	@ 1.120

Member Forces (009 : D + q2 A1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.914	-0.831	0.754	17.061
	2	0.000C	-1.914	-0.831	@ 1.146	@ 1.250

Member Forces (010 : D + q2 A1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.784	-1.211	1.099	24.868
	2	0.000C	-2.784	-1.211	@ 1.146	@ 1.250

Member Forces (011 : D + q2 A1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	4.244	-1.849	1.677	37.970
	2	0.000C	-4.244	-1.849	@ 1.146	@ 1.250

Member Forces (012 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.923	-0.762	0.828	13.858
	2	0.000C	-1.155	-0.573	@ 0.833	@ 1.146

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Member Forces (013 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.784	-1.101	1.205	19.960
	2	0.000C	-1.634	-0.819	@ 0.833	@ 1.146

Member Forces (014 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.903	-1.543	1.696	27.883
	2	0.000C	-2.255	-1.137	@ 0.833	@ 1.146

Support Reactions Serviceability (001 : D + q1 LC1)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.594	0.255	2	0.000	0.594	-0.255
Total	0.000	1.188	0.000				

Support Reactions Serviceability (002 : D + q1 LC2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.994	0.429	2	0.000	0.994	-0.429
Total	0.000	1.988	0.000				

Support Reactions Serviceability (003 : D + q1 LC3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.264	0.547	2	0.000	1.264	-0.547
Total	0.000	2.528	0.000				

Support Reactions Serviceability (004 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.814	0.787	2	0.000	1.814	-0.787
Total	0.000	3.628	0.000				

Support Reactions Serviceability (005 : D + q1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.624	1.141	2	0.000	2.624	-1.141
Total	0.000	5.248	0.000				

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Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.434	1.495	2	0.000	3.434	-1.495
Total	0.000	6.868	0.000				

Support Reactions Serviceability (007 : D + F1)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.812	0.695	2	0.000	0.857	-0.460
Total	0.000	2.668	0.235				

Support Reactions Serviceability (008 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.835	0.323	2	0.000	0.453	-0.230
Total	0.000	1.288	0.094				

Support Reactions Serviceability (009 : D + q2 A1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.914	0.831	2	0.000	1.914	-0.831
Total	0.000	3.828	0.000				

Support Reactions Serviceability (010 : D + q2 A1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.784	1.211	2	0.000	2.784	-1.211
Total	0.000	5.568	0.000				

Support Reactions Serviceability (011 : D + q2 A1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	4.244	1.849	2	0.000	4.244	-1.849
Total	0.000	8.488	0.000				

Support Reactions Serviceability (012 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.923	0.762	2	0.000	1.155	-0.573
Total	0.000	3.078	0.189				

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Support Reactions Serviceability (013 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.784	1.101	2	0.000	1.634	-0.819
Total	0.000	4.418	0.283				

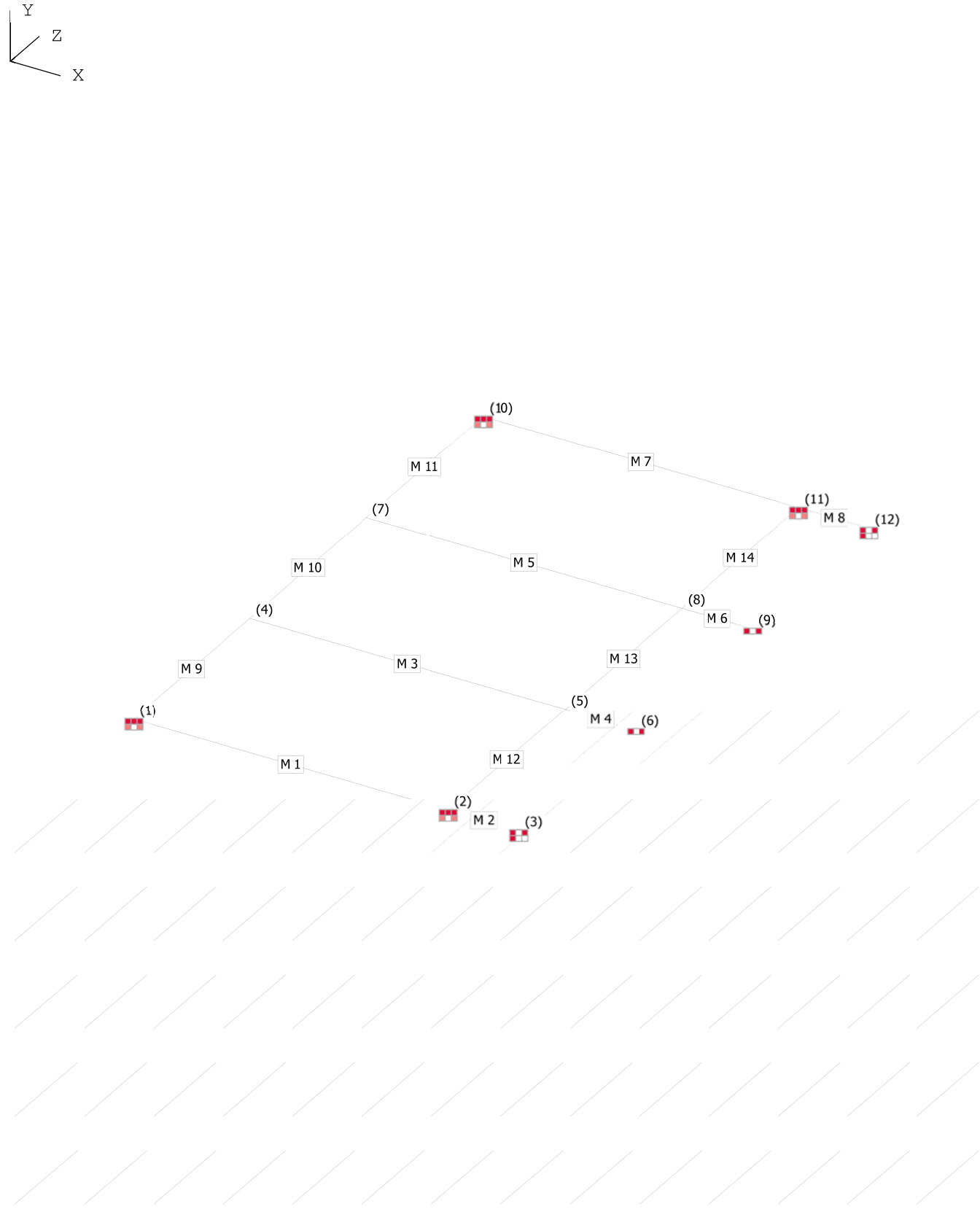
Support Reactions Serviceability (014 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.903	1.543	2	0.000	2.255	-1.137
Total	0.000	6.158	0.405				

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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	1.590	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	1.590	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	1.590	0.000	1.666	10	0.000	0.000	2.499
11	1.300	0.000	2.499	12	1.590	0.000	2.499

Member Properties

Members 1-14

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.083 0.955 0.000 -002.083     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 2
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.083 0.000 0.290 -002.083     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 3
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.165 0.955 0.000 -004.165     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 4
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.165 0.000 0.290 -004.165     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 5
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.165 0.955 0.000 -004.165     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 6
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
```

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```
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -004.165 0.000 0.290 -004.165     (kN/m,m,m,kN/m)
      H2 UDLY -000.750              ( kN/m )
```

Member 7

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.083 0.955 0.000 -002.083     (kN/m,m,m,kN/m)
```

Member 8

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.083 0.000 0.290 -002.083     (kN/m,m,m,kN/m)
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®®®	O®O	2	O®O	®®®	3	O®O	®®®	5	O®O	®®®
7	®®®	O®O	8	O®O	®®®	9	®®®	O®O	10	®®®	O®O
11	®®®	O®O	12	®®®	O®O	13	®®®	O®O	14	®®®	O®O

Nodal Loading and Support Conditions

NODES 1-2 and 10-11

```
      UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 3, 6, 9 and 12

```
      UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
```

NODES 3 and 12

```
      UT Rs 0 0 0 1 0 0
```

NODES 1-2 and 10-11

```
      UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-6.65	0.00	6.65	0.35	0.00	0.05	0.36
8	0.00	-6.65	0.00	6.65	-0.35	0.00	0.05	0.36

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-11.19	0.00	11.19	0.59	0.00	0.09	0.60
8	0.00	-11.19	0.00	11.19	-0.59	0.00	0.09	0.60

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-14.27	0.00	14.27	0.75	0.00	0.11	0.76
8	0.00	-14.27	0.00	14.27	-0.75	0.00	0.11	0.76

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-20.35	0.00	20.35	1.08	0.00	0.16	1.09
8	0.00	-20.35	0.00	20.35	-1.08	0.00	0.16	1.09

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-29.50	0.00	29.50	1.56	0.00	0.24	1.58
8	0.00	-29.50	0.00	29.50	-1.56	0.00	0.24	1.58

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-38.66	0.00	38.66	2.04	0.00	0.31	2.07
8	0.00	-38.66	0.00	38.66	-2.04	0.00	0.31	2.07

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-21.54	0.00	21.54	1.14	0.00	-0.81	1.40
8	0.00	-21.54	0.00	21.54	-1.14	0.00	-0.81	1.40

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Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-18.96	0.00	18.96	0.85	0.00	0.36	0.93
8	0.00	-16.23	0.00	16.23	-1.01	0.00	-0.08	1.01

Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	0.90	0.00	-0.39	0.00			0.21
	5	0.00C	0.00	0.87	0.00	0.35	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.35	0.00	0.35		1.28
	8	0.00C	0.00	-0.01	0.00	0.35	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-0.87	0.00	0.35	0.00			0.21
	11	0.00C	0.00	-0.90	0.00	-0.39	0.00			@ 0.641

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.50	0.00	-0.65	0.00			0.36
	5	0.00C	0.00	1.47	0.00	0.59	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.59	0.00	0.59		2.15
	8	0.00C	0.00	-0.01	0.00	0.59	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.47	0.00	0.59	0.00			0.36
	11	0.00C	0.00	-1.50	0.00	-0.65	0.00			@ 0.641

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.91	0.00	-0.83	0.00			0.46
	5	0.00C	0.00	1.88	0.00	0.75	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.75	0.00	0.75		2.74
	8	0.00C	0.00	-0.01	0.00	0.75	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.88	0.00	0.75	0.00			0.46
	11	0.00C	0.00	-1.91	0.00	-0.83	0.00			@ 0.641

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Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.71	0.00	-1.18	0.00			0.66
	5	0.00C	0.00	2.68	0.00	1.07	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.07	0.00	1.07		3.91
	8	0.00C	0.00	-0.01	0.00	1.07	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-2.68	0.00	1.07	0.00			0.66
	11	0.00C	0.00	-2.71	0.00	-1.18	0.00			@ 0.641

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	3.93	0.00	-1.71	0.00			0.96
	5	0.00C	0.00	3.90	0.00	1.55	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.55	0.00	1.55		5.67
	8	0.00C	0.00	-0.01	0.00	1.55	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-3.90	0.00	1.55	0.00			0.96
	11	0.00C	0.00	-3.93	0.00	-1.71	0.00			@ 0.641

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	5.14	0.00	-2.24	0.00			1.25
	5	0.00C	0.00	5.11	0.00	2.03	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	2.03	0.00	2.04		7.43
	8	0.00C	0.00	-0.01	0.00	2.03	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-5.11	0.00	2.03	0.00			1.25
	11	0.00C	0.00	-5.14	0.00	-2.24	0.00			@ 0.641

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.87	0.00	-1.25	0.00			0.70
	5	0.00C	0.00	2.84	0.00	1.13	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.13	0.00	1.13		4.14
	8	0.00C	0.00	-0.01	0.00	1.13	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-2.84	0.00	1.13	0.00			0.70
	11	0.00C	0.00	-2.87	0.00	-1.25	0.00			@ 0.641

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Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.90	0.00	-1.16	0.00			0.69
	5	0.00C	0.00	2.87	0.00	1.25	0.00			@ 0.641
13	5	0.00C	0.00	-0.77	0.00	1.25	0.00			3.40
	8	0.00C	0.00	-0.80	0.00	0.60	0.00			@ 0.392
14	8	0.00C	0.00	-1.76	0.00	0.60	0.00			0.73
	11	0.00C	0.00	-1.79	0.00	-0.88	0.00			@ 0.591

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.735	0.000	-0.386	0.000	-0.062
11	0.000	1.735	0.000	0.386	0.000	-0.062
Total	0.000	5.744	0.000	0.000	0.000	0.029

Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.933	0.000	-0.649	0.000	-0.105
11	0.000	2.933	0.000	0.649	0.000	-0.105
Total	0.000	9.687	0.000	0.000	0.000	0.049

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.745	0.000	-0.827	0.000	-0.135
11	0.000	3.745	0.000	0.827	0.000	-0.135
Total	0.000	12.358	0.000	0.000	0.000	0.063

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	5.348	0.000	-1.179	0.000	-0.193
11	0.000	5.348	0.000	1.179	0.000	-0.193
Total	0.000	17.637	0.000	0.000	0.000	0.090

Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	7.764	0.000	-1.709	0.000	-0.281
11	0.000	7.764	0.000	1.709	0.000	-0.281
Total	0.000	25.587	0.000	0.000	0.000	0.130

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Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	10.179	0.000	-2.239	0.000	-0.369
11	0.000	10.179	0.000	2.239	0.000	-0.369
Total	0.000	33.537	0.000	0.000	0.000	0.171

Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.396	0.000	-1.248	0.000	-0.018
11	0.000	4.396	0.000	1.248	0.000	-0.018
Total	0.000	9.672	0.000	0.000	0.000	0.024

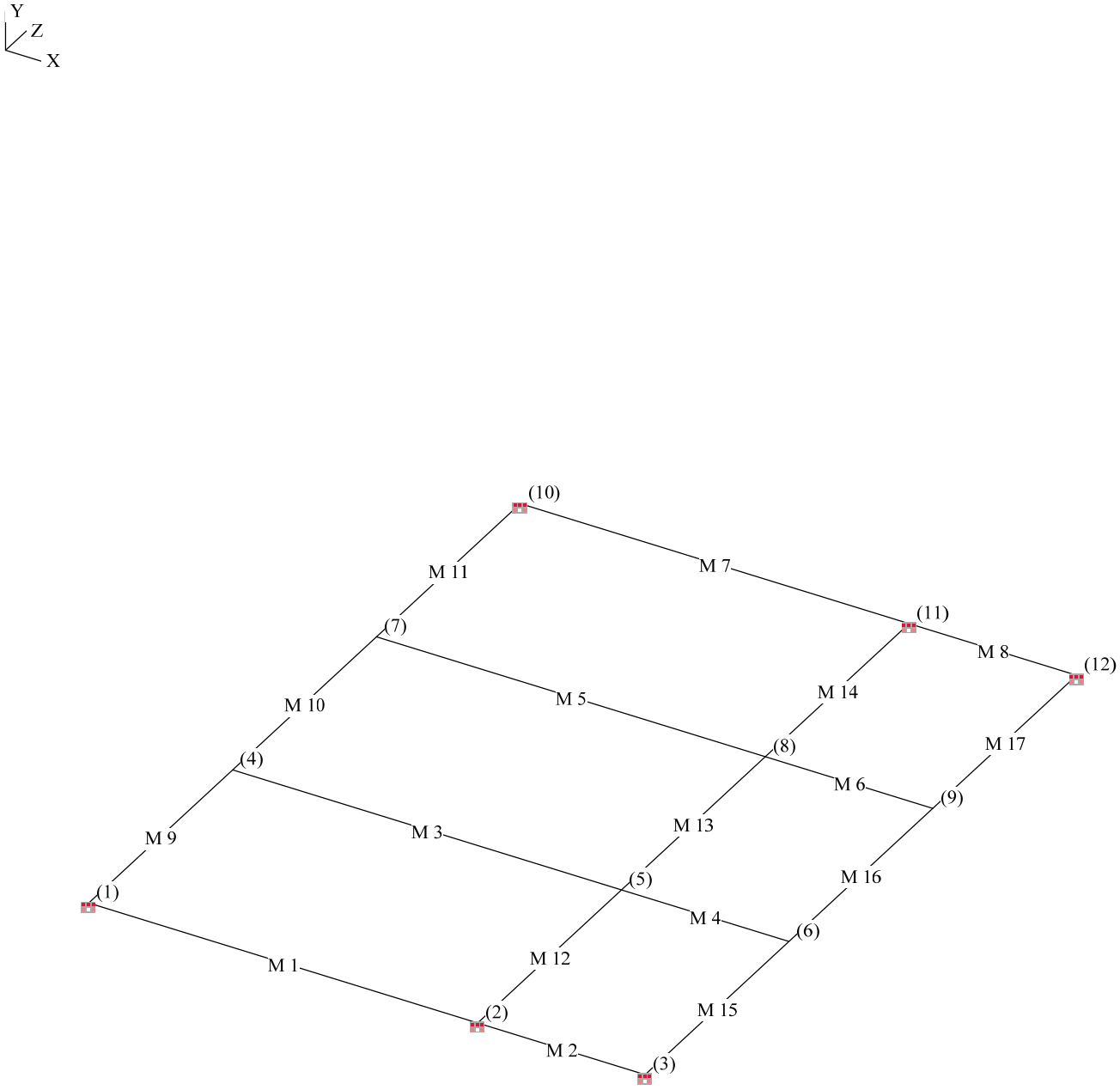
Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.859	0.000	-1.156	0.000	-0.070
11	0.000	2.030	0.000	0.884	0.000	-0.017
Total	0.000	9.687	0.000	-0.445	0.000	0.020

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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	1.860	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	1.860	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	1.860	0.000	1.666	10	0.000	0.000	2.499
11	1.300	0.000	2.499	12	1.860	0.000	2.499

Member Properties

Members 1-17

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.080 0.935 0.000 -002.080     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 2
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.080 0.000 0.365 -002.080     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 3
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.935 0.000 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 4
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.000 0.365 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 5
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.935 0.000 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 6
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
```

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```
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -004.170 0.000 0.365 -004.170     (kN/m,m,m,kN/m)
      H2 UDLY -000.750              ( kN/m )
```

Member 7

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.080 0.935 0.000 -002.080     (kN/m,m,m,kN/m)
```

Member 8

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.080 0.000 0.365 -002.080     (kN/m,m,m,kN/m)
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®®® O®O	2	O®O ®®®	3	®®® O®O	4	O®O ®®®
5	®®® O®O	6	O®O ®®®	7	®®® O®O	8	O®O ®®®
9	®®® O®O	10	®®® O®O	11	®®® O®O	12	®®® O®O
13	®®® O®O	14	®®® O®O	15	®®® O®O	16	®®® O®O
17	®®® O®O						

Nodal Loading and Support Conditions

NODES 1-3 and 10-12

```
      UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-3 and 10-12

```
      UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-5.36	0.00	5.36	0.28	0.00	0.22	0.36
8	0.00	-5.36	0.00	5.36	-0.28	0.00	0.22	0.36

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-8.99	0.00	8.99	0.48	0.00	0.38	0.61
8	0.00	-8.99	0.00	8.99	-0.48	0.00	0.38	0.61

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-11.45	0.00	11.45	0.61	0.00	0.49	0.78
8	0.00	-11.45	0.00	11.45	-0.61	0.00	0.49	0.78

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-16.31	0.00	16.31	0.86	0.00	0.70	1.11
8	0.00	-16.31	0.00	16.31	-0.86	0.00	0.70	1.11

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-23.63	0.00	23.63	1.25	0.00	1.02	1.62
8	0.00	-23.63	0.00	23.63	-1.25	0.00	1.02	1.62

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-30.95	0.00	30.95	1.64	0.00	1.34	2.12
8	0.00	-30.95	0.00	30.95	-1.64	0.00	1.34	2.12

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-13.27	0.00	13.27	0.70	0.00	0.24	0.74
8	0.00	-13.27	0.00	13.27	-0.70	0.00	0.24	0.74

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Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-15.69	0.00	15.69	0.66	0.00	0.77	1.01
8	0.00	-12.54	0.00	12.54	-0.84	0.00	0.44	0.95

Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	0.72	0.00	-0.31	0.00			0.17
	5	0.00C	0.00	0.69	0.00	0.28	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.28	0.00	0.28		1.03
	8	0.00C	0.00	-0.01	0.00	0.28	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-0.69	0.00	0.28	0.00			0.17
	11	0.00C	0.00	-0.72	0.00	-0.31	0.00			@ 0.641

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.21	0.00	-0.52	0.00			0.29
	5	0.00C	0.00	1.18	0.00	0.47	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.47	0.00	0.47		1.73
	8	0.00C	0.00	-0.01	0.00	0.47	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.18	0.00	0.47	0.00			0.29
	11	0.00C	0.00	-1.21	0.00	-0.52	0.00			@ 0.641

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.53	0.00	-0.66	0.00			0.37
	5	0.00C	0.00	1.50	0.00	0.60	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.60	0.00	0.60		2.20
	8	0.00C	0.00	-0.01	0.00	0.60	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.50	0.00	0.60	0.00			0.37
	11	0.00C	0.00	-1.53	0.00	-0.66	0.00			@ 0.641

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Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.18	0.00	-0.95	0.00			0.53
	5	0.00C	0.00	2.15	0.00	0.86	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.86	0.00	0.86		3.14
	8	0.00C	0.00	-0.01	0.00	0.86	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-2.15	0.00	0.86	0.00			0.53
	11	0.00C	0.00	-2.18	0.00	-0.95	0.00			@ 0.641

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	3.15	0.00	-1.37	0.00			0.77
	5	0.00C	0.00	3.12	0.00	1.24	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.24	0.00	1.24		4.54
	8	0.00C	0.00	-0.01	0.00	1.24	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-3.12	0.00	1.24	0.00			0.77
	11	0.00C	0.00	-3.15	0.00	-1.37	0.00			@ 0.641

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	4.12	0.00	-1.79	0.00			1.00
	5	0.00C	0.00	4.09	0.00	1.63	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.63	0.00	1.63		5.95
	8	0.00C	0.00	-0.01	0.00	1.63	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-4.09	0.00	1.63	0.00			1.00
	11	0.00C	0.00	-4.12	0.00	-1.79	0.00			@ 0.641

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.77	0.00	-0.77	0.00			0.43
	5	0.00C	0.00	1.74	0.00	0.70	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.70	0.00	0.70		2.55
	8	0.00C	0.00	-0.01	0.00	0.70	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.74	0.00	0.70	0.00			0.43
	11	0.00C	0.00	-1.77	0.00	-0.77	0.00			@ 0.641

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Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.53	0.00	-0.97	0.00			0.68
	5	0.00C	0.00	2.50	0.00	1.12	0.00			@ 0.633
13	5	0.00C	0.00	-0.89	0.00	1.12	0.00			2.73
	8	0.00C	0.00	-0.92	0.00	0.36	0.00			@ 0.383
14	8	0.00C	0.00	-1.22	0.00	0.36	0.00			0.66
	11	0.00C	0.00	-1.25	0.00	-0.66	0.00			@ 0.566

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.759	0.000	-0.311	0.000	-0.032
3	0.000	0.451	0.000	-0.162	0.000	0.000
11	0.000	1.759	0.000	0.311	0.000	-0.032
12	0.000	0.451	0.000	0.162	0.000	0.000
Total	0.000	6.777	0.000	0.000	0.000	0.073

Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.974	0.000	-0.521	0.000	-0.054
3	0.000	0.740	0.000	-0.267	0.000	0.000
11	0.000	2.974	0.000	0.521	0.000	-0.054
12	0.000	0.740	0.000	0.267	0.000	0.000
Total	0.000	11.390	0.000	0.000	0.000	0.125

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.797	0.000	-0.664	0.000	-0.069
3	0.000	0.935	0.000	-0.338	0.000	0.000
11	0.000	3.797	0.000	0.664	0.000	-0.069
12	0.000	0.935	0.000	0.338	0.000	0.000
Total	0.000	14.515	0.000	0.000	0.000	0.160

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	5.424	0.000	-0.945	0.000	-0.099
3	0.000	1.321	0.000	-0.478	0.000	0.014
11	0.000	5.424	0.000	0.945	0.000	-0.099
12	0.000	1.321	0.000	0.478	0.000	0.014
Total	0.000	20.690	0.000	0.000	0.000	0.258

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Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	7.873	0.000	-1.369	0.000	-0.144
3	0.000	1.902	0.000	-0.689	0.000	0.021
11	0.000	7.873	0.000	1.369	0.000	-0.144
12	0.000	1.902	0.000	0.689	0.000	0.021
Total	0.000	29.990	0.000	0.000	0.000	0.376

Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	10.323	0.000	-1.793	0.000	-0.189
3	0.000	2.484	0.000	-0.899	0.000	0.027
11	0.000	10.323	0.000	1.793	0.000	-0.189
12	0.000	2.484	0.000	0.899	0.000	0.027
Total	0.000	39.290	0.000	0.000	0.000	0.494

Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.417	0.000	-0.769	0.000	-0.019
3	0.000	1.327	0.000	-0.515	0.000	0.000
11	0.000	3.417	0.000	0.769	0.000	-0.019
12	0.000	1.327	0.000	0.515	0.000	0.000
Total	0.000	11.215	0.000	0.000	0.000	0.026

Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.703	0.000	-0.975	0.000	-0.036
3	0.000	1.122	0.000	-0.435	0.000	0.000
11	0.000	1.536	0.000	0.661	0.000	0.000
12	0.000	0.897	0.000	0.394	0.000	0.000
Total	0.000	11.390	0.000	-0.520	0.000	0.061

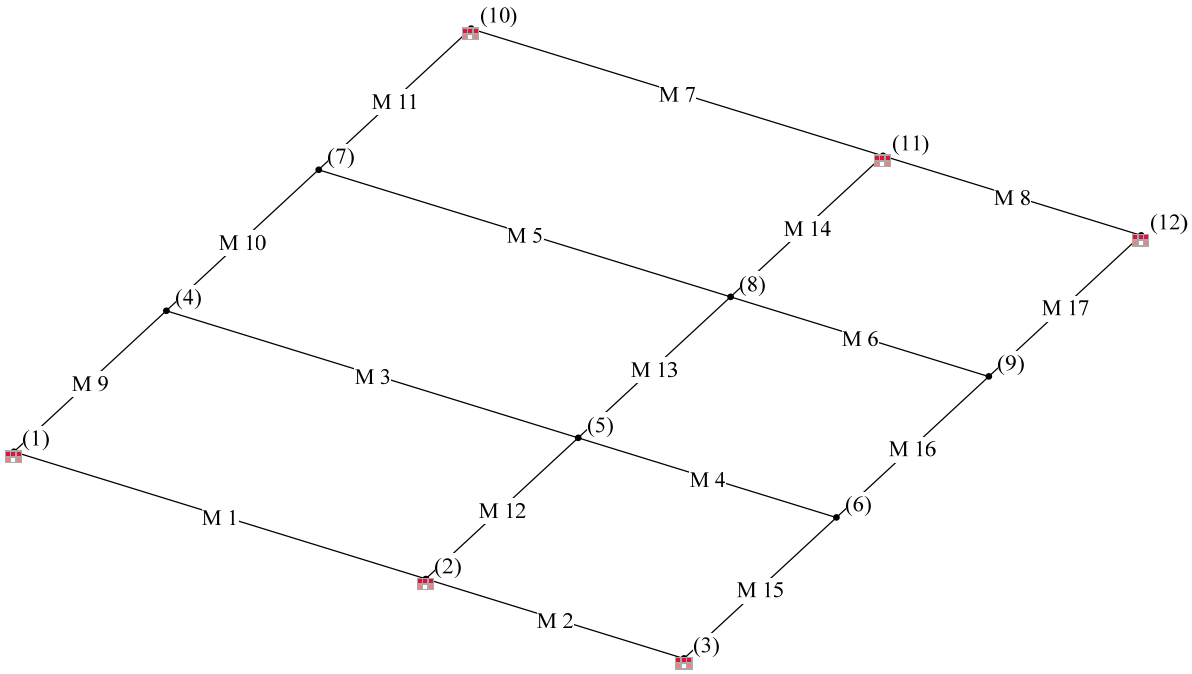
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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	2.115	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	2.115	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	2.115	0.000	1.666	10	0.000	0.000	2.499
11	1.300	0.000	2.499	12	2.115	0.000	2.499

Member Properties

Members 1-17

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.080 0.890 0.000 -002.080     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 2
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -002.080 0.000 0.410 -002.080     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 3
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.890 0.000 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 4
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.000 0.410 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -003.500              ( kN/m )
```

Member 5
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
H1 PTRY -004.170 0.890 0.000 -004.170     (kN/m,m,m,kN/m)
H2 UDLY -000.750              ( kN/m )
```

Member 6
```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
```

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```
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -004.170 0.000 0.410 -004.170     (kN/m,m,m,kN/m)
      H2 UDLY -000.750              ( kN/m )
```

Member 7

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.080 0.890 0.000 -002.080     (kN/m,m,m,kN/m)
```

Member 8

```
      D1 UDLY -000.210              ( kN/m )
      L1 UDLY -000.630              ( kN/m )
      L2 UDLY -001.250              ( kN/m )
      L3 UDLY -001.670              ( kN/m )
      L4 UDLY -002.500              ( kN/m )
      L5 UDLY -003.750              ( kN/m )
      L6 UDLY -005.000              ( kN/m )
      H1 PTRY -002.080 0.000 0.410 -002.080     (kN/m,m,m,kN/m)
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®®® O®O	2	O®O ®®®	3	®®® O®O	4	O®O ®®®
5	®®® O®O	6	O®O ®®®	7	®®® O®O	8	O®O ®®®
9	®®® O®O	10	®®® O®O	11	®®® O®O	12	®®® O®O
13	®®® O®O	14	®®® O®O	15	®®® O®O	16	®®® O®O
17	®®® O®O						

Nodal Loading and Support Conditions

NODES 1-3 and 10-12

```
      UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-3 and 10-12

```
      UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-6.59	0.00	6.59	0.35	0.00	0.16	0.38
8	0.00	-6.59	0.00	6.59	-0.35	0.00	0.16	0.38

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-11.09	0.00	11.09	0.59	0.00	0.27	0.64
8	0.00	-11.09	0.00	11.09	-0.59	0.00	0.27	0.64

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-14.13	0.00	14.13	0.75	0.00	0.34	0.82
8	0.00	-14.13	0.00	14.13	-0.75	0.00	0.34	0.82

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-20.16	0.00	20.16	1.07	0.00	0.49	1.17
8	0.00	-20.16	0.00	20.16	-1.07	0.00	0.49	1.17

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-29.23	0.00	29.23	1.55	0.00	0.71	1.70
8	0.00	-29.23	0.00	29.23	-1.55	0.00	0.71	1.70

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-38.30	0.00	38.30	2.03	0.00	0.93	2.23
8	0.00	-38.30	0.00	38.30	-2.03	0.00	0.93	2.23

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-16.81	0.00	16.81	0.89	0.00	0.23	0.92
8	0.00	-16.81	0.00	16.81	-0.89	0.00	0.23	0.92

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Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)

Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-19.21	0.00	19.21	0.82	0.00	0.54	0.98
8	0.00	-15.66	0.00	15.66	-1.02	0.00	0.31	1.07

Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	0.89	0.00	-0.38	0.00			0.21
	5	0.00C	0.00	0.86	0.00	0.34	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.34	0.00	0.35		1.27
	8	0.00C	0.00	-0.01	0.00	0.34	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-0.86	0.00	0.34	0.00			0.21
	11	0.00C	0.00	-0.89	0.00	-0.38	0.00			@ 0.641

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.48	0.00	-0.64	0.00			0.36
	5	0.00C	0.00	1.45	0.00	0.58	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.58	0.00	0.58		2.13
	8	0.00C	0.00	-0.01	0.00	0.58	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.45	0.00	0.58	0.00			0.36
	11	0.00C	0.00	-1.48	0.00	-0.64	0.00			@ 0.641

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	1.89	0.00	-0.82	0.00			0.46
	5	0.00C	0.00	1.86	0.00	0.74	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.74	0.00	0.74		2.72
	8	0.00C	0.00	-0.01	0.00	0.74	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-1.86	0.00	0.74	0.00			0.46
	11	0.00C	0.00	-1.89	0.00	-0.82	0.00			@ 0.641

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Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.69	0.00	-1.17	0.00			0.65
	5	0.00C	0.00	2.66	0.00	1.06	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.06	0.00	1.06		3.88
	8	0.00C	0.00	-0.01	0.00	1.06	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-2.66	0.00	1.06	0.00			0.65
	11	0.00C	0.00	-2.69	0.00	-1.17	0.00			@ 0.641

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	3.89	0.00	-1.69	0.00			0.95
	5	0.00C	0.00	3.86	0.00	1.54	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	1.54	0.00	1.54		5.62
	8	0.00C	0.00	-0.01	0.00	1.54	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-3.86	0.00	1.54	0.00			0.95
	11	0.00C	0.00	-3.89	0.00	-1.69	0.00			@ 0.641

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	5.10	0.00	-2.22	0.00			1.24
	5	0.00C	0.00	5.07	0.00	2.01	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	2.01	0.00	2.02		7.36
	8	0.00C	0.00	-0.01	0.00	2.01	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-5.07	0.00	2.01	0.00			1.24
	11	0.00C	0.00	-5.10	0.00	-2.22	0.00			@ 0.641

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	2.24	0.00	-0.97	0.00			0.54
	5	0.00C	0.00	2.21	0.00	0.88	0.00			@ 0.192
13	5	0.00C	0.00	0.01	0.00	0.88	0.00	0.89		3.23
	8	0.00C	0.00	-0.01	0.00	0.88	0.00	@ 0.000		@ 0.417
14	8	0.00C	0.00	-2.21	0.00	0.88	0.00			0.54
	11	0.00C	0.00	-2.24	0.00	-0.97	0.00			@ 0.641

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Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
12	2	0.00C	0.00	3.05	0.00	-1.19	0.00			0.79
	5	0.00C	0.00	3.02	0.00	1.34	0.00			@ 0.633
13	5	0.00C	0.00	-1.00	0.00	1.34	0.00			3.37
	8	0.00C	0.00	-1.03	0.00	0.49	0.00			@ 0.383
14	8	0.00C	0.00	-1.58	0.00	0.49	0.00			0.79
	11	0.00C	0.00	-1.61	0.00	-0.83	0.00			@ 0.575

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.975	0.000	-0.382	0.000	-0.027
3	0.000	0.694	0.000	-0.192	0.000	0.000
11	0.000	1.975	0.000	0.382	0.000	-0.027
12	0.000	0.694	0.000	0.192	0.000	0.000
Total	0.000	7.670	0.000	0.000	0.000	0.079

Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.343	0.000	-0.643	0.000	-0.047
3	0.000	1.155	0.000	-0.318	0.000	-0.016
11	0.000	3.343	0.000	0.643	0.000	-0.047
12	0.000	1.155	0.000	0.318	0.000	-0.016
Total	0.000	12.915	0.000	0.000	0.000	0.103

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.269	0.000	-0.819	0.000	-0.060
3	0.000	1.467	0.000	-0.403	0.000	-0.021
11	0.000	4.269	0.000	0.819	0.000	-0.060
12	0.000	1.467	0.000	0.403	0.000	-0.021
Total	0.000	16.469	0.000	0.000	0.000	0.132

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	6.100	0.000	-1.168	0.000	-0.086
3	0.000	2.084	0.000	-0.572	0.000	-0.030
11	0.000	6.100	0.000	1.168	0.000	-0.086
12	0.000	2.084	0.000	0.572	0.000	-0.030
Total	0.000	23.490	0.000	0.000	0.000	0.190

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Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	8.857	0.000	-1.693	0.000	-0.125
3	0.000	3.012	0.000	-0.826	0.000	-0.044
11	0.000	8.857	0.000	1.693	0.000	-0.125
12	0.000	3.012	0.000	0.826	0.000	-0.044
Total	0.000	34.065	0.000	0.000	0.000	0.276

Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	11.614	0.000	-2.218	0.000	-0.164
3	0.000	3.941	0.000	-1.079	0.000	-0.057
11	0.000	11.614	0.000	2.218	0.000	-0.164
12	0.000	3.941	0.000	1.079	0.000	-0.057
Total	0.000	44.640	0.000	0.000	0.000	0.362

Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.090	0.000	-0.974	0.000	-0.016
3	0.000	1.224	0.000	-0.454	0.000	-0.014
11	0.000	4.090	0.000	0.974	0.000	-0.016
12	0.000	1.224	0.000	0.454	0.000	-0.014
Total	0.000	12.590	0.000	0.000	0.000	0.010

Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)

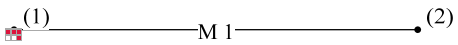
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.283	0.000	-1.187	0.000	-0.031
3	0.000	1.585	0.000	-0.535	0.000	-0.011
11	0.000	1.913	0.000	0.834	0.000	0.000
12	0.000	1.055	0.000	0.456	0.000	0.000
Total	0.000	12.915	0.000	-0.592	0.000	0.053

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.290	0.000	0.000

Member Properties

Member 1
M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

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Member Loading

Member 1

```
D1 UDLY -000.210              ( kN/m )
L1 UDLY -000.630              ( kN/m )
L2 UDLY -001.250              ( kN/m )
L3 UDLY -001.670              ( kN/m )
L4 UDLY -002.500              ( kN/m )
L5 UDLY -003.750              ( kN/m )
L6 UDLY -005.000              ( kN/m )
A1 PDLY -000.870 0.000 0.290 (kN,m,m)
A2 PDLY -001.740 0.000 0.290 (kN,m,m)
B1 PDLY -001.000 0.090 0.290 (kN,m,m)
C1 UDLY -003.500              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 1

```
UT Rs 1 1 1 0 0 1 (Pinned with Z Moment Restraint)
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.03	-0.01	0.03

Nodal Deflections Serviceability (002 : D + q1 LC2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.05	-0.01	0.05

Nodal Deflections Serviceability (003 : D + q1 LC3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.07	-0.02	0.07

Nodal Deflections Serviceability (004 : D + q1 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.10	-0.03	0.10

Nodal Deflections Serviceability (005 : D + q1 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.15	-0.04	0.15

Nodal Deflections Serviceability (006 : D + q1 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.19	-0.05	0.19

Nodal Deflections Serviceability (007 : D + F1 LC1-3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.12	-0.03	0.12

Nodal Deflections Serviceability (008 : D + F1 LC4-6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.23	-0.06	0.23

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Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.19	-0.05	0.19

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.14	-0.04	0.14

Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.244	-0.035		0.031
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.423	-0.061		0.054
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.545	-0.079		0.070
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.786	-0.114		0.101
	2	0.000C	0.000	0.000		@ 0.290

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.148	-0.167		0.147
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.511	-0.219		0.194
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.931	-0.135		0.119
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.801	-0.261		0.231
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.061	-0.199		0.187
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.076	-0.156		0.138
	2	0.000C	0.000	0.000		@ 0.290

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Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.244	0.035	Total	0.000	0.244	0.035

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.423	0.061	Total	0.000	0.423	0.061

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.545	0.079	Total	0.000	0.545	0.079

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.786	0.114	Total	0.000	0.786	0.114

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.148	0.167	Total	0.000	1.148	0.167

Support Reactions Serviceability (006 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.511	0.219	Total	0.000	1.511	0.219

Support Reactions Serviceability (007 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.931	0.135	Total	0.000	0.931	0.135

Support Reactions Serviceability (008 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.801	0.261	Total	0.000	1.801	0.261

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Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.061	0.199	Total	0.000	1.061	0.199

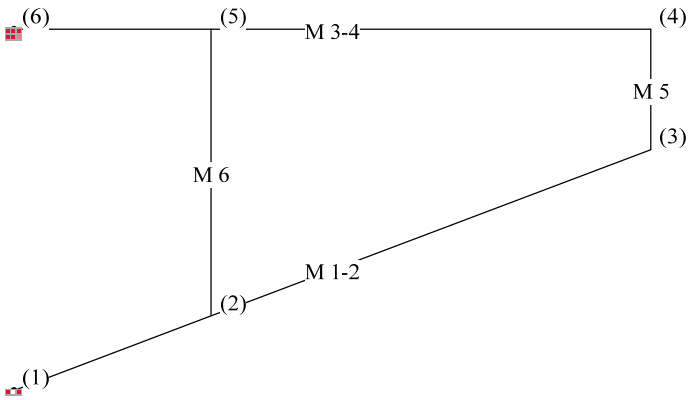
Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.076	0.156	Total	0.000	1.076	0.156

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.175	0.062	0.000
3	0.565	0.200	0.000	4	0.565	0.300	0.000
5	0.175	0.300	0.000	6	0.000	0.300	0.000

Member Properties

Members 1-2 and 6

M	48.3x2.5 CHS 2.82 [S 275]		
A 3.6E-4	Ix 9.46E-8	Iy 9.46E-8	J 18.92E-8
E 205.0E6	G 78.85E6		

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Members 3-4
```
  M  ...  ...          48.3x3 CHS 3.35 [S 355]
   A 4.27E-4            Ix 11.0E-8          Iy 11.0E-8          J 22.0E-8
   E 205.0E6            G 78.85E6
```

Member 5
```
  M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
   A 4.53E-4            Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
   E 205.0E6            G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4
```
    D1 UDLY -000.210              ( kN/m )
    L1 UDLY -000.680              ( kN/m )
    L2 UDLY -001.250              ( kN/m )
    L3 UDLY -001.670              ( kN/m )
    L4 UDLY -002.500              ( kN/m )
    L5 UDLY -003.750              ( kN/m )
    L6 UDLY -005.000              ( kN/m )
    A1 PDLY -001.500 0.000 0.500 (kN,m,m)
    A2 PDLY -003.000 0.000 0.500 (kN,m,m)
    B1 PDLY -001.000 0.000 0.200 (kN,m,m)
    C1 UDLY -003.500              ( kN/m )
```

Nodal Loading and Support Conditions

```
NODE 4
       L1 Ls +0000.000 -0000.760 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L2 Ls +0000.000 -0001.240 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L3 Ls +0000.000 -0001.580 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L4 Ls +0000.000 -0002.220 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L5 Ls +0000.000 -0003.180 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L6 Ls +0000.000 -0004.140 +0000.000 +0000.000 +0000.000 +0000.000
NODE 6
       UT Rs 1 1 1 1 1 1 (Fixed)
NODE 1
       UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODE 6
       UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.12	0.03	0.12	2	-0.02	-0.06	0.00	0.07
3	0.01	-0.17	0.00	0.17	4	0.01	-0.17	0.00	0.17
5	0.00	-0.06	-0.02	0.06					

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.19	0.04	0.19	2	-0.04	-0.10	0.00	0.11
3	0.01	-0.28	-0.01	0.28	4	0.01	-0.28	0.00	0.28
5	0.00	-0.10	-0.04	0.10					

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.24	0.06	0.24	2	-0.05	-0.13	0.01	0.14
3	0.02	-0.36	-0.01	0.36	4	0.02	-0.36	0.00	0.36
5	0.01	-0.12	-0.05	0.12					

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.34	0.08	0.34	2	-0.07	-0.18	0.01	0.19
3	0.02	-0.50	-0.01	0.50	4	0.02	-0.51	0.00	0.51
5	0.01	-0.17	-0.07	0.17					

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.50	0.11	0.50	2	-0.10	-0.26	0.01	0.28
3	0.03	-0.73	-0.02	0.73	4	0.03	-0.73	0.00	0.73
5	0.01	-0.25	-0.10	0.25					

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.65	0.15	0.65	2	-0.13	-0.34	0.02	0.36
3	0.04	-0.95	-0.02	0.95	4	0.04	-0.95	0.00	0.95
5	0.02	-0.33	-0.13	0.33					

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.12	0.02	0.12	2	-0.02	-0.07	0.00	0.07
3	0.01	-0.16	0.00	0.16	4	0.00	-0.16	0.00	0.16
5	0.00	-0.07	-0.03	0.07					

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.23	0.04	0.23	2	-0.04	-0.14	0.01	0.14
3	0.01	-0.31	-0.01	0.31	4	0.01	-0.31	0.01	0.31
5	0.00	-0.13	-0.05	0.13					

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.11	0.02	0.11	2	-0.02	-0.06	0.00	0.06
3	0.01	-0.16	0.00	0.16	4	0.01	-0.16	0.00	0.16
5	0.00	-0.06	-0.02	0.06					

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.14	0.03	0.14	2	-0.02	-0.08	0.00	0.09
3	0.01	-0.19	0.00	0.19	4	0.01	-0.19	0.00	0.19
5	0.00	-0.08	-0.03	0.08					

Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.301C	-0.461	0.000	-0.085	0.079
	2	1.301C	-0.461	-0.086	@ 0.184	@ 0.223
2	2	1.308C	0.364	-0.081	-0.085	0.079
	3	1.308C	0.364	0.070	@ 0.184	@ 0.223
3	4	1.112T	-0.019	-0.041	-0.050	0.024
	5	1.112T	0.328	0.019	@ 0.390	@ 0.172
4	5	1.380T	1.107	-0.050	-0.050	0.024
	6	1.380T	1.263	0.157	@ 0.390	@ 0.172
5	3	0.779C	-1.112	0.070		0.000
	4	0.779C	-1.112	-0.041		@ 0.000
6	2	0.779T	-0.268	-0.005		0.014
	5	0.779T	-0.268	-0.069		@ 0.136

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Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.125C	-0.753	0.000	-0.138	0.130
	2	2.125C	-0.753	-0.140	@ 0.184	@ 0.223
2	2	2.136C	0.594	-0.132	-0.138	0.130
	3	2.136C	0.594	0.114	@ 0.184	@ 0.223
3	4	1.816T	-0.033	-0.068	-0.082	0.040
	5	1.816T	0.537	0.031	@ 0.390	@ 0.172
4	5	2.254T	1.809	-0.082	-0.082	0.040
	6	2.254T	2.065	0.257	@ 0.390	@ 0.172
5	3	1.273C	-1.816	0.114		0.000
	4	1.273C	-1.816	-0.068		@ 0.000
6	2	1.273T	-0.439	-0.008		0.022
	5	1.273T	-0.439	-0.112		@ 0.136

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.713C	-0.961	0.000	-0.177	0.166
	2	2.713C	-0.961	-0.178	@ 0.184	@ 0.223
2	2	2.727C	0.759	-0.169	-0.177	0.166
	3	2.727C	0.759	0.145	@ 0.184	@ 0.223
3	4	2.317T	-0.045	-0.086	-0.104	0.051
	5	2.317T	0.688	0.039	@ 0.390	@ 0.172
4	5	2.879T	2.313	-0.104	-0.104	0.051
	6	2.879T	2.642	0.329	@ 0.390	@ 0.172
5	3	1.625C	-2.317	0.145		0.000
	4	1.625C	-2.317	-0.086		@ 0.000
6	2	1.625T	-0.561	-0.010		0.029
	5	1.625T	-0.561	-0.144		@ 0.136

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.833C	-1.358	0.000	-0.250	0.234
	2	3.833C	-1.358	-0.252	@ 0.184	@ 0.223
2	2	3.848C	1.073	-0.238	-0.250	0.234
	3	3.848C	1.073	0.206	@ 0.184	@ 0.223

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Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	3.269T	-0.075	-0.121	-0.148	0.073
	5	3.269T	0.982	0.055	@ 0.390	@ 0.172
4	5	4.067T	3.277	-0.148	-0.148	0.073
	6	4.067T	3.751	0.467	@ 0.390	@ 0.172
5	3	2.295C	-3.269	0.206		0.000
	4	2.295C	-3.269	-0.121		@ 0.000
6	2	2.295T	-0.798	-0.014		0.041
	5	2.295T	-0.798	-0.204		@ 0.136

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	5.515C	-1.954	0.000	-0.359	0.337
	2	5.515C	-1.954	-0.363	@ 0.184	@ 0.223
2	2	5.530C	1.545	-0.343	-0.359	0.337
	3	5.530C	1.545	0.296	@ 0.184	@ 0.223
3	4	4.698T	-0.121	-0.174	-0.214	0.106
	5	4.698T	1.423	0.080	@ 0.390	@ 0.176
4	5	5.851T	4.724	-0.214	-0.214	0.106
	6	5.851T	5.417	0.674	@ 0.390	@ 0.176
5	3	3.301C	-4.698	0.296		0.000
	4	3.301C	-4.698	-0.174		@ 0.000
6	2	3.301T	-1.152	-0.020		0.058
	5	3.301T	-1.152	-0.294		@ 0.136

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	7.196C	-2.550	0.000	-0.469	0.440
	2	7.196C	-2.550	-0.473	@ 0.184	@ 0.223
2	2	7.213C	2.017	-0.448	-0.469	0.440
	3	7.213C	2.017	0.386	@ 0.184	@ 0.223
3	4	6.127T	-0.167	-0.226	-0.280	0.138
	5	6.127T	1.864	0.105	@ 0.390	@ 0.176
4	5	7.635T	6.172	-0.280	-0.280	0.138
	6	7.635T	7.084	0.880	@ 0.390	@ 0.176

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Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	4.307C	-6.127	0.386		0.000
	4	4.307C	-6.127	-0.226		@ 0.000
6	2	4.307T	-1.507	-0.025		0.076
	5	4.307T	-1.507	-0.384		@ 0.136

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.977C	-0.346	0.000	-0.071	0.067
	2	0.977C	-0.346	-0.064	@ 0.186	@ 0.227
2	2	0.773C	0.315	-0.071	-0.071	0.067
	3	0.773C	0.315	0.059	@ 0.186	@ 0.227
3	4	0.623T	-0.555	-0.003	-0.067	0.044
	5	0.623T	0.697	0.025	@ 0.390	@ 0.207
4	5	1.037T	1.252	-0.067	-0.067	0.044
	6	1.037T	1.619	0.195	@ 0.390	@ 0.207
5	3	0.555C	-0.623	0.059		0.000
	4	0.555C	-0.623	-0.003		@ 0.000
6	2	0.555T	-0.414	0.007		0.016
	5	0.555T	-0.414	-0.092		@ 0.140

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.891C	-0.670	0.000	-0.137	0.129
	2	1.891C	-0.670	-0.124	@ 0.186	@ 0.227
2	2	1.494C	0.610	-0.137	-0.137	0.129
	3	1.494C	0.610	0.115	@ 0.186	@ 0.227
3	4	1.206T	-1.073	-0.006	-0.129	0.085
	5	1.206T	1.349	0.048	@ 0.390	@ 0.207
4	5	2.006T	2.422	-0.129	-0.129	0.085
	6	2.006T	3.119	0.377	@ 0.390	@ 0.207
5	3	1.073C	-1.206	0.115		0.000
	4	1.073C	-1.206	-0.006		@ 0.000
6	2	1.073T	-0.800	0.013		0.031
	5	1.073T	-0.800	-0.177		@ 0.140

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Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.101C	-0.390	0.000	-0.076	0.071
	2	1.101C	-0.390	-0.072	@ 0.186	@ 0.223
2	2	1.003C	0.349	-0.076	-0.076	0.071
	3	1.003C	0.349	0.068	@ 0.186	@ 0.223
3	4	0.829T	-0.664	-0.015	-0.057	0.034
	5	0.829T	0.418	0.032	@ 0.125	@ 0.173
4	5	1.168T	1.082	-0.044	-0.057	0.034
	6	1.168T	1.119	0.148	@ 0.125	@ 0.173
5	3	0.664C	-0.829	0.068		0.000
	4	0.664C	-0.829	-0.015		@ 0.000
6	2	0.664T	-0.339	0.004		0.014
	5	0.664T	-0.339	-0.077		@ 0.138

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.132C	-0.401	0.000	-0.082	0.077
	2	1.132C	-0.401	-0.074	@ 0.186	@ 0.227
2	2	0.894C	0.365	-0.082	-0.082	0.077
	3	0.894C	0.365	0.069	@ 0.186	@ 0.227
3	4	0.721T	-0.642	-0.003	-0.078	0.051
	5	0.721T	0.805	0.028	@ 0.390	@ 0.211
4	5	1.201T	1.447	-0.078	-0.078	0.051
	6	1.201T	2.096	0.232	@ 0.390	@ 0.211
5	3	0.642C	-0.721	0.069		0.000
	4	0.642C	-0.721	-0.003		@ 0.000
6	2	0.642T	-0.480	0.008		0.019
	5	0.642T	-0.480	-0.106		@ 0.140

Support Reactions Serviceability (001 : D + q1 LC1)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.380	0.000	0.000	6	-1.380	1.263	0.157
Total	0.000	1.263	0.157				

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Support Reactions Serviceability (002 : D + q1 LC2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.254	0.000	0.000	6	-2.254	2.065	0.257
Total	0.000	2.065	0.257				

Support Reactions Serviceability (003 : D + q1 LC3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.879	0.000	0.000	6	-2.879	2.642	0.329
Total	0.000	2.642	0.329				

Support Reactions Serviceability (004 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.067	0.000	0.000	6	-4.067	3.751	0.467
Total	0.000	3.751	0.467				

Support Reactions Serviceability (005 : D + q1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	5.851	0.000	0.000	6	-5.851	5.417	0.674
Total	0.000	5.417	0.674				

Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	7.635	0.000	0.000	6	-7.635	7.084	0.880
Total	0.000	7.084	0.880				

Support Reactions Serviceability (007 : D + F1 LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.037	0.000	0.000	6	-1.037	1.619	0.195
Total	0.000	1.619	0.195				

Support Reactions Serviceability (008 : D + F1 LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.006	0.000	0.000	6	-2.006	3.119	0.377
Total	0.000	3.119	0.377				

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Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.168	0.000	0.000	6	-1.168	1.119	0.148
Total	0.000	1.119	0.148				

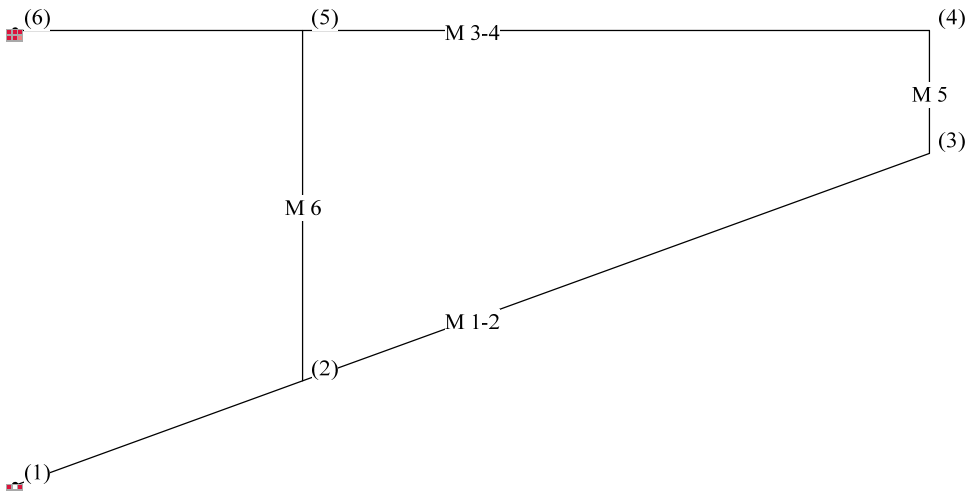
Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.201	0.000	0.000	6	-1.201	2.096	0.232
Total	0.000	2.096	0.232				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.250	0.085	0.000
3	0.795	0.270	0.000	4	0.795	0.370	0.000
5	0.250	0.370	0.000	6	0.000	0.370	0.000

Member Properties

Members 1-2 and 6

M	48.3x2.5 CHS 2.82 [S 275]		
A 3.6E-4	Ix 9.46E-8	Iy 9.46E-8	J 18.92E-8
E 205.0E6	G 78.85E6		

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Members 3-4
```
  M  ...  ...          48.3x3 CHS 3.35 [S 355]
   A 4.27E-4            Ix 11.0E-8          Iy 11.0E-8          J 22.0E-8
   E 205.0E6            G 78.85E6
```

Member 5
```
  M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
   A 4.53E-4            Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
   E 205.0E6            G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4
```
    D1 UDLY -000.210              ( kN/m )
    L1 UDLY -000.630              ( kN/m )
    L2 UDLY -001.250              ( kN/m )
    L3 UDLY -001.670              ( kN/m )
    L4 UDLY -002.500              ( kN/m )
    L5 UDLY -003.750              ( kN/m )
    L6 UDLY -005.000              ( kN/m )
    A1 PDLY -001.500 0.000 0.500 (kN,m,m)
    A2 PDLY -003.000 0.000 0.500 (kN,m,m)
    B1 PDLY -001.000 0.000 0.200 (kN,m,m)
    C1 UDLY -003.500              ( kN/m )
```

Nodal Loading and Support Conditions

```
NODE 4
       L1 Ls +0000.000 -0000.900 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L2 Ls +0000.000 -0001.480 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L3 Ls +0000.000 -0001.880 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L4 Ls +0000.000 -0002.640 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L5 Ls +0000.000 -0003.800 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L6 Ls +0000.000 -0004.980 +0000.000 +0000.000 +0000.000 +0000.000
NODE 6
       UT Rs 1 1 1 1 1 1 (Fixed)
NODE 1
       UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODE 6
       UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.42	0.07	0.42	2	-0.08	-0.20	0.01	0.22
3	0.01	-0.53	-0.01	0.53	4	0.02	-0.53	0.00	0.53
5	0.01	-0.20	-0.05	0.20	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.71	0.12	0.71	2	-0.13	-0.34	0.01	0.37
3	0.03	-0.89	-0.01	0.89	4	0.03	-0.89	0.00	0.89
5	0.01	-0.34	-0.09	0.34	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.90	0.15	0.90	2	-0.17	-0.44	0.02	0.47
3	0.03	-1.13	-0.02	1.13	4	0.03	-1.14	0.00	1.14
5	0.01	-0.43	-0.11	0.43	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.27	0.21	1.27	2	-0.24	-0.62	0.02	0.67
3	0.05	-1.61	-0.02	1.61	4	0.05	-1.61	0.00	1.61
5	0.02	-0.61	-0.16	0.61	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.84	0.31	1.84	2	-0.35	-0.90	0.03	0.97
3	0.07	-2.32	-0.03	2.32	4	0.07	-2.33	0.00	2.33
5	0.02	-0.88	-0.23	0.88	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-2.42	0.41	2.42	2	-0.46	-1.18	0.05	1.27
3	0.09	-3.05	-0.04	3.05	4	0.09	-3.05	0.00	3.05
5	0.03	-1.16	-0.31	1.16	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.42	0.06	0.42	2	-0.07	-0.23	0.01	0.24
3	0.02	-0.52	0.00	0.53	4	0.01	-0.53	0.01	0.53
5	0.00	-0.23	-0.06	0.23	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.81	0.12	0.81	2	-0.14	-0.44	0.02	0.46
3	0.04	-1.01	-0.01	1.01	4	0.02	-1.01	0.02	1.01
5	0.01	-0.44	-0.12	0.44	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.33	0.05	0.33	2	-0.06	-0.17	0.01	0.18
3	0.02	-0.44	0.00	0.44	4	0.01	-0.44	0.01	0.44
5	0.00	-0.16	-0.04	0.16	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.56	0.08	0.56	2	-0.09	-0.32	0.01	0.33
3	0.02	-0.68	-0.01	0.68	4	0.01	-0.68	0.01	0.68
5	0.01	-0.32	-0.08	0.32	6	0.00	0.00	0.00	0.00

Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.816C	-0.617	0.000	-0.161	0.271
	2	1.816C	-0.617	-0.163	@ 0.261	@ 0.304
2	2	1.878C	0.419	-0.129	-0.161	0.271
	3	1.878C	0.419	0.112	@ 0.261	@ 0.304
3	4	1.644T	-0.100	-0.053	-0.094	0.089
	5	1.644T	0.358	0.017	@ 0.545	@ 0.267
4	5	1.918T	1.358	-0.094	-0.094	0.089
	6	1.918T	1.568	0.271	@ 0.545	@ 0.267
5	3	1.000C	-1.644	0.112		0.000
	4	1.000C	-1.644	-0.053		@ 0.000
6	2	1.000T	-0.274	-0.034		0.038
	5	1.000T	-0.274	-0.112		@ 0.154

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Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.025C	-1.028	0.000	-0.269	0.452
	2	3.025C	-1.028	-0.272	@ 0.261	@ 0.304
2	2	3.119C	0.699	-0.216	-0.269	0.452
	3	3.119C	0.699	0.186	@ 0.261	@ 0.304
3	4	2.729T	-0.185	-0.087	-0.159	0.150
	5	2.729T	0.611	0.030	@ 0.545	@ 0.267
4	5	3.195T	2.276	-0.159	-0.159	0.150
	6	3.195T	2.641	0.456	@ 0.545	@ 0.267
5	3	1.665C	-2.729	0.186		0.000
	4	1.665C	-2.729	-0.087		@ 0.000
6	2	1.665T	-0.466	-0.055		0.064
	5	1.665T	-0.466	-0.188		@ 0.154

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.855C	-1.311	0.000	-0.343	0.577
	2	3.855C	-1.311	-0.346	@ 0.261	@ 0.304
2	2	3.972C	0.892	-0.276	-0.343	0.577
	3	3.972C	0.892	0.238	@ 0.261	@ 0.304
3	4	3.475T	-0.241	-0.110	-0.203	0.192
	5	3.475T	0.783	0.038	@ 0.545	@ 0.267
4	5	4.072T	2.905	-0.203	-0.203	0.192
	6	4.072T	3.375	0.582	@ 0.545	@ 0.267
5	3	2.121C	-3.475	0.238		0.000
	4	2.121C	-3.475	-0.110		@ 0.000
6	2	2.121T	-0.597	-0.071		0.082
	5	2.121T	-0.597	-0.241		@ 0.154

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	5.448C	-1.852	0.000	-0.484	0.816
	2	5.448C	-1.852	-0.489	@ 0.261	@ 0.304
2	2	5.606C	1.262	-0.390	-0.484	0.816
	3	5.606C	1.262	0.336	@ 0.261	@ 0.304

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Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	4.903T	-0.356	-0.154	-0.288	0.273
	5	4.903T	1.120	0.054	@ 0.545	@ 0.273
4	5	5.754T	4.117	-0.288	-0.288	0.273
	6	5.754T	4.794	0.826	@ 0.545	@ 0.273
5	3	2.996C	-4.903	0.336		0.000
	4	2.996C	-4.903	-0.154		@ 0.000
6	2	2.996T	-0.852	-0.099		0.116
	5	2.996T	-0.852	-0.342		@ 0.154

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	7.871C	-2.676	0.000	-0.700	1.179
	2	7.871C	-2.676	-0.707	@ 0.261	@ 0.304
2	2	8.092C	1.824	-0.564	-0.700	1.179
	3	8.092C	1.824	0.486	@ 0.261	@ 0.304
3	4	7.077T	-0.528	-0.222	-0.417	0.396
	5	7.077T	1.630	0.079	@ 0.545	@ 0.273
4	5	8.314T	5.958	-0.417	-0.417	0.396
	6	8.314T	6.948	1.196	@ 0.545	@ 0.273
5	3	4.328C	-7.077	0.486		0.000
	4	4.328C	-7.077	-0.222		@ 0.000
6	2	4.328T	-1.237	-0.143		0.169
	5	4.328T	-1.237	-0.496		@ 0.154

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	10.326C	-3.511	0.000	-0.918	1.547
	2	10.326C	-3.511	-0.927	@ 0.261	@ 0.304
2	2	10.613C	2.393	-0.740	-0.918	1.547
	3	10.613C	2.393	0.638	@ 0.261	@ 0.304
3	4	9.281T	-0.697	-0.290	-0.547	0.519
	5	9.281T	2.142	0.103	@ 0.545	@ 0.273
4	5	10.906T	7.819	-0.547	-0.547	0.519
	6	10.906T	9.122	1.570	@ 0.545	@ 0.273

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Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	5.677C	-9.281	0.638		0.011
	4	5.677C	-9.281	-0.290		@ 0.034
6	2	5.677T	-1.625	-0.187		0.221
	5	5.677T	-1.625	-0.651		@ 0.154

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.489C	-0.506	0.000	-0.132	0.243
	2	1.489C	-0.506	-0.134	@ 0.261	@ 0.310
2	2	1.243C	0.407	-0.125	-0.132	0.243
	3	1.243C	0.407	0.109	@ 0.261	@ 0.310
3	4	1.046T	-0.785	0.004	-0.108	0.148
	5	1.046T	0.830	0.050	@ 0.545	@ 0.287
4	5	1.573T	1.614	-0.108	-0.108	0.148
	6	1.573T	1.667	0.302	@ 0.545	@ 0.287
5	3	0.785C	-1.046	0.109		0.000
	4	0.785C	-1.046	0.004		@ 0.000
6	2	0.785T	-0.527	-0.008		0.045
	5	0.785T	-0.527	-0.159		@ 0.162

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.874C	-0.977	0.000	-0.255	0.469
	2	2.874C	-0.977	-0.258	@ 0.261	@ 0.310
2	2	2.402C	0.786	-0.242	-0.255	0.469
	3	2.402C	0.786	0.210	@ 0.261	@ 0.310
3	4	2.022T	-1.516	0.008	-0.207	0.284
	5	2.022T	1.598	0.098	@ 0.545	@ 0.287
4	5	3.036T	3.114	-0.207	-0.207	0.284
	6	3.036T	3.167	0.578	@ 0.545	@ 0.287
5	3	1.516C	-2.022	0.210		0.000
	4	1.516C	-2.022	0.008		@ 0.000
6	2	1.516T	-1.014	-0.016		0.086
	5	1.516T	-1.014	-0.305		@ 0.162

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Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.402C	-0.477	0.000	-0.125	0.215
	2	1.402C	-0.477	-0.126	@ 0.261	@ 0.304
2	2	1.369C	0.363	-0.110	-0.125	0.215
	3	1.369C	0.363	0.099	@ 0.261	@ 0.304
3	4	1.179T	-0.784	-0.018	-0.077	0.089
	5	1.179T	0.331	0.031	@ 0.146	@ 0.242
4	5	1.481T	1.114	-0.072	-0.077	0.089
	6	1.481T	1.167	0.213	@ 0.146	@ 0.242
5	3	0.784C	-1.179	0.099		0.000
	4	0.784C	-1.179	-0.018		@ 0.000
6	2	0.784T	-0.302	-0.016		0.032
	5	0.784T	-0.302	-0.102		@ 0.160

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.836C	-0.624	0.000	-0.163	0.304
	2	1.836C	-0.624	-0.165	@ 0.261	@ 0.316
2	2	1.471C	0.501	-0.156	-0.163	0.304
	3	1.471C	0.501	0.133	@ 0.261	@ 0.316
3	4	1.232T	-0.947	0.009	-0.166	0.198
	5	1.232T	1.075	0.044	@ 0.545	@ 0.305
4	5	1.939T	2.022	-0.166	-0.166	0.198
	6	1.939T	2.949	0.455	@ 0.545	@ 0.305
5	3	0.947C	-1.232	0.133		0.000
	4	0.947C	-1.232	0.009		@ 0.000
6	2	0.947T	-0.707	-0.009		0.059
	5	0.947T	-0.707	-0.211		@ 0.162

Support Reactions Serviceability (001 : D + q1 LC1)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.918	0.000	0.000	6	-1.918	1.568	0.271
Total	0.000	1.568	0.271				

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Support Reactions Serviceability (002 : D + q1 LC2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.195	0.000	0.000	6	-3.195	2.641	0.456
Total	0.000	2.641	0.456				

Support Reactions Serviceability (003 : D + q1 LC3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.072	0.000	0.000	6	-4.072	3.375	0.582
Total	0.000	3.375	0.582				

Support Reactions Serviceability (004 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	5.754	0.000	0.000	6	-5.754	4.794	0.826
Total	0.000	4.794	0.826				

Support Reactions Serviceability (005 : D + q1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	8.314	0.000	0.000	6	-8.314	6.948	1.196
Total	0.000	6.948	1.196				

Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	10.906	0.000	0.000	6	-10.906	9.122	1.570
Total	0.000	9.122	1.570				

Support Reactions Serviceability (007 : D + F1 LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.573	0.000	0.000	6	-1.573	1.667	0.302
Total	0.000	1.667	0.302				

Support Reactions Serviceability (008 : D + F1 LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.036	0.000	0.000	6	-3.036	3.167	0.578
Total	0.000	3.167	0.578				

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12385

Job Ref : 1462
Sheet : 2500 THU 3 Bd /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Support Reactions Serviceability (009 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.481	0.000	0.000	6	-1.481	1.167	0.213
Total	0.000	1.167	0.213				

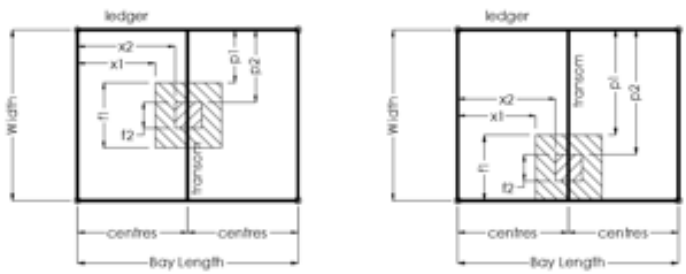
Support Reactions Serviceability (010 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.939	0.000	0.000	6	-1.939	2.949	0.455
Total	0.000	2.949	0.455				

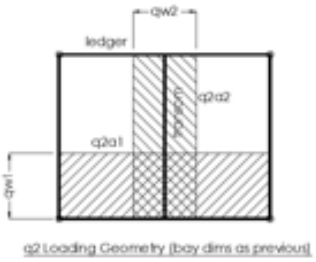
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Deck Geometry: One tube transom in 1.8m bay



q1, F1 and F2 and Bay Geometry



q2 Loading Geometry (bay dims as previous)

Bay Length:	1.8	m
Bay Width:	1.3	m
Centres:	0.900	m
f1:	0.5	m
f2	0.2	m
p1:	0.4	m
p2:	0.55	m
p3:	0.8	m
p4:	1.1	m
x1:	0.65	m
x2:	0.80	m
qw1,2:	Refer to 'Load to Transoms'	

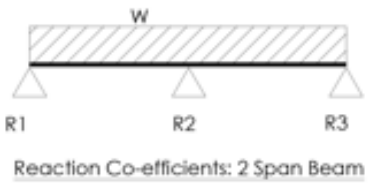
Load Classes:

Class	q1 kN/m²	f1 kN	f2 kN	q2 kN/m²	a_p
1	0.75	1.5	1.0		
2	1.5	1.5	1.0		
3	2.0	1.5	1.0		
4	3.0	3.0	1.0	5.0	0.4
5	4.5	3.0	1.0	7.5	0.4
6	6.0	3.0	1.0	10.0	0.5

Load to Transoms:

Treat boards over transoms as simply supported in accordance with guidance in TG20:13

q1: UDL General Case



Reaction Co-efficients: 2 Span Beam

R1	0.5
R2	1
R3	0.5

f1: Patch Load Specific to 900 Centres

R1	0.02
R2	0.96
R3	0.02

f2: Patch Load Specific to 900 Centres

R1	0.0
R2	1.0
R3	0.0

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

LC4	0.936	m^2
LC5	0.936	m^2
LC6	1.17	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

	qw1	qw2	
LC4	0.52	0.7	m
LC5	0.52	0.7	m
LC6	0.65	0.9	m

	A1	A2 LC4,5	A2 LC6	Specific to 900 Centres
R1	0.500	0.095	0.125	
R2	1.000	0.810	0.750	
R3	0.500	0.095	0.125	

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Transom Forces:

Assess as simply supported beams. This will be the case for intermediate transoms, but some fixity is present for transoms connected into the standards.

Notes on table:

1) Deck reaction is the applied load (x centres for UDLs) x reaction coefficients derived above. For Q2a2, total equals load x qw2 x coefficient

2) Load to transom is the total load. This is the reaction multiplied by the transom length for the q1 and q2a2 case, or the actual reaction for the patch loads

3) Transom bending moment and deflection:

UDL: $M = \frac{Wl}{8}$ $\delta = \frac{5Wl^3}{384EI}$

Patch loads are idealised as point loads about their centre:

CPL: $M = \frac{Pl}{4}$ $\delta = \frac{Pl^3}{48EI}$

Offset: $M = \frac{Pab}{l}$ $\delta = 1.025\left(\frac{Pl^3}{48EI}\right)\left(\frac{3a}{l} - 4\left(\frac{a}{l}\right)^3\right)$

where a is the smaller dimension from support to the point load

Moments are compared against known moment capacity of transom, stated below.
Deflections are compared against L/100

Deck Self Weight:	0.25	kN/m^2	38mm boards
Transom Moment Capacity	1.78	kN.m	
Transom Ixx	115856	mm^4	
Steel E	210000	N/mm^2	

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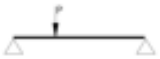
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		Deck Reaction kN or kN/m				kN	kn.m	mm			Transom Reactions kN	
Load	Class	R1	R2	R3	R4	Load to trans'	Trans' BM	Trans Δ	M check	Δ check	R_L	R_R
Deck		0.11	0.23	0.11		0.29	0.05	0.3	Pass	Pass	0.15	0.15
q1	1	0.34	0.68	0.34		0.88	0.14	1.0	Pass	Pass	0.44	0.44
	2	0.68	1.35	0.68		1.76	0.29	2.1	Pass	Pass	0.88	0.88
	3	0.90	1.80	0.90		2.34	0.38	2.8	Pass	Pass	1.17	1.17
	4	1.35	2.70	1.35		3.51	0.57	4.1	Pass	Pass	1.76	1.76
	5	2.03	4.05	2.03		5.27	0.86	6.2	Pass	Pass	2.63	2.63
	6	2.70	5.40	2.70		7.02	1.14	8.3	Pass	Pass	3.51	3.51
f1a	1	0.03	1.44	0.03		1.44	0.47	2.7	Pass	Pass	0.72	0.72
	2	0.03	1.44	0.03		1.44	0.47	2.7	Pass	Pass	0.72	0.72
	3	0.03	1.44	0.03		1.44	0.47	2.7	Pass	Pass	0.72	0.72
	4	0.06	2.88	0.06		2.88	0.94	5.4	Pass	Pass	1.44	1.44
	5	0.06	2.88	0.06		2.88	0.94	5.4	Pass	Pass	1.44	1.44
	6	0.06	2.88	0.06		2.88	0.94	5.4	Pass	Pass	1.44	1.44
f1b	1	0.03	1.44	0.03		1.44	Reactions derived only. F1a more critical for design of transom by inspection. Reactions used for ledger check as worst case.				1.16	0.28
	2	0.03	1.44	0.03		1.44					1.16	0.28
	3	0.03	1.44	0.03		1.44					1.16	0.28
	4	0.06	2.88	0.06		2.88					2.33	0.55
	5	0.06	2.88	0.06		2.88					2.33	0.55
	6	0.06	2.88	0.06		2.88					2.33	0.55
f2a	1	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
	2	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
	3	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
	4	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
	5	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
	6	0.00	1.00	0.00		1.00	0.33	1.9	Pass	Pass	0.50	0.50
f2b	1	0.00	1.00	0.00		1.00	Reactions derived only. F2a more critical for design of transom by inspection. Reactions used for ledger check as worst case.				0.92	0.08
	2	0.00	1.00	0.00		1.00					0.92	0.08
	3	0.00	1.00	0.00		1.00					0.92	0.08
	4	0.00	1.00	0.00		1.00					0.92	0.08
	5	0.00	1.00	0.00		1.00					0.92	0.08
	6	0.00	1.00	0.00		1.00					0.92	0.08
q2a1	1	n/a										
	2											
	3											
	4	1.17	2.34	1.17		2.34	0.49	1.588	Pass	Pass	1.87	0.47
	5	1.76	3.51	1.76		3.51	0.73	2.382	Pass	Pass	2.81	0.70
	6	2.93	5.85	2.93		5.85	1.43	6.345	Pass	Pass	4.39	1.46
q2a2	1	n/a										
	2											
	3											
	4	0.34	2.92	0.34		3.79	0.62	4.5	Pass	Pass	1.90	1.90
	5	0.51	4.37	0.51		5.69	0.92	6.7	Pass	Pass	2.84	2.84
	6	1.13	6.75	1.13		8.78	1.43	10.3	Pass	Pass	4.39	4.39

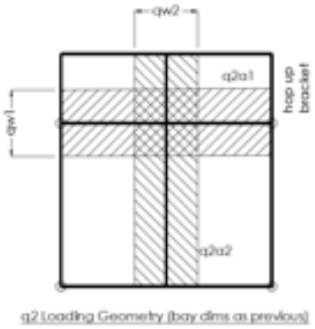
Ledger Assessments:

The reactions from the transom, calculated above, are applied to the ledgers as point loads at the relevant point and analysed using software to take advantage of the end fixity available. The following table summarises the loads and results. Refer to output for analysis details.

Ledger Moment Capacity, mid span sag: 1.78 kN.m
Ledger Moment Capacity, support hog: 2.05 kN.m

PC Load Ref	Type	 P=(kN)		M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check
D1	Deck	0.15							
L4	q1 LC4	1.76		0.32	0.56	4.5	Pass	Pass	Pass
L5	q1 LC5	2.63		0.46	0.81	6.6	Pass	Pass	Pass
L6	q1 LC6	3.51		0.6	1.06	8.6	Pass	Pass	Pass
F1	f1b LC4	2.33		0.41	0.72	5.9	Pass	Pass	Pass
	f1b LC5	2.33					Pass	Pass	Pass
	f1b LC6	2.33					Pass	Pass	Pass
F2	f2b LC4	0.92		0.18	0.31	2.6	Pass	Pass	Pass
	f2b LC5	0.92					Pass	Pass	Pass
	f2b LC6	0.92					Pass	Pass	Pass
J1	q2a1 4	1.87		0.34	0.59	4.8	Pass	Pass	Pass
J2	q2a1 5	2.81		0.49	0.86	7	Pass	Pass	Pass
J3	q2a1 6	4.39		0.75	1.31	10.7	Pass	Pass	Pass
K1	q2a2 4	1.90		0.34	0.6	4.9	Pass	Pass	Pass
K2	q2a2 5	2.84		0.49	0.87	7.1	Pass	Pass	Pass
K3	q2a2 6	4.39		0.75	1.31	10.7	Pass	Pass	Pass

Internal Board Arrangements:



q2 Loading Geometry (bay dims as previous)

Inside Widths:			
	+1	0.290	m
	+2	0.515	m
	+3	0.745	m

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

	+1	+2	+3	
LC4	1.14	1.31	1.47	m^2
LC5	1.14	1.31	1.47	m^2
LC6	1.43	1.63	1.84	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

qw1 dimension

	+1	+2	+3	
LC4	0.64	0.73	0.82	m
LC5	0.64	0.73	0.82	m
LC6	0.80	0.91	1.02	m

qw2 dimension

	+1	+2	+3		
LC4	0.72	0.72	0.72	m	For qw2 use
LC5	0.72	0.72	0.72	m	coefficients as derived
LC6	0.90	0.90	0.90	m	previous due to similar widths

	A1	A2 LC4,5	A2 LC6
R1	0.500	0.095	0.125
R2	1.000	0.810	0.750
R3	0.500	0.095	0.125

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For the configuration shown in the diagram, the reaction coefficients for the deck load reactions to the ledgers is as derived previously excepting as noted above for partial area loads. Therefore the kn/m = load intensity x centres x reaction coefficeint
For q2a1 kN/m is shown. This is multiplied by qw1 dimension before input into software analysis
For q2a2 kN/m = as q1 loads

		Deck Reaction kN or kN/m			Max Load to Trans (kN)		
Load	Class	R1	R2	R3	+1	+2	+3
Deck		0.11	0.23	0.11	0.36		
q1	1	0.34	0.68	0.34	1.07		
	2	0.68	1.35	0.68	2.15		
	3	0.90	1.80	0.90	2.86		
	4	1.35	2.70	1.35	4.29		
	5	2.03	4.05	2.03	6.44		
	6	2.70	5.40	2.70	8.59		
f1 	1	0.03	1.44	0.03	1.44		
	2	0.03	1.44	0.03	1.44		
	3	0.03	1.44	0.03	1.44		
	4	0.06	2.88	0.06	2.88		
	5	0.06	2.88	0.06	2.88		
	6	0.06	2.88	0.06	2.88		
f2 	1	0.00	1.00	0.00	1.00		
	2	0.00	1.00	0.00	1.00		
	3	0.00	1.00	0.00	1.00		
	4	0.00	1.00	0.00	1.00		
	5	0.00	1.00	0.00	1.00		
	6	0.00	1.00	0.00	1.00		
q2a1		n/a					
	4	2.25	4.50	2.25	2.86		
	5	3.38	6.75	3.38	4.29		
	6	4.50	9.00	4.50	7.16		
q2a2		n/a					
	4	0.48	4.05	0.48	4.64		
	5	0.71	6.08	0.71	6.95		
	6	1.25	7.50	1.25	10.73		

NB - Column 'Max load to transom' is used for +1 IB Transom check

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Using the known bay geometry and load dimensions p5, p6, qw1 a 'unit load' analysis is carried out of a beam with a cantilevered end to derive the following co-efficients:

Moments: positive denotes sag Specific to 1300 bay
Deflections: positive denotes upward

		$M_{b'span}$	$M_{support}$	Back-span Δ mm	Tip Δ mm	R_L	R_R
q1	+1	0.12	-0.03	-1.82	1.58	0.39	0.61
	+2	0.08	-0.08	-0.86	0.06	0.28	0.72
	+3	0.15	-0.15	0.39	-5.06	0.19	0.81
f1	+1	-0.09	-0.09	0.49	-0.94	-0.03	1.03
	+2	-0.31	-0.31	3.48	-12.3	-0.24	1.24
	+3	-0.55	-0.55	6.12	-34.7	-0.42	1.42
f2	+1	-0.19	-0.19	2.14	-3.47	-0.15	1.15
	+2	-0.46	-0.46	5.18	-19.09	-0.35	1.35
	+3	-0.70	-0.70	7.81	-46.32	-0.54	1.54
q2a1	+1	0.07	-0.05	-1.01	0.68	0.39	0.61
	+2	-0.17	-0.17	1.28	5.05	0.28	0.72
	+3	-0.30	-0.30	3.06	17.57	0.19	0.81
q2a2	+1	0.12	-0.03	-1.82	1.58	0.39	0.61
	+2	0.08	-0.08	-0.86	0.06	0.28	0.72
	+3	0.15	-0.15	0.39	-5.06	0.19	0.81

NB: q2a1 uses LC6 widths throughout as a worst case. q2a2 uses q1 coefficients for a full udl

Inside board arrangements: Inside Board Transom Checks

Inside board transoms for +2 and +3 are two simply supported members with respect to the analysis. Therefore the transom check for +0 represents the worst case check (ie the largest span).

Applying the coefficients above to the maximum transom load in the previous table gives the following forces and reactions for the transom:

Backspan Moment Capacity:	1.78 kN.m	
Cantilever (support) Moment Capacity:	0.49 kN.m	
Backspan Deflection limit:	13 mm	L/100
Cantilever tip deflection limit:	25 mm	

Transom Checks: Values for +1 Inside Board

Load	Class	$M_{b'span}$	$M_{support}$	Back-span Δ mm	Tip Δ mm	$M_{b'-span}$ check	$M_{support}$ check	Back-span Δ check	Tip Δ check	R_L	R_R
Deck		0.04	-0.01	-0.65	0.57	Pass	Pass	Pass	Pass	0.14	0.22
q1	1	0.13	-0.03	-1.95	1.70	Pass	Pass	Pass	Pass	0.42	0.65
	2	0.26	-0.06	-3.91	3.39	Pass	Pass	Pass	Pass	0.84	1.31
	3	0.34	-0.09	-5.21	4.52	Pass	Pass	Pass	Pass	1.12	1.75
	4	0.52	-0.13	-7.81	6.78	Pass	Pass	Pass	Pass	1.67	2.62
	5	0.77	-0.19	-11.72	10.17	Pass	Pass	Pass	Pass	2.51	3.93
	6	1.03	-0.26	-15.63	13.57	Pass	Pass	Fail	Pass	3.35	5.24
f1 	1	-0.13	-0.13	0.71	-1.35	Pass	Pass	Pass	Pass	-0.04	1.48
	2	-0.13	-0.13	0.71	-1.35	Pass	Pass	Pass	Pass	-0.04	1.48
	3	-0.13	-0.13	0.71	-1.35	Pass	Pass	Pass	Pass	-0.04	1.48
	4	-0.26	-0.26	1.41	-2.71	Pass	Pass	Pass	Pass	-0.09	2.97
	5	-0.26	-0.26	1.41	-2.71	Pass	Pass	Pass	Pass	-0.09	2.97
	6	-0.26	-0.26	1.41	-2.71	Pass	Pass	Pass	Pass	-0.09	2.97
f2 	1	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
	2	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
	3	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
	4	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
	5	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
	6	-0.19	-0.19	2.14	-3.47	Pass	Pass	Pass	Pass	-0.15	1.15
q2a1	n/a										
	4	0.20	-0.14	-2.89	1.95	Pass	Pass	Pass	Pass	1.12	1.75
	5	0.30	-0.21	-4.34	2.92	Pass	Pass	Pass	Pass	1.67	2.62
	6	0.50	-0.36	-7.23	4.87	Pass	Pass	Pass	Pass	2.79	4.36
q2a2	n/a										
	4	0.56	-0.14	-8.44	7.33	Pass	Pass	Pass	Pass	1.81	2.83
	5	0.83	-0.21	-12.66	10.99	Pass	Pass	Pass	Pass	2.71	4.24
	6	1.29	-0.32	-19.53	16.96	Pass	Pass	Fail	Pass	4.19	6.55

Inside board arrangements: Ledger Checks

The analysis of the ledgers where inside boards are present is done by software to take advantage of the end rotational fixity of the ledger to standard connection, and the interaction of the deck components. The 'R max' column is the reaction at the end of the ledger at the inside platform, and is applied as a point load (x2 for UDL) to the hop up bracket during analysis.

	PC Load Ref	Type	M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check	R Max
+1 inside board	D1	Deck							
	L4	q1 LC4	0.43	0.78	5.5	Pass	Pass	Pass	n/a
	L5	q1 LC5	0.63	1.13	8	Pass	Pass	Pass	n/a
	L6	q1 LC6	0.82	1.49	10.5	Pass	Pass	Pass	n/a
	F1	f1b LC4				Pass	Pass	Pass	
		f1b LC5				Pass	Pass	Pass	
		f1b LC6				Pass	Pass	Pass	
	F2	f2b LC4				Pass	Pass	Pass	
		f2b LC5				Pass	Pass	Pass	
		f2b LC6				Pass	Pass	Pass	
	J1	q2a1 4	0.46	0.83	5.9	Pass	Pass	Pass	n/a
	J2	q2a1 5				Pass	Pass	Pass	
	J3	q2a1 6				Pass	Pass	Pass	
	K1	q2a2 4	0.63	1.13	8	Pass	Pass	Pass	n/a
	K2	q2a2 5				Pass	Pass	Pass	
	K3	q2a2 6				Pass	Pass	Pass	
+2 inside board	D1	Deck							
	L4	q1 LC4	0.44	0.73	5	Pass	Pass	Pass	0.43
	L5	q1 LC5	0.64	1.06	7.2	Pass	Pass	Pass	0.61
	L6	q1 LC6	0.84	1.39	9.5	Pass	Pass	Pass	0.8
	F1	f1b LC4				Pass	Pass	Pass	
		f1b LC5				Pass	Pass	Pass	
		f1b LC6				Pass	Pass	Pass	
	F2	f2b LC4				Pass	Pass	Pass	
		f2b LC5				Pass	Pass	Pass	
		f2b LC6				Pass	Pass	Pass	
	J1	q2a1 4	0.37	0.61	4.2	Pass	Pass	Pass	0.54
	J2	q2a1 5				Pass	Pass	Pass	
	J3	q2a1 6				Pass	Pass	Pass	
	K1	q2a2 4	0.64	1.06	7.2	Pass	Pass	Pass	0.61
	K2	q2a2 5				Pass	Pass	Pass	
	K3	q2a2 6				Pass	Pass	Pass	
+3 inside board	D1	Deck							
	L4	q1 LC4	0.51	0.86	5.9	Pass	Pass	Pass	0.55
	L5	q1 LC5	0.74	1.25	8.6	Pass	Pass	Pass	0.78
	L6	q1 LC6	0.97	1.64	11.3	Pass	Pass	Pass	1.02
	F1	f1b LC4				Pass	Pass	Pass	
		f1b LC5				Pass	Pass	Pass	
		f1b LC6				Pass	Pass	Pass	
	F2	f2b LC4				Pass	Pass	Pass	
		f2b LC5				Pass	Pass	Pass	
		f2b LC6				Pass	Pass	Pass	
	J1	q2a1 4	0.46	0.77	5.3	Pass	Pass	Pass	0.46
	J2	q2a1 5				Pass	Pass	Pass	
	J3	q2a1 6				Pass	Pass	Pass	
	K1	q2a2 4	0.74	1.25	8.6	Pass	Pass	Pass	0.79
	K2	q2a2 5				Pass	Pass	Pass	
	K3	q2a2 6				Pass	Pass	Pass	

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Inside board arrangements: Hop up Brackets

The maximum transom deck reaction is used. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion The maximum is applied as calculated for f2 loads.

		Max Transom Load		Hop up Load kN		
Load	Class	kN/m	kN	+1	+2	+3
Deck		0.23		0.07	0.12	0.17
q1	1	0.68		0.20	0.35	0.50
	2	1.35		0.39	0.70	1.01
	3	1.80		0.52	0.93	1.34
	4	2.70		0.78	1.39	2.01
	5	4.05		1.17	2.09	3.02
	6	5.40		1.57	2.78	4.02
f1	1		1.44	0.84	1.44	1.44
	2		1.44	0.84	1.44	1.44
	3		1.44	0.84	1.44	1.44
	4		2.88	1.67	2.88	2.88
	5		2.88	1.67	2.88	2.88
	6		2.88	1.67	2.88	2.88
f2	1		1.00	1.00	1.00	1.00
	2		1.00	1.00	1.00	1.00
	3		1.00	1.00	1.00	1.00
	4		1.00	1.00	1.00	1.00
	5		1.00	1.00	1.00	1.00
	6		1.00	1.00	1.00	1.00
q2a2		n/a				
	4	4.05		1.17	2.09	3.02
	5	6.08		1.76	3.13	4.53
	6	7.50		2.18	3.86	5.59

NB - q2a2 is critical by inspection therefore q2a1 is omitted

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Inside board arrangements: Hop up Bracket Check

Analysis carried in software and results entered into table below for checking.
Loads derived above entered, with reaction of ledger (see ledger table) as an end point load.

Top member moment capacity at support:	2.05	kN.m
Top member axial tension capacity:	94.8	kN
Diagonal strut moment capacity:	1.1	kN.m
Diagonal strut axial capacity:	57.4	kN

NB strut capacity relates to +3 and is used throughout therefore is conservative

	PC Load Ref	Type	M_{hog} Support kN.m					Top Tube M Check
+1 inside board	D1	Deck						
	L1	q1 LC1	0.04					Pass
	L2	q1 LC2	0.07					Pass
	L3	q1 LC3	0.09					Pass
	L4	q1 LC4	0.12					Pass
	L5	q1 LC5	0.18					Pass
	L6	q1 LC6	0.24					Pass
	A1	f1 LC1	0.13					Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.25					Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.20					Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.18					Pass
	C2	q2a2 5						
	C3	q2a2 6						

	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	
+2 inside board	D1	Deck						
	L1	q1 LC1						
	L2	q1 LC2						
	L3	q1 LC3						
	L4	q1 LC4	0.30	2.2	0.13	2.05	Pass	Pass
	L5	q1 LC5	0.44	3.12	0.19	2.94	Pass	Pass
	L6	q1 LC6	0.57	4.1	0.25	3.87	Pass	Pass
	A1	f1 LC1	0.19	1	0.07	0.94	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.37	1.92	0.13	1.81	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.15	1.17	0.08	1.10	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.27	1.38	0.10	1.30	Pass	Pass
	C2	q2a2 5						
	C3	q2a2 6						

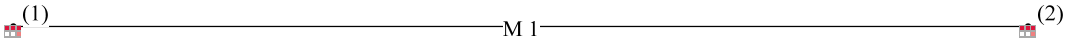
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	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	
+3 inside board	D1	Deck						
	L1	q1 LC1						
	L2	q1 LC2						
	L3	q1 LC3						
	L4	q1 LC4	0.69	3	0.25	3.26	Pass	Pass
	L5	q1 LC5	1.00	4.3	0.36	4.67	Pass	Pass
	L6	q1 LC6	1.31	5.65	0.48	6.13	Pass	Pass
	A1	f1 LC1	0.36	1.34	0.11	1.34	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.69	2.58	0.22	2.57	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.27	1.34	0.11	1.46	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.63	1.96	0.17	1.91	Pass	Pass
	C2	q2a2 5						
	C3	q2a2 6						

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group F1	Dead Load
Load Group F2	Dead Load
Load Group J1	Live Load
Load Group J2	Live Load
Load Group J3	Live Load
Load Group K1	Live Load
Load Group K2	Live Load
Load Group K3	Live Load

Load Case 001 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 002 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 003 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 004 : D + F1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F1

Load Case 005 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F2

Load Case 006 : D + q2 A1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J1

Load Case 007 : D + q2 A1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J2

Load Case 008 : D + q2 A1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J3

Load Case 009 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K1

Load Case 010 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K2

Load Case 011 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K3

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.800	0.000	0.000

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Member Properties

Member 1
```
  M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
   A 4.53E-4           Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
   E 205.0E6           G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D1, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1
```
   D1 PY   -000.150 0.900       ( kN,m )
   L4 PY   -001.760 0.900       ( kN,m )
   L5 PY   -002.630 0.900       ( kN,m )
   L6 PY   -003.510 0.900       ( kN,m )
   F1 PY   -002.330 0.900       ( kN,m )
   F2 PY   -000.920 0.900       ( kN,m )
   J1 PY   -001.870 0.900       ( kN,m )
   J2 PY   -002.810 0.900       ( kN,m )
   J3 PY   -004.390 0.900       ( kN,m )
   K1 PY   -001.900 0.900       ( kN,m )
   K2 PY   -002.840 0.900       ( kN,m )
   K3 PY   -004.390 0.900       ( kN,m )
```

Nodal Loading and Support Conditions

NODES 1-2
```
   UT Rs 1 1 1 0 0 0 (Pinned)
```
NODES 1-2
```
   UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.620
```

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Member Forces (001 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.987	-0.319	0.555	4.540
	2	0.000C	-0.987	-0.319	@ 0.900	@ 0.900

Member Forces (002 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.422	-0.460	0.805	6.569
	2	0.000C	-1.422	-0.460	@ 0.900	@ 0.900

Member Forces (003 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.862	-0.604	1.057	8.622
	2	0.000C	-1.862	-0.604	@ 0.900	@ 0.900

Member Forces (004 : D + F1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.272	-0.412	0.719	5.870
	2	0.000C	-1.272	-0.412	@ 0.900	@ 0.900

Member Forces (005 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.567	-0.181	0.314	2.581
	2	0.000C	-0.567	-0.181	@ 0.900	@ 0.900

Member Forces (006 : D + q2 A1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.042	-0.336	0.587	4.797
	2	0.000C	-1.042	-0.336	@ 0.900	@ 0.900

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Member Forces (007 : D + q2 A1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.512	-0.490	0.856	6.989
	2	0.000C	-1.512	-0.490	@ 0.900	@ 0.900

Member Forces (008 : D + q2 A1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.302	-0.748	1.310	10.674
	2	0.000C	-2.302	-0.748	@ 0.900	@ 0.900

Member Forces (009 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.057	-0.341	0.595	4.867
	2	0.000C	-1.057	-0.341	@ 0.900	@ 0.900

Member Forces (010 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.527	-0.495	0.865	7.059
	2	0.000C	-1.527	-0.495	@ 0.900	@ 0.900

Member Forces (011 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.302	-0.748	1.310	10.674
	2	0.000C	-2.302	-0.748	@ 0.900	@ 0.900

Support Reactions Serviceability (001 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.987	0.319	2	0.000	0.987	-0.319
Total	0.000	1.974	0.000				

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Support Reactions Serviceability (002 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.422	0.460	2	0.000	1.422	-0.460
Total	0.000	2.844	0.000				

Support Reactions Serviceability (003 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.862	0.604	2	0.000	1.862	-0.604
Total	0.000	3.724	0.000				

Support Reactions Serviceability (004 : D + F1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.272	0.412	2	0.000	1.272	-0.412
Total	0.000	2.544	0.000				

Support Reactions Serviceability (005 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.567	0.181	2	0.000	0.567	-0.181
Total	0.000	1.134	0.000				

Support Reactions Serviceability (006 : D + q2 A1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.042	0.336	2	0.000	1.042	-0.336
Total	0.000	2.084	0.000				

Support Reactions Serviceability (007 : D + q2 A1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.512	0.490	2	0.000	1.512	-0.490
Total	0.000	3.024	0.000				

Support Reactions Serviceability (008 : D + q2 A1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.302	0.748	2	0.000	2.302	-0.748
Total	0.000	4.604	0.000				

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Support Reactions Serviceability (009 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.057	0.341	2	0.000	1.057	-0.341
Total	0.000	2.114	0.000				

Support Reactions Serviceability (010 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.527	0.495	2	0.000	1.527	-0.495
Total	0.000	3.054	0.000				

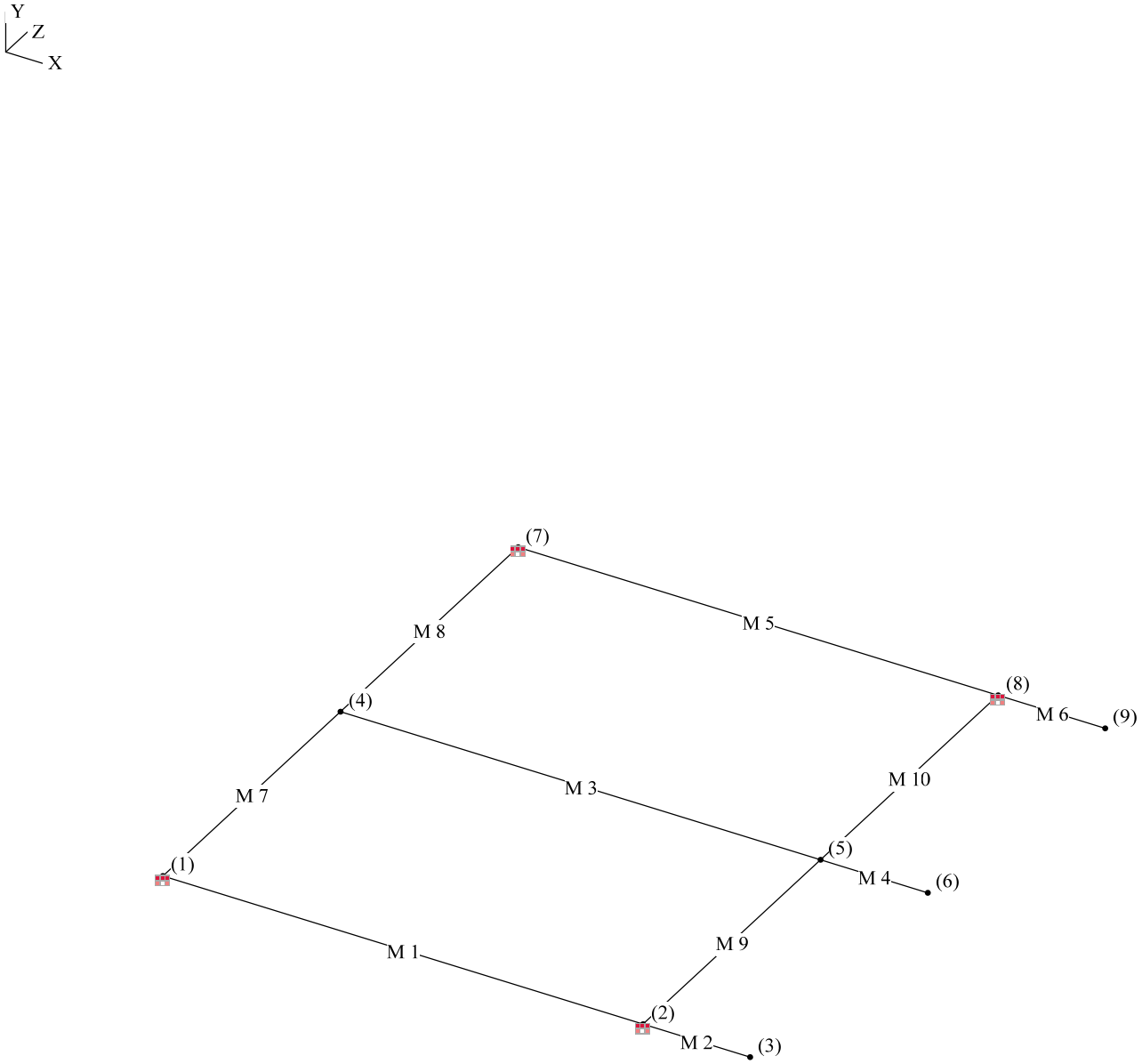
Support Reactions Serviceability (011 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.302	0.748	2	0.000	2.302	-0.748
Total	0.000	4.604	0.000				

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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	1.590	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	1.590	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	1.590	0.000	1.666				

Member Properties

Members 1-10

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm²	Density kN/m³
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 1 and 5

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.955 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Members 2 and 6

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.290 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Member 3

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.955 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member 4

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.290 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

```
1 ®®® O®O          3 ®®® O®O          5 ®®® O®O          7 ®®® O®O
8 ®®® O®O          9 ®®® O®O         10 ®®® O®O
```

Nodal Loading and Support Conditions

NODES 1-2 and 7-8

```
UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-2 and 7-8

```
UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-1.81	0.00	1.81	0.00	0.00	0.14	0.14

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-3.04	0.00	3.04	0.00	0.00	0.24	0.24

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-3.87	0.00	3.87	0.00	0.00	0.30	0.30

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-5.54	0.00	5.54	0.00	0.00	0.44	0.44

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-8.03	0.00	8.03	0.00	0.00	0.63	0.63

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-10.52	0.00	10.52	0.00	0.00	0.83	0.83

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-5.86	0.00	5.86	0.00	0.00	-0.18	0.18

Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-8.03	0.00	8.03	0.00	0.00	0.63	0.63

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Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.49	0.00	-0.14	0.00			0.26
	5	0.00C	0.00	0.46	0.00	0.25	0.00			@ 0.566
10	5	0.00C	0.00	-0.46	0.00	0.25	0.00			0.26
	8	0.00C	0.00	-0.49	0.00	-0.14	0.00			@ 0.267

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.81	0.00	-0.24	0.00			0.44
	5	0.00C	0.00	0.79	0.00	0.43	0.00			@ 0.566
10	5	0.00C	0.00	-0.79	0.00	0.43	0.00			0.44
	8	0.00C	0.00	-0.81	0.00	-0.24	0.00			@ 0.267

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.03	0.00	-0.30	0.00			0.56
	5	0.00C	0.00	1.00	0.00	0.55	0.00			@ 0.566
10	5	0.00C	0.00	-1.00	0.00	0.55	0.00			0.56
	8	0.00C	0.00	-1.03	0.00	-0.30	0.00			@ 0.267

Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.47	0.00	-0.43	0.00			0.79
	5	0.00C	0.00	1.44	0.00	0.78	0.00			@ 0.566
10	5	0.00C	0.00	-1.44	0.00	0.78	0.00			0.79
	8	0.00C	0.00	-1.47	0.00	-0.43	0.00			@ 0.267

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.13	0.00	-0.63	0.00			1.15
	5	0.00C	0.00	2.10	0.00	1.13	0.00			@ 0.566

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Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
10	5	0.00C	0.00	-2.10	0.00	1.13	0.00			1.15
	8	0.00C	0.00	-2.13	0.00	-0.63	0.00			@ 0.267

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.78	0.00	-0.82	0.00			1.51
	5	0.00C	0.00	2.75	0.00	1.49	0.00			@ 0.566
10	5	0.00C	0.00	-2.75	0.00	1.49	0.00			1.51
	8	0.00C	0.00	-2.78	0.00	-0.82	0.00			@ 0.267

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.56	0.00	-0.46	0.00			0.84
	5	0.00C	0.00	1.53	0.00	0.83	0.00			@ 0.566
10	5	0.00C	0.00	-1.53	0.00	0.83	0.00			0.84
	8	0.00C	0.00	-1.56	0.00	-0.46	0.00			@ 0.267

Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.13	0.00	-0.63	0.00			1.15
	5	0.00C	0.00	2.10	0.00	1.13	0.00			@ 0.566
10	5	0.00C	0.00	-2.10	0.00	1.13	0.00			1.15
	8	0.00C	0.00	-2.13	0.00	-0.63	0.00			@ 0.267

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.396	0.000	-0.142	0.000	-0.067
8	0.000	1.396	0.000	0.142	0.000	-0.067
Total	0.000	4.627	0.000	0.000	0.000	0.031

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Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.365	0.000	-0.238	0.000	-0.114
8	0.000	2.365	0.000	0.238	0.000	-0.114
Total	0.000	7.823	0.000	0.000	0.000	0.053

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.016	0.000	-0.302	0.000	-0.145
8	0.000	3.016	0.000	0.302	0.000	-0.145
Total	0.000	9.969	0.000	0.000	0.000	0.067

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.317	0.000	-0.432	0.000	-0.209
8	0.000	4.317	0.000	0.432	0.000	-0.209
Total	0.000	14.262	0.000	0.000	0.000	0.097

Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	6.269	0.000	-0.626	0.000	-0.304
8	0.000	6.269	0.000	0.626	0.000	-0.304
Total	0.000	20.702	0.000	0.000	0.000	0.141

Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	8.221	0.000	-0.820	0.000	-0.399
8	0.000	8.221	0.000	0.820	0.000	-0.399
Total	0.000	27.141	0.000	0.000	0.000	0.185

Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.595	0.000	-0.457	0.000	-0.020
8	0.000	4.595	0.000	0.457	0.000	-0.020
Total	0.000	9.956	0.000	0.000	0.000	0.043

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Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.843	0.000	-0.626	0.000	-0.052
8	0.000	2.843	0.000	0.626	0.000	-0.052
Total	0.000	9.349	0.000	0.000	0.000	0.024

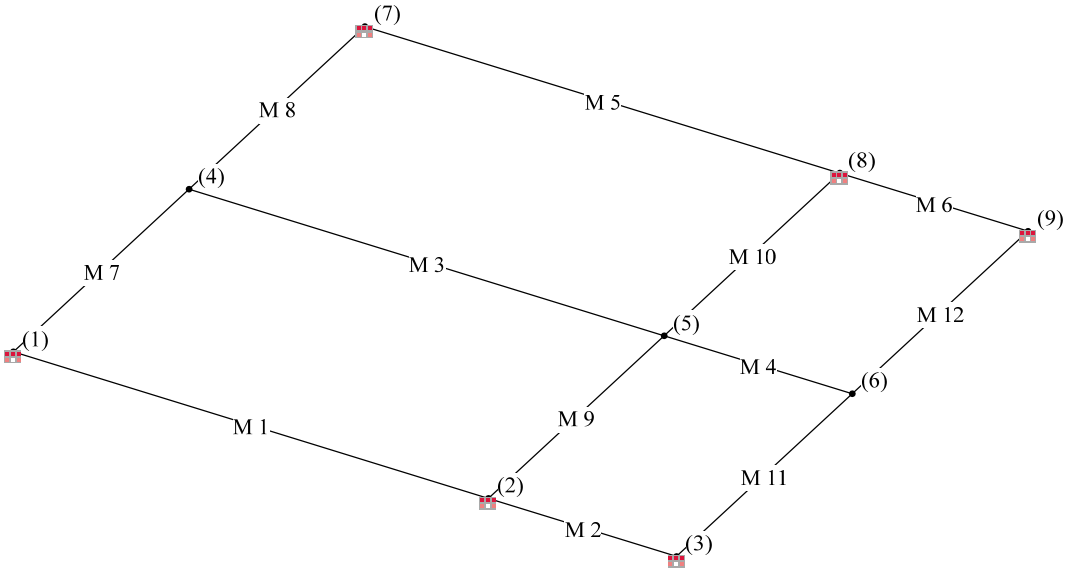
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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	1.815	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	1.815	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	1.815	0.000	1.666				

Member Properties

Members 1-12
M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm²	Density kN/m³
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 1 and 5

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.935 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Members 2 and 6

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.365 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Member 3

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.935 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member 4

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.365 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

```
1 ®®® O®O     3 ®®® O®O     4 ®®® O®O     5 ®®® O®O
7 ®®® O®O     8 ®®® O®O     9 ®®® O®O    10 ®®® O®O
```

Nodal Loading and Support Conditions

NODES 1-3 and 7-9

```
UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-3 and 7-9

```
UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-1.63	0.00	1.63	0.00	0.00	0.13	0.13

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-2.74	0.00	2.74	0.00	0.00	0.22	0.22

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-3.49	0.00	3.49	0.00	0.00	0.28	0.28

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-4.98	0.00	4.98	0.00	0.00	0.41	0.41

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-7.22	0.00	7.22	0.00	0.00	0.59	0.59

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-9.45	0.00	9.45	0.00	0.00	0.78	0.78

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-4.23	0.00	4.23	0.00	0.00	0.18	0.18

Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-7.23	0.00	7.23	0.00	0.00	0.59	0.59

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Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.47	0.00	-0.14	0.00			0.23
	5	0.00C	0.00	0.44	0.00	0.24	0.00			@ 0.575
10	5	0.00C	0.00	-0.44	0.00	0.24	0.00			0.23
	8	0.00C	0.00	-0.47	0.00	-0.14	0.00			@ 0.258

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.79	0.00	-0.24	0.00			0.38
	5	0.00C	0.00	0.76	0.00	0.40	0.00			@ 0.575
10	5	0.00C	0.00	-0.76	0.00	0.40	0.00			0.38
	8	0.00C	0.00	-0.79	0.00	-0.24	0.00			@ 0.258

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.00	0.00	-0.31	0.00			0.48
	5	0.00C	0.00	0.97	0.00	0.51	0.00			@ 0.575
10	5	0.00C	0.00	-0.97	0.00	0.51	0.00			0.48
	8	0.00C	0.00	-1.00	0.00	-0.31	0.00			@ 0.258

Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.42	0.00	-0.44	0.00			0.69
	5	0.00C	0.00	1.39	0.00	0.73	0.00			@ 0.575
10	5	0.00C	0.00	-1.39	0.00	0.73	0.00			0.69
	8	0.00C	0.00	-1.42	0.00	-0.44	0.00			@ 0.258

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.05	0.00	-0.64	0.00			1.00
	5	0.00C	0.00	2.03	0.00	1.06	0.00			@ 0.575

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Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
10	5	0.00C	0.00	-2.03	0.00	1.06	0.00			1.00
	8	0.00C	0.00	-2.05	0.00	-0.64	0.00			@ 0.258

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.69	0.00	-0.84	0.00			1.30
	5	0.00C	0.00	2.66	0.00	1.39	0.00			@ 0.575
10	5	0.00C	0.00	-2.66	0.00	1.39	0.00			1.30
	8	0.00C	0.00	-2.69	0.00	-0.84	0.00			@ 0.258

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.19	0.00	-0.37	0.00			0.59
	5	0.00C	0.00	1.16	0.00	0.61	0.00			@ 0.575
10	5	0.00C	0.00	-1.16	0.00	0.61	0.00			0.59
	8	0.00C	0.00	-1.19	0.00	-0.37	0.00			@ 0.258

Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.06	0.00	-0.64	0.00			1.00
	5	0.00C	0.00	2.03	0.00	1.06	0.00			@ 0.575
10	5	0.00C	0.00	-2.03	0.00	1.06	0.00			1.00
	8	0.00C	0.00	-2.06	0.00	-0.64	0.00			@ 0.258

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.645	0.000	-0.117	0.000	-0.031
3	0.000	0.138	0.000	-0.063	0.000	0.000
8	0.000	1.645	0.000	0.117	0.000	-0.031
9	0.000	0.138	0.000	0.063	0.000	0.000
Total	0.000	5.324	0.000	0.000	0.000	0.083

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Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.789	0.000	-0.196	0.000	-0.053
3	0.000	0.215	0.000	-0.104	0.000	0.000
8	0.000	2.789	0.000	0.196	0.000	-0.053
9	0.000	0.215	0.000	0.104	0.000	0.000
Total	0.000	8.972	0.000	0.000	0.000	0.143

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.558	0.000	-0.249	0.000	-0.068
3	0.000	0.267	0.000	-0.131	0.000	0.000
8	0.000	3.558	0.000	0.249	0.000	-0.068
9	0.000	0.267	0.000	0.131	0.000	0.000
Total	0.000	11.422	0.000	0.000	0.000	0.182

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	5.096	0.000	-0.356	0.000	-0.098
3	0.000	0.370	0.000	-0.186	0.000	0.000
8	0.000	5.096	0.000	0.356	0.000	-0.098
9	0.000	0.370	0.000	0.186	0.000	0.000
Total	0.000	16.323	0.000	0.000	0.000	0.262

Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	7.403	0.000	-0.515	0.000	-0.143
3	0.000	0.525	0.000	-0.268	0.000	-0.013
8	0.000	7.403	0.000	0.515	0.000	-0.143
9	0.000	0.525	0.000	0.268	0.000	-0.013
Total	0.000	23.674	0.000	0.000	0.000	0.355

Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	9.709	0.000	-0.674	0.000	-0.187
3	0.000	0.680	0.000	-0.350	0.000	-0.017
8	0.000	9.709	0.000	0.674	0.000	-0.187
9	0.000	0.680	0.000	0.350	0.000	-0.017
Total	0.000	31.024	0.000	0.000	0.000	0.466

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Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	4.535	0.000	-0.308	0.000	-0.026
3	0.000	0.698	0.000	-0.196	0.000	-0.031
8	0.000	4.535	0.000	0.308	0.000	-0.026
9	0.000	0.698	0.000	0.196	0.000	-0.031
Total	0.000	11.476	0.000	0.000	0.000	-0.020

Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)

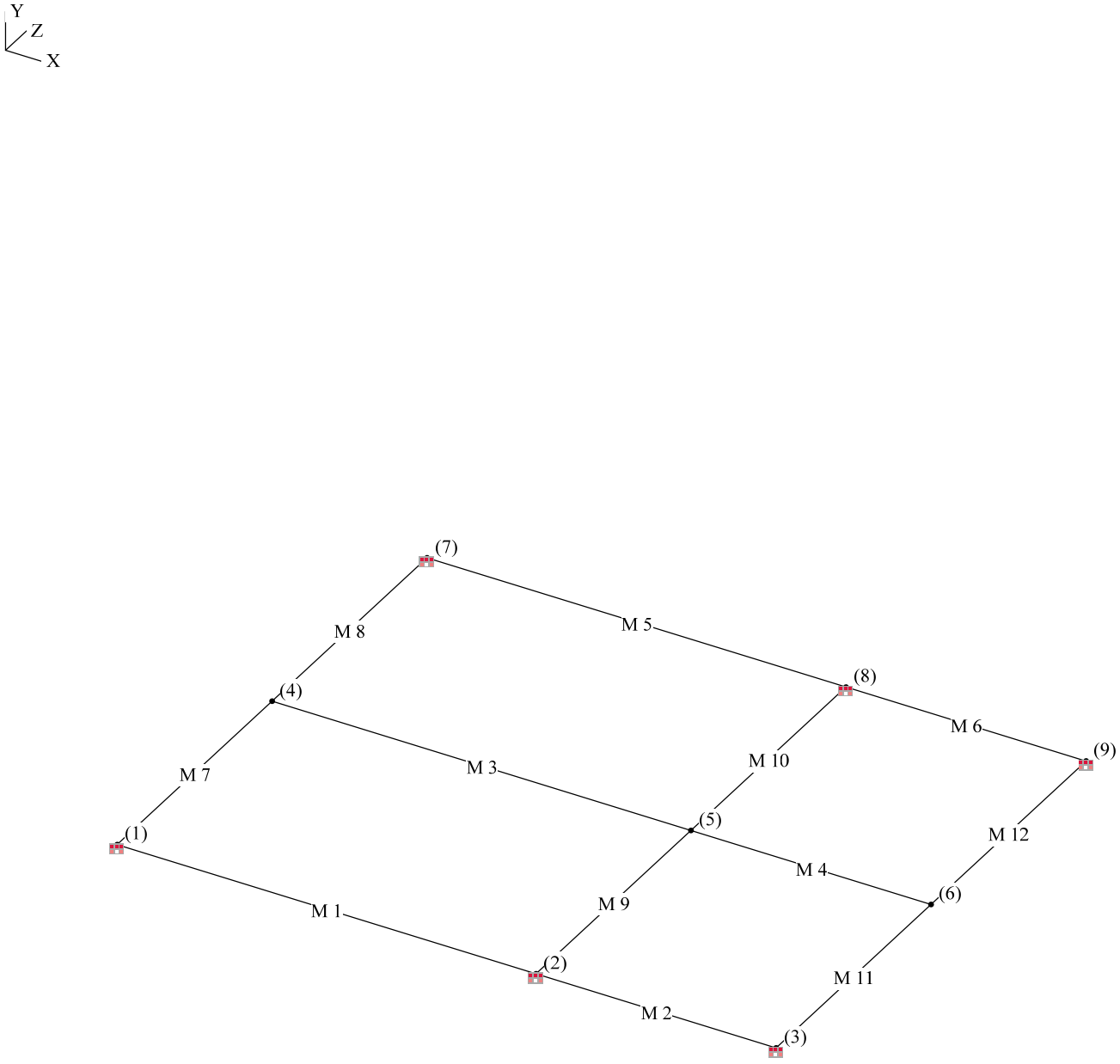
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.182	0.000	-0.516	0.000	-0.015
3	0.000	0.404	0.000	-0.267	0.000	-0.037
8	0.000	3.182	0.000	0.516	0.000	-0.015
9	0.000	0.404	0.000	0.267	0.000	-0.037
Total	0.000	10.714	0.000	0.000	0.000	0.007

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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D0	Dead Load
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group H1	Live Load
Load Group H2	Live Load

Load Case 001 : Dead Plus Live q1 LC1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L1

Load Case 002 : Dead Plus Live q1 LC2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L2

Load Case 003 : Dead Plus Live q1 LC3
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L3

Load Case 004 : Dead Plus Live q1 LC4
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L4

Load Case 005 : Dead Plus Live q1 LC5
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L5

Load Case 006 : Dead Plus Live q1 LC6
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 L6

Load Case 007 : Dead Plus Live q2 LC4 A1
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H1

Load Case 008 : Dead Plus Live q2 LC4 A2
Load Combination + 1.00 UT + 1.00 D0 + 1.00 D1 + 1.00 H2

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000
3	2.045	0.000	0.000	4	0.000	0.000	0.833
5	1.300	0.000	0.833	6	2.045	0.000	0.833
7	0.000	0.000	1.666	8	1.300	0.000	1.666
9	2.045	0.000	1.666				

Member Properties

Members 1-12
M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

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Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm²	Density kN/m³
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 1 and 5

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.890 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Members 2 and 6

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.410 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -000.480              ( kN/m )
```

Member 3

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.890 0.000 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member 4

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
H1 PTRY -004.500 0.000 0.410 -004.500     (kN/m,m,m,kN/m)
H2 UDLY -004.050              ( kN/m )
```

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

```
1 ®®® O®O     3 ®®® O®O     4 ®®® O®O     5 ®®® O®O
7 ®®® O®O     8 ®®® O®O     9 ®®® O®O    10 ®®® O®O
```

Nodal Loading and Support Conditions

NODES 1-3 and 7-9

```
UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-3 and 7-9

```
UT Springs 0000.000 0000.000 0000.000 0069.620 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : Dead Plus Live q1 LC1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-1.93	0.00	1.93	0.00	0.00	0.10	0.10

Nodal Deflections Serviceability (002 : Dead Plus Live q1 LC2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-3.26	0.00	3.26	0.00	0.00	0.18	0.18

Nodal Deflections Serviceability (003 : Dead Plus Live q1 LC3)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-4.15	0.00	4.15	0.00	0.00	0.23	0.23

Nodal Deflections Serviceability (004 : Dead Plus Live q1 LC4)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-5.93	0.00	5.93	0.00	0.00	0.32	0.32

Nodal Deflections Serviceability (005 : Dead Plus Live q1 LC5)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-8.60	0.00	8.60	0.00	0.00	0.47	0.47

Nodal Deflections Serviceability (006 : Dead Plus Live q1 LC6)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-11.27	0.00	11.27	0.00	0.00	0.62	0.62

Nodal Deflections Serviceability (007 : Dead Plus Live q2 LC4 A1)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-5.28	0.00	5.28	0.00	0.00	0.16	0.16

Nodal Deflections Serviceability (008 : Dead Plus Live q2 LC4 A2)								
Node	Nodal Displacements (mm)				Nodal Rotations (Degrees)			
	δX→	δY↑	δZ↗	δXYZ	ΦX→	ΦY↑	ΦZ↗	ΦXYZ
5	0.00	-8.59	0.00	8.59	0.00	0.00	0.47	0.47

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Member Forces (001 : Dead Plus Live q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.55	0.00	-0.17	0.00			0.27
	5	0.00C	0.00	0.52	0.00	0.28	0.00			@ 0.575
10	5	0.00C	0.00	-0.52	0.00	0.28	0.00			0.27
	8	0.00C	0.00	-0.55	0.00	-0.17	0.00			@ 0.258

Member Forces (002 : Dead Plus Live q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	0.92	0.00	-0.28	0.00			0.46
	5	0.00C	0.00	0.89	0.00	0.47	0.00			@ 0.575
10	5	0.00C	0.00	-0.89	0.00	0.47	0.00			0.46
	8	0.00C	0.00	-0.92	0.00	-0.28	0.00			@ 0.258

Member Forces (003 : Dead Plus Live q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.17	0.00	-0.36	0.00			0.58
	5	0.00C	0.00	1.14	0.00	0.60	0.00			@ 0.575
10	5	0.00C	0.00	-1.14	0.00	0.60	0.00			0.58
	8	0.00C	0.00	-1.17	0.00	-0.36	0.00			@ 0.258

Member Forces (004 : Dead Plus Live q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.66	0.00	-0.51	0.00			0.83
	5	0.00C	0.00	1.63	0.00	0.86	0.00			@ 0.575
10	5	0.00C	0.00	-1.63	0.00	0.86	0.00			0.83
	8	0.00C	0.00	-1.66	0.00	-0.51	0.00			@ 0.258

Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.41	0.00	-0.74	0.00			1.20
	5	0.00C	0.00	2.38	0.00	1.25	0.00			@ 0.575

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Member Forces (005 : Dead Plus Live q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
10	5	0.00C	0.00	-2.38	0.00	1.25	0.00			1.20
	8	0.00C	0.00	-2.41	0.00	-0.74	0.00			@ 0.258

Member Forces (006 : Dead Plus Live q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	3.15	0.00	-0.97	0.00			1.57
	5	0.00C	0.00	3.12	0.00	1.64	0.00			@ 0.575
10	5	0.00C	0.00	-3.12	0.00	1.64	0.00			1.57
	8	0.00C	0.00	-3.15	0.00	-0.97	0.00			@ 0.258

Member Forces (007 : Dead Plus Live q2 LC4 A1)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	1.48	0.00	-0.46	0.00			0.74
	5	0.00C	0.00	1.45	0.00	0.77	0.00			@ 0.575
10	5	0.00C	0.00	-1.45	0.00	0.77	0.00			0.74
	8	0.00C	0.00	-1.48	0.00	-0.46	0.00			@ 0.258

Member Forces (008 : Dead Plus Live q2 LC4 A2)

Member No.	Node End1 End2	Axial Force (kN)	Torque Moment (kN.m)	Shear Force (kN) x-x	Shear Force (kN) y-y	Bending Moment (kN.m) x-x	Bending Moment (kN.m) y-y	Maximum Moment (kN.m @ m) x-x	Maximum Moment (kN.m @ m) y-y	Maximum Deflection (mm @ m)
9	2	0.00C	0.00	2.40	0.00	-0.74	0.00			1.20
	5	0.00C	0.00	2.37	0.00	1.25	0.00			@ 0.575
10	5	0.00C	0.00	-2.37	0.00	1.25	0.00			1.20
	8	0.00C	0.00	-2.40	0.00	-0.74	0.00			@ 0.258

Support Reactions Selectd Cases (001 : Dead Plus Live q1 LC1)

Node	Directional Reactions (kN) Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Moment Reactions (kN.m) Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	1.731	0.000	-0.142	0.000	-0.029
3	0.000	0.384	0.000	-0.072	0.000	-0.015
8	0.000	1.731	0.000	0.142	0.000	-0.029
9	0.000	0.384	0.000	0.072	0.000	-0.015
Total	0.000	5.976	0.000	0.000	0.000	0.057

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Support Reactions Selectd Cases (002 : Dead Plus Live q1 LC2)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	2.938	0.000	-0.239	0.000	-0.050
3	0.000	0.634	0.000	-0.119	0.000	-0.025
8	0.000	2.938	0.000	0.239	0.000	-0.050
9	0.000	0.634	0.000	0.119	0.000	-0.025
Total	0.000	10.087	0.000	0.000	0.000	0.097

Support Reactions Selectd Cases (003 : Dead Plus Live q1 LC3)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.748	0.000	-0.304	0.000	-0.064
3	0.000	0.803	0.000	-0.150	0.000	-0.032
8	0.000	3.748	0.000	0.304	0.000	-0.064
9	0.000	0.803	0.000	0.150	0.000	-0.032
Total	0.000	12.847	0.000	0.000	0.000	0.124

Support Reactions Selectd Cases (004 : Dead Plus Live q1 LC4)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	5.368	0.000	-0.433	0.000	-0.092
3	0.000	1.140	0.000	-0.213	0.000	-0.046
8	0.000	5.368	0.000	0.433	0.000	-0.092
9	0.000	1.140	0.000	0.213	0.000	-0.046
Total	0.000	18.369	0.000	0.000	0.000	0.178

Support Reactions Selectd Cases (005 : Dead Plus Live q1 LC5)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	7.799	0.000	-0.628	0.000	-0.134
3	0.000	1.646	0.000	-0.308	0.000	-0.067
8	0.000	7.799	0.000	0.628	0.000	-0.134
9	0.000	1.646	0.000	0.308	0.000	-0.067
Total	0.000	26.651	0.000	0.000	0.000	0.259

Support Reactions Selectd Cases (006 : Dead Plus Live q1 LC6)						
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	10.229	0.000	-0.822	0.000	-0.176
3	0.000	2.151	0.000	-0.402	0.000	-0.088
8	0.000	10.229	0.000	0.822	0.000	-0.176
9	0.000	2.151	0.000	0.402	0.000	-0.088
Total	0.000	34.933	0.000	0.000	0.000	0.340

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Support Reactions Selectd Cases (007 : Dead Plus Live q2 LC4 A1)

Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	5.207	0.000	-0.385	0.000	-0.021
3	0.000	0.675	0.000	-0.182	0.000	-0.056
8	0.000	5.207	0.000	0.385	0.000	-0.021
9	0.000	0.675	0.000	0.182	0.000	-0.056
Total	0.000	12.874	0.000	0.000	0.000	-0.047

Support Reactions Selectd Cases (008 : Dead Plus Live q2 LC4 A2)

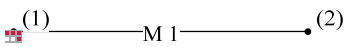
Node	Directional Reactions (kN)			Moment Reactions (kN.m)		
	Rx→(kN)	Ry↑(kN)	Rz↗(kN)	Mx→(kN.m)	My↑(kN.m)	Mz↗(kN.m)
2	0.000	3.445	0.000	-0.627	0.000	-0.014
3	0.000	0.830	0.000	-0.309	0.000	-0.049
8	0.000	3.445	0.000	0.627	0.000	-0.014
9	0.000	0.830	0.000	0.309	0.000	-0.049
Total	0.000	12.050	0.000	0.000	0.000	-0.016

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.290	0.000	0.000

Member Properties

Member 1

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

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Member Loading

Member 1

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
A1 PDLY -000.840 0.000 0.290 (kN,m,m)
A2 PDLY -001.670 0.000 0.290 (kN,m,m)
B1 PDLY -001.000 0.090 0.290 (kN,m,m)
C1 UDLY -004.050              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 1

```
UT Rs 1 1 1 0 0 1 (Pinned with Z Moment Restraint)
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.03	-0.01	0.03

Nodal Deflections Serviceability (002 : D + q1 LC2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.06	-0.02	0.06

Nodal Deflections Serviceability (003 : D + q1 LC3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.08	-0.02	0.08

Nodal Deflections Serviceability (004 : D + q1 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.11	-0.03	0.11

Nodal Deflections Serviceability (005 : D + q1 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.16	-0.04	0.16

Nodal Deflections Serviceability (006 : D + q1 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.21	-0.06	0.21

Nodal Deflections Serviceability (007 : D + F1 LC1-3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.12	-0.03	0.12

Nodal Deflections Serviceability (008 : D + F1 LC4-6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.22	-0.06	0.22

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Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.19	-0.05	0.19

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	0.00	0.00	0.00	2	0.00	-0.16	-0.04	0.16

Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.264	-0.038		0.034
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.458	-0.066		0.059
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.589	-0.085		0.076
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.850	-0.123		0.109
	2	0.000C	0.000	0.000		@ 0.290

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.241	-0.180		0.159
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.633	-0.237		0.209
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.907	-0.131		0.116
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.737	-0.252		0.223
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.067	-0.200		0.188
	2	0.000C	0.000	0.000		@ 0.290

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.241	-0.180		0.159
	2	0.000C	0.000	0.000		@ 0.290

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Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.264	0.038	Total	0.000	0.264	0.038

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.458	0.066	Total	0.000	0.458	0.066

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.589	0.085	Total	0.000	0.589	0.085

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.850	0.123	Total	0.000	0.850	0.123

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.241	0.180	Total	0.000	1.241	0.180

Support Reactions Serviceability (006 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.633	0.237	Total	0.000	1.633	0.237

Support Reactions Serviceability (007 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.907	0.131	Total	0.000	0.907	0.131

Support Reactions Serviceability (008 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.737	0.252	Total	0.000	1.737	0.252

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Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.067	0.200	Total	0.000	1.067	0.200

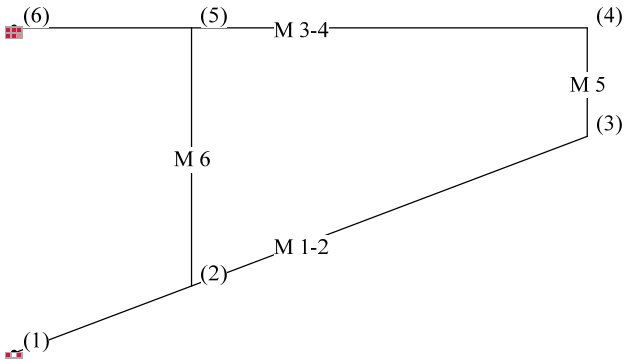
Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.241	0.180	Total	0.000	1.241	0.180

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 002 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 003 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 004 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 005 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 006 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 007 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.175	0.062	0.000
3	0.565	0.200	0.000	4	0.565	0.300	0.000
5	0.175	0.300	0.000	6	0.000	0.300	0.000

Member Properties

Members 1-2 and 6

M	48.3x2.5 CHS 2.82 [S 275]		
A 3.6E-4	Ix 9.46E-8	Iy 9.46E-8	J 18.92E-8
E 205.0E6	G 78.85E6		

Members 3-5

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

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Members 3-4

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
A1 PDLY -001.440 0.000 0.500 (kN,m,m)
A2 PDLY -002.880 0.000 0.500 (kN,m,m)
B1 PDLY -001.000 0.000 0.200 (kN,m,m)
C1 UDLY -004.050              ( kN/m )
```

Nodal Loading and Support Conditions

```
NODE 4
       L1 Ls +0000.000 -0000.010 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L2 Ls +0000.000 -0000.010 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L3 Ls +0000.000 -0000.010 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L4 Ls +0000.000 -0000.860 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L5 Ls +0000.000 -0001.220 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L6 Ls +0000.000 -0001.600 +0000.000 +0000.000 +0000.000 +0000.000
NODE 6
       UT Rs 1 1 1 1 1 1 (Fixed)
NODE 1
       UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODE 6
       UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.620
```

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Approved :

Nodal Deflections Serviceability (001 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.20	0.04	0.20	2	-0.04	-0.11	0.01	0.11
3	0.01	-0.28	-0.01	0.28	4	0.01	-0.28	0.00	0.28
5	0.00	-0.10	-0.04	0.10	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.29	0.06	0.29	2	-0.05	-0.16	0.01	0.17
3	0.02	-0.41	-0.01	0.41	4	0.02	-0.41	0.00	0.41
5	0.01	-0.15	-0.06	0.15	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.38	0.08	0.38	2	-0.07	-0.21	0.01	0.22
3	0.02	-0.54	-0.01	0.54	4	0.02	-0.54	0.00	0.54
5	0.01	-0.20	-0.08	0.20	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.11	0.02	0.11	2	-0.02	-0.07	0.00	0.07
3	0.01	-0.15	0.00	0.15	4	0.00	-0.15	0.00	0.15
5	0.00	-0.07	-0.02	0.07	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.22	0.04	0.22	2	-0.04	-0.13	0.01	0.13
3	0.01	-0.29	-0.01	0.29	4	0.01	-0.29	0.01	0.29
5	0.00	-0.13	-0.05	0.13	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.11	0.02	0.11	2	-0.02	-0.06	0.00	0.06
3	0.01	-0.16	0.00	0.16	4	0.01	-0.16	0.00	0.16
5	0.00	-0.06	-0.02	0.06	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.16	0.03	0.16	2	-0.03	-0.09	0.01	0.10
3	0.01	-0.21	0.00	0.21	4	0.01	-0.21	0.00	0.21
5	0.00	-0.09	-0.03	0.09	6	0.00	0.00	0.00	0.00

Member Forces (001 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.048C	-0.726	0.000	-0.133	0.129
	2	2.048C	-0.726	-0.135	@ 0.184	@ 0.223
2	2	1.949C	0.593	-0.132	-0.133	0.129
	3	1.949C	0.593	0.113	@ 0.184	@ 0.223
3	4	1.640T	-0.349	-0.051	-0.094	0.052
	5	1.640T	0.794	0.036	@ 0.390	@ 0.187
4	5	2.173T	2.003	-0.094	-0.094	0.052
	6	2.173T	2.515	0.302	@ 0.390	@ 0.187
5	3	1.209C	-1.640	0.113		0.000
	4	1.209C	-1.640	-0.051		@ 0.000
6	2	1.209T	-0.534	-0.002		0.025
	5	1.209T	-0.534	-0.130		@ 0.136

Member Forces (002 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.943C	-1.043	0.000	-0.192	0.185
	2	2.943C	-1.043	-0.194	@ 0.184	@ 0.223
2	2	2.795C	0.853	-0.190	-0.192	0.185
	3	2.795C	0.853	0.162	@ 0.184	@ 0.223
3	4	2.350T	-0.516	-0.073	-0.135	0.075
	5	2.350T	1.153	0.052	@ 0.390	@ 0.187
4	5	3.123T	2.889	-0.135	-0.135	0.075
	6	3.123T	3.638	0.436	@ 0.390	@ 0.187
5	3	1.736C	-2.350	0.162		0.000
	4	1.736C	-2.350	-0.073		@ 0.000
6	2	1.736T	-0.773	-0.003		0.036
	5	1.736T	-0.773	-0.187		@ 0.136

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Member Forces (003 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.865C	-1.369	0.000	-0.252	0.243
	2	3.865C	-1.369	-0.254	@ 0.184	@ 0.223
2	2	3.669C	1.120	-0.250	-0.252	0.243
	3	3.669C	1.120	0.213	@ 0.184	@ 0.223
3	4	3.085T	-0.680	-0.095	-0.178	0.098
	5	3.085T	1.516	0.068	@ 0.390	@ 0.187
4	5	4.101T	3.796	-0.178	-0.178	0.098
	6	4.101T	4.781	0.572	@ 0.390	@ 0.187
5	3	2.280C	-3.085	0.213		0.000
	4	2.280C	-3.085	-0.095		@ 0.000
6	2	2.280T	-1.015	-0.004		0.047
	5	2.280T	-1.015	-0.246		@ 0.138

Member Forces (004 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.941C	-0.333	0.000	-0.068	0.064
	2	0.941C	-0.333	-0.062	@ 0.186	@ 0.227
2	2	0.753C	0.301	-0.068	-0.068	0.064
	3	0.753C	0.301	0.057	@ 0.186	@ 0.227
3	4	0.609T	-0.535	-0.004	-0.063	0.041
	5	0.609T	0.678	0.024	@ 0.390	@ 0.207
4	5	0.998T	1.213	-0.063	-0.063	0.041
	6	0.998T	1.570	0.191	@ 0.390	@ 0.207
5	3	0.535C	-0.609	0.057		0.000
	4	0.535C	-0.609	-0.004		@ 0.000
6	2	0.535T	-0.389	0.006		0.015
	5	0.535T	-0.389	-0.087		@ 0.140

Member Forces (005 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.812C	-0.642	0.000	-0.131	0.123
	2	1.812C	-0.642	-0.119	@ 0.186	@ 0.227
2	2	1.449C	0.580	-0.131	-0.131	0.123
	3	1.449C	0.580	0.109	@ 0.186	@ 0.227

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Member Forces (005 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.173T	-1.030	-0.008	-0.121	0.078
	5	1.173T	1.306	0.046	@ 0.390	@ 0.207
4	5	1.923T	2.336	-0.121	-0.121	0.078
	6	1.923T	3.010	0.367	@ 0.390	@ 0.207
5	3	1.030C	-1.173	0.109		0.000
	4	1.030C	-1.173	-0.008		@ 0.000
6	2	1.030T	-0.750	0.011		0.029
	5	1.030T	-0.750	-0.167		@ 0.140

Member Forces (006 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.101C	-0.390	0.000	-0.076	0.071
	2	1.101C	-0.390	-0.072	@ 0.186	@ 0.223
2	2	1.011C	0.346	-0.076	-0.076	0.071
	3	1.011C	0.346	0.067	@ 0.186	@ 0.223
3	4	0.837T	-0.663	-0.016	-0.058	0.033
	5	0.837T	0.426	0.032	@ 0.125	@ 0.173
4	5	1.168T	1.090	-0.043	-0.058	0.033
	6	1.168T	1.130	0.151	@ 0.125	@ 0.173
5	3	0.663C	-0.837	0.067		0.000
	4	0.663C	-0.837	-0.016		@ 0.000
6	2	0.663T	-0.331	0.003		0.014
	5	0.663T	-0.331	-0.075		@ 0.138

Member Forces (007 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.298C	-0.460	0.000	-0.094	0.088
	2	1.298C	-0.460	-0.085	@ 0.186	@ 0.227
2	2	1.037C	0.415	-0.094	-0.094	0.088
	3	1.037C	0.415	0.078	@ 0.186	@ 0.227
3	4	0.839T	-0.737	-0.006	-0.087	0.056
	5	0.839T	0.932	0.032	@ 0.390	@ 0.207
4	5	1.377T	1.669	-0.087	-0.087	0.056
	6	1.377T	2.418	0.270	@ 0.390	@ 0.207

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Member Forces (007 : D + q2 A2 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	0.737C	-0.839	0.078		0.000
	4	0.737C	-0.839	-0.006		@ 0.000
6	2	0.737T	-0.538	0.008		0.021
	5	0.737T	-0.538	-0.120		@ 0.140

Support Reactions Serviceability (001 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.173	0.000	0.000	6	-2.173	2.515	0.302
Total	0.000	2.515	0.302				

Support Reactions Serviceability (002 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.123	0.000	0.000	6	-3.123	3.638	0.436
Total	0.000	3.638	0.436				

Support Reactions Serviceability (003 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.101	0.000	0.000	6	-4.101	4.781	0.572
Total	0.000	4.781	0.572				

Support Reactions Serviceability (004 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.998	0.000	0.000	6	-0.998	1.570	0.191
Total	0.000	1.570	0.191				

Support Reactions Serviceability (005 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.923	0.000	0.000	6	-1.923	3.010	0.367
Total	0.000	3.010	0.367				

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Support Reactions Serviceability (006 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.168	0.000	0.000	6	-1.168	1.130	0.151
Total	0.000	1.130	0.151				

Support Reactions Serviceability (007 : D + q2 A2 LC4)

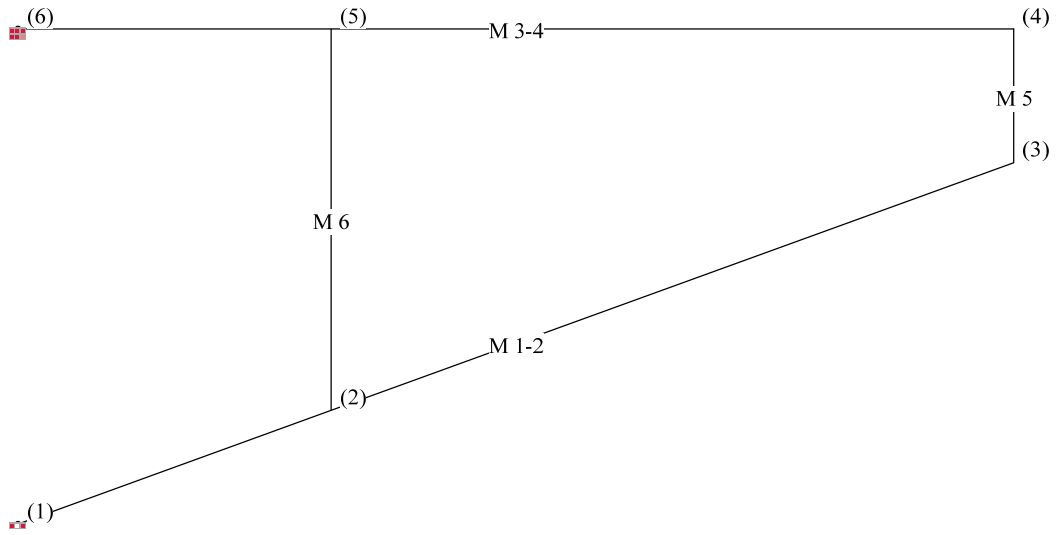
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.377	0.000	0.000	6	-1.377	2.418	0.270
Total	0.000	2.418	0.270				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load

Load Case 001 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 002 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 003 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 004 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 005 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 006 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 007 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.250	0.085	0.000
3	0.795	0.270	0.000	4	0.795	0.370	0.000
5	0.250	0.370	0.000	6	0.000	0.370	0.000

Member Properties

Members 1-2 and 6

M	33.7x3.2 CHS 2.41 [S 275]		
A 3.07E-4	Ix 3.6E-8	Iy 3.6E-8	J 7.21E-8
E 205.0E6	G 78.85E6		

Members 3-5

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

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Members 3-4

```
D1 UDLY -000.230              ( kN/m )
L1 UDLY -000.680              ( kN/m )
L2 UDLY -001.350              ( kN/m )
L3 UDLY -001.800              ( kN/m )
L4 UDLY -002.700              ( kN/m )
L5 UDLY -004.050              ( kN/m )
L6 UDLY -005.400              ( kN/m )
A1 PDLY -001.440 0.000 0.500 (kN,m,m)
A2 PDLY -002.880 0.000 0.500 (kN,m,m)
B1 PDLY -001.000 0.000 0.200 (kN,m,m)
C1 UDLY -004.050              ( kN/m )
```

Nodal Loading and Support Conditions

```
NODE 4
       L1 Ls +0000.000 -0000.100 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L2 Ls +0000.000 -0000.100 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L3 Ls +0000.000 -0000.100 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L4 Ls +0000.000 -0001.100 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L5 Ls +0000.000 -0001.560 +0000.000 +0000.000 +0000.000 +0000.000
NODE 4
       L6 Ls +0000.000 -0002.040 +0000.000 +0000.000 +0000.000 +0000.000
NODE 6
       UT Rs 1 1 1 1 1 1 (Fixed)
NODE 1
       UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODE 6
       UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0069.620
```

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Nodal Deflections Serviceability (001 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.46	0.30	1.46	2	-0.32	-0.56	0.03	0.65
3	0.01	-1.63	-0.01	1.63	4	0.03	-1.63	-0.01	1.63
5	0.01	-0.55	-0.18	0.55	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-2.11	0.42	2.11	2	-0.46	-0.81	0.05	0.93
3	0.02	-2.35	-0.02	2.35	4	0.04	-2.35	-0.02	2.35
5	0.01	-0.80	-0.25	0.80	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-2.77	0.56	2.77	2	-0.60	-1.06	0.06	1.22
3	0.02	-3.08	-0.03	3.08	4	0.05	-3.08	-0.02	3.08
5	0.02	-1.05	-0.33	1.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.72	0.13	0.72	2	-0.15	-0.30	0.02	0.33
3	0.02	-0.82	0.00	0.82	4	0.01	-0.82	0.00	0.82
5	0.00	-0.30	-0.10	0.30	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.37	0.26	1.37	2	-0.28	-0.57	0.03	0.64
3	0.03	-1.57	0.00	1.57	4	0.02	-1.57	0.01	1.57
5	0.01	-0.57	-0.18	0.57	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.63	0.13	0.63	2	-0.14	-0.23	0.01	0.27
3	0.01	-0.73	0.00	0.73	4	0.01	-0.73	0.00	0.73
5	0.00	-0.23	-0.08	0.23	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.10	0.20	1.10	2	-0.22	-0.48	0.03	0.53
3	0.02	-1.24	0.00	1.24	4	0.02	-1.25	0.00	1.25
5	0.01	-0.48	-0.15	0.48	6	0.00	0.00	0.00	0.00

Member Forces (001 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.839C	-0.965	0.000	-0.252	1.024
	2	2.839C	-0.965	-0.255	@ 0.261	@ 0.299
2	2	3.256C	0.566	-0.174	-0.252	1.024
	3	3.256C	0.566	0.152	@ 0.261	@ 0.299
3	4	2.901T	-0.483	-0.138	-0.178	0.243
	5	2.901T	1.114	0.034	@ 0.153	@ 0.262
4	5	2.999T	2.697	-0.075	-0.178	0.243
	6	2.999T	3.429	0.691	@ 0.153	@ 0.262
5	3	1.583C	-2.901	0.152		0.000
	4	1.583C	-2.901	-0.138		@ 0.000
6	2	1.583T	-0.098	-0.081		0.131
	5	1.583T	-0.098	-0.109		@ 0.145

Member Forces (002 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	4.081C	-1.388	0.000	-0.363	1.472
	2	4.081C	-1.388	-0.366	@ 0.261	@ 0.299
2	2	4.673C	0.815	-0.250	-0.363	1.472
	3	4.673C	0.815	0.219	@ 0.261	@ 0.299
3	4	4.163T	-0.714	-0.197	-0.257	0.353
	5	4.163T	1.619	0.049	@ 0.158	@ 0.262
4	5	4.310T	3.893	-0.109	-0.257	0.353
	6	4.310T	4.963	0.998	@ 0.158	@ 0.262
5	3	2.274C	-4.163	0.219		0.000
	4	2.274C	-4.163	-0.197		@ 0.000
6	2	2.274T	-0.148	-0.116		0.189
	5	2.274T	-0.148	-0.158		@ 0.145

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Member Forces (003 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	5.351C	-1.819	0.000	-0.476	1.931
	2	5.351C	-1.819	-0.480	@ 0.261	@ 0.299
2	2	6.125C	1.069	-0.328	-0.476	1.931
	3	6.125C	1.069	0.287	@ 0.261	@ 0.299
3	4	5.457T	-0.942	-0.258	-0.337	0.463
	5	5.457T	2.127	0.065	@ 0.164	@ 0.262
4	5	5.652T	5.108	-0.143	-0.337	0.463
	6	5.652T	6.516	1.310	@ 0.164	@ 0.262
5	3	2.982C	-5.457	0.287		0.000
	4	2.982C	-5.457	-0.258		@ 0.000
6	2	2.982T	-0.195	-0.152		0.248
	5	2.982T	-0.195	-0.208		@ 0.145

Member Forces (004 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.273C	-0.433	0.000	-0.113	0.481
	2	1.273C	-0.433	-0.114	@ 0.261	@ 0.304
2	2	1.335C	0.290	-0.088	-0.113	0.481
	3	1.335C	0.290	0.079	@ 0.261	@ 0.304
3	4	1.171T	-0.703	-0.038	-0.118	0.168
	5	1.171T	0.862	0.038	@ 0.225	@ 0.270
4	5	1.344T	1.565	-0.038	-0.118	0.168
	6	1.344T	1.623	0.360	@ 0.225	@ 0.270
5	3	0.703C	-1.171	0.079		0.000
	4	0.703C	-1.171	-0.038		@ 0.000
6	2	0.703T	-0.173	-0.027		0.071
	5	0.703T	-0.173	-0.076		@ 0.154

Member Forces (005 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.446C	-0.832	0.000	-0.217	0.923
	2	2.446C	-0.832	-0.220	@ 0.261	@ 0.304
2	2	2.568C	0.556	-0.168	-0.217	0.923
	3	2.568C	0.556	0.152	@ 0.261	@ 0.304

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Member Forces (005 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	2.253T	-1.352	-0.073	-0.225	0.322
	5	2.253T	1.653	0.074	@ 0.214	@ 0.270
4	5	2.583T	3.005	-0.072	-0.225	0.322
	6	2.583T	3.063	0.686	@ 0.214	@ 0.270
5	3	1.352C	-2.253	0.152		0.000
	4	1.352C	-2.253	-0.073		@ 0.000
6	2	1.352T	-0.331	-0.051		0.136
	5	1.352T	-0.331	-0.146		@ 0.154

Member Forces (006 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.270C	-0.432	0.000	-0.113	0.457
	2	1.270C	-0.432	-0.114	@ 0.261	@ 0.299
2	2	1.460C	0.265	-0.080	-0.113	0.457
	3	1.460C	0.265	0.073	@ 0.261	@ 0.299
3	4	1.297T	-0.720	-0.057	-0.106	0.108
	5	1.297T	0.405	0.030	@ 0.129	@ 0.225
4	5	1.341T	1.125	-0.017	-0.106	0.108
	6	1.341T	1.183	0.271	@ 0.129	@ 0.225
5	3	0.720C	-1.297	0.073		0.000
	4	0.720C	-1.297	-0.057		@ 0.000
6	2	0.720T	-0.044	-0.034		0.056
	5	0.720T	-0.044	-0.047		@ 0.145

Member Forces (007 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.859C	-0.632	0.000	-0.165	0.710
	2	1.859C	-0.632	-0.167	@ 0.261	@ 0.304
2	2	1.907C	0.427	-0.130	-0.165	0.710
	3	1.907C	0.427	0.116	@ 0.261	@ 0.304
3	4	1.668T	-1.017	-0.051	-0.172	0.267
	5	1.668T	1.316	0.030	@ 0.229	@ 0.283
4	5	1.963T	2.333	-0.091	-0.172	0.267
	6	1.963T	3.403	0.626	@ 0.229	@ 0.283

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Member Forces (007 : D + q2 A2 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.017C	-1.668	0.116		0.000
	4	1.017C	-1.668	-0.051		@ 0.000
6	2	1.017T	-0.295	-0.037		0.110
	5	1.017T	-0.295	-0.121		@ 0.154

Support Reactions Serviceability (001 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.999	0.000	0.000	6	-2.999	3.429	0.691
Total	0.000	3.429	0.691				

Support Reactions Serviceability (002 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.310	0.000	0.000	6	-4.310	4.963	0.998
Total	0.000	4.963	0.998				

Support Reactions Serviceability (003 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	5.652	0.000	0.000	6	-5.652	6.516	1.310
Total	0.000	6.516	1.310				

Support Reactions Serviceability (004 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.344	0.000	0.000	6	-1.344	1.623	0.360
Total	0.000	1.623	0.360				

Support Reactions Serviceability (005 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.583	0.000	0.000	6	-2.583	3.063	0.686
Total	0.000	3.063	0.686				

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Support Reactions Serviceability (006 : D + F2)

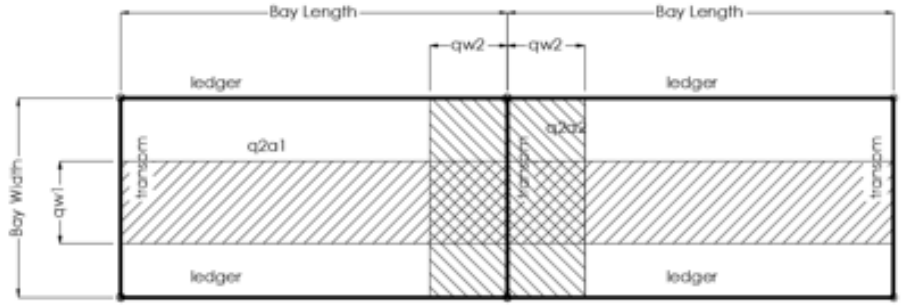
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.341	0.000	0.000	6	-1.341	1.183	0.271
Total	0.000	1.183	0.271				

Support Reactions Serviceability (007 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.963	0.000	0.000	6	-1.963	3.403	0.626
Total	0.000	3.403	0.626				

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Deck Geometry: 2.5m Omega Deck



Omega deck q2 Loading Geometry

Bay Length: 2.5 m
Bay Width: 1.3 m

qw1,2: Refer to 'Load to Transoms'

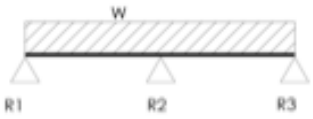
Load Classes:

Class	q1 kN/m²	f1 kN	f2 kN	q2 kN/m²	a_p
1	0.75	1.5	1.0		
2	1.5	1.5	1.0		
3	2.0	1.5	1.0		
4	3.0	3.0	1.0	5.0	0.4
5	4.5	3.0	1.0	7.5	0.4
6	6.0	3.0	1.0	10.0	0.5

Load to Transoms:

Deck boards are simply supported over bay width. UDL to transom is therefore based on simple statics. For F1 and F2 loads, due to the larger spans, all load is assumed to transfer back to the transom directly below.

q2: Partial Area Loads



Partial area: Bay Width x Length x a_p

LC4	1.3	m^2
LC5	1.3	m^2
LC6	1.625	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

	qw1	qw2	
LC4	0.52	1.00	m
LC5	0.52	1.00	m
LC6	0.65	1.25	m

	A2 LC4,5	A2 LC6	Specific to 2.5x1.3 Bay
R1	0.100	0.130	
R2	0.800	0.740	
R3	0.100	0.130	

NB - above co-efficients relate to total area, i.e 2 bays width

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Transom Forces:

Transoms are assessed in software using known rotational stiffness of joint. Applied forces are as derived in the table below.

Notes on table:

1) Deck reaction is the applied load (x centres for UDLs) x reaction coefficients derived above. F1 and F2 takes 100% to transom as noted previous.

2) Load to transom is the total load. This is the reaction multiplied by the transom length for the q1 and q2a2 case, or the actual reaction for the patch loads

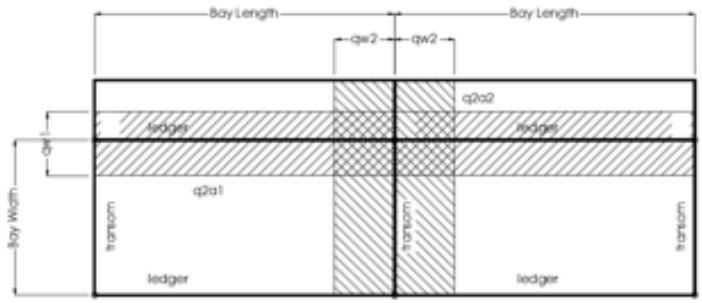
Deflections are compared against L/100

Deck Self Weight: 0.26 kN/m^2 (Steel Battens)

Transom Moment Capacity (sag) 1.7 kN.m
Transom Moment Capacity (hog) 1.39 kN.m

		Deck Reaction kN or kN/m											
Load	Class	R1	R2	R3	R4	Load to trans' kN	M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check	PC Load Ref
Deck		0.65	0.65	0.65		0.85				Pass	Pass	Pass	Deck
q1	1	1.88	1.88	1.88		2.44	0.14	0.39	0.7	Pass	Pass	Pass	L1
	2	3.75	3.75	3.75		4.88	0.25	0.68	1.2	Pass	Pass	Pass	L2
	3	5.00	5.00	5.00		6.5	0.32	0.87	1.5	Pass	Pass	Pass	L3
	4	7.50	7.50	7.50		9.75	0.46	1.26	2.2	Pass	Pass	Pass	L4
	5	11.25	11.25	11.25		14.6	0.67	1.84	3.2	Pass	Fail	Pass	L5
	6	15.00	15.00	15.00		19.5	0.89	2.42	4.2	Pass	Fail	Pass	L6
f1a	1	0.00	1.50	0.00		1.50	0.13	0.40	0.6	Pass	Pass	Pass	F1
	2	0.00	1.50	0.00		1.50				Pass	Pass	Pass	F1
	3	0.00	1.50	0.00		1.50				Pass	Pass	Pass	F1
	4	0.00	3.00	0.00		3.00	0.22	0.70	1.1	Pass	Pass	Pass	F5
	5	0.00	3.00	0.00		3.00				Pass	Pass	Pass	F5
	6	0.00	3.00	0.00		3.00				Pass	Pass	Pass	F5
f2a	1	0.00	1.00	1.00		1.00	0.10	0.34	0.5	Pass	Pass	Pass	F2
	2	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F2
	3	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F2
	4	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
	5	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
	6	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
q2a1	1	n/a								Pass	Pass		
	2									Pass	Pass		
	3									Pass	Pass		
	4	12.50	12.50	12.50		6.50	0.44	1.39	2.2	Pass	Pass	Pass	J1
	5	18.75	18.75	18.75		9.75	0.64	2.03	3.2	Pass	Fail	Pass	J2
	6	25.00	25.00	25.00		16.25	1.01	3.09	4.9	Pass	Fail	Pass	J3
q2a2	1	n/a								Pass	Pass		
	2									Pass	Pass		
	3									Pass	Pass		
	4	0.50	4.00	0.50		5.20	0.26	0.72	1.2	Pass	Pass	Pass	K1
	5	0.75	6.00	0.75		7.80	0.38	1.03	1.8	Pass	Pass	Pass	K2
	6	1.30	7.40	1.30		9.62	0.46	1.25	2.1	Pass	Pass	Pass	K3

Internal Board Arrangements: Hop Up Brackets



Omega deck q2 Loading Geometry

Inside Widths:	+1	0.290	m
	+2	0.515	m
	+3	0.745	m

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

	+1	+2	+3	
LC4	1.59	1.82	2.05	m^2
LC5	1.59	1.82	2.05	m^2
LC6	1.99	2.27	2.56	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

qw1 dimension

	+1	+2	+3	
LC4	0.64	0.73	0.82	m
LC5	0.64	0.73	0.82	m
LC6	0.80	0.91	1.02	m

qw2 dimension

	+1	+2	+3	
LC4	1.00	1.00	1.00	m
LC5	1.00	1.00	1.00	m
LC6	1.25	1.25	1.25	m

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The loading to the hop up bracket is as calculated for the transom. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion. The maximum load is used as calculated for F2 loads.

The maximum transom deck reaction is used. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion The maximum is applied as calculated for f2 loads.

		Max Transom Load		Hop up Load kN			PC Load Ref
Load	Class	kN/m	kN	+1	+2	+3	
Deck		0.65		0.19	0.33	0.48	D1
q1	1	1.88		0.54	0.97	1.40	L1
	2	3.75		1.09	1.93	2.79	L2
	3	5.00		1.45	2.58	3.73	L3
	4	7.50		2.18	3.86	5.59	L4
	5	11.25		3.26	5.79	8.38	L5
	6	15.00		4.35	7.73	11.18	L6
f1	1		1.50	0.87	1.50	1.50	A1
	2		1.50	0.87	1.50	1.50	
	3		1.50	0.87	1.50	1.50	
	4		3.00	1.74	3.00	3.00	A2
	5		3.00	1.74	3.00	3.00	
	6		3.00	1.74	3.00	3.00	
f2	1		1.00	1.00	1.00	1.00	B1
	2		1.00	1.00	1.00	1.00	
	3		1.00	1.00	1.00	1.00	
	4		1.00	1.00	1.00	1.00	
	5		1.00	1.00	1.00	1.00	
	6		1.00	1.00	1.00	1.00	
q2a2		n/a					
	4	4.00		1.16	2.06	2.98	C1
	5	6.00		1.74	3.09	4.47	C2
	6	7.40		2.15	3.81	5.51	C3

NB - q2a2 is critical by inspection therefore q2a1 is omitted

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Inside board arrangements: Hop up Bracket Check

Analysis carried in software and results entered into table below for checking.
Loads derived above entered, with reaction of ledger (see ledger table) as an end point load.

Top member moment capacity at support:	1.39	kN.m
Top member axial tension capacity:	124	kN
Diagonal strut moment capacity:	1.1	kN.m
Diagonal strut axial capacity:	57.4	kN

NB strut capacity relates to +3 and is used throughout therefore is conservative

	PC Load Ref	Type	M_{hog} Support kN.m					Top Tube M Check
+1 inside board	D1	Deck						
	L1	q1 LC1	0.12					Pass
	L2	q1 LC2	0.21					Pass
	L3	q1 LC3	0.27					Pass
	L4	q1 LC4	0.39					Pass
	L5	q1 LC5	0.57					Pass
	L6	q1 LC6	0.75					Pass
	A1	f1 LC1	0.17					Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.32					Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.24					Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.22					Pass
	C2	q2a2 5	0.32					Pass
	C3	q2a2 6	0.39					Pass

	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	Top Tube Ax & M Check
+2 inside board	D1	Deck						
	L1	q1 LC1	0.21	0.66	0.04	0.66	Pass	Pass
	L2	q1 LC2	0.36	1.14	0.07	1.14	Pass	Pass
	L3	q1 LC3	0.46	1.47	0.09	1.47	Pass	Pass
	L4	q1 LC4	0.67	2.12	0.13	2.12	Pass	Pass
	L5	q1 LC5	0.97	3.09	0.19	3.09	Pass	Pass
	L6	q1 LC6	1.28	4.07	4.07	4.28	Fail	Pass
	A1	f1 LC1	0.29	0.95	0.06	0.95	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.53	1.73	0.11	1.73	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.25	1.08	0.07	1.14	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.38	1.21	0.07	1.21	Pass	Pass
	C2	q2a2 5	0.54	1.73	0.11	1.73	Pass	Pass
	C3	q2a2 6	0.66	2.09	0.13	2.09	Pass	Pass

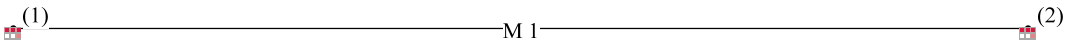
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	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	Top Tube Ax & M Check
+3 inside board	D1	Deck						
	L1	q1 LC1	0.40	1.07	0.09	1.11	Pass	Pass
	L2	q1 LC2	0.70	1.86	0.16	1.94	Pass	Pass
	L3	q1 LC3	0.90	2.39	0.20	2.49	Pass	Pass
	L4	q1 LC4	1.30	3.45	0.29	3.59	Pass	Pass
	L5	q1 LC5	1.90	5.04	0.42	5.24	Pass	Fail
	L6	q1 LC6	2.49	6.62	0.56	6.89	Pass	Fail
	A1	f1 LC1	0.48	1.47	0.12	1.55	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.86	2.66	0.22	2.81	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.37	1.43	0.12	1.60	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.74	1.97	0.17	2.05	Pass	Pass
	C2	q2a2 5	1.06	2.82	0.24	2.93	Pass	Pass
	C3	q2a2 6	1.28	3.41	0.29	3.54	Pass	Pass

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Approved	**:**



Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group F1	Dead Load
Load Group F2	Dead Load
Load Group F5	Dead Load
Load Group J1	Live Load
Load Group J2	Live Load
Load Group J3	Live Load
Load Group K1	Live Load
Load Group K2	Live Load
Load Group K3	Live Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1a LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F1

Load Case 008 : D + F1a LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F5

Load Case 009 : D + F2a
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F2

Load Case 010 : D + q2 A1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J1

Load Case 011 : D + q2 A1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J2

Load Case 012 : D + q2 A1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J3

Load Case 013 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K1

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Load Case 014 : D + q2 A2 LC5

Load Combination + 1.00 UT + 1.00 D1 + 1.00 K2

Load Case 015 : D + q2 A2 LC6

Load Combination + 1.00 UT + 1.00 D1 + 1.00 K3

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000

Member Properties

Member 1

```
M  ...  ...        TL OT []    E 205E6    G 80E6
 A 9.28E-4          Ix 46.06E-8         Iy 70.99E-8         J 92.12E-8
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1

```
D1 UDLY -000.650                ( kN/m )
L1 UDLY -001.880                ( kN/m )
L2 UDLY -003.750                ( kN/m )
L3 UDLY -005.000                ( kN/m )
L4 UDLY -007.500                ( kN/m )
L5 UDLY -011.250                ( kN/m )
L6 UDLY -015.000                ( kN/m )
F1 PDLY -001.500 0.400 0.900 (kN,m,m)
F5 PDLY -003.000 0.400 0.900 (kN,m,m)
F2 PDLY -001.000 0.550 0.750 (kN,m,m)
J1 PDLY -006.500 0.390 0.910 (kN,m,m)
J2 PDLY -009.750 0.390 0.910 (kN,m,m)
J3 PDLY -016.250 0.325 0.975 (kN,m,m)
K1 PDLY -005.200 0.000 1.300 (kN,m,m)
K2 PDLY -007.800 0.000 1.300 (kN,m,m)
K3 PDLY -009.620 0.000 1.305 (kN,m,m)
```

Nodal Loading and Support Conditions

NODES 1-2

```
UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-2

```
UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Member Forces (001 : D + q1 LC1)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.645	-0.143	0.391	0.676
	2	0.000C	-1.645	-0.143	@ 0.637	@ 0.650

Member Forces (002 : D + q1 LC2)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.860	-0.249	0.680	1.176
	2	0.000C	-2.860	-0.249	@ 0.637	@ 0.650

Member Forces (003 : D + q1 LC3)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.673	-0.320	0.873	1.510
	2	0.000C	-3.673	-0.320	@ 0.637	@ 0.650

Member Forces (004 : D + q1 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	5.298	-0.461	1.260	2.177
	2	0.000C	-5.298	-0.461	@ 0.650	@ 0.650

Member Forces (005 : D + q1 LC5)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	7.735	-0.673	1.840	3.179
	2	0.000C	-7.735	-0.673	@ 0.650	@ 0.650

Member Forces (006 : D + q1 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	10.173	-0.886	2.420	4.181
	2	0.000C	-10.173	-0.886	@ 0.650	@ 0.650

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Member Forces (007 : D + F1a LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.173	-0.130	0.401	0.644
	2	0.000C	-1.173	-0.130	@ 0.636	@ 0.650

Member Forces (008 : D + F1a LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.923	-0.223	0.702	1.114
	2	0.000C	-1.923	-0.223	@ 0.650	@ 0.650

Member Forces (009 : D + F2a)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.923	-0.102	0.336	0.508
	2	0.000C	-0.923	-0.102	@ 0.650	@ 0.650

Member Forces (010 : D + q2 A1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.673	-0.439	1.389	2.198
	2	0.000C	-3.673	-0.439	@ 0.650	@ 0.650

Member Forces (011 : D + q2 A1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	5.298	-0.640	2.033	3.210
	2	0.000C	-5.297	-0.640	@ 0.650	@ 0.650

Member Forces (012 : D + q2 A1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	8.548	-1.010	3.089	5.012
	2	0.000C	-8.548	-1.010	@ 0.650	@ 0.650

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Member Forces (013 : D + q2 A2 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.022	-0.263	0.719	1.242
	2	0.000C	-3.023	-0.263	@ 0.637	@ 0.650

Member Forces (014 : D + q2 A2 LC5)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	4.322	-0.376	1.028	1.777
	2	0.000C	-4.323	-0.376	@ 0.650	@ 0.650

Member Forces (015 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	5.233	-0.456	1.245	2.151
	2	0.000C	-5.233	-0.456	@ 0.650	@ 0.650

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.645	0.143	2	0.000	1.645	-0.143
Total	0.000	3.289	0.000				

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.860	0.249	2	0.000	2.860	-0.249
Total	0.000	5.720	0.000				

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.673	0.320	2	0.000	3.673	-0.320
Total	0.000	7.345	0.000				

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Support Reactions Serviceability (004 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	5.298	0.461	2	0.000	5.298	-0.461
Total	0.000	10.595	0.000				

Support Reactions Serviceability (005 : D + q1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	7.735	0.673	2	0.000	7.735	-0.673
Total	0.000	15.470	0.000				

Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	10.173	0.886	2	0.000	10.173	-0.886
Total	0.000	20.345	0.000				

Support Reactions Serviceability (007 : D + F1a LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.173	0.130	2	0.000	1.173	-0.130
Total	0.000	2.345	0.000				

Support Reactions Serviceability (008 : D + F1a LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.923	0.223	2	0.000	1.923	-0.223
Total	0.000	3.845	0.000				

Support Reactions Serviceability (009 : D + F2a)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.923	0.102	2	0.000	0.923	-0.102
Total	0.000	1.845	0.000				

Support Reactions Serviceability (010 : D + q2 A1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.673	0.439	2	0.000	3.673	-0.439
Total	0.000	7.345	0.000				

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Job Ref : 1462
Sheet : 2.5 Bay 1.3m Omega Trans /
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Date : 08 June 2016 / Ver. 2015.14
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Support Reactions Serviceability (011 : D + q2 A1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	5.298	0.640	2	0.000	5.297	-0.640
Total	0.000	10.595	0.000				

Support Reactions Serviceability (012 : D + q2 A1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	8.548	1.010	2	0.000	8.548	-1.010
Total	0.000	17.095	0.000				

Support Reactions Serviceability (013 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.022	0.263	2	0.000	3.023	-0.263
Total	0.000	6.045	0.000				

Support Reactions Serviceability (014 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	4.322	0.376	2	0.000	4.323	-0.376
Total	0.000	8.645	0.000				

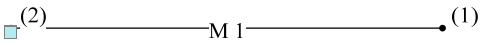
Support Reactions Serviceability (015 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	5.233	0.456	2	0.000	5.233	-0.456
Total	0.000	10.465	0.000				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.310	0.000	0.000	2	0.000	0.000	0.000

Member Properties

Member 1
M ... ... TL OT [] E 205E6 G 80E6
A 9.28E-4 Ix 46.07E-8 Iy 70.99E-8 J 92.14E-8

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1

```
D1 UDLY -000.650                ( kN/m )
L1 UDLY -001.880                ( kN/m )
L2 UDLY -003.750                ( kN/m )
L3 UDLY -005.000                ( kN/m )
L4 UDLY -007.500                ( kN/m )
L5 UDLY -011.250                ( kN/m )
L6 UDLY -015.000                ( kN/m )
A1 PDLY -000.870 0.000 0.290 (kN,m,m)
A2 PDLY -001.740 0.000 0.290 (kN,m,m)
B1 PDLY -001.000 0.000 0.200 (kN,m,m)
C1 UDLY -004.000                ( kN/m )
C2 UDLY -006.000                ( kN/m )
C3 UDLY -007.400                ( kN/m )
```

Nodal Loading and Support Conditions

NODE 2
UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
NODE 2
UT Rs 1 1 1 1 1 1 (Fixed)

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Nodal Deflections Serviceability (001 : D + q1 LC1)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.03	-0.01	0.03	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.05	-0.01	0.05	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	-0.02	0.07	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.10	-0.02	0.10	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.15	-0.04	0.15	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.19	-0.05	0.19	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (007 : D + F1 LC1-3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.04	-0.01	0.04	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.08	-0.02	0.08	2	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (009 : D + F2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	-0.02	0.07	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.06	-0.01	0.06	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.08	-0.02	0.08	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.10	-0.02	0.10	2	0.00	0.00	0.00	0.00

Member Forces (001 : D + q1 LC1)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.031
	2	0.000C	0.784	0.122		@ 0.000

Member Forces (002 : D + q1 LC2)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.054
	2	0.000C	1.364	0.211		@ 0.000

Member Forces (003 : D + q1 LC3)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.069
	2	0.000C	1.752	0.271		@ 0.000

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Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.100
	2	0.000C	2.527	0.392		@ 0.000

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.145
	2	0.000C	3.689	0.572		@ 0.000

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.191
	2	0.000C	4.852	0.752		@ 0.000

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.045
	2	0.000C	1.072	0.175		@ 0.000

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.081
	2	0.000C	1.942	0.318		@ 0.000

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.066
	2	0.000C	1.202	0.241		@ 0.000

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Member Forces (010 : D + q2 A2 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 1.442	0.000 0.223		0.057 @ 0.000

Member Forces (011 : D + q2 A2 LC5)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 2.062	0.000 0.320		0.081 @ 0.000

Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 2.496	0.000 0.387		0.098 @ 0.000

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	0.784	0.122	Total	0.000	0.784	0.122

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.364	0.211	Total	0.000	1.364	0.211

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.752	0.271	Total	0.000	1.752	0.271

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.527	0.392	Total	0.000	2.527	0.392

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Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	3.689	0.572	Total	0.000	3.689	0.572

Support Reactions Serviceability (006 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	4.852	0.752	Total	0.000	4.852	0.752

Support Reactions Serviceability (007 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.072	0.175	Total	0.000	1.072	0.175

Support Reactions Serviceability (008 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.942	0.318	Total	0.000	1.942	0.318

Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.202	0.241	Total	0.000	1.202	0.241

Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.442	0.223	Total	0.000	1.442	0.223

Support Reactions Serviceability (011 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.062	0.320	Total	0.000	2.062	0.320

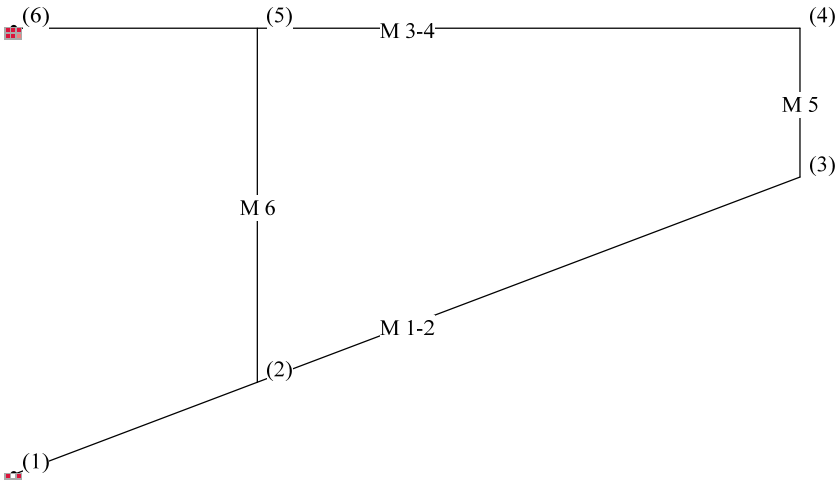
Support Reactions Serviceability (012 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.496	0.387	Total	0.000	2.496	0.387

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.175	0.062	0.000
3	0.565	0.200	0.000	4	0.565	0.300	0.000
5	0.175	0.300	0.000	6	0.000	0.300	0.000

Member Properties

Members 1-2 and 6
```
M  ...  ...        48.3x2.5 CHS 2.82 [S 355]
 A 3.6E-4          Ix 9.46E-8          Iy 9.46E-8          J 18.92E-8
 E 205.0E6         G 78.85E6
```

Members 3-4
```
M  ...  ...        OT 4mm []    E 205E6    G 80E6
 A 9.28E-4         Ix 46.07E-8         Iy 70.99E-8         J 92.14E-8
```

Member 5
```
M  ...  ...        48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4         Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
 E 205.0E6         G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4
```
   D1 UDLY -000.650              ( kN/m )
   L1 UDLY -001.880              ( kN/m )
   L2 UDLY -003.750              ( kN/m )
   L3 UDLY -005.000              ( kN/m )
   L4 UDLY -007.500              ( kN/m )
   L5 UDLY -011.250              ( kN/m )
   L6 UDLY -015.000              ( kN/m )
   A1 PDLY -001.500 0.000 0.500 (kN,m,m)
   A2 PDLY -003.000 0.000 0.500 (kN,m,m)
   B1 PDLY -001.000 0.000 0.200 (kN,m,m)
   C1 UDLY -004.000              ( kN/m )
   C2 UDLY -006.000              ( kN/m )
   C3 UDLY -007.400              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 6
```
      UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
```
NODE 6
```
      UT Rs 1 1 1 1 1 1 (Fixed)
```
NODE 1
```
      UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
```
NODE 6
```
      UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.05	0.01	0.05	2	-0.01	-0.02	0.00	0.02
3	0.00	-0.07	0.00	0.07	4	0.00	-0.07	0.00	0.07
5	0.00	-0.02	-0.01	0.02	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.09	0.02	0.09	2	-0.02	-0.04	0.00	0.04
3	0.00	-0.12	0.00	0.12	4	0.00	-0.12	0.00	0.12
5	0.00	-0.04	-0.02	0.04	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.11	0.03	0.11	2	-0.03	-0.05	0.00	0.06
3	0.00	-0.15	0.00	0.15	4	0.00	-0.15	0.00	0.15
5	0.00	-0.05	-0.02	0.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.16	0.04	0.16	2	-0.04	-0.07	0.01	0.08
3	0.00	-0.22	-0.01	0.22	4	0.01	-0.22	-0.01	0.22
5	0.00	-0.07	-0.03	0.07	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.23	0.06	0.23	2	-0.05	-0.10	0.01	0.12
3	0.00	-0.32	-0.01	0.32	4	0.01	-0.32	-0.01	0.32
5	0.00	-0.10	-0.05	0.10	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.31	0.08	0.31	2	-0.07	-0.14	0.01	0.15
3	0.00	-0.42	-0.01	0.42	4	0.01	-0.42	-0.01	0.42
5	0.00	-0.13	-0.06	0.13	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	0.02	0.07	2	-0.02	-0.03	0.00	0.04
3	0.00	-0.10	0.00	0.10	4	0.00	-0.10	0.00	0.10
5	0.00	-0.03	-0.01	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.13	0.03	0.13	2	-0.03	-0.06	0.00	0.07
3	0.00	-0.18	0.00	0.18	4	0.00	-0.18	0.00	0.18
5	0.00	-0.05	-0.03	0.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	0.02	0.07	2	-0.02	-0.03	0.00	0.03
3	0.00	-0.10	0.00	0.10	4	0.00	-0.10	0.00	0.10
5	0.00	-0.03	-0.01	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.09	0.02	0.09	2	-0.02	-0.04	0.00	0.05
3	0.00	-0.12	0.00	0.12	4	0.00	-0.12	0.00	0.12
5	0.00	-0.04	-0.02	0.04	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.13	0.03	0.13	2	-0.03	-0.06	0.00	0.07
3	0.00	-0.18	0.00	0.18	4	0.00	-0.18	0.00	0.18
5	0.00	-0.06	-0.03	0.06	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.16	0.04	0.16	2	-0.04	-0.07	0.01	0.08
3	0.00	-0.21	-0.01	0.21	4	0.01	-0.22	-0.01	0.22
5	0.00	-0.07	-0.03	0.07	6	0.00	0.00	0.00	0.00

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Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.620C	-0.220	0.000	-0.040	0.036
	2	0.620C	-0.220	-0.041	@ 0.182	@ 0.223
2	2	0.658C	0.153	-0.035	-0.040	0.036
	3	0.658C	0.153	0.029	@ 0.182	@ 0.223
3	4	0.569T	-0.364	-0.028	-0.054	0.000
	5	0.569T	0.623	0.022	@ 0.129	@ 0.000
4	5	0.658T	0.987	-0.005	-0.054	0.000
	6	0.658T	1.429	0.207	@ 0.129	@ 0.000
5	3	0.364C	-0.569	0.029		0.000
	4	0.364C	-0.569	-0.028		@ 0.000
6	2	0.364T	-0.088	-0.006		0.000
	5	0.364T	-0.088	-0.027		@ 0.000

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.078C	-0.382	0.000	-0.070	0.063
	2	1.078C	-0.382	-0.071	@ 0.184	@ 0.223
2	2	1.144C	0.266	-0.060	-0.070	0.063
	3	1.144C	0.266	0.050	@ 0.184	@ 0.223
3	4	0.990T	-0.632	-0.049	-0.094	0.015
	5	0.990T	1.084	0.039	@ 0.129	@ 0.179
4	5	1.144T	1.716	-0.008	-0.094	0.015
	6	1.144T	2.486	0.359	@ 0.129	@ 0.179
5	3	0.632C	-0.990	0.050		0.000
	4	0.632C	-0.990	-0.049		@ 0.000
6	2	0.632T	-0.154	-0.011		0.011
	5	0.632T	-0.154	-0.047		@ 0.131

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.384C	-0.490	0.000	-0.090	0.081
	2	1.384C	-0.490	-0.091	@ 0.184	@ 0.223
2	2	1.469C	0.342	-0.077	-0.090	0.081
	3	1.469C	0.342	0.064	@ 0.184	@ 0.223

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Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.271T	-0.812	-0.063	-0.121	0.019
	5	1.271T	1.391	0.050	@ 0.140	@ 0.179
4	5	1.469T	2.204	-0.011	-0.121	0.019
	6	1.469T	3.192	0.461	@ 0.140	@ 0.179
5	3	0.812C	-1.271	0.064		0.000
	4	0.812C	-1.271	-0.063		@ 0.000
6	2	0.812T	-0.197	-0.014		0.014
	5	0.812T	-0.197	-0.061		@ 0.131

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.997C	-0.707	0.000	-0.130	0.116
	2	1.997C	-0.707	-0.131	@ 0.184	@ 0.223
2	2	2.119C	0.493	-0.111	-0.130	0.116
	3	2.119C	0.493	0.093	@ 0.184	@ 0.223
3	4	1.834T	-1.171	-0.091	-0.175	0.028
	5	1.834T	2.007	0.072	@ 0.137	@ 0.179
4	5	2.118T	3.179	-0.016	-0.175	0.028
	6	2.118T	4.605	0.665	@ 0.137	@ 0.179
5	3	1.171C	-1.834	0.093		0.000
	4	1.171C	-1.834	-0.091		@ 0.000
6	2	1.171T	-0.285	-0.020		0.020
	5	1.171T	-0.285	-0.088		@ 0.131

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.916C	-1.033	0.000	-0.190	0.170
	2	2.916C	-1.033	-0.192	@ 0.184	@ 0.223
2	2	3.094C	0.719	-0.162	-0.190	0.170
	3	3.094C	0.719	0.135	@ 0.184	@ 0.223
3	4	2.677T	-1.710	-0.133	-0.255	0.041
	5	2.677T	2.931	0.105	@ 0.140	@ 0.179
4	5	3.093T	4.641	-0.023	-0.255	0.041
	6	3.093T	6.724	0.971	@ 0.140	@ 0.179

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.710C	-2.677	0.135		0.000
	4	1.710C	-2.677	-0.133		@ 0.000
6	2	1.710T	-0.416	-0.029		0.029
	5	1.710T	-0.416	-0.128		@ 0.131

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.834C	-1.358	0.000	-0.250	0.223
	2	3.834C	-1.358	-0.252	@ 0.184	@ 0.223
2	2	4.070C	0.946	-0.214	-0.250	0.223
	3	4.070C	0.946	0.178	@ 0.184	@ 0.223
3	4	3.521T	-2.249	-0.174	-0.336	0.054
	5	3.521T	3.854	0.139	@ 0.137	@ 0.179
4	5	4.068T	6.104	-0.030	-0.336	0.054
	6	4.068T	8.842	1.278	@ 0.137	@ 0.179
5	3	2.249C	-3.521	0.178		0.000
	4	2.249C	-3.521	-0.174		@ 0.000
6	2	2.249T	-0.547	-0.039		0.038
	5	2.249T	-0.547	-0.169		@ 0.131

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.893C	-0.316	0.000	-0.058	0.052
	2	0.893C	-0.316	-0.059	@ 0.184	@ 0.223
2	2	0.948C	0.220	-0.050	-0.058	0.052
	3	0.948C	0.220	0.041	@ 0.184	@ 0.223
3	4	0.820T	-0.524	-0.041	-0.078	0.013
	5	0.820T	0.900	0.033	@ 0.135	@ 0.179
4	5	0.947T	1.424	-0.007	-0.078	0.013
	6	0.947T	1.867	0.292	@ 0.135	@ 0.179
5	3	0.524C	-0.820	0.041		0.000
	4	0.524C	-0.820	-0.041		@ 0.000
6	2	0.524T	-0.127	-0.009		0.000
	5	0.524T	-0.127	-0.039		@ 0.000

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Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.627C	-0.576	0.000	-0.106	0.095
	2	1.627C	-0.576	-0.107	@ 0.184	@ 0.223
2	2	1.727C	0.401	-0.091	-0.106	0.095
	3	1.727C	0.401	0.075	@ 0.184	@ 0.223
3	4	1.494T	-0.954	-0.074	-0.142	0.023
	5	1.494T	1.639	0.059	@ 0.131	@ 0.179
4	5	1.726T	2.594	-0.012	-0.142	0.023
	6	1.726T	3.367	0.531	@ 0.131	@ 0.179
5	3	0.954C	-1.494	0.075		0.000
	4	0.954C	-1.494	-0.074		@ 0.000
6	2	0.954T	-0.231	-0.016		0.016
	5	0.954T	-0.231	-0.071		@ 0.131

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.015C	-0.360	0.000	-0.066	0.057
	2	1.015C	-0.360	-0.067	@ 0.184	@ 0.219
2	2	1.138C	0.242	-0.054	-0.066	0.057
	3	1.138C	0.242	0.046	@ 0.184	@ 0.219
3	4	0.992T	-0.608	-0.053	-0.086	0.000
	5	0.992T	0.646	0.049	@ 0.101	@ 0.000
4	5	1.077T	1.254	0.016	-0.086	0.000
	6	1.077T	1.367	0.246	@ 0.101	@ 0.000
5	3	0.608C	-0.992	0.046		0.000
	4	0.608C	-0.992	-0.053		@ 0.000
6	2	0.608T	-0.084	-0.013		0.000
	5	0.608T	-0.084	-0.033		@ 0.000

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.139C	-0.404	0.000	-0.074	0.066
	2	1.139C	-0.404	-0.075	@ 0.184	@ 0.223
2	2	1.209C	0.281	-0.063	-0.074	0.066
	3	1.209C	0.281	0.053	@ 0.184	@ 0.223

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Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.046T	-0.668	-0.052	-0.100	0.016
	5	1.046T	1.145	0.041	@ 0.133	@ 0.179
4	5	1.209T	1.814	-0.009	-0.100	0.016
	6	1.209T	2.627	0.380	@ 0.133	@ 0.179
5	3	0.668C	-1.046	0.053		0.000
	4	0.668C	-1.046	-0.052		@ 0.000
6	2	0.668T	-0.163	-0.011		0.011
	5	0.668T	-0.163	-0.050		@ 0.131

Member Forces (011 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.629C	-0.577	0.000	-0.106	0.095
	2	1.629C	-0.577	-0.107	@ 0.184	@ 0.223
2	2	1.729C	0.402	-0.091	-0.106	0.095
	3	1.729C	0.402	0.075	@ 0.184	@ 0.223
3	4	1.496T	-0.956	-0.074	-0.142	0.023
	5	1.496T	1.638	0.059	@ 0.133	@ 0.179
4	5	1.728T	2.594	-0.013	-0.142	0.023
	6	1.728T	3.757	0.543	@ 0.133	@ 0.179
5	3	0.956C	-1.496	0.075		0.000
	4	0.956C	-1.496	-0.074		@ 0.000
6	2	0.956T	-0.232	-0.016		0.016
	5	0.956T	-0.232	-0.072		@ 0.131

Member Forces (012 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.972C	-0.699	0.000	-0.128	0.115
	2	1.972C	-0.699	-0.130	@ 0.184	@ 0.223
2	2	2.093C	0.487	-0.110	-0.128	0.115
	3	2.093C	0.487	0.091	@ 0.184	@ 0.223
3	4	1.811T	-1.157	-0.090	-0.173	0.028
	5	1.811T	1.983	0.071	@ 0.137	@ 0.179
4	5	2.092T	3.140	-0.016	-0.173	0.028
	6	2.092T	4.548	0.657	@ 0.137	@ 0.179

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Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.157C	-1.811	0.091		0.000
	4	1.157C	-1.811	-0.090		@ 0.000
6	2	1.157T	-0.281	-0.020		0.020
	5	1.157T	-0.281	-0.087		@ 0.131

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.658	0.000	0.000	6	-0.658	1.429	0.207
Total	0.000	1.429	0.207				

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.144	0.000	0.000	6	-1.144	2.486	0.359
Total	0.000	2.486	0.359				

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.469	0.000	0.000	6	-1.469	3.192	0.461
Total	0.000	3.192	0.461				

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.118	0.000	0.000	6	-2.118	4.605	0.665
Total	0.000	4.605	0.665				

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.093	0.000	0.000	6	-3.093	6.724	0.971
Total	0.000	6.724	0.971				

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Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.068	0.000	0.000	6	-4.068	8.842	1.278
Total	0.000	8.842	1.278				

Support Reactions Serviceability (007 : D + F1 LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.947	0.000	0.000	6	-0.947	1.867	0.292
Total	0.000	1.867	0.292				

Support Reactions Serviceability (008 : D + F1 LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.726	0.000	0.000	6	-1.726	3.367	0.531
Total	0.000	3.367	0.531				

Support Reactions Serviceability (009 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.077	0.000	0.000	6	-1.077	1.367	0.246
Total	0.000	1.367	0.246				

Support Reactions Serviceability (010 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.209	0.000	0.000	6	-1.209	2.627	0.380
Total	0.000	2.627	0.380				

Support Reactions Serviceability (011 : D + q2 A2 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.728	0.000	0.000	6	-1.728	3.757	0.543
Total	0.000	3.757	0.543				

Support Reactions Serviceability (012 : D + q2 A2 LC6)

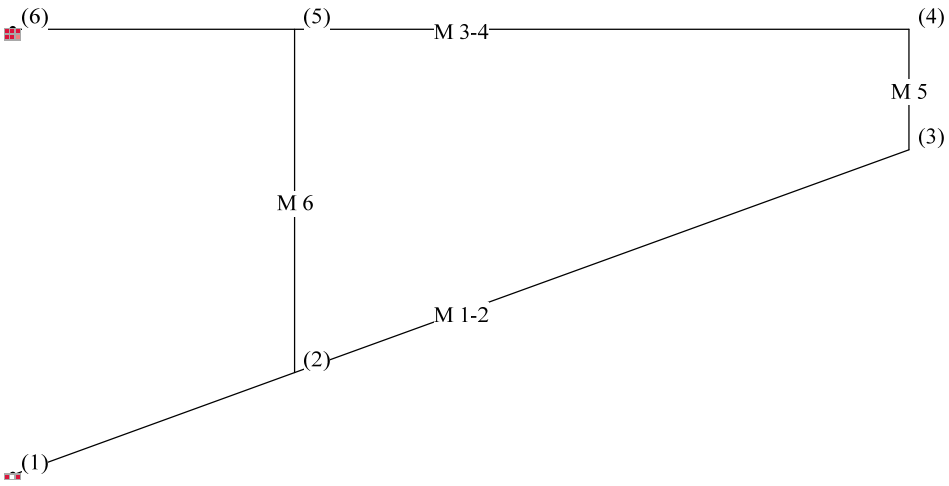
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.092	0.000	0.000	6	-2.092	4.548	0.657
Total	0.000	4.548	0.657				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.250	0.085	0.000
3	0.795	0.270	0.000	4	0.795	0.370	0.000
5	0.250	0.370	0.000	6	0.000	0.370	0.000

Member Properties

Members 1-2 and 6

```
M  ...  ...          48.3x2.5 CHS 2.82 [S 355]
 A 3.6E-4             Ix 9.46E-8          Iy 9.46E-8          J 18.92E-8
 E 205.0E6            G 78.85E6
```

Members 3-4

```
M  ...  ...          OT 4mm []    E 205E6    G 80E6
 A 9.28E-4            Ix 46.07E-8         Iy 70.99E-8         J 92.14E-8
```

Member 5

```
M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4            Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
 E 205.0E6            G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4

```
   D1 UDLY -000.650              ( kN/m )
   L1 UDLY -001.880              ( kN/m )
   L2 UDLY -003.750              ( kN/m )
   L3 UDLY -005.000              ( kN/m )
   L4 UDLY -007.500              ( kN/m )
   L5 UDLY -011.250              ( kN/m )
   L6 UDLY -015.000              ( kN/m )
   A1 PDLY -001.500 0.000 0.500 (kN,m,m)
   A2 PDLY -003.000 0.000 0.500 (kN,m,m)
   B1 PDLY -001.000 0.000 0.200 (kN,m,m)
   C1 UDLY -004.000              ( kN/m )
   C2 UDLY -006.000              ( kN/m )
   C3 UDLY -007.400              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 6

```
      UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
```

NODE 6

```
      UT Rs 1 1 1 1 1 1 (Fixed)
```

NODE 1

```
      UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
```

NODE 6

```
      UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.21	0.04	0.21	2	-0.05	-0.08	0.00	0.10
3	0.00	-0.25	0.00	0.25	4	0.00	-0.25	0.00	0.25
5	0.00	-0.08	-0.03	0.08	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.36	0.07	0.36	2	-0.08	-0.15	0.01	0.17
3	0.00	-0.43	-0.01	0.43	4	0.01	-0.43	-0.01	0.43
5	0.00	-0.14	-0.05	0.14	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.46	0.09	0.46	2	-0.10	-0.19	0.01	0.21
3	0.00	-0.55	-0.01	0.55	4	0.01	-0.55	-0.01	0.55
5	0.00	-0.18	-0.06	0.18	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.67	0.13	0.67	2	-0.15	-0.27	0.02	0.31
3	0.00	-0.80	-0.02	0.80	4	0.01	-0.80	-0.01	0.80
5	0.00	-0.27	-0.09	0.27	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.98	0.19	0.98	2	-0.21	-0.40	0.02	0.45
3	0.00	-1.16	-0.02	1.16	4	0.02	-1.17	-0.02	1.17
5	0.01	-0.39	-0.13	0.39	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-1.28	0.25	1.28	2	-0.28	-0.52	0.03	0.59
3	0.00	-1.53	-0.03	1.53	4	0.03	-1.53	-0.02	1.53
5	0.01	-0.51	-0.17	0.51	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.27	0.05	0.27	2	-0.06	-0.11	0.01	0.12
3	0.00	-0.33	-0.01	0.33	4	0.01	-0.33	-0.01	0.33
5	0.00	-0.10	-0.04	0.10	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.49	0.10	0.49	2	-0.11	-0.19	0.01	0.22
3	0.00	-0.60	-0.01	0.60	4	0.01	-0.60	-0.01	0.60
5	0.00	-0.19	-0.06	0.19	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.24	0.05	0.24	2	-0.06	-0.09	0.00	0.10
3	0.00	-0.30	-0.01	0.30	4	0.01	-0.30	-0.01	0.30
5	0.00	-0.08	-0.03	0.08	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.38	0.07	0.38	2	-0.08	-0.16	0.01	0.18
3	0.00	-0.45	-0.01	0.45	4	0.01	-0.46	-0.01	0.46
5	0.00	-0.15	-0.05	0.15	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.55	0.11	0.55	2	-0.12	-0.22	0.01	0.25
3	0.00	-0.65	-0.01	0.65	4	0.01	-0.65	-0.01	0.65
5	0.00	-0.22	-0.07	0.22	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.66	0.13	0.66	2	-0.15	-0.27	0.02	0.31
3	0.00	-0.79	-0.02	0.79	4	0.01	-0.79	-0.01	0.79
5	0.00	-0.26	-0.09	0.26	6	0.00	0.00	0.00	0.00

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Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.014C	-0.345	0.000	-0.090	0.146
	2	1.014C	-0.345	-0.091	@ 0.261	@ 0.304
2	2	1.114C	0.206	-0.065	-0.090	0.146
	3	1.114C	0.206	0.054	@ 0.261	@ 0.304
3	4	0.988T	-0.554	-0.045	-0.105	0.036
	5	0.988T	0.825	0.029	@ 0.202	@ 0.262
4	5	1.071T	1.379	-0.021	-0.105	0.036
	6	1.071T	2.011	0.403	@ 0.202	@ 0.262
5	3	0.554C	-0.988	0.054		0.000
	4	0.554C	-0.988	-0.045		@ 0.000
6	2	0.554T	-0.083	-0.026		0.020
	5	0.554T	-0.083	-0.050		@ 0.151

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.763C	-0.600	0.000	-0.157	0.253
	2	1.763C	-0.600	-0.158	@ 0.261	@ 0.304
2	2	1.937C	0.359	-0.113	-0.157	0.253
	3	1.937C	0.359	0.094	@ 0.261	@ 0.304
3	4	1.719T	-0.963	-0.078	-0.183	0.063
	5	1.719T	1.435	0.050	@ 0.207	@ 0.262
4	5	1.863T	2.398	-0.036	-0.183	0.063
	6	1.863T	3.498	0.701	@ 0.207	@ 0.262
5	3	0.963C	-1.719	0.094		0.000
	4	0.963C	-1.719	-0.078		@ 0.000
6	2	0.963T	-0.144	-0.045		0.034
	5	0.963T	-0.144	-0.086		@ 0.151

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.264C	-0.770	0.000	-0.201	0.325
	2	2.264C	-0.770	-0.203	@ 0.261	@ 0.304
2	2	2.488C	0.461	-0.145	-0.201	0.325
	3	2.488C	0.461	0.120	@ 0.261	@ 0.304

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Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	2.207T	-1.236	-0.101	-0.236	0.081
	5	2.207T	1.843	0.065	@ 0.213	@ 0.262
4	5	2.392T	3.079	-0.046	-0.236	0.081
	6	2.392T	4.492	0.901	@ 0.213	@ 0.262
5	3	1.236C	-2.207	0.120		0.000
	4	1.236C	-2.207	-0.101		@ 0.000
6	2	1.236T	-0.184	-0.058		0.044
	5	1.236T	-0.184	-0.111		@ 0.151

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.266C	-1.111	0.000	-0.290	0.469
	2	3.266C	-1.111	-0.293	@ 0.261	@ 0.304
2	2	3.588C	0.665	-0.209	-0.290	0.469
	3	3.588C	0.665	0.173	@ 0.261	@ 0.304
3	4	3.184T	-1.783	-0.145	-0.340	0.117
	5	3.184T	2.659	0.093	@ 0.218	@ 0.262
4	5	3.450T	4.442	-0.066	-0.340	0.117
	6	3.450T	6.479	1.299	@ 0.218	@ 0.262
5	3	1.783C	-3.184	0.173		0.000
	4	1.783C	-3.184	-0.145		@ 0.000
6	2	1.783T	-0.266	-0.084		0.064
	5	1.783T	-0.266	-0.160		@ 0.151

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	4.769C	-1.622	0.000	-0.424	0.685
	2	4.769C	-1.622	-0.428	@ 0.261	@ 0.304
2	2	5.239C	0.971	-0.306	-0.424	0.685
	3	5.239C	0.971	0.253	@ 0.261	@ 0.304
3	4	4.649T	-2.604	-0.212	-0.496	0.170
	5	4.649T	3.882	0.136	@ 0.213	@ 0.262
4	5	5.038T	6.486	-0.097	-0.496	0.170
	6	5.038T	9.461	1.897	@ 0.213	@ 0.262

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	2.604C	-4.649	0.253		0.000
	4	2.604C	-4.649	-0.212		@ 0.000
6	2	2.604T	-0.388	-0.122		0.093
	5	2.604T	-0.388	-0.233		@ 0.151

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	6.272C	-2.133	0.000	-0.557	0.901
	2	6.272C	-2.133	-0.563	@ 0.261	@ 0.304
2	2	6.890C	1.277	-0.402	-0.557	0.901
	3	6.890C	1.277	0.333	@ 0.261	@ 0.304
3	4	6.114T	-3.424	-0.279	-0.653	0.224
	5	6.114T	5.105	0.180	@ 0.213	@ 0.262
4	5	6.625T	8.529	-0.127	-0.653	0.224
	6	6.625T	12.442	2.494	@ 0.213	@ 0.262
5	3	3.424C	-6.114	0.333		0.000
	4	3.424C	-6.114	-0.279		@ 0.000
6	2	3.424T	-0.511	-0.161		0.123
	5	3.424T	-0.511	-0.307		@ 0.151

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.390C	-0.473	0.000	-0.124	0.198
	2	1.390C	-0.473	-0.125	@ 0.261	@ 0.304
2	2	1.550C	0.281	-0.088	-0.124	0.198
	3	1.550C	0.281	0.074	@ 0.261	@ 0.304
3	4	1.377T	-0.764	-0.064	-0.144	0.045
	5	1.377T	1.090	0.058	@ 0.197	@ 0.253
4	5	1.468T	1.854	-0.004	-0.144	0.045
	6	1.468T	2.017	0.480	@ 0.197	@ 0.253
5	3	0.764C	-1.377	0.074		0.000
	4	0.764C	-1.377	-0.064		@ 0.000
6	2	0.764T	-0.091	-0.037		0.026
	5	0.764T	-0.091	-0.062		@ 0.148

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Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.520C	-0.857	0.000	-0.224	0.359
	2	2.520C	-0.857	-0.226	@ 0.261	@ 0.304
2	2	2.814C	0.509	-0.160	-0.224	0.359
	3	2.814C	0.509	0.133	@ 0.261	@ 0.304
3	4	2.501T	-1.387	-0.117	-0.261	0.082
	5	2.501T	1.968	0.109	@ 0.197	@ 0.253
4	5	2.662T	3.354	-0.003	-0.261	0.082
	6	2.662T	3.517	0.856	@ 0.197	@ 0.253
5	3	1.387C	-2.501	0.133		0.000
	4	1.387C	-2.501	-0.117		@ 0.000
6	2	1.387T	-0.161	-0.066		0.047
	5	1.387T	-0.161	-0.112		@ 0.148

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.352C	-0.460	0.000	-0.120	0.186
	2	1.352C	-0.460	-0.121	@ 0.261	@ 0.299
2	2	1.603C	0.258	-0.081	-0.120	0.186
	3	1.603C	0.258	0.068	@ 0.261	@ 0.299
3	4	1.435T	-0.759	-0.076	-0.127	0.027
	5	1.435T	0.595	0.052	@ 0.129	@ 0.208
4	5	1.428T	1.354	0.013	-0.127	0.027
	6	1.428T	1.517	0.372	@ 0.129	@ 0.208
5	3	0.759C	-1.435	0.068		0.000
	4	0.759C	-1.435	-0.076		@ 0.000
6	2	0.759T	0.007	-0.041	-0.039	0.021
	5	0.759T	0.007	-0.039	@ 0.000	@ 0.143

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.864C	-0.634	0.000	-0.166	0.268
	2	1.864C	-0.634	-0.167	@ 0.261	@ 0.304
2	2	2.047C	0.379	-0.119	-0.166	0.268
	3	2.047C	0.379	0.099	@ 0.261	@ 0.304

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Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.817T	-1.017	-0.083	-0.194	0.066
	5	1.817T	1.517	0.053	@ 0.213	@ 0.262
4	5	1.968T	2.534	-0.038	-0.194	0.066
	6	1.968T	3.697	0.741	@ 0.213	@ 0.262
5	3	1.017C	-1.817	0.099		0.000
	4	1.017C	-1.817	-0.083		@ 0.000
6	2	1.017T	-0.152	-0.048		0.036
	5	1.017T	-0.152	-0.091		@ 0.151

Member Forces (011 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.665C	-0.906	0.000	-0.237	0.383
	2	2.665C	-0.906	-0.239	@ 0.261	@ 0.304
2	2	2.928C	0.543	-0.171	-0.237	0.383
	3	2.928C	0.543	0.141	@ 0.261	@ 0.304
3	4	2.598T	-1.455	-0.118	-0.277	0.095
	5	2.598T	2.169	0.076	@ 0.207	@ 0.262
4	5	2.815T	3.624	-0.054	-0.277	0.095
	6	2.815T	5.287	1.060	@ 0.207	@ 0.262
5	3	1.455C	-2.598	0.141		0.000
	4	1.455C	-2.598	-0.118		@ 0.000
6	2	1.455T	-0.217	-0.068		0.052
	5	1.455T	-0.217	-0.130		@ 0.151

Member Forces (012 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.226C	-1.097	0.000	-0.287	0.463
	2	3.226C	-1.097	-0.290	@ 0.261	@ 0.304
2	2	3.544C	0.657	-0.207	-0.287	0.463
	3	3.544C	0.657	0.171	@ 0.261	@ 0.304
3	4	3.145T	-1.761	-0.143	-0.336	0.115
	5	3.145T	2.626	0.092	@ 0.218	@ 0.262
4	5	3.408T	4.387	-0.065	-0.336	0.115
	6	3.408T	6.400	1.283	@ 0.218	@ 0.262

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Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.761C	-3.145	0.171		0.000
	4	1.761C	-3.145	-0.143		@ 0.000
6	2	1.761T	-0.263	-0.083		0.063
	5	1.761T	-0.263	-0.158		@ 0.151

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.071	0.000	0.000	6	-1.071	2.011	0.403
Total	0.000	2.011	0.403				

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.863	0.000	0.000	6	-1.863	3.498	0.701
Total	0.000	3.498	0.701				

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.392	0.000	0.000	6	-2.392	4.492	0.901
Total	0.000	4.492	0.901				

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.450	0.000	0.000	6	-3.450	6.479	1.299
Total	0.000	6.479	1.299				

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	5.038	0.000	0.000	6	-5.038	9.461	1.897
Total	0.000	9.461	1.897				

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Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	6.625	0.000	0.000	6	-6.625	12.442	2.494
Total	0.000	12.442	2.494				

Support Reactions Serviceability (007 : D + F1 LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.468	0.000	0.000	6	-1.468	2.017	0.480
Total	0.000	2.017	0.480				

Support Reactions Serviceability (008 : D + F1 LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.662	0.000	0.000	6	-2.662	3.517	0.856
Total	0.000	3.517	0.856				

Support Reactions Serviceability (009 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.428	0.000	0.000	6	-1.428	1.517	0.372
Total	0.000	1.517	0.372				

Support Reactions Serviceability (010 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.968	0.000	0.000	6	-1.968	3.697	0.741
Total	0.000	3.697	0.741				

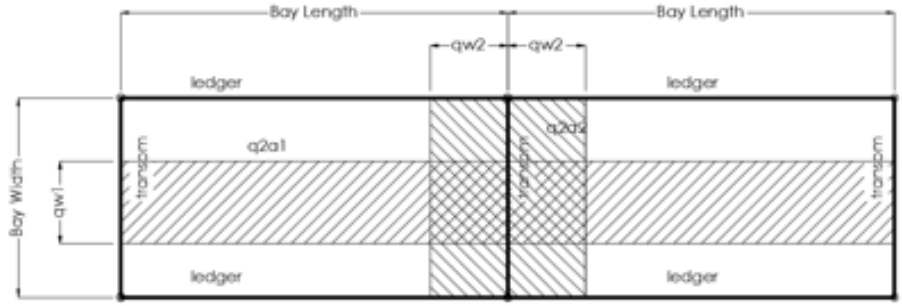
Support Reactions Serviceability (011 : D + q2 A2 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.815	0.000	0.000	6	-2.815	5.287	1.060
Total	0.000	5.287	1.060				

Support Reactions Serviceability (012 : D + q2 A2 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.408	0.000	0.000	6	-3.408	6.400	1.283
Total	0.000	6.400	1.283				

Deck Geometry: 1.8m Omega Deck



Omega deck q2 Loading Geometry

Bay Length: 1.8 m
Bay Width: 1.3 m

qw1,2: Refer to 'Load to Transoms'

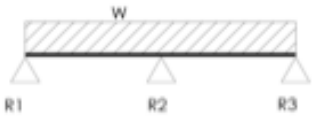
Load Classes:

Class	q1 kN/m²	f1 kN	f2 kN	q2 kN/m²	α_p
1	0.75	1.5	1.0		
2	1.5	1.5	1.0		
3	2.0	1.5	1.0		
4	3.0	3.0	1.0	5.0	0.4
5	4.5	3.0	1.0	7.5	0.4
6	6.0	3.0	1.0	10.0	0.5

Load to Transoms:

Deck boards are simply supported over bay width. UDL to transom is therefore based on simple statics. For F1 and F2 loads, due to the larger spans, all load is assumed to transfer back to the transom directly below.

q2: Partial Area Loads



Partial area: Bay Width x Length x a_p

LC4	0.936	m^2
LC5	0.936	m^2
LC6	1.17	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

	qw1	qw2	
LC4	0.52	0.7	m
LC5	0.52	0.7	m
LC6	0.65	0.9	m

	A2 LC4,5	A2 LC6	Specific to 1.8x1.3 Bay
R1	0.100	0.125	
R2	0.800	0.750	
R3	0.100	0.125	

NB - above co-efficients relate to total area, i.e 2 bays width

Transom Forces:

Transoms are assessed in software using known rotational stiffness of joint. Applied forces are as derived in the table below.

Notes on table:

1) Deck reaction is the applied load (x centres for UDLs) x reaction coefficients derived above. F1 and F2 takes 100% to transom as noted previous.

2) Load to transom is the total load. This is the reaction multiplied by the transom length for the q1 and q2a2 case, or the actual reaction for the patch loads

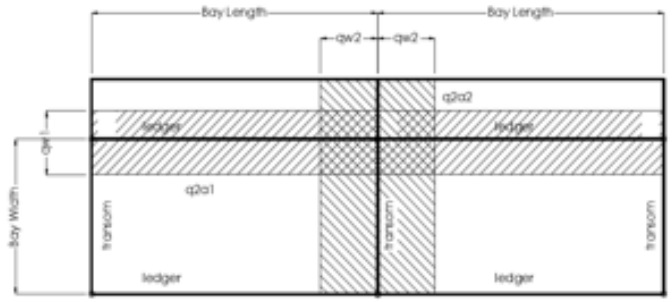
Deflections are compared against L/100

Deck Self Weight: 0.26 kN/m^2 (Steel Battens)

Transom Moment Capacity (sag) 1.7 kN.m
Transom Moment Capacity (hog) 1.39 kN.m

		Deck Reaction kN or kN/m											
Load	Class	R1	R2	R3	R4	Load to trans' kN	M_{hog} Support kN.m	M_{sag} Mid-span kN.m	Mid-span Δ mm	M_{hog} Check	M_{sag} Check	Δ check	PC Load Ref
Deck		0.47	0.47	0.47		0.61				Pass	Pass	Pass	Deck
q1	1	1.35	1.35	1.35		1.76	0.10	0.28	0.5	Pass	Pass	Pass	L1
	2	2.70	2.70	2.70		3.51	0.18	0.49	0.8	Pass	Pass	Pass	L2
	3	3.60	3.60	3.60		4.68	0.23	0.63	1.1	Pass	Pass	Pass	L3
	4	5.40	5.40	5.40		7.02	0.33	0.91	1.6	Pass	Pass	Pass	L4
	5	8.10	8.10	8.10		10.5	0.48	1.33	2.3	Pass	Pass	Pass	L5
	6	10.80	10.80	10.80		14	0.64	1.74	3.0	Pass	Fail	Pass	L6
f1a	1	0.00	1.50	0.00		1.50	0.12	0.37	0.6	Pass	Pass	Pass	F1
	2	0.00	1.50	0.00		1.50				Pass	Pass	Pass	F1
	3	0.00	1.50	0.00		1.50				Pass	Pass	Pass	F1
	4	0.00	3.00	0.00		3.00	0.21	0.67	1.1	Pass	Pass	Pass	F5
	5	0.00	3.00	0.00		3.00				Pass	Pass	Pass	F5
	6	0.00	3.00	0.00		3.00				Pass	Pass	Pass	F5
f2a	1	0.00	1.00	1.00		1.00	0.09	0.31	0.5	Pass	Pass	Pass	F2
	2	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F2
	3	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F2
	4	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
	5	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
	6	0.00	1.00	0.00		1.00				Pass	Pass	Pass	F6
q2a1	1	n/a								Pass	Pass		
	2									Pass	Pass		
	3									Pass	Pass		
	4	9.00	9.00	9.00		4.68	0.32	1.00	1.60	Pass	Pass	Pass	J1
	5	13.50	13.50	13.50		7.02	0.46	1.46	2.30	Pass	Pass	Pass	J2
	6	18.00	18.00	18.00		11.70	0.73	2.22	3.60	Pass	Fail	Pass	J3
q2a2	1	n/a											
	2												
	3												
	4	0.50	4.00	0.50		5.20	0.20	0.55	0.9	Pass	Pass	Pass	K1
	5	0.75	6.00	0.75		7.80	0.29	0.79	1.4	Pass	Pass	Pass	K2
	6	1.25	7.50	1.25		9.75	0.35	0.97	1.7	Pass	Pass	Pass	K3

Internal Board Arrangements: Hop Up Brackets



Omega deck q2 Loading Geometry

Inside Widths:	+1	0.290	m
	+2	0.560	m
	+3	0.795	m

q2: Partial Area Loads

Partial area: Bay Width x Length x a_p

	+1	+2	+3	
LC4	1.14	1.31	1.47	m^2
LC5	1.14	1.31	1.47	m^2
LC6	1.43	1.63	1.84	m^2

Load width: Bay Length (qw1) or width (qw2)/Partial Area

qw1 dimension

	+1	+2	+3	
LC4	0.64	0.73	0.82	m
LC5	0.64	0.73	0.82	m
LC6	0.80	0.91	1.02	m

qw2 dimension

	+1	+2	+3	
LC4	0.72	0.72	0.72	m
LC5	0.72	0.72	0.72	m
LC6	0.90	0.90	0.90	m

The loading to the hop up bracket is as calculated for the transom. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion. The maximum load is used as calculated for F2 loads.

The maximum transom deck reaction is used. For a UDL this is multiplied by the hop up width to give a total load. For f1 loads where the hop up length is less than 0.5m, the load is reduced by proportion The maximum is applied as calculated for f2 loads.

		Max Transom Load		Hop up Load kN			PC Load Ref
Load	Class	kN/m	kN	+1	+2	+3	
Deck		0.47		0.14	0.24	0.35	D1
q1	1	1.35		0.39	0.70	1.01	L1
	2	2.70		0.78	1.39	2.01	L2
	3	3.60		1.04	1.85	2.68	L3
	4	5.40		1.57	2.78	4.02	L4
	5	8.10		2.35	4.17	6.03	L5
	6	10.80		3.13	5.56	8.05	L6
f1	1		1.50	0.87	1.50	1.50	A1
	2		1.50	0.87	1.50	1.50	
	3		1.50	0.87	1.50	1.50	
	4		3.00	1.74	3.00	3.00	A2
	5		3.00	1.74	3.00	3.00	
	6		3.00	1.74	3.00	3.00	
f2	1		1.00	1.00	1.00	1.00	B1
	2		1.00	1.00	1.00	1.00	
	3		1.00	1.00	1.00	1.00	
	4		1.00	1.00	1.00	1.00	
	5		1.00	1.00	1.00	1.00	
	6		1.00	1.00	1.00	1.00	
q2a2		n/a					
	4	4.00		1.16	2.06	2.98	C1
	5	6.00		1.74	3.09	4.47	C2
	6	7.50		2.18	3.86	5.59	C3

NB - q2a2 is critical by inspection therefore q2a1 is omitted

Inside board arrangements: Hop up Bracket Check

Analysis carried in software and results entered into table below for checking.
Loads derived above entered, with reaction of ledger (see ledger table) as an end point load.
Top member moment capacity at support: 1.39 kN.m
Top member axial tension capacity: 124 kN
Diagonal strut moment capacity: 1.1 kN.m
Diagonal strut axial capacity: 57.4 kN
NB strut capacity relates to +3 and is used throughout therefore is conservative

	PC Load Ref	Type	M_{hog} Support kN.m					Top Tube M Check
+1 inside board	D1	Deck						
	L1	q1 LC1	0.09					Pass
	L2	q1 LC2	0.15					Pass
	L3	q1 LC3	0.20					Pass
	L4	q1 LC4	0.28					Pass
	L5	q1 LC5	0.41					Pass
	L6	q1 LC6	0.54					Pass
	A1	f1 LC1	0.17					Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.31					Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.23					Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.21					Pass
	C2	q2a2 5	0.31					Pass
	C3	q2a2 6	0.38					Pass

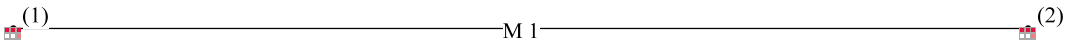
	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	Top Tube Ax & M Check
+2 inside board	D1	Deck						
	L1	q1 LC1	0.15	0.47	0.03	0.47	Pass	Pass
	L2	q1 LC2	0.26	0.82	0.05	0.82	Pass	Pass
	L3	q1 LC3	0.33	1.06	0.07	1.06	Pass	Pass
	L4	q1 LC4	0.48	1.53	0.09	1.53	Pass	Pass
	L5	q1 LC5	0.70	0.23	0.14	0.23	Pass	Pass
	L6	q1 LC6	0.92	2.93	0.18	2.93	Pass	Pass
	A1	f1 LC1	0.28	0.9	0.06	0.95	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.52	1.68	0.103	1.77	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.23	1.03	0.06	1.09	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.36	1.16	0.07	1.16	Pass	Pass
	C2	q2a2 5	0.53	1.68	0.10	1.68	Pass	Pass
	C3	q2a2 6	0.64	2.05	0.13	2.05	Pass	Pass

	PC Load Ref	Type	M_{hog} Support kN.m	Top Tube Tension	Diag Strut moment	Diag Strut Force	Strut Check Ax & M Check	Top Tube Ax & M Check
+3 inside board	D1	Deck						
	L1	q1 LC1	0.29	0.77	0.07	0.80	Pass	Pass
	L2	q1 LC2	0.51	1.34	0.11	1.40	Pass	Pass
	L3	q1 LC3	0.65	1.72	0.15	1.79	Pass	Pass
	L4	q1 LC4	0.94	2.48	0.21	2.58	Pass	Pass
	L5	q1 LC5	1.37	3.63	0.31	3.77	Pass	Fail
	L6	q1 LC6	1.80	4.77	0.40	4.96	Pass	Fail
	A1	f1 LC1	0.45	1.39	0.12	1.47	Pass	Pass
		f1 LC2						
		f1 LC3						
	A2	f1 LC4	0.83	2.59	0.22	2.73	Pass	Pass
		f1 LC5						
		f1 LC6						
	B1	f2 LC1	0.34	1.35	0.11	1.52	Pass	Pass
		f2 LC2						
		f2 LC3						
		f2 LC4						
		f2 LC5						
		f2 LC6						
	C1	q2a2 4	0.71	1.89	0.16	1.97	Pass	Pass
	C2	q2a2 5	1.03	2.74	0.23	2.85	Pass	Pass
	C3	q2a2 6	1.27	3.37	0.28	3.51	Pass	Pass

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12385

Job Ref	**: 1462**
Sheet	**: 1.8 Bay 1.3m Omega Transo /**
Made by	**: IH**
Date	**: 08 June 2016 / Ver. 2015.14**
Checked	**: IH**
Approved	**:**



Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group F1	Dead Load
Load Group F2	Dead Load
Load Group F5	Dead Load
Load Group J1	Live Load
Load Group J2	Live Load
Load Group J3	Live Load
Load Group K1	Live Load
Load Group K2	Live Load
Load Group K3	Live Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1a LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F1

Load Case 008 : D + F1a LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F5

Load Case 009 : D + F2a
Load Combination + 1.00 UT + 1.00 D1 + 1.00 F2

Load Case 010 : D + q2 A1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J1

Load Case 011 : D + q2 A1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J2

Load Case 012 : D + q2 A1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 J3

Load Case 013 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 K1

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Approved :

Load Case 014 : D + q2 A2 LC5

Load Combination + 1.00 UT + 1.00 D1 + 1.00 K2

Load Case 015 : D + q2 A2 LC6

Load Combination + 1.00 UT + 1.00 D1 + 1.00 K3

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	1.300	0.000	0.000

Member Properties

Member 1

```
M  ...  ...          OT 4mm []    E 205E6    G 80E6
 A 9.28E-4            Ix 46.07E-8         Iy 70.99E-8         J 92.14E-8
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1

```
D1 UDLY -000.470              ( kN/m )
L1 UDLY -001.350              ( kN/m )
L2 UDLY -002.700              ( kN/m )
L3 UDLY -003.600              ( kN/m )
L4 UDLY -005.400              ( kN/m )
L5 UDLY -008.100              ( kN/m )
L6 UDLY -010.800              ( kN/m )
F1 PDLY -001.500 0.400 0.900 (kN,m,m)
F5 PDLY -003.000 0.400 0.900 (kN,m,m)
F2 PDLY -001.000 0.550 0.750 (kN,m,m)
J1 PDLY -004.680 0.390 0.910 (kN,m,m)
J2 PDLY -007.020 0.390 0.910 (kN,m,m)
J3 PDLY -011.700 0.325 0.975 (kN,m,m)
K1 PDLY -004.000 0.000 1.300 (kN,m,m)
K2 PDLY -006.000 0.000 1.300 (kN,m,m)
K3 PDLY -007.500 0.000 1.305 (kN,m,m)
```

Nodal Loading and Support Conditions

NODES 1-2

```
UT Rs 1 1 1 0 0 0 (Pinned)
```

NODES 1-2

```
UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Approved :

Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.183	-0.103	0.281	0.486
	2	0.000C	-1.183	-0.103	@ 0.650	@ 0.650

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.061	-0.179	0.490	0.847
	2	0.000C	-2.061	-0.179	@ 0.637	@ 0.650

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.646	-0.230	0.629	1.087
	2	0.000C	-2.646	-0.230	@ 0.637	@ 0.650

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.816	-0.332	0.907	1.568
	2	0.000C	-3.816	-0.332	@ 0.637	@ 0.650

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	5.571	-0.485	1.325	2.289
	2	0.000C	-5.571	-0.485	@ 0.650	@ 0.650

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	7.326	-0.638	1.743	3.011
	2	0.000C	-7.326	-0.638	@ 0.650	@ 0.650

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12385

Job Ref : 1462
Sheet : 1.8 Bay 1.3m Omega Transo /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Member Forces (007 : D + F1a LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.056	-0.120	0.373	0.596
	2	0.000C	-1.056	-0.120	@ 0.636	@ 0.650

Member Forces (008 : D + F1a LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	1.806	-0.213	0.674	1.065
	2	0.000C	-1.806	-0.213	@ 0.650	@ 0.650

Member Forces (009 : D + F2a)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.806	-0.091	0.308	0.460
	2	0.000C	-0.806	-0.091	@ 0.650	@ 0.650

Member Forces (010 : D + q2 A1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.646	-0.316	1.000	1.583
	2	0.000C	-2.645	-0.316	@ 0.650	@ 0.650

Member Forces (011 : D + q2 A1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.816	-0.461	1.464	2.312
	2	0.000C	-3.816	-0.461	@ 0.650	@ 0.650

Member Forces (012 : D + q2 A1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	6.156	-0.727	2.224	3.608
	2	0.000C	-6.155	-0.727	@ 0.650	@ 0.650

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Member Forces (013 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	2.305	-0.201	0.548	0.947
	2	0.000C	-2.306	-0.201	@ 0.637	@ 0.650

Member Forces (014 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	3.305	-0.288	0.786	1.358
	2	0.000C	-3.306	-0.288	@ 0.637	@ 0.650

Member Forces (015 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	4.056	-0.353	0.965	1.667
	2	0.000C	-4.056	-0.353	@ 0.650	@ 0.650

Support Reactions Serviceability (001 : D + q1 LC1)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.183	0.103	2	0.000	1.183	-0.103
Total	0.000	2.366	0.000				

Support Reactions Serviceability (002 : D + q1 LC2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.061	0.179	2	0.000	2.061	-0.179
Total	0.000	4.121	0.000				

Support Reactions Serviceability (003 : D + q1 LC3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.646	0.230	2	0.000	2.646	-0.230
Total	0.000	5.291	0.000				

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Support Reactions Serviceability (004 : D + q1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.816	0.332	2	0.000	3.816	-0.332
Total	0.000	7.631	0.000				

Support Reactions Serviceability (005 : D + q1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	5.571	0.485	2	0.000	5.571	-0.485
Total	0.000	11.141	0.000				

Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	7.326	0.638	2	0.000	7.326	-0.638
Total	0.000	14.651	0.000				

Support Reactions Serviceability (007 : D + F1a LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.056	0.120	2	0.000	1.056	-0.120
Total	0.000	2.111	0.000				

Support Reactions Serviceability (008 : D + F1a LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	1.806	0.213	2	0.000	1.806	-0.213
Total	0.000	3.611	0.000				

Support Reactions Serviceability (009 : D + F2a)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	0.806	0.091	2	0.000	0.806	-0.091
Total	0.000	1.611	0.000				

Support Reactions Serviceability (010 : D + q2 A1 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.646	0.316	2	0.000	2.645	-0.316
Total	0.000	5.291	0.000				

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Support Reactions Serviceability (011 : D + q2 A1 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.816	0.461	2	0.000	3.816	-0.461
Total	0.000	7.631	0.000				

Support Reactions Serviceability (012 : D + q2 A1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	6.156	0.727	2	0.000	6.155	-0.727
Total	0.000	12.311	0.000				

Support Reactions Serviceability (013 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	2.305	0.201	2	0.000	2.306	-0.201
Total	0.000	4.611	0.000				

Support Reactions Serviceability (014 : D + q2 A2 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	3.305	0.288	2	0.000	3.306	-0.288
Total	0.000	6.611	0.000				

Support Reactions Serviceability (015 : D + q2 A2 LC6)

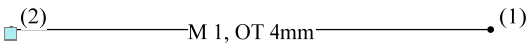
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.000	4.056	0.353	2	0.000	4.056	-0.353
Total	0.000	8.111	0.000				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.310	0.000	0.000	2	0.000	0.000	0.000

Member Properties

Member 1
M ... ... OT 4mm [] E 205E6 G 80E6
A 9.28E-4 Ix 46.07E-8 Iy 70.99E-8 J 92.14E-8

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Member 1

D1	UDLY	-000.470		(kN/m)
L1	UDLY	-001.350		(kN/m)
L2	UDLY	-002.700		(kN/m)
L3	UDLY	-003.600		(kN/m)
L4	UDLY	-005.400		(kN/m)
L5	UDLY	-008.100		(kN/m)
L6	UDLY	-010.800		(kN/m)
A1	PDLY	-000.870	0.000 0.290	(kN,m,m)
A2	PDLY	-001.740	0.000 0.290	(kN,m,m)
B1	PDLY	-001.000	0.000 0.200	(kN,m,m)
C1	UDLY	-004.000		(kN/m)
C2	UDLY	-006.000		(kN/m)
C3	UDLY	-007.400		(kN/m)

Nodal Loading and Support Conditions

NODE 2
UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
NODE 2
UT Rs 1 1 1 1 1 1 (Fixed)

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Nodal Deflections Serviceability (001 : D + q1 LC1)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.02	-0.01	0.02	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.04	-0.01	0.04	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.05	-0.01	0.05	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	-0.02	0.07	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.10	-0.03	0.10	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.14	-0.03	0.14	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (007 : D + F1 LC1-3)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.04	-0.01	0.04	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.08	-0.02	0.08	2	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (009 : D + F2)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.06	-0.02	0.06	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.05	-0.01	0.05	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.08	-0.02	0.08	2	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)									
Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.10	-0.02	0.10	2	0.00	0.00	0.00	0.00

Member Forces (001 : D + q1 LC1)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.022
	2	0.000C	0.564	0.087		@ 0.000

Member Forces (002 : D + q1 LC2)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.039
	2	0.000C	0.983	0.152		@ 0.000

Member Forces (003 : D + q1 LC3)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.050
	2	0.000C	1.262	0.196		@ 0.000

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Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.072
	2	0.000C	1.820	0.282		@ 0.000

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.105
	2	0.000C	2.657	0.412		@ 0.000

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.138
	2	0.000C	3.494	0.542		@ 0.000

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.042
	2	0.000C	1.016	0.166		@ 0.000

Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.079
	2	0.000C	1.886	0.310		@ 0.000

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.000C	0.000	0.000		0.064
	2	0.000C	1.146	0.233		@ 0.000

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Member Forces (010 : D + q2 A2 LC4)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 1.386	0.000 0.215		0.055 @ 0.000

Member Forces (011 : D + q2 A2 LC5)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 2.006	0.000 0.311		0.079 @ 0.000

Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1 2	0.000C 0.000C	0.000 2.440	0.000 0.378		0.096 @ 0.000

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	0.564	0.087	Total	0.000	0.564	0.087

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	0.983	0.152	Total	0.000	0.983	0.152

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.262	0.196	Total	0.000	1.262	0.196

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.820	0.282	Total	0.000	1.820	0.282

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Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.657	0.412	Total	0.000	2.657	0.412

Support Reactions Serviceability (006 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	3.494	0.542	Total	0.000	3.494	0.542

Support Reactions Serviceability (007 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.016	0.166	Total	0.000	1.016	0.166

Support Reactions Serviceability (008 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.886	0.310	Total	0.000	1.886	0.310

Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.146	0.233	Total	0.000	1.146	0.233

Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	1.386	0.215	Total	0.000	1.386	0.215

Support Reactions Serviceability (011 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.006	0.311	Total	0.000	2.006	0.311

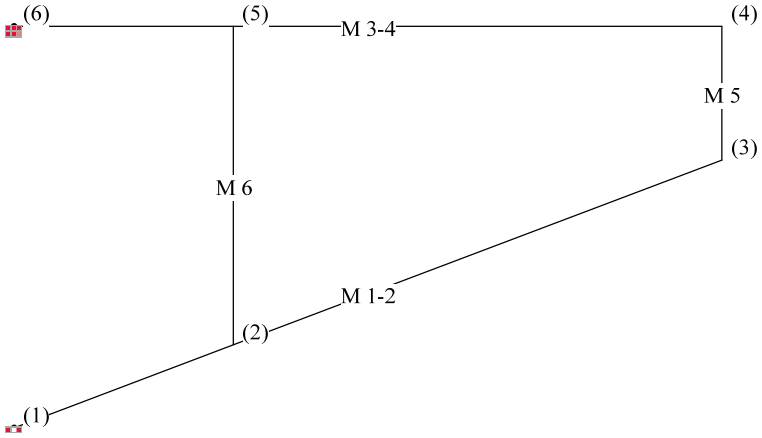
Support Reactions Serviceability (012 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
2	0.000	2.440	0.378	Total	0.000	2.440	0.378

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.175	0.062	0.000
3	0.565	0.200	0.000	4	0.565	0.300	0.000
5	0.175	0.300	0.000	6	0.000	0.300	0.000

Member Properties

Members 1-2 and 6
```
M  ...  ...          48.3x2.5 CHS 2.82 [S 355]
 A 3.6E-4            Ix 9.46E-8          Iy 9.46E-8          J 18.92E-8
 E 205.0E6           G 78.85E6
```

Members 3-4
```
M  ...  ...          OT 4mm []    E 205E6    G 80E6
 A 9.28E-4           Ix 46.07E-8         Iy 70.99E-8         J 92.14E-8
```

Member 5
```
M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4           Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
 E 205.0E6           G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4
```
   D1 UDLY -000.470              ( kN/m )
   L1 UDLY -001.350              ( kN/m )
   L2 UDLY -002.700              ( kN/m )
   L3 UDLY -003.600              ( kN/m )
   L4 UDLY -005.400              ( kN/m )
   L5 UDLY -008.100              ( kN/m )
   L6 UDLY -010.800              ( kN/m )
   A1 PDLY -001.500 0.000 0.500 (kN,m,m)
   A2 PDLY -003.000 0.000 0.500 (kN,m,m)
   B1 PDLY -001.000 0.000 0.200 (kN,m,m)
   C1 UDLY -004.000              ( kN/m )
   C2 UDLY -006.000              ( kN/m )
   C3 UDLY -007.400              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 6
```
      UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
```
NODE 6
```
      UT Rs 1 1 1 1 1 1 (Fixed)
```
NODE 1
```
      UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
```
NODE 6
```
      UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.04	0.01	0.04	2	-0.01	-0.02	0.00	0.02
3	0.00	-0.05	0.00	0.05	4	0.00	-0.05	0.00	0.05
5	0.00	-0.02	-0.01	0.02	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.06	0.02	0.06	2	-0.01	-0.03	0.00	0.03
3	0.00	-0.08	0.00	0.08	4	0.00	-0.09	0.00	0.09
5	0.00	-0.03	-0.01	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.08	0.02	0.08	2	-0.02	-0.04	0.00	0.04
3	0.00	-0.11	0.00	0.11	4	0.00	-0.11	0.00	0.11
5	0.00	-0.03	-0.02	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.12	0.03	0.12	2	-0.03	-0.05	0.00	0.06
3	0.00	-0.16	0.00	0.16	4	0.00	-0.16	0.00	0.16
5	0.00	-0.05	-0.02	0.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.17	0.04	0.17	2	-0.04	-0.08	0.01	0.08
3	0.00	-0.23	-0.01	0.23	4	0.01	-0.23	-0.01	0.23
5	0.00	-0.07	-0.03	0.07	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.22	0.06	0.22	2	-0.05	-0.10	0.01	0.11
3	0.00	-0.30	-0.01	0.30	4	0.01	-0.30	-0.01	0.30
5	0.00	-0.09	-0.04	0.09	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	0.02	0.07	2	-0.02	-0.03	0.00	0.03
3	0.00	-0.09	0.00	0.09	4	0.00	-0.09	0.00	0.09
5	0.00	-0.03	-0.01	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.13	0.03	0.13	2	-0.03	-0.06	0.00	0.06
3	0.00	-0.17	0.00	0.17	4	0.00	-0.17	0.00	0.17
5	0.00	-0.05	-0.03	0.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.07	0.02	0.07	2	-0.02	-0.03	0.00	0.03
3	0.00	-0.10	0.00	0.10	4	0.00	-0.10	0.00	0.10
5	0.00	-0.03	-0.01	0.03	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.09	0.02	0.09	2	-0.02	-0.04	0.00	0.04
3	0.00	-0.12	0.00	0.12	4	0.00	-0.12	0.00	0.12
5	0.00	-0.04	-0.02	0.04	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.13	0.03	0.13	2	-0.03	-0.06	0.00	0.06
3	0.00	-0.17	0.00	0.17	4	0.00	-0.17	0.00	0.17
5	0.00	-0.05	-0.03	0.05	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.15	0.04	0.15	2	-0.04	-0.07	0.01	0.08
3	0.00	-0.21	-0.01	0.21	4	0.01	-0.21	-0.01	0.21
5	0.00	-0.07	-0.03	0.07	6	0.00	0.00	0.00	0.00

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Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.446C	-0.158	0.000	-0.029	0.026
	2	0.446C	-0.158	-0.029	@ 0.182	@ 0.223
2	2	0.473C	0.110	-0.025	-0.029	0.026
	3	0.473C	0.110	0.021	@ 0.182	@ 0.223
3	4	0.409T	-0.262	-0.020	-0.039	0.000
	5	0.409T	0.448	0.016	@ 0.133	@ 0.000
4	5	0.473T	0.710	-0.004	-0.039	0.000
	6	0.473T	1.028	0.149	@ 0.133	@ 0.000
5	3	0.262C	-0.409	0.021		0.000
	4	0.262C	-0.409	-0.020		@ 0.000
6	2	0.262T	-0.064	-0.004		0.000
	5	0.262T	-0.064	-0.020		@ 0.000

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.777C	-0.275	0.000	-0.051	0.045
	2	0.777C	-0.275	-0.051	@ 0.184	@ 0.223
2	2	0.824C	0.192	-0.043	-0.051	0.045
	3	0.824C	0.192	0.036	@ 0.184	@ 0.223
3	4	0.713T	-0.456	-0.035	-0.068	0.011
	5	0.713T	0.781	0.028	@ 0.140	@ 0.179
4	5	0.824T	1.236	-0.006	-0.068	0.011
	6	0.824T	1.791	0.259	@ 0.140	@ 0.179
5	3	0.456C	-0.713	0.036		0.000
	4	0.456C	-0.713	-0.035		@ 0.000
6	2	0.456T	-0.111	-0.008		0.000
	5	0.456T	-0.111	-0.034		@ 0.000

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.997C	-0.353	0.000	-0.065	0.058
	2	0.997C	-0.353	-0.066	@ 0.184	@ 0.223
2	2	1.058C	0.246	-0.056	-0.065	0.058
	3	1.058C	0.246	0.046	@ 0.184	@ 0.223

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Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	0.916T	-0.585	-0.045	-0.087	0.014
	5	0.916T	1.002	0.036	@ 0.129	@ 0.179
4	5	1.058T	1.587	-0.008	-0.087	0.014
	6	1.058T	2.300	0.332	@ 0.129	@ 0.179
5	3	0.585C	-0.916	0.046		0.000
	4	0.585C	-0.916	-0.045		@ 0.000
6	2	0.585T	-0.142	-0.010		0.000
	5	0.585T	-0.142	-0.044		@ 0.000

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.438C	-0.510	0.000	-0.094	0.084
	2	1.438C	-0.510	-0.095	@ 0.184	@ 0.223
2	2	1.526C	0.355	-0.080	-0.094	0.084
	3	1.526C	0.355	0.067	@ 0.184	@ 0.223
3	4	1.321T	-0.844	-0.065	-0.126	0.020
	5	1.321T	1.446	0.052	@ 0.137	@ 0.179
4	5	1.526T	2.289	-0.011	-0.126	0.020
	6	1.526T	3.317	0.479	@ 0.137	@ 0.179
5	3	0.844C	-1.321	0.067		0.000
	4	0.844C	-1.321	-0.065		@ 0.000
6	2	0.844T	-0.205	-0.014		0.014
	5	0.844T	-0.205	-0.063		@ 0.131

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.100C	-0.744	0.000	-0.137	0.122
	2	2.100C	-0.744	-0.138	@ 0.184	@ 0.223
2	2	2.228C	0.518	-0.117	-0.137	0.122
	3	2.228C	0.518	0.097	@ 0.184	@ 0.223
3	4	1.928T	-1.232	-0.096	-0.184	0.030
	5	1.928T	2.111	0.076	@ 0.137	@ 0.179
4	5	2.228T	3.342	-0.017	-0.184	0.030
	6	2.228T	4.842	0.700	@ 0.137	@ 0.179

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.232C	-1.928	0.097		0.000
	4	1.232C	-1.928	-0.096		@ 0.000
6	2	1.232T	-0.299	-0.021		0.021
	5	1.232T	-0.299	-0.092		@ 0.131

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.761C	-0.978	0.000	-0.180	0.161
	2	2.761C	-0.978	-0.182	@ 0.184	@ 0.223
2	2	2.931C	0.681	-0.154	-0.180	0.161
	3	2.931C	0.681	0.128	@ 0.184	@ 0.223
3	4	2.535T	-1.620	-0.126	-0.242	0.039
	5	2.535T	2.776	0.100	@ 0.140	@ 0.179
4	5	2.929T	4.395	-0.022	-0.242	0.039
	6	2.929T	6.368	0.920	@ 0.140	@ 0.179
5	3	1.620C	-2.535	0.128		0.000
	4	1.620C	-2.535	-0.126		@ 0.000
6	2	1.620T	-0.394	-0.028		0.028
	5	1.620T	-0.394	-0.121		@ 0.131

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.849C	-0.301	0.000	-0.055	0.049
	2	0.849C	-0.301	-0.056	@ 0.184	@ 0.223
2	2	0.901C	0.209	-0.047	-0.055	0.049
	3	0.901C	0.209	0.039	@ 0.184	@ 0.223
3	4	0.780T	-0.498	-0.039	-0.074	0.012
	5	0.780T	0.855	0.031	@ 0.135	@ 0.179
4	5	0.901T	1.353	-0.006	-0.074	0.012
	6	0.901T	1.766	0.277	@ 0.135	@ 0.179
5	3	0.498C	-0.780	0.039		0.000
	4	0.498C	-0.780	-0.039		@ 0.000
6	2	0.498T	-0.121	-0.009		0.000
	5	0.498T	-0.121	-0.037		@ 0.000

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Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.583C	-0.561	0.000	-0.103	0.092
	2	1.583C	-0.561	-0.104	@ 0.184	@ 0.223
2	2	1.680C	0.390	-0.088	-0.103	0.092
	3	1.680C	0.390	0.073	@ 0.184	@ 0.223
3	4	1.454T	-0.929	-0.072	-0.138	0.022
	5	1.454T	1.595	0.058	@ 0.131	@ 0.179
4	5	1.679T	2.523	-0.012	-0.138	0.022
	6	1.679T	3.266	0.516	@ 0.131	@ 0.179
5	3	0.929C	-1.454	0.073		0.000
	4	0.929C	-1.454	-0.072		@ 0.000
6	2	0.929T	-0.225	-0.016		0.016
	5	0.929T	-0.225	-0.069		@ 0.131

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.971C	-0.344	0.000	-0.063	0.054
	2	0.971C	-0.344	-0.064	@ 0.184	@ 0.219
2	2	1.091C	0.231	-0.052	-0.063	0.054
	3	1.091C	0.231	0.044	@ 0.184	@ 0.219
3	4	0.952T	-0.582	-0.051	-0.082	0.000
	5	0.952T	0.601	0.048	@ 0.105	@ 0.000
4	5	1.030T	1.183	0.017	-0.082	0.000
	6	1.030T	1.266	0.231	@ 0.105	@ 0.000
5	3	0.582C	-0.952	0.044		0.000
	4	0.582C	-0.952	-0.051		@ 0.000
6	2	0.582T	-0.078	-0.012		0.000
	5	0.582T	-0.078	-0.031		@ 0.000

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.095C	-0.388	0.000	-0.071	0.064
	2	1.095C	-0.388	-0.072	@ 0.184	@ 0.223
2	2	1.162C	0.270	-0.061	-0.071	0.064
	3	1.162C	0.270	0.051	@ 0.184	@ 0.223

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Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.006T	-0.642	-0.050	-0.096	0.015
	5	1.006T	1.101	0.040	@ 0.144	@ 0.179
4	5	1.162T	1.743	-0.009	-0.096	0.015
	6	1.162T	2.526	0.365	@ 0.144	@ 0.179
5	3	0.642C	-1.006	0.051		0.000
	4	0.642C	-1.006	-0.050		@ 0.000
6	2	0.642T	-0.156	-0.011		0.011
	5	0.642T	-0.156	-0.048		@ 0.131

Member Forces (011 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.585C	-0.562	0.000	-0.103	0.092
	2	1.585C	-0.562	-0.104	@ 0.184	@ 0.223
2	2	1.682C	0.391	-0.088	-0.103	0.092
	3	1.682C	0.391	0.073	@ 0.184	@ 0.223
3	4	1.456T	-0.930	-0.072	-0.139	0.022
	5	1.456T	1.593	0.057	@ 0.133	@ 0.179
4	5	1.682T	2.523	-0.012	-0.139	0.022
	6	1.682T	3.656	0.528	@ 0.133	@ 0.179
5	3	0.930C	-1.456	0.073		0.000
	4	0.930C	-1.456	-0.072		@ 0.000
6	2	0.930T	-0.226	-0.016		0.016
	5	0.930T	-0.226	-0.070		@ 0.131

Member Forces (012 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.928C	-0.683	0.000	-0.126	0.112
	2	1.928C	-0.683	-0.127	@ 0.184	@ 0.223
2	2	2.046C	0.476	-0.107	-0.126	0.112
	3	2.046C	0.476	0.089	@ 0.184	@ 0.223
3	4	1.771T	-1.131	-0.088	-0.169	0.027
	5	1.771T	1.938	0.070	@ 0.137	@ 0.179
4	5	2.046T	3.069	-0.015	-0.169	0.027
	6	2.046T	4.447	0.642	@ 0.137	@ 0.179

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Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.131C	-1.771	0.089		0.000
	4	1.131C	-1.771	-0.088		@ 0.000
6	2	1.131T	-0.275	-0.019		0.019
	5	1.131T	-0.275	-0.085		@ 0.131

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.473	0.000	0.000	6	-0.473	1.028	0.149
Total	0.000	1.028	0.149				

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.824	0.000	0.000	6	-0.824	1.791	0.259
Total	0.000	1.791	0.259				

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.058	0.000	0.000	6	-1.058	2.300	0.332
Total	0.000	2.300	0.332				

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.526	0.000	0.000	6	-1.526	3.317	0.479
Total	0.000	3.317	0.479				

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.228	0.000	0.000	6	-2.228	4.842	0.700
Total	0.000	4.842	0.700				

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Support Reactions Serviceability (006 : D + q1 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.929	0.000	0.000	6	-2.929	6.368	0.920
Total	0.000	6.368	0.920				

Support Reactions Serviceability (007 : D + F1 LC1-3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.901	0.000	0.000	6	-0.901	1.766	0.277
Total	0.000	1.766	0.277				

Support Reactions Serviceability (008 : D + F1 LC4-6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.679	0.000	0.000	6	-1.679	3.266	0.516
Total	0.000	3.266	0.516				

Support Reactions Serviceability (009 : D + F2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.030	0.000	0.000	6	-1.030	1.266	0.231
Total	0.000	1.266	0.231				

Support Reactions Serviceability (010 : D + q2 A2 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.162	0.000	0.000	6	-1.162	2.526	0.365
Total	0.000	2.526	0.365				

Support Reactions Serviceability (011 : D + q2 A2 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.682	0.000	0.000	6	-1.682	3.656	0.528
Total	0.000	3.656	0.528				

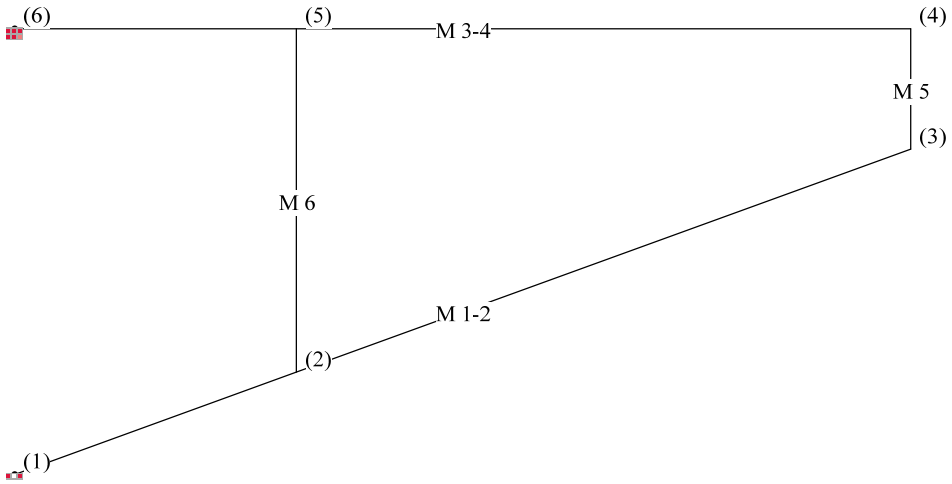
Support Reactions Serviceability (012 : D + q2 A2 LC6)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.046	0.000	0.000	6	-2.046	4.447	0.642
Total	0.000	4.447	0.642				

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Frame Geometry - (Full Frame) - Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group D1	Dead Load
Load Group L1	Live Load
Load Group L2	Live Load
Load Group L3	Live Load
Load Group L4	Live Load
Load Group L5	Live Load
Load Group L6	Live Load
Load Group A1	Dead Load
Load Group A2	Dead Load
Load Group B1	Dead Load
Load Group C1	Dead Load
Load Group C2	Dead Load
Load Group C3	Dead Load

Load Case 001 : D + q1 LC1
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L1

Load Case 002 : D + q1 LC2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L2

Load Case 003 : D + q1 LC3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L3

Load Case 004 : D + q1 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L4

Load Case 005 : D + q1 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L5

Load Case 006 : D + q1 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 L6

Load Case 007 : D + F1 LC1-3
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A1

Load Case 008 : D + F1 LC4-6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 A2

Load Case 009 : D + F2
Load Combination + 1.00 UT + 1.00 D1 + 1.00 B1

Load Case 010 : D + q2 A2 LC4
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C1

Load Case 011 : D + q2 A2 LC5
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C2

Load Case 012 : D + q2 A2 LC6
Load Combination + 1.00 UT + 1.00 D1 + 1.00 C3

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.250	0.085	0.000
3	0.795	0.270	0.000	4	0.795	0.370	0.000
5	0.250	0.370	0.000	6	0.000	0.370	0.000

Member Properties

Members 1-2 and 6
```
M  ...  ...        48.3x2.5 CHS 2.82 [S 355]
 A 3.6E-4          Ix 9.46E-8          Iy 9.46E-8          J 18.92E-8
 E 205.0E6         G 78.85E6
```

Members 3-4
```
M  ...  ...        OT 4mm []    E 205E6    G 80E6
 A 9.28E-4         Ix 46.07E-8         Iy 70.99E-8         J 92.14E-8
```

Member 5
```
M  ...  ...        48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4         Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
 E 205.0E6         G 78.85E6
```

Member Loading

Member Self Weight Density Load Included in Load Group D0, defined by Modulus of Elasticity

E kN/mm^2	Density kN/m^3
>= 200.00	78.00
>= 20.00	24.00
>= 2.00	10.00

Members 3-4
```
   D1 UDLY -000.470              ( kN/m )
   L1 UDLY -001.350              ( kN/m )
   L2 UDLY -002.700              ( kN/m )
   L3 UDLY -003.600              ( kN/m )
   L4 UDLY -005.400              ( kN/m )
   L5 UDLY -008.100              ( kN/m )
   L6 UDLY -010.800              ( kN/m )
   A1 PDLY -001.500 0.000 0.500 (kN,m,m)
   A2 PDLY -003.000 0.000 0.500 (kN,m,m)
   B1 PDLY -001.000 0.000 0.200 (kN,m,m)
   C1 UDLY -004.000              ( kN/m )
   C2 UDLY -006.000              ( kN/m )
   C3 UDLY -007.500              ( kN/m )
```

Nodal Loading and Support Conditions

NODE 6
```
      UT Ls +0000.000 -0000.000 +0000.000 +0000.000 +0000.000 +0000.000
```
NODE 6
```
      UT Rs 1 1 1 1 1 1 (Fixed)
```
NODE 1
```
      UT Rs 1 0 1 0 0 0 (Horizontally Restraint)
```
NODE 6
```
      UT Springs 0000.000 0000.000 0000.000 0000.000 0000.000 0097.600
```

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Nodal Deflections Serviceability (001 : D + q1 LC1)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.15	0.03	0.15	2	-0.03	-0.06	0.00	0.07
3	0.00	-0.18	0.00	0.18	4	0.00	-0.18	0.00	0.18
5	0.00	-0.06	-0.02	0.06	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (002 : D + q1 LC2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.26	0.05	0.26	2	-0.06	-0.11	0.01	0.12
3	0.00	-0.31	-0.01	0.31	4	0.01	-0.31	0.00	0.31
5	0.00	-0.10	-0.03	0.10	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (003 : D + q1 LC3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.33	0.06	0.33	2	-0.07	-0.14	0.01	0.15
3	0.00	-0.40	-0.01	0.40	4	0.01	-0.40	-0.01	0.40
5	0.00	-0.13	-0.04	0.13	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (004 : D + q1 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.48	0.09	0.48	2	-0.11	-0.20	0.01	0.22
3	0.00	-0.57	-0.01	0.57	4	0.01	-0.57	-0.01	0.57
5	0.00	-0.19	-0.06	0.19	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (005 : D + q1 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.70	0.14	0.70	2	-0.15	-0.29	0.02	0.33
3	0.00	-0.84	-0.02	0.84	4	0.01	-0.84	-0.01	0.84
5	0.00	-0.28	-0.09	0.28	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (006 : D + q1 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.92	0.18	0.92	2	-0.20	-0.38	0.02	0.43
3	0.00	-1.10	-0.02	1.10	4	0.02	-1.10	-0.02	1.10
5	0.01	-0.37	-0.12	0.37	6	0.00	0.00	0.00	0.00

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Nodal Deflections Serviceability (007 : D + F1 LC1-3)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.26	0.05	0.26	2	-0.06	-0.10	0.01	0.12
3	0.00	-0.31	-0.01	0.31	4	0.01	-0.31	0.00	0.31
5	0.00	-0.10	-0.03	0.10	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (008 : D + F1 LC4-6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.48	0.10	0.48	2	-0.11	-0.19	0.01	0.22
3	0.00	-0.58	-0.01	0.58	4	0.01	-0.58	-0.01	0.58
5	0.00	-0.18	-0.06	0.18	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (009 : D + F2)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.23	0.05	0.23	2	-0.06	-0.08	0.00	0.10
3	0.00	-0.28	-0.01	0.28	4	0.01	-0.28	-0.01	0.28
5	0.00	-0.08	-0.03	0.08	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (010 : D + q2 A2 LC4)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.37	0.07	0.37	2	-0.08	-0.15	0.01	0.17
3	0.00	-0.44	-0.01	0.44	4	0.01	-0.44	-0.01	0.44
5	0.00	-0.15	-0.05	0.15	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (011 : D + q2 A2 LC5)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.53	0.10	0.53	2	-0.12	-0.22	0.01	0.25
3	0.00	-0.63	-0.01	0.63	4	0.01	-0.63	-0.01	0.63
5	0.00	-0.21	-0.07	0.21	6	0.00	0.00	0.00	0.00

Nodal Deflections Serviceability (012 : D + q2 A2 LC6)

Node	Nodal Def. (mm and Degrees)				Node	Nodal Def. (mm and Degrees)			
	δ X →	δ Y ↑	ΦZ ↗	δ XY		δ X →	δ Y ↑	ΦZ ↗	δ XY
1	0.00	-0.65	0.13	0.65	2	-0.14	-0.27	0.02	0.30
3	0.00	-0.78	-0.01	0.78	4	0.01	-0.78	-0.01	0.78
5	0.00	-0.26	-0.09	0.26	6	0.00	0.00	0.00	0.00

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Member Forces (001 : D + q1 LC1)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	0.729C	-0.248	0.000	-0.065	0.105
	2	0.729C	-0.248	-0.065	@ 0.261	@ 0.304
2	2	0.801C	0.149	-0.047	-0.065	0.105
	3	0.801C	0.149	0.039	@ 0.261	@ 0.304
3	4	0.711T	-0.398	-0.032	-0.076	0.026
	5	0.711T	0.594	0.021	@ 0.207	@ 0.262
4	5	0.770T	0.992	-0.015	-0.076	0.026
	6	0.770T	1.447	0.290	@ 0.207	@ 0.262
5	3	0.398C	-0.711	0.039		0.000
	4	0.398C	-0.711	-0.032		@ 0.000
6	2	0.398T	-0.059	-0.019		0.014
	5	0.398T	-0.059	-0.036		@ 0.151

Member Forces (002 : D + q1 LC2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.271C	-0.432	0.000	-0.113	0.182
	2	1.271C	-0.432	-0.114	@ 0.261	@ 0.304
2	2	1.396C	0.259	-0.081	-0.113	0.182
	3	1.396C	0.259	0.067	@ 0.261	@ 0.304
3	4	1.238T	-0.694	-0.056	-0.132	0.045
	5	1.238T	1.034	0.036	@ 0.202	@ 0.262
4	5	1.342T	1.728	-0.026	-0.132	0.045
	6	1.342T	2.520	0.505	@ 0.202	@ 0.262
5	3	0.694C	-1.238	0.067		0.000
	4	0.694C	-1.238	-0.056		@ 0.000
6	2	0.694T	-0.103	-0.033		0.025
	5	0.694T	-0.103	-0.062		@ 0.151

Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.631C	-0.555	0.000	-0.145	0.234
	2	1.631C	-0.555	-0.146	@ 0.261	@ 0.304
2	2	1.792C	0.332	-0.105	-0.145	0.234
	3	1.792C	0.332	0.087	@ 0.261	@ 0.304

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Member Forces (003 : D + q1 LC3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.590T	-0.891	-0.072	-0.170	0.058
	5	1.590T	1.328	0.047	@ 0.207	@ 0.262
4	5	1.723T	2.218	-0.033	-0.170	0.058
	6	1.723T	3.236	0.649	@ 0.207	@ 0.262
5	3	0.891C	-1.590	0.087		0.000
	4	0.891C	-1.590	-0.072		@ 0.000
6	2	0.891T	-0.133	-0.042		0.032
	5	0.891T	-0.133	-0.080		@ 0.151

Member Forces (004 : D + q1 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.353C	-0.800	0.000	-0.209	0.338
	2	2.353C	-0.800	-0.211	@ 0.261	@ 0.304
2	2	2.584C	0.479	-0.151	-0.209	0.338
	3	2.584C	0.479	0.125	@ 0.261	@ 0.304
3	4	2.293T	-1.284	-0.104	-0.245	0.084
	5	2.293T	1.915	0.067	@ 0.213	@ 0.262
4	5	2.485T	3.199	-0.048	-0.245	0.084
	6	2.485T	4.667	0.936	@ 0.213	@ 0.262
5	3	1.284C	-2.293	0.125		0.000
	4	1.284C	-2.293	-0.104		@ 0.000
6	2	1.284T	-0.192	-0.060		0.046
	5	1.284T	-0.192	-0.115		@ 0.151

Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.435C	-1.168	0.000	-0.305	0.493
	2	3.435C	-1.168	-0.308	@ 0.261	@ 0.304
2	2	3.773C	0.699	-0.220	-0.305	0.493
	3	3.773C	0.699	0.182	@ 0.261	@ 0.304
3	4	3.348T	-1.875	-0.153	-0.358	0.123
	5	3.348T	2.796	0.098	@ 0.218	@ 0.262
4	5	3.628T	4.671	-0.070	-0.358	0.123
	6	3.628T	6.813	1.366	@ 0.218	@ 0.262

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Member Forces (005 : D + q1 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.875C	-3.348	0.182		0.000
	4	1.875C	-3.348	-0.153		@ 0.000
6	2	1.875T	-0.280	-0.088		0.067
	5	1.875T	-0.280	-0.168		@ 0.151

Member Forces (006 : D + q1 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	4.517C	-1.536	0.000	-0.401	0.648
	2	4.517C	-1.536	-0.406	@ 0.261	@ 0.304
2	2	4.962C	0.920	-0.290	-0.401	0.648
	3	4.962C	0.920	0.240	@ 0.261	@ 0.304
3	4	4.403T	-2.466	-0.201	-0.470	0.161
	5	4.403T	3.676	0.129	@ 0.213	@ 0.262
4	5	4.771T	6.142	-0.091	-0.470	0.161
	6	4.771T	8.960	1.796	@ 0.213	@ 0.262
5	3	2.466C	-4.403	0.240		0.000
	4	2.466C	-4.403	-0.201		@ 0.000
6	2	2.466T	-0.368	-0.116		0.088
	5	2.466T	-0.368	-0.221		@ 0.151

Member Forces (007 : D + F1 LC1-3)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.318C	-0.448	0.000	-0.117	0.188
	2	1.318C	-0.448	-0.118	@ 0.261	@ 0.304
2	2	1.471C	0.266	-0.084	-0.117	0.188
	3	1.471C	0.266	0.070	@ 0.261	@ 0.304
3	4	1.307T	-0.725	-0.061	-0.136	0.043
	5	1.307T	1.031	0.056	@ 0.197	@ 0.253
4	5	1.392T	1.756	-0.003	-0.136	0.043
	6	1.392T	1.874	0.451	@ 0.197	@ 0.253
5	3	0.725C	-1.307	0.070		0.000
	4	0.725C	-1.307	-0.061		@ 0.000
6	2	0.725T	-0.085	-0.035		0.025
	5	0.725T	-0.085	-0.059		@ 0.148

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Member Forces (008 : D + F1 LC4-6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.448C	-0.832	0.000	-0.218	0.348
	2	2.448C	-0.832	-0.220	@ 0.261	@ 0.304
2	2	2.735C	0.495	-0.155	-0.218	0.348
	3	2.735C	0.495	0.129	@ 0.261	@ 0.304
3	4	2.431T	-1.347	-0.114	-0.253	0.079
	5	2.431T	1.909	0.107	@ 0.197	@ 0.253
4	5	2.585T	3.256	-0.002	-0.253	0.079
	6	2.585T	3.374	0.827	@ 0.197	@ 0.253
5	3	1.347C	-2.431	0.129		0.000
	4	1.347C	-2.431	-0.114		@ 0.000
6	2	1.347T	-0.155	-0.065		0.045
	5	1.347T	-0.155	-0.109		@ 0.148

Member Forces (009 : D + F2)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.280C	-0.435	0.000	-0.114	0.175
	2	1.280C	-0.435	-0.115	@ 0.261	@ 0.299
2	2	1.524C	0.243	-0.076	-0.114	0.175
	3	1.524C	0.243	0.064	@ 0.261	@ 0.299
3	4	1.365T	-0.720	-0.072	-0.119	0.025
	5	1.365T	0.536	0.050	@ 0.118	@ 0.202
4	5	1.351T	1.256	0.015	-0.119	0.025
	6	1.351T	1.374	0.343	@ 0.118	@ 0.202
5	3	0.720C	-1.365	0.064		0.000
	4	0.720C	-1.365	-0.072		@ 0.000
6	2	0.720T	0.013	-0.039	-0.035	0.019
	5	0.720T	0.013	-0.035	@ 0.000	@ 0.143

Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	1.792C	-0.609	0.000	-0.159	0.257
	2	1.792C	-0.609	-0.161	@ 0.261	@ 0.304
2	2	1.968C	0.365	-0.115	-0.159	0.257
	3	1.968C	0.365	0.095	@ 0.261	@ 0.304

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Member Forces (010 : D + q2 A2 LC4)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
3	4	1.746T	-0.978	-0.080	-0.186	0.064
	5	1.746T	1.458	0.051	@ 0.207	@ 0.262
4	5	1.892T	2.436	-0.036	-0.186	0.064
	6	1.892T	3.554	0.712	@ 0.207	@ 0.262
5	3	0.978C	-1.746	0.095		0.000
	4	0.978C	-1.746	-0.080		@ 0.000
6	2	0.978T	-0.146	-0.046		0.035
	5	0.978T	-0.146	-0.088		@ 0.151

Member Forces (011 : D + q2 A2 LC5)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	2.593C	-0.882	0.000	-0.230	0.372
	2	2.593C	-0.882	-0.233	@ 0.261	@ 0.304
2	2	2.849C	0.528	-0.166	-0.230	0.372
	3	2.849C	0.528	0.138	@ 0.261	@ 0.304
3	4	2.528T	-1.416	-0.115	-0.270	0.092
	5	2.528T	2.111	0.074	@ 0.207	@ 0.262
4	5	2.739T	3.526	-0.053	-0.270	0.092
	6	2.739T	5.144	1.031	@ 0.207	@ 0.262
5	3	1.416C	-2.528	0.138		0.000
	4	1.416C	-2.528	-0.115		@ 0.000
6	2	1.416T	-0.211	-0.067		0.051
	5	1.416T	-0.211	-0.127		@ 0.151

Member Forces (012 : D + q2 A2 LC6)

Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
1	1	3.194C	-1.086	0.000	-0.284	0.459
	2	3.194C	-1.086	-0.287	@ 0.261	@ 0.304
2	2	3.509C	0.650	-0.205	-0.284	0.459
	3	3.509C	0.650	0.170	@ 0.261	@ 0.304
3	4	3.114T	-1.744	-0.142	-0.333	0.114
	5	3.114T	2.600	0.091	@ 0.218	@ 0.262
4	5	3.374T	4.344	-0.065	-0.333	0.114
	6	3.374T	6.336	1.270	@ 0.218	@ 0.262

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Sheet : 1800 3 Bd Omega Hop Up /
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Date : 08 June 2016 / Ver. 2015.14
Checked : IH
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Member Forces (012 : D + q2 A2 LC6)						
Member No.	Node End1 End2	Axial Force (kN)	Shear Force (kN)	Bending Moment (kN.m)	Maximum Moment (kN.m @ m)	Maximum Deflection (mm @ m)
5	3	1.744C	-3.114	0.170		0.000
	4	1.744C	-3.114	-0.142		@ 0.000
6	2	1.744T	-0.260	-0.082		0.062
	5	1.744T	-0.260	-0.156		@ 0.151

Support Reactions Serviceability (001 : D + q1 LC1)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	0.770	0.000	0.000	6	-0.770	1.447	0.290
Total	0.000	1.447	0.290				

Support Reactions Serviceability (002 : D + q1 LC2)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.342	0.000	0.000	6	-1.342	2.520	0.505
Total	0.000	2.520	0.505				

Support Reactions Serviceability (003 : D + q1 LC3)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.723	0.000	0.000	6	-1.723	3.236	0.649
Total	0.000	3.236	0.649				

Support Reactions Serviceability (004 : D + q1 LC4)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.485	0.000	0.000	6	-2.485	4.667	0.936
Total	0.000	4.667	0.936				

Support Reactions Serviceability (005 : D + q1 LC5)							
Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.628	0.000	0.000	6	-3.628	6.813	1.366
Total	0.000	6.813	1.366				

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Support Reactions Serviceability (006 : D + q1 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	4.771	0.000	0.000	6	-4.771	8.960	1.796
Total	0.000	8.960	1.796				

Support Reactions Serviceability (007 : D + F1 LC1-3)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.392	0.000	0.000	6	-1.392	1.874	0.451
Total	0.000	1.874	0.451				

Support Reactions Serviceability (008 : D + F1 LC4-6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.585	0.000	0.000	6	-2.585	3.374	0.827
Total	0.000	3.374	0.827				

Support Reactions Serviceability (009 : D + F2)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.351	0.000	0.000	6	-1.351	1.374	0.343
Total	0.000	1.374	0.343				

Support Reactions Serviceability (010 : D + q2 A2 LC4)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	1.892	0.000	0.000	6	-1.892	3.554	0.712
Total	0.000	3.554	0.712				

Support Reactions Serviceability (011 : D + q2 A2 LC5)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	2.739	0.000	0.000	6	-2.739	5.144	1.031
Total	0.000	5.144	1.031				

Support Reactions Serviceability (012 : D + q2 A2 LC6)

Node	Support Reactions (kN and kN.m)			Node	Support Reactions (kN and kN.m)		
	Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)		Rx→ (kN)	Ry↑ (kN)	Mz↗ (kN.m)
1	3.374	0.000	0.000	6	-3.374	6.336	1.270
Total	0.000	6.336	1.270				

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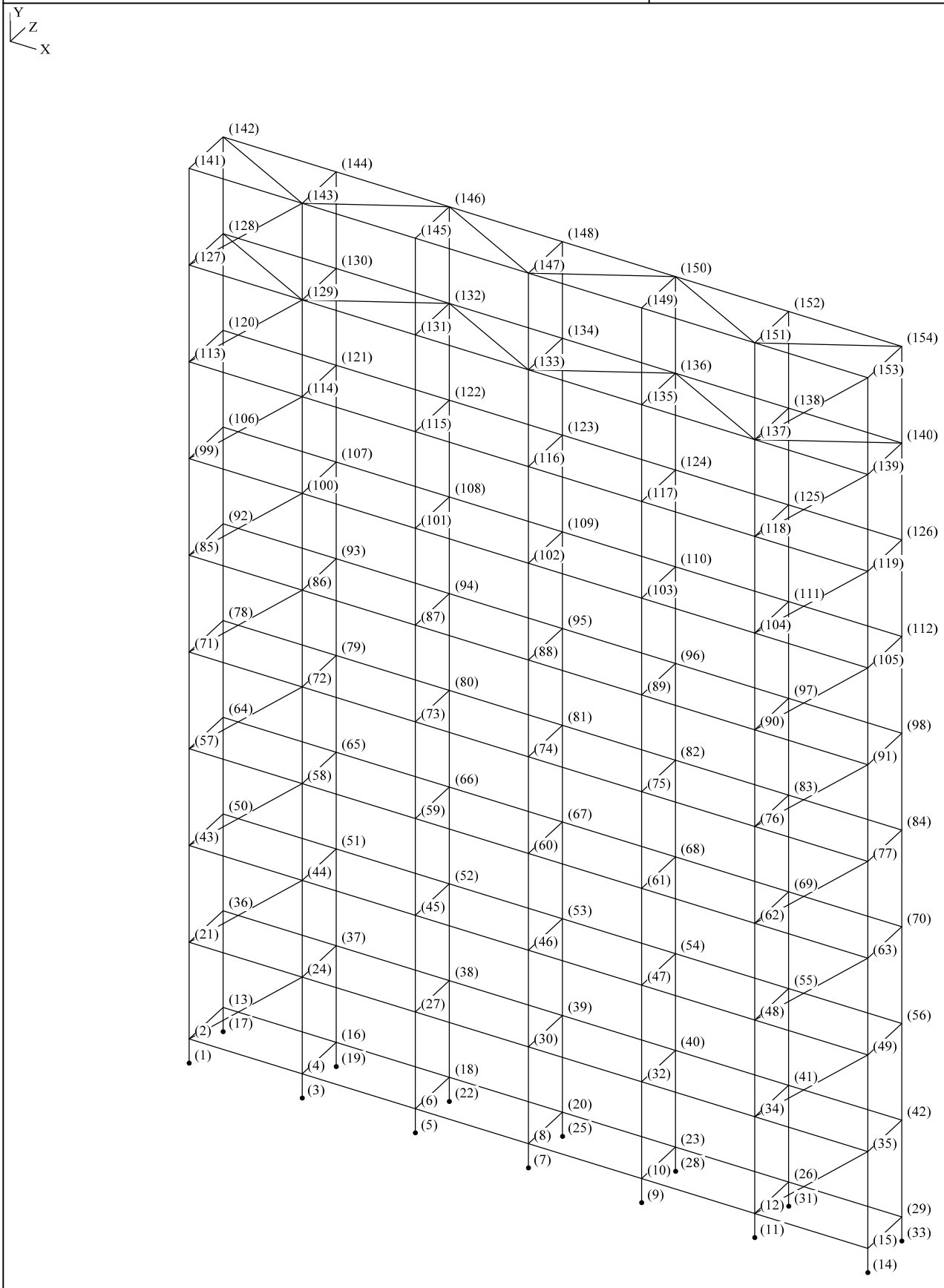
Appendix B – Safe Working Height Analysis

2.5m x 1.3m Tube Transom SWH Design Sheets

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Approved	**:**



Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F1	Support
Load Group F3	Support

Load Case 001 : A - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : A - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : A - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : D - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : D - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : D - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : A WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : A WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : A WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : D WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : D WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : D WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	2.500	0.000	0.000	4	2.500	0.500	0.000
5	5.000	0.000	0.000	6	5.000	0.500	0.000
7	7.500	0.000	0.000	8	7.500	0.500	0.000
9	10.000	0.000	0.000	10	10.000	0.500	0.000
11	12.500	0.000	0.000	12	12.500	0.500	0.000
13	0.000	0.500	1.300	14	15.000	0.000	0.000
15	15.000	0.500	0.000	16	2.500	0.500	1.300
17	0.000	0.000	1.300	18	5.000	0.500	1.300
19	2.500	0.000	1.300	20	7.500	0.500	1.300
21	0.000	2.500	0.000	22	5.000	0.000	1.300
23	10.000	0.500	1.300	24	2.500	2.500	0.000
25	7.500	0.000	1.300	26	12.500	0.500	1.300
27	5.000	2.500	0.000	28	10.000	0.000	1.300
29	15.000	0.500	1.300	30	7.500	2.500	0.000
31	12.500	0.000	1.300	32	10.000	2.500	0.000
33	15.000	0.000	1.300	34	12.500	2.500	0.000
35	15.000	2.500	0.000	36	0.000	2.500	1.300
37	2.500	2.500	1.300	38	5.000	2.500	1.300
39	7.500	2.500	1.300	40	10.000	2.500	1.300
41	12.500	2.500	1.300	42	15.000	2.500	1.300
43	0.000	4.500	0.000	44	2.500	4.500	0.000
45	5.000	4.500	0.000	46	7.500	4.500	0.000
47	10.000	4.500	0.000	48	12.500	4.500	0.000
49	15.000	4.500	0.000	50	0.000	4.500	1.300
51	2.500	4.500	1.300	52	5.000	4.500	1.300
53	7.500	4.500	1.300	54	10.000	4.500	1.300
55	12.500	4.500	1.300	56	15.000	4.500	1.300
57	0.000	6.500	0.000	58	2.500	6.500	0.000
59	5.000	6.500	0.000	60	7.500	6.500	0.000
61	10.000	6.500	0.000	62	12.500	6.500	0.000
63	15.000	6.500	0.000	64	0.000	6.500	1.300
65	2.500	6.500	1.300	66	5.000	6.500	1.300
67	7.500	6.500	1.300	68	10.000	6.500	1.300
69	12.500	6.500	1.300	70	15.000	6.500	1.300
71	0.000	8.500	0.000	72	2.500	8.500	0.000
73	5.000	8.500	0.000	74	7.500	8.500	0.000
75	10.000	8.500	0.000	76	12.500	8.500	0.000
77	15.000	8.500	0.000	78	0.000	8.500	1.300
79	2.500	8.500	1.300	80	5.000	8.500	1.300
81	7.500	8.500	1.300	82	10.000	8.500	1.300
83	12.500	8.500	1.300	84	15.000	8.500	1.300
85	0.000	10.500	0.000	86	2.500	10.500	0.000
87	5.000	10.500	0.000	88	7.500	10.500	0.000
89	10.000	10.500	0.000	90	12.500	10.500	0.000
91	15.000	10.500	0.000	92	0.000	10.500	1.300
93	2.500	10.500	1.300	94	5.000	10.500	1.300
95	7.500	10.500	1.300	96	10.000	10.500	1.300
97	12.500	10.500	1.300	98	15.000	10.500	1.300
99	0.000	12.500	0.000	100	2.500	12.500	0.000
101	5.000	12.500	0.000	102	7.500	12.500	0.000
103	10.000	12.500	0.000	104	12.500	12.500	0.000
105	15.000	12.500	0.000	106	0.000	12.500	1.300
107	2.500	12.500	1.300	108	5.000	12.500	1.300
109	7.500	12.500	1.300	110	10.000	12.500	1.300
111	12.500	12.500	1.300	112	15.000	12.500	1.300
113	0.000	14.500	0.000	114	2.500	14.500	0.000
115	5.000	14.500	0.000	116	7.500	14.500	0.000
117	10.000	14.500	0.000	118	12.500	14.500	0.000
119	15.000	14.500	0.000	120	0.000	14.500	1.300
121	2.500	14.500	1.300	122	5.000	14.500	1.300
123	7.500	14.500	1.300	124	10.000	14.500	1.300
125	12.500	14.500	1.300	126	15.000	14.500	1.300
127	0.000	16.500	0.000	128	0.000	16.500	1.300
129	2.500	16.500	0.000	130	2.500	16.500	1.300

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131	5.000	16.500	0.000	132	5.000	16.500	1.300
133	7.500	16.500	0.000	134	7.500	16.500	1.300
135	10.000	16.500	0.000	136	10.000	16.500	1.300
137	12.500	16.500	0.000	138	12.500	16.500	1.300
139	15.000	16.500	0.000	140	15.000	16.500	1.300
141	0.000	18.500	0.000	142	0.000	18.500	1.300
143	2.500	18.500	0.000	144	2.500	18.500	1.300
145	5.000	18.500	0.000	146	5.000	18.500	1.300
147	7.500	18.500	0.000	148	7.500	18.500	1.300
149	10.000	18.500	0.000	150	10.000	18.500	1.300
151	12.500	18.500	0.000	152	12.500	18.500	1.300
153	15.000	18.500	0.000	154	15.000	18.500	1.300

Member Properties

Members 1-202 and 221-360

M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

Members 203-220

M ... ... 48.3 2.30 [] E 210E6 G 80E6
A 3.32E-4 Ix 8.81E-8 Iy 8.81E-8 J 17.62E-8

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®O® ®O®	2	®O® ®O®	3	®O® ®O®	4	®O® ®O®
5	®O® ®O®	6	®O® ®O®	7	®O® ®O®	8	®O® ®O®
9	®O® ®O®	10	®O® ®O®	11	®O® ®O®	12	®O® ®O®
13	®O® ®O®	14	®O® ®O®	15	®O® ®O®	16	®O® ®O®
17	®O® ®O®	18	®O® ®O®	19	®O® ®O®	20	®O® ®O®
21	®O® ®O®	22	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
37	®O® ®O®	38	®O® ®O®	39	®O® ®O®	40	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®O® ®O®	48	®O® ®O®
49	®O® ®O®	50	®O® ®O®	51	®O® ®O®	52	®O® ®O®
53	®O® ®O®	54	®O® ®O®	55	®O® ®O®	56	®O® ®O®
57	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	68	®O® ®O®
69	®O® ®O®	70	®O® ®O®	71	®O® ®O®	72	®O® ®O®
73	®O® ®O®	74	®O® ®O®	75	®O® ®O®	76	®O® ®O®
77	®O® ®O®	78	®O® ®O®	79	®O® ®O®	80	®O® ®O®
81	®O® ®O®	82	®O® ®O®	83	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	88	®O® ®O®
89	®O® ®O®	90	®O® ®O®	91	®O® ®O®	92	®O® ®O®
93	®O® ®O®	94	®O® ®O®	95	®O® ®O®	96	®O® ®O®
97	®O® ®O®	98	®O® ®O®	99	®O® ®O®	100	®O® ®O®
101	®O® ®O®	102	®O® ®O®	103	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	108	®O® ®O®
109	®O® ®O®	110	®O® ®O®	111	®O® ®O®	112	®O® ®O®
113	®O® ®O®	114	®O® ®O®	115	®O® ®O®	116	®O® ®O®
117	®O® ®O®	118	®O® ®O®	119	®O® ®O®	120	®O® ®O®
121	®OO ®OO	122	®OO ®OO	123	®OO ®OO	124	®OO ®OO
125	®OO ®OO	126	®OO ®OO	127	®OO ®OO	128	®OO ®OO
129	®OO ®OO	130	®OO ®OO	131	®OO ®OO	132	®OO ®OO
133	®O® ®O®	134	®O® ®O®	135	®O® ®O®	136	®O® ®O®
137	®O® ®O®	138	®O® ®O®	139	®O® ®O®	140	®O® ®O®
141	®O® ®O®	142	®O® ®O®	143	®O® ®O®	144	®O® ®O®
145	®O® ®O®	146	®O® ®O®	147	®O® ®O®	148	®O® ®O®
149	®O® ®O®	150	®O® ®O®	151	®O® ®O®	152	®O® ®O®

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Date : 08 June 2016 / Ver. 2015.14
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Approved :

153 ®O® ®O®	154 ®O® ®O®	155 ®O® ®O®	156 ®O® ®O®
157 ®O® ®O®	158 ®O® ®O®	159 ®O® ®O®	160 ®O® ®O®
161 ®O® ®O®	162 ®O® ®O®	163 ®O® ®O®	164 ®O® ®O®
165 ®O® ®O®	166 ®O® ®O®	167 ®O® ®O®	168 ®O® ®O®
169 ®O® ®O®	170 ®O® ®O®	171 ®O® ®O®	172 ®O® ®O®
173 ®O® ®O®	174 ®O® ®O®	175 ®O® ®O®	176 ®O® ®O®
177 ®O® ®O®	178 ®O® ®O®	179 ®O® ®O®	180 ®O® ®O®
181 ®O® ®O®	182 ®O® ®O®	183 ®O® ®O®	184 ®O® ®O®
185 ®O® ®O®	186 ®O® ®O®	187 ®O® ®O®	188 ®O® ®O®
189 ®O® ®O®	190 ®O® ®O®	191 ®O® ®O®	192 ®O® ®O®
193 ®O® ®O®	194 ®O® ®O®	195 ®O® ®O®	196 ®O® ®O®
197 ®O® ®O®	198 ®O® ®O®	199 ®O® ®O®	200 ®O® ®O®
201 ®O® ®O®	202 ®O® ®O®	203 ®OO ®OO	204 ®OO ®OO
205 ®OO ®OO	206 ®OO ®OO	207 ®OO ®OO	208 ®OO ®OO
209 ®OO ®OO	210 ®OO ®OO	211 ®OO ®OO	212 ®OO ®OO
213 ®OO ®OO	214 ®OO ®OO	215 ®OO ®OO	216 ®OO ®OO
217 ®OO ®OO	218 ®OO ®OO	219 ®OO ®OO	220 ®OO ®OO

Nodal Loading and Support Conditions

NODES 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
D1 Ls +0000.000 -0000.630 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
D1 Ls +0000.000 -0001.010 +0000.000 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
D1 Ls +0000.000 -0000.950 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
D1 Ls +0000.000 -0000.290 +0000.000 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70, 73-84, 87-98, 101-112 and 115-126
D1 Ls +0000.000 -0000.230 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L3 Ls +0000.000 -0002.938 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L4 Ls +0000.000 -0001.469 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L5 Ls +0000.000 -0004.406 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L6 Ls +0000.000 -0002.203 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-154
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W1 Ls +0000.000 +0000.000 -0000.330 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W1 Ls +0000.000 +0000.000 -0000.311 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W1 Ls +0000.000 +0000.000 -0000.071 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70, 73-84, 87-98, 101-112, 115-126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
W1 Ls +0000.000 +0000.000 -0000.053 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W2 Ls +0000.000 +0000.000 -0000.250 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W3 Ls +0000.000 +0000.000 -0000.500 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W4 Ls +0000.000 +0000.000 -0001.911 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W4 Ls +0000.000 +0000.000 -0001.819 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W4 Ls +0000.000 +0000.000 -0000.618 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 15, 27, 30, 32, 34-35, 45-49, 59-63, 73-77, 87-91, 101-105 and 115-119
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000

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Sheet : Tube 2500 A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W5 Ls +0000.000 +0000.000 -0001.250 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W6 Ls +0000.000 +0000.000 -0002.500 +0000.000 +0000.000 +0000.000
NODES 17, 19, 22, 25, 28, 31 and 33
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 3, 5, 7, 9, 11 and 14
UT Rs 1 1 0 0 1 0
NODES 13, 18, 23, 29, 50, 52, 54, 56, 78, 80, 82, 84, 106, 108, 110, 112, 128, 132, 136, 140, 142, 146, 150 and 154
F1 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 38, 42, 50, 54, 66, 70, 78, 82, 94, 98, 106, 110, 122, 126, 128, 136, 146 and 154
F3 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2, 4, 6, 8, 10, 12-13, 15-16, 18, 20-21, 23-24, 26-27, 29-30, 32 and 34-154
UT Springs 0000.000 0000.000 0000.000 0071.940 0000.000 0071.940

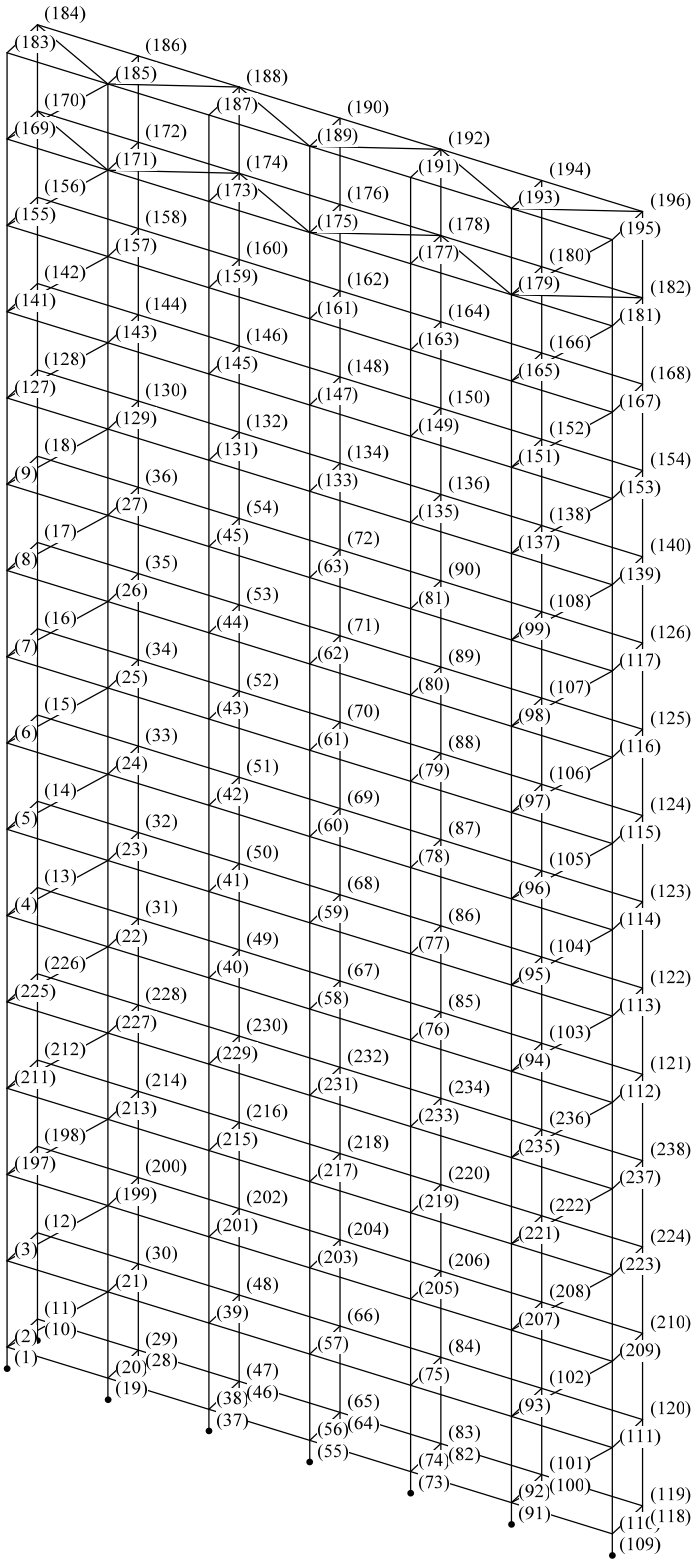
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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F2	Support
Load Group F4	Support

Load Case 001 : B - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : B - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : B - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : E - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : E - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : E - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : B WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : B WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : B WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : E WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : E WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : E WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	0.000	2.500	0.000	4	0.000	10.500	0.000
5	0.000	12.500	0.000	6	0.000	14.500	0.000
7	0.000	16.500	0.000	8	0.000	18.500	0.000
9	0.000	20.500	0.000	10	0.000	0.000	1.300
11	0.000	0.500	1.300	12	0.000	2.500	1.300
13	0.000	10.500	1.300	14	0.000	12.500	1.300
15	0.000	14.500	1.300	16	0.000	16.500	1.300
17	0.000	18.500	1.300	18	0.000	20.500	1.300
19	2.500	0.000	0.000	20	2.500	0.500	0.000
21	2.500	2.500	0.000	22	2.500	10.500	0.000
23	2.500	12.500	0.000	24	2.500	14.500	0.000
25	2.500	16.500	0.000	26	2.500	18.500	0.000
27	2.500	20.500	0.000	28	2.500	0.000	1.300
29	2.500	0.500	1.300	30	2.500	2.500	1.300
31	2.500	10.500	1.300	32	2.500	12.500	1.300
33	2.500	14.500	1.300	34	2.500	16.500	1.300
35	2.500	18.500	1.300	36	2.500	20.500	1.300
37	5.000	0.000	0.000	38	5.000	0.500	0.000
39	5.000	2.500	0.000	40	5.000	10.500	0.000
41	5.000	12.500	0.000	42	5.000	14.500	0.000
43	5.000	16.500	0.000	44	5.000	18.500	0.000
45	5.000	20.500	0.000	46	5.000	0.000	1.300
47	5.000	0.500	1.300	48	5.000	2.500	1.300
49	5.000	10.500	1.300	50	5.000	12.500	1.300
51	5.000	14.500	1.300	52	5.000	16.500	1.300
53	5.000	18.500	1.300	54	5.000	20.500	1.300
55	7.500	0.000	0.000	56	7.500	0.500	0.000
57	7.500	2.500	0.000	58	7.500	10.500	0.000
59	7.500	12.500	0.000	60	7.500	14.500	0.000
61	7.500	16.500	0.000	62	7.500	18.500	0.000
63	7.500	20.500	0.000	64	7.500	0.000	1.300
65	7.500	0.500	1.300	66	7.500	2.500	1.300
67	7.500	10.500	1.300	68	7.500	12.500	1.300
69	7.500	14.500	1.300	70	7.500	16.500	1.300
71	7.500	18.500	1.300	72	7.500	20.500	1.300
73	10.000	0.000	0.000	74	10.000	0.500	0.000
75	10.000	2.500	0.000	76	10.000	10.500	0.000
77	10.000	12.500	0.000	78	10.000	14.500	0.000
79	10.000	16.500	0.000	80	10.000	18.500	0.000
81	10.000	20.500	0.000	82	10.000	0.000	1.300
83	10.000	0.500	1.300	84	10.000	2.500	1.300
85	10.000	10.500	1.300	86	10.000	12.500	1.300
87	10.000	14.500	1.300	88	10.000	16.500	1.300
89	10.000	18.500	1.300	90	10.000	20.500	1.300
91	12.500	0.000	0.000	92	12.500	0.500	0.000
93	12.500	2.500	0.000	94	12.500	10.500	0.000
95	12.500	12.500	0.000	96	12.500	14.500	0.000
97	12.500	16.500	0.000	98	12.500	18.500	0.000
99	12.500	20.500	0.000	100	12.500	0.000	1.300
101	12.500	0.500	1.300	102	12.500	2.500	1.300
103	12.500	10.500	1.300	104	12.500	12.500	1.300
105	12.500	14.500	1.300	106	12.500	16.500	1.300
107	12.500	18.500	1.300	108	12.500	20.500	1.300
109	15.000	0.000	0.000	110	15.000	0.500	0.000
111	15.000	2.500	0.000	112	15.000	10.500	0.000
113	15.000	12.500	0.000	114	15.000	14.500	0.000
115	15.000	16.500	0.000	116	15.000	18.500	0.000
117	15.000	20.500	0.000	118	15.000	0.000	1.300
119	15.000	0.500	1.300	120	15.000	2.500	1.300
121	15.000	10.500	1.300	122	15.000	12.500	1.300
123	15.000	14.500	1.300	124	15.000	16.500	1.300
125	15.000	18.500	1.300	126	15.000	20.500	1.300
127	0.000	22.500	0.000	128	0.000	22.500	1.300
129	2.500	22.500	0.000	130	2.500	22.500	1.300

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131	5.000	22.500	0.000	132	5.000	22.500	1.300
133	7.500	22.500	0.000	134	7.500	22.500	1.300
135	10.000	22.500	0.000	136	10.000	22.500	1.300
137	12.500	22.500	0.000	138	12.500	22.500	1.300
139	15.000	22.500	0.000	140	15.000	22.500	1.300
141	0.000	24.500	0.000	142	0.000	24.500	1.300
143	2.500	24.500	0.000	144	2.500	24.500	1.300
145	5.000	24.500	0.000	146	5.000	24.500	1.300
147	7.500	24.500	0.000	148	7.500	24.500	1.300
149	10.000	24.500	0.000	150	10.000	24.500	1.300
151	12.500	24.500	0.000	152	12.500	24.500	1.300
153	15.000	24.500	0.000	154	15.000	24.500	1.300
155	0.000	26.500	0.000	156	0.000	26.500	1.300
157	2.500	26.500	0.000	158	2.500	26.500	1.300
159	5.000	26.500	0.000	160	5.000	26.500	1.300
161	7.500	26.500	0.000	162	7.500	26.500	1.300
163	10.000	26.500	0.000	164	10.000	26.500	1.300
165	12.500	26.500	0.000	166	12.500	26.500	1.300
167	15.000	26.500	0.000	168	15.000	26.500	1.300
169	0.000	28.500	0.000	170	0.000	28.500	1.300
171	2.500	28.500	0.000	172	2.500	28.500	1.300
173	5.000	28.500	0.000	174	5.000	28.500	1.300
175	7.500	28.500	0.000	176	7.500	28.500	1.300
177	10.000	28.500	0.000	178	10.000	28.500	1.300
179	12.500	28.500	0.000	180	12.500	28.500	1.300
181	15.000	28.500	0.000	182	15.000	28.500	1.300
183	0.000	30.500	0.000	184	0.000	30.500	1.300
185	2.500	30.500	0.000	186	2.500	30.500	1.300
187	5.000	30.500	0.000	188	5.000	30.500	1.300
189	7.500	30.500	0.000	190	7.500	30.500	1.300
191	10.000	30.500	0.000	192	10.000	30.500	1.300
193	12.500	30.500	0.000	194	12.500	30.500	1.300
195	15.000	30.500	0.000	196	15.000	30.500	1.300
197	0.000	4.500	0.000	198	0.000	4.500	1.300
199	2.500	4.500	0.000	200	2.500	4.500	1.300
201	5.000	4.500	0.000	202	5.000	4.500	1.300
203	7.500	4.500	0.000	204	7.500	4.500	1.300
205	10.000	4.500	0.000	206	10.000	4.500	1.300
207	12.500	4.500	0.000	208	12.500	4.500	1.300
209	15.000	4.500	0.000	210	15.000	4.500	1.300
211	0.000	6.500	0.000	212	0.000	6.500	1.300
213	2.500	6.500	0.000	214	2.500	6.500	1.300
215	5.000	6.500	0.000	216	5.000	6.500	1.300
217	7.500	6.500	0.000	218	7.500	6.500	1.300
219	10.000	6.500	0.000	220	10.000	6.500	1.300
221	12.500	6.500	0.000	222	12.500	6.500	1.300
223	15.000	6.500	0.000	224	15.000	6.500	1.300
225	0.000	8.500	0.000	226	0.000	8.500	1.300
227	2.500	8.500	0.000	228	2.500	8.500	1.300
229	5.000	8.500	0.000	230	5.000	8.500	1.300
231	7.500	8.500	0.000	232	7.500	8.500	1.300
233	10.000	8.500	0.000	234	10.000	8.500	1.300
235	12.500	8.500	0.000	236	12.500	8.500	1.300
237	15.000	8.500	0.000	238	15.000	8.500	1.300

Member Properties

Members 1-46, 48-185, 189-254, 257-421, 427-461, 463-495, 497-529, 531-550 and 552-555

M	48.3x3.2 CHS 3.56 [S 355]			
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8	
E 205.0E6	G 78.85E6			

Members 47, 186-188, 255-256, 422-426, 462, 496, 530, 551 and 556-570

M	48.3 2.30 []	E 210E6	G 80E6	
A 3.32E-4	Ix 8.81E-8	Iy 8.81E-8	J 17.62E-8	

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12385

Job Ref : 1462
Sheet : T 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

5	®O® ®O®	6	®O® ®O®	11	®O® ®O®	12	®O® ®O®
17	®O® ®O®	18	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®OO ®OO	52	®O® ®O®
53	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	74	®O® ®O®
75	®O® ®O®	76	®O® ®O®	77	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	94	®O® ®O®
95	®O® ®O®	96	®O® ®O®	97	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	114	®O® ®O®
115	®O® ®O®	116	®O® ®O®	117	®O® ®O®	124	®O® ®O®
125	®O® ®O®	126	®O® ®O®	127	®O® ®O®	134	®O® ®O®
135	®O® ®O®	136	®O® ®O®	137	®O® ®O®	138	®O® ®O®
139	®O® ®O®	140	®O® ®O®	141	®O® ®O®	142	®O® ®O®
143	®O® ®O®	144	®O® ®O®	145	®O® ®O®	146	®O® ®O®
147	®O® ®O®	148	®O® ®O®	149	®O® ®O®	150	®O® ®O®
151	®O® ®O®	152	®O® ®O®	153	®O® ®O®	154	®O® ®O®
155	®O® ®O®	156	®O® ®O®	157	®O® ®O®	158	®O® ®O®
159	®O® ®O®	160	®O® ®O®	161	®O® ®O®	162	®O® ®O®
163	®O® ®O®	164	®O® ®O®	165	®O® ®O®	166	®O® ®O®
167	®O® ®O®	168	®O® ®O®	169	®O® ®O®	170	®O® ®O®
171	®O® ®O®	172	®O® ®O®	173	®O® ®O®	174	®O® ®O®
175	®O® ®O®	176	®O® ®O®	177	®O® ®O®	178	®O® ®O®
179	®O® ®O®	180	®O® ®O®	181	®O® ®O®	182	®O® ®O®
183	®O® ®O®	184	®O® ®O®	185	®O® ®O®	186	®OO ®OO
187	®OO ®OO	188	®OO ®OO	193	®O® ®O®	194	®O® ®O®
199	®O® ®O®	200	®O® ®O®	205	®O® ®O®	206	®O® ®O®
211	®O® ®O®	212	®O® ®O®	217	®O® ®O®	218	®O® ®O®
223	®O® ®O®	224	®O® ®O®	229	®O® ®O®	230	®O® ®O®
231	®O® ®O®	232	®O® ®O®	233	®O® ®O®	234	®O® ®O®
235	®O® ®O®	236	®O® ®O®	237	®O® ®O®	238	®O® ®O®
239	®O® ®O®	240	®O® ®O®	241	®O® ®O®	242	®O® ®O®
243	®O® ®O®	244	®O® ®O®	245	®O® ®O®	246	®O® ®O®
247	®O® ®O®	248	®O® ®O®	249	®O® ®O®	250	®O® ®O®
251	®O® ®O®	252	®O® ®O®	253	®O® ®O®	254	®O® ®O®
255	®OO ®OO	256	®OO ®OO	257	®O® ®O®	258	®O® ®O®
259	®O® ®O®	260	®O® ®O®	261	®O® ®O®	262	®O® ®O®
263	®O® ®O®	264	®O® ®O®	265	®O® ®O®	266	®O® ®O®
267	®O® ®O®	268	®O® ®O®	269	®O® ®O®	270	®O® ®O®
271	®O® ®O®	272	®O® ®O®	273	®O® ®O®	274	®O® ®O®
275	®O® ®O®	276	®O® ®O®	277	®O® ®O®	278	®O® ®O®
279	®O® ®O®	280	®O® ®O®	281	®O® ®O®	282	®O® ®O®
283	®O® ®O®	284	®O® ®O®	285	®O® ®O®	286	®O® ®O®
287	®O® ®O®	288	®O® ®O®	289	®O® ®O®	290	®O® ®O®
291	®O® ®O®	292	®O® ®O®	293	®O® ®O®	294	®O® ®O®
295	®O® ®O®	296	®O® ®O®	297	®O® ®O®	298	®O® ®O®
299	®O® ®O®	300	®O® ®O®	301	®O® ®O®	302	®O® ®O®
303	®O® ®O®	304	®O® ®O®	305	®O® ®O®	306	®O® ®O®
307	®O® ®O®	308	®O® ®O®	309	®O® ®O®	310	®O® ®O®
311	®O® ®O®	312	®O® ®O®	313	®O® ®O®	314	®O® ®O®
315	®O® ®O®	316	®O® ®O®	317	®O® ®O®	318	®O® ®O®
319	®O® ®O®	320	®O® ®O®	321	®O® ®O®	322	®O® ®O®
323	®O® ®O®	324	®O® ®O®	325	®O® ®O®	326	®O® ®O®
327	®O® ®O®	328	®O® ®O®	329	®O® ®O®	330	®O® ®O®
331	®O® ®O®	332	®O® ®O®	333	®O® ®O®	334	®O® ®O®
335	®O® ®O®	336	®O® ®O®	337	®O® ®O®	338	®O® ®O®
339	®O® ®O®	340	®O® ®O®	341	®O® ®O®	342	®O® ®O®
343	®O® ®O®	344	®O® ®O®	345	®O® ®O®	346	®O® ®O®

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12385

Job Ref : 1462
Sheet : T 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

347 ®O® ®O®	348 ®O® ®O®	349 ®O® ®O®	350 ®O® ®O®
351 ®O® ®O®	422 ®OO ®OO	423 ®OO ®OO	424 ®OO ®OO
425 ®OO ®OO	426 ®OO ®OO	427 ®OO ®OO	428 ®OO ®OO
429 ®OO ®OO	430 ®OO ®OO	431 ®OO ®OO	432 ®OO ®OO
433 ®OO ®OO	434 ®OO ®OO	435 ®OO ®OO	436 ®OO ®OO
437 ®OO ®OO	438 ®OO ®OO	441 ®O® ®O®	444 ®O® ®O®
447 ®O® ®O®	450 ®O® ®O®	451 ®O® ®O®	452 ®O® ®O®
453 ®O® ®O®	454 ®O® ®O®	455 ®O® ®O®	456 ®O® ®O®
459 ®O® ®O®	460 ®O® ®O®	461 ®O® ®O®	462 ®OO ®OO
465 ®O® ®O®	468 ®O® ®O®	469 ®O® ®O®	470 ®O® ®O®
471 ®O® ®O®	472 ®O® ®O®	475 ®O® ®O®	478 ®O® ®O®
481 ®O® ®O®	484 ®O® ®O®	485 ®O® ®O®	486 ®O® ®O®
487 ®O® ®O®	488 ®O® ®O®	489 ®O® ®O®	490 ®O® ®O®
493 ®O® ®O®	494 ®O® ®O®	495 ®O® ®O®	496 ®OO ®OO
499 ®O® ®O®	502 ®O® ®O®	503 ®O® ®O®	504 ®O® ®O®
505 ®O® ®O®	506 ®O® ®O®	509 ®O® ®O®	512 ®O® ®O®
515 ®O® ®O®	518 ®O® ®O®	519 ®O® ®O®	520 ®O® ®O®
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527 ®O® ®O®	528 ®O® ®O®	529 ®O® ®O®	530 ®OO ®OO
533 ®O® ®O®	536 ®O® ®O®	537 ®O® ®O®	538 ®O® ®O®
539 ®O® ®O®	540 ®O® ®O®	551 ®OO ®OO	556 ®OO ®OO
557 ®OO ®OO	558 ®OO ®OO	559 ®OO ®OO	560 ®OO ®OO
561 ®OO ®OO	562 ®OO ®OO	563 ®OO ®OO	564 ®OO ®OO
565 ®OO ®OO	566 ®OO ®OO	567 ®OO ®OO	568 ®OO ®OO
569 ®OO ®OO	570 ®OO ®OO		

Nodal Loading and Support Conditions

NODES 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194 and 196
D1 Ls +0000.000 -0000.630 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
D1 Ls +0000.000 -0001.010 +0000.000 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
D1 Ls +0000.000 -0000.950 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
D1 Ls +0000.000 -0000.290 +0000.000 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108,
110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 198, 200-210, 212,
214-224, 226 and 228-238
D1 Ls +0000.000 -0000.230 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L3 Ls +0000.000 -0002.938 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L4 Ls +0000.000 -0001.469 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L5 Ls +0000.000 -0004.406 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L6 Ls +0000.000 -0002.203 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-196
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W1 Ls +0000.000 +0000.000 -0000.330 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W1 Ls +0000.000 +0000.000 -0000.311 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W1 Ls +0000.000 +0000.000 -0000.071 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108,
110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 170, 172, 174,
176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200-210, 212,
214-224, 226 and 228-238
W1 Ls +0000.000 +0000.000 -0000.053 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W2 Ls +0000.000 +0000.000 -0000.250 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,

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12385

Job Ref : 1462
Sheet : T 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W3 Ls +0000.000 +0000.000 -0000.500 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W4 Ls +0000.000 +0000.000 -0001.911 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W4 Ls +0000.000 +0000.000 -0001.819 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W4 Ls +0000.000 +0000.000 -0000.618 +0000.000 +0000.000 +0000.000
NODES 38-45, 56-63, 74-81, 92-99, 110-117, 131, 133, 135, 137, 139, 145, 147,
149, 151, 153, 159, 161, 163, 165, 167, 201, 203, 205, 207, 209, 215, 217,
219, 221, 223, 229, 231, 233, 235 and 237
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W5 Ls +0000.000 +0000.000 -0001.250 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W6 Ls +0000.000 +0000.000 -0002.500 +0000.000 +0000.000 +0000.000
NODES 10, 28, 46, 64, 82, 100 and 118
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 19, 37, 55, 73, 91 and 109
UT Rs 1 1 0 0 1 0
NODES 15, 30-31, 35, 51, 66-67, 71, 87, 102-103, 107, 123, 128, 132, 136, 140,
158, 162, 166, 184, 188, 192, 196, 212, 216, 220 and 224
F2 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 15, 32, 36, 48-49, 53, 70, 87, 104, 108, 120-121, 125, 128, 136, 148, 160,
168, 172, 180, 184, 192, 200, 208, 212, 220 and 232
F4 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2-9, 11-18, 20-27, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99,
101-108, 110-117 and 119-238
UT Springs 0000.000 0000.000 0000.000 0071.940 0000.000 0071.940

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2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width			**Axial Gravity Loads - LC3**													
Bay: 2.5 No of Boards 5		Component weight Kg	Comp. Wind Area	3-5-0			3-5-1			3-5-2			3-5-3			
Element				Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	
Ledger and Guardrail	2.50m int	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	2.50m ext	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	1.80m Int	7	0.087													
	1.80m Ext	7	0.087													
Tube Trans'	1.3m (5bd)	5.2	0.063		5.2	5.2		5.2	5.2		5.2	5.2		5.2	5.2	
	1.3m +1	7.5	0.075						7.5							
	1.3m +2	8.6	0.087									8.6				
	1.3m +3	9.5	0.099													9.5
Toe Boards	2.5m	13.75	0.563	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	
	1.8m	9.9	0.405													
	1.3m	7.15	0.293													
Tube Int Board Bracket (Hop up)	1bd	1.5							1.5							
	2bd	6.3										6.3				
	3bd	7.7														7.7
	Infill Bd 2.50m	12							12			12				12
	Infill Bd 1.80m	9														
Facade Bracing	2.5x2.0m	11.5	0.154	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	
	1.8x2.00m	9.8	0.130													
Timber Boards 25Kg/m^2	2.5m	14.06				14.06			14.06			14.06			14.06	
	1.8m	10.12														
Total weight per bay Int Standard, kg					23.90	64.25		23.90	94.11		23.90	114.07		23.90	130.43	
Total weight per bay Ext Standard, kg					29.65	103.15		29.65	111.20		29.65	112.30		29.65	113.20	
Total load per bay Int Standard, kN					0.23	0.63		0.23	0.92		0.23	1.12		0.23	1.28	
Total load per bay Ext Standard, kN					0.29	1.01		0.29	1.09		0.29	1.10		0.29	1.11	
Out of Service factor					0.25			0.25			0.25			0.25		
Imposed load Intensity kN/m2					2			2			2			2		
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.23	3.44		0.23	4.86		0.23	6.18		0.23	7.47	
Main Deck, Fully Loaded, Ext std, kN /lift					0.29	3.82		0.29	3.90		0.29	3.91		0.29	3.92	
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						3.44			4.16			4.78			5.36	
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						2.04			2.89			3.65			4.37	
2nd lift Part Loaded, Ext Std, kN/lift						2.42			2.50			2.51			2.52	
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						2.04			2.75			3.37			3.95	
Wind Area Unsheeted																
Wind Area Debris Netting m^2					1.25			1.25	1.25		1.25	1.25		1.25	1.25	
Wind Area Sheeted m^2					2.50	2.50		2.50	2.50		2.50	2.50		2.50	2.50	
Wind Load In Service (kN)																

Fully Loaded Internal Boards **IN SERVICE**		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube		
Lifts		Internal	External		Internal	External		Internal	External		Internal	External	
2		5.48	6.24		7.75	6.40		9.83	6.42		11.84	6.44	
3		5.71	6.53		7.99	6.69		10.07	6.71		12.07	6.73	
4		5.95	6.82		8.22	6.98		10.30	7.00		12.31	7.02	
5		6.18	7.12		8.46	7.27		10.54	7.29		12.54	7.31	
6		6.42	7.41		8.69	7.56		10.77	7.59		12.78	7.60	
7		6.65	7.70		8.92	7.85		11.00	7.88		13.01	7.89	
8		6.89	7.99		9.16	8.15		11.24	8.17		13.25	8.18	

2500 Bay Tube Transom

9		7.12	8.28		9.39	8.44		11.47	8.46	13.48	8.48
10		7.36	8.57		9.63	8.73		11.71	8.75	13.72	8.77
11		7.59	8.86		9.86	9.02		11.94	9.04	13.95	9.06
12		7.82	9.15		10.10	9.31		12.18	9.33	14.18	9.35
13		8.06	9.44		10.33	9.60		12.41	9.62	14.42	9.64
14		8.29	9.73		10.57	9.89		12.65	9.91	14.65	9.93
15		8.53	10.02		10.80	10.18		12.88	10.20	14.89	10.22
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube		Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External	Internal	External
2		1.96	2.73		2.83	2.88		3.50	2.91	4.11	2.92
3		2.20	3.02		3.07	3.18		3.74	3.20	4.34	3.21
4		2.43	3.31		3.30	3.47		3.97	3.49	4.57	3.51
5		2.67	3.60		3.53	3.76		4.21	3.78	4.81	3.80
6		2.90	3.89		3.77	4.05		4.44	4.07	5.04	4.09
7		3.14	4.18		4.00	4.34		4.68	4.36	5.28	4.38
8		3.37	4.47		4.24	4.63		4.91	4.65	5.51	4.67
9		3.60	4.76		4.47	4.92		5.14	4.94	5.75	4.96
10		3.84	5.05		4.71	5.21		5.38	5.23	5.98	5.25
11		4.07	5.34		4.94	5.50		5.61	5.52	6.22	5.54
12		4.31	5.64		5.18	5.79		5.85	5.82	6.45	5.83
13		4.54	5.93		5.41	6.08		6.08	6.11	6.68	6.12
14		4.78	6.22		5.64	6.38		6.32	6.40	6.92	6.41
15		5.01	6.51		5.88	6.67		6.55	6.69	7.15	6.71
Partially Loaded Internal Boards		Boarded Tube			Boarded Tube			Boarded Tube		Boarded Tube	
IN SERVICE											
Lifts		Internal	External		Internal	External		Internal	External	Internal	External
2		5.48	6.24		6.91	6.40		8.14	6.42	9.31	6.44
3		5.71	6.53		7.14	6.69		8.38	6.71	9.54	6.73
4		5.95	6.82		7.38	6.98		8.61	7.00	9.78	7.02
5		6.18	7.12		7.61	7.27		8.85	7.29	10.01	7.31
6		6.42	7.41		7.85	7.56		9.08	7.59	10.25	7.60
7		6.65	7.70		8.08	7.85		9.32	7.88	10.48	7.89
8		6.89	7.99		8.32	8.15		9.55	8.17	10.72	8.18
9		7.12	8.28		8.55	8.44		9.79	8.46	10.95	8.48
10		7.36	8.57		8.78	8.73		10.02	8.75	11.18	8.77
11		7.59	8.86		9.02	9.02		10.25	9.04	11.42	9.06
12		7.82	9.15		9.25	9.31		10.49	9.33	11.65	9.35
13		8.06	9.44		9.49	9.60		10.72	9.62	11.89	9.64
14		8.29	9.73		9.72	9.89		10.96	9.91	12.12	9.93
15		8.53	10.02		9.96	10.18		11.19	10.20	12.36	10.22
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube		Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External	Internal	External
2		1.96	2.73		2.66	2.88		3.15	2.91	3.58	2.92
3		2.20	3.02		2.89	3.18		3.39	3.20	3.81	3.21
4		2.43	3.31		3.12	3.47		3.62	3.49	4.05	3.51
5		2.67	3.60		3.36	3.76		3.86	3.78	4.28	3.80
6		2.90	3.89		3.59	4.05		4.09	4.07	4.52	4.09
7		3.14	4.18		3.83	4.34		4.32	4.36	4.75	4.38
8		3.37	4.47		4.06	4.63		4.56	4.65	4.99	4.67
9		3.60	4.76		4.30	4.92		4.79	4.94	5.22	4.96
10		3.84	5.05		4.53	5.21		5.03	5.23	5.45	5.25
11		4.07	5.34		4.77	5.50		5.26	5.52	5.69	5.54
12		4.31	5.64		5.00	5.79		5.50	5.82	5.92	5.83
13		4.54	5.93		5.23	6.08		5.73	6.11	6.16	6.12
14		4.78	6.22		5.47	6.38		5.97	6.40	6.39	6.41
15		5.01	6.51		5.70	6.67		6.20	6.69	6.63	6.71

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width				**Axial Gravity Loads - LC4**											
Bay: 2.5 No of Boards 5		Component weight Kg	Comp. Wind Area	4-5-0			4-5-1			4-5-2			4-5-3		
Element				Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6
Ledger and Guardrail	2.50m int	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7
	2.50m ext	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7
	1.80m Int	7	0.087												
	1.80m Ext	7	0.087												
Tube Trans'	1.3m (5bd)	5.2	0.063		5.2	5.2		5.2	5.2		5.2	5.2		5.2	5.2
	1.3m +1	7.5	0.075						7.5						
	1.3m +2	8.6	0.087									8.6			
	1.3m +3	9.5	0.099												9.5
Toe Boards	2.5m	13.75	0.563	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75
	1.8m	9.9	0.405												
	1.3m	7.15	0.293												
Tube Int Board Bracket (Hop up)	1bd	1.5							1.5						
	2bd	6.3										6.3			
	3bd	7.7													7.7
	Infill Bd 2.50m	12							12			12			12
	Infill Bd 1.80m	9													
Facade Bracing	2.5x2.0m	11.5	0.154	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5
	1.8x2.00m	9.8	0.130												
Timber Boards 25Kg/m^2	2.5m	14.06				14.06			14.06			14.06			14.06
	1.8m	10.12													
Total weight per bay Int Standard, kg					23.90	64.25		23.90	94.11		23.90	114.07		23.90	130.43
Total weight per bay Ext Standard, kg					29.65	103.15		29.65	111.20		29.65	112.30		29.65	113.20
Total load per bay Int Standard, kN					0.23	0.63		0.23	0.92		0.23	1.12		0.23	1.28
Total load per bay Ext Standard, kN					0.29	1.01		0.29	1.09		0.29	1.10		0.29	1.11
Out of Service factor					0.25			0.25			0.25			0.25	
Imposed load Intensity kN/m2					3			3			3			3	
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.23	4.85		0.23	6.83		0.23	8.71		0.23	10.56
Main Deck, Fully Loaded, Ext std, kN /lift					0.29	5.23		0.29	5.31		0.29	5.32		0.29	5.33
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						4.85			5.56			6.28			6.76
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						2.74			3.88			4.92			5.92
2nd lift Part Loaded, Ext Std, kN/lift						3.12			3.20			3.21			3.22
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						2.74			3.45			4.07			4.65
Wind Area Unsheeted															
Wind Area Debris Netting m^2					1.25	1.25		1.25	1.25		1.25	1.25		1.25	1.25
Wind Area Sheeted m^2					2.50	2.50		2.50	2.50		2.50	2.50		2.50	2.50
Wind Load In Service (kN)															

2500 Bay Tube Transom

Fully Loaded Internal Boards		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		7.59	8.35		10.71	8.51		13.63	8.53		16.48	8.55
3		7.82	8.64		10.94	8.80		13.86	8.82		16.72	8.84
4		8.06	8.93		11.17	9.09		14.10	9.11		16.95	9.13
5		8.29	9.22		11.41	9.38		14.33	9.40		17.18	9.42
6		8.53	9.52		11.64	9.67		14.57	9.69		17.42	9.71
7		8.76	9.81		11.88	9.96		14.80	9.99		17.65	10.00
8		9.00	10.10		12.11	10.26		15.04	10.28		17.89	10.29
9		9.23	10.39		12.35	10.55		15.27	10.57		18.12	10.59
10		9.46	10.68		12.58	10.84		15.50	10.86		18.36	10.88
11		9.70	10.97		12.82	11.13		15.74	11.15		18.59	11.17
12		9.93	11.26		13.05	11.42		15.97	11.44		18.83	11.46
13		10.17	11.55		13.28	11.71		16.21	11.73		19.06	11.75
14		10.40	11.84		13.52	12.00		16.44	12.02		19.29	12.04
15		10.64	12.13		13.75	12.29		16.68	12.31		19.53	12.33
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		2.32	3.08		3.32	3.24		4.14	3.26		4.88	3.28
3		2.55	3.37		3.56	3.53		4.37	3.55		5.11	3.57
4		2.78	3.66		3.79	3.82		4.61	3.84		5.35	3.86
5		3.02	3.95		4.03	4.11		4.84	4.13		5.58	4.15
6		3.25	4.24		4.26	4.40		5.07	4.42		5.82	4.44
7		3.49	4.53		4.50	4.69		5.31	4.71		6.05	4.73
8		3.72	4.82		4.73	4.98		5.54	5.00		6.29	5.02
9		3.96	5.11		4.96	5.27		5.78	5.29		6.52	5.31
10		4.19	5.41		5.20	5.56		6.01	5.58		6.76	5.60
11		4.43	5.70		5.43	5.85		6.25	5.88		6.99	5.89
12		4.66	5.99		5.67	6.15		6.48	6.17		7.22	6.18
13		4.89	6.28		5.90	6.44		6.72	6.46		7.46	6.48
14		5.13	6.57		6.14	6.73		6.95	6.75		7.69	6.77
15		5.36	6.86		6.37	7.02		7.18	7.04		7.93	7.06
Partially Loaded Internal Boards		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		7.59	8.35		9.02	8.51		10.35	8.53		11.42	8.55
3		7.82	8.64		9.25	8.80		10.58	8.82		11.65	8.84
4		8.06	8.93		9.49	9.09		10.82	9.11		11.89	9.13
5		8.29	9.22		9.72	9.38		11.05	9.40		12.12	9.42
6		8.53	9.52		9.96	9.67		11.29	9.69		12.36	9.71
7		8.76	9.81		10.19	9.96		11.52	9.99		12.59	10.00
8		9.00	10.10		10.43	10.26		11.75	10.28		12.83	10.29
9		9.23	10.39		10.66	10.55		11.99	10.57		13.06	10.59
10		9.46	10.68		10.89	10.84		12.22	10.86		13.29	10.88
11		9.70	10.97		11.13	11.13		12.46	11.15		13.53	11.17
12		9.93	11.26		11.36	11.42		12.69	11.44		13.76	11.46
13		10.17	11.55		11.60	11.71		12.93	11.73		14.00	11.75
14		10.40	11.84		11.83	12.00		13.16	12.02		14.23	12.04
15		10.64	12.13		12.07	12.29		13.40	12.31		14.47	12.33
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		2.32	3.08		3.01	3.24		3.53	3.26		3.93	3.28
3		2.55	3.37		3.24	3.53		3.76	3.55		4.16	3.57
4		2.78	3.66		3.48	3.82		4.00	3.84		4.40	3.86
5		3.02	3.95		3.71	4.11		4.23	4.13		4.63	4.15
6		3.25	4.24		3.94	4.40		4.46	4.42		4.87	4.44
7		3.49	4.53		4.18	4.69		4.70	4.71		5.10	4.73
8		3.72	4.82		4.41	4.98		4.93	5.00		5.34	5.02
9		3.96	5.11		4.65	5.27		5.17	5.29		5.57	5.31
10		4.19	5.41		4.88	5.56		5.40	5.58		5.81	5.60
11		4.43	5.70		5.12	5.85		5.64	5.88		6.04	5.89
12		4.66	5.99		5.35	6.15		5.87	6.17		6.27	6.18
13		4.89	6.28		5.59	6.44		6.11	6.46		6.51	6.48
14		5.13	6.57		5.82	6.73		6.34	6.75		6.74	6.77
15		5.36	6.86		6.05	7.02		6.58	7.04		6.98	7.06

2.5m Bay x 1.3m (5) Width							**Frame Analysis Outputs**				
Tie Arrangement A 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	9.78	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.25							1.24	
Debris			0.5							2.55	
Sheeted			1							5.26	

Tie Arrangement B 15 Lift (30m) Frame											
In Service										Out of Service	
Axial Cap	11.06	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.09							0.49	
Debris			0.2							0.99	
Sheeted			0.4							1.98	

Tie Arrangement D 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	9.78	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.25							1.25	
Debris			0.5							2.56	
Sheeted			1.01							5.29	

Tie Arrangement E											
In Service										Out of Service	
Axial Cap	10.7	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.1							0.49	
Debris			0.2							0.99	
Sheeted			0.4							1.98	

Fully Loaded Inside Boards									
2.5m Bay x 1.3m (5)	In Service Maximum Safe Working Height								
	Resid'	3-5-0	3-5-1	3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
		SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	8.41	8	4	0	0	2	0	0	0
debris	7.03	4	0	0	0	0	0	0	0
sheeting	4.29	0	0	0	0	0	0	0	0
unclad	10.50	15	13	4	0	8	0	0	0
debris	9.82	14	10	0	0	7	0	0	0
sheeting	8.57	10	5	0	0	2	0	0	0
unclad	8.41	8	4	0	0	2	0	0	0
debris	7.03	4	0	0	0	0	0	0	0
sheeting	4.23	0	0	0	0	0	0	0	0
unclad	10.10	15	12	3	0	8	0	0	0
debris	9.50	13	8	0	0	5	0	0	0
sheeting	8.30	8	4	0	0	0	0	0	0

Partially Loaded Inside Boards								
2.5m Bay x 1.3m (5)								
	3-5-0	3-5-1	3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
	SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	8	8	3	0	2	0	0	0
debris	4	2	0	0	0	0	0	0
sheeting	0	0	0	0	0	0	0	0
unclad	15	15	12	7	8	8	2	0
debris	14	13	8	4	7	5	0	0
sheeting	10	8	3	0	2	0	0	0
unclad	8	8	3	0	2	0	0	0
debris	4	2	0	0	0	0	0	0
sheeting	0	0	0	0	0	0	0	0
unclad	15	14	10	5	8	6	0	0
debris	13	12	7	2	5	4	0	0
sheeting	8	7	2	0	0	0	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	28	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	32	6	30	6	28	8	30	8	28	6	30	6	28	8	30	8	28
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-0	40	0	16	0	16	4	18	4	18	0	16	0	16	4	18	4	18
	20	16	30	16	28	16	30	16	28	8	26	8	24	8	26	8	24
	24	16	30	16	28	16	30	16	28	8	26	8	24	8	26	8	24
	28	10	30	8	28	12	30	10	28	8	26	8	24	8	26	8	24
	32	4	28	4	28	8	28	8	28	4	26	4	24	8	26	8	24
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-1	40	0	16	0	16	0	18	0	16	0	16	0	16	0	18	0	16
	20	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	24	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	28	6	24	6	20	6	24	6	20	0	8	0	6	0	8	0	6
	32	4	24	4	20	6	24	6	20	0	8	0	6	0	8	0	6
	36	0	22	0	20	4	22	4	20	0	8	0	6	0	8	0	6
3-5-2	40	0	16	0	14	0	18	0	16	0	8	0	6	0	8	0	6
	20	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	24	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	28	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	32	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	36	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
3-5-3	40	0	14	0	10	0	14	0	10	0	0	0	0	0	0	0	0
	20	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	24	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	28	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	32	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16
	36	0	16	0	16	4	16	4	16	0	16	0	16	4	16	4	16
4-5-0	40	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	20	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	24	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	28	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	32	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	36	0	16	0	12	0	16	0	12	0	0	0	0	0	0	0	0
4-5-1	40	0	14	0	12	0	16	0	12	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	28	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	32	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	36	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	8	28	8	26	8	28	8	26	8	28	8	26	8	28	8	26
	24	4	26	4	24	6	26	6	26	4	26	4	24	6	26	6	26
	28	0	16	0	16	4	18	4	18	0	16	0	16	4	18	4	18
	32	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	36	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
3-5-0	40	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	20	4	26	4	24	4	26	4	24	0	20	0	16	0	20	0	16
	24	4	26	4	24	4	26	4	24	0	20	0	16	0	20	0	16
	28	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	16
	32	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	36	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
3-5-1	40	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6
	20	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	24	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	28	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	32	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	36	0	6	0	4	0	8	0	8	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
	20	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	24	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	28	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	32	0	8	0	4	0	8	0	4	0	0	0	0	0	0	0	0
	36	0	4	0	4	0	6	0	4	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	24	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	28	0	14	0	10	0	14	0	10	0	14	0	10	0	14	0	10
	32	0	10	0	8	0	12	0	10	0	10	0	8	0	12	0	10
	36	0	6	0	4	0	8	0	8	0	6	0	4	0	8	0	8
4-5-0	40	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
	20	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	24	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	28	0	10	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	32	0	8	0	8	0	10	0	8	0	0	0	0	0	0	0	0
	36	0	4	0	4	0	8	0	8	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	0	16	0	16	0	18	0	16	0	16	0	16	0	18	0	16
	24	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
	28	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	16	0	14	0	16	0	14	0	10	0	8	0	10	0	8
	24	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	8
	28	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	6	0	4	0	6	0	4	0	0	0	0	0	0	0	0
	24	0	6	0	4	0	6	0	4	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	4	0	0	0	4	0	0
	28	0	0	0	0	0	4	0	0	0	0	0	0	0	4	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width

	Tie Pattern	Moment Coefficients	Strut Capacity
	A	5.26	9.78
	B	1.98	11.06
	D	5.29	9.78
	E	1.98	10.7

Residual Moments

LC3	1.78
LC4	1.78

(Country, Sheeted, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.759	2.020	2.188	2.355	2.486	2.618	2.706	2.753	2.799	2.849	2.898	2.948	2.998	3.048
24	2.533	2.909	3.150	3.391	3.580	3.769	3.897	3.964	4.030	4.102	4.174	4.245	4.317	4.389
28	3.448	3.960	4.288	4.615	4.873	5.130	5.305	5.395	5.486	5.583	5.681	5.778	5.876	5.973
32	4.504	5.172	5.600	6.028	6.364	6.701	6.928	7.047	7.165	7.292	7.420	7.547	7.674	7.802
36	5.700	6.546	7.088	7.629	8.055	8.481	8.769	8.918	9.068	9.229	9.391	9.552	9.713	9.874
40	7.037	8.082	8.750	9.418	9.944	10.470	10.826	11.010	11.195	11.394	11.593	11.792	11.991	12.190

Tie Pattern B Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

Tie Pattern D Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.769	2.032	2.200	2.368	2.500	2.632	2.722	2.768	2.815	2.865	2.915	2.965	3.015	3.065
24	2.548	2.926	3.168	3.410	3.600	3.791	3.919	3.986	4.053	4.125	4.197	4.269	4.342	4.414
28	3.468	3.983	4.312	4.641	4.900	5.160	5.335	5.426	5.517	5.615	5.713	5.811	5.909	6.007
32	4.529	5.202	5.632	6.062	6.401	6.739	6.968	7.087	7.206	7.334	7.462	7.590	7.718	7.846
36	5.732	6.584	7.128	7.672	8.101	8.529	8.819	8.969	9.120	9.282	9.444	9.606	9.768	9.931
40	7.077	8.128	8.800	9.472	10.001	10.530	10.887	11.073	11.259	11.459	11.659	11.860	12.060	12.260

Tie Pattern E Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.335	1.637	1.853	2.070	2.241	2.411	2.529	2.593	2.657	2.730	2.802	2.875	2.948	3.021
24	1.923	2.357	2.669	2.981	3.227	3.472	3.641	3.733	3.826	3.930	4.035	4.140	4.245	4.350
28	2.617	3.208	3.633	4.058	4.392	4.726	4.956	5.082	5.207	5.350	5.493	5.635	5.778	5.921
32	3.419	4.190	4.745	5.300	5.737	6.173	6.473	6.637	6.801	6.988	7.174	7.361	7.547	7.734
36	4.327	5.303	6.005	6.708	7.260	7.813	8.193	8.400	8.608	8.844	9.080	9.316	9.552	9.788
40	5.342	6.547	7.414	8.281	8.963	9.646	10.115	10.371	10.627	10.918	11.209	11.501	11.792	12.084

Tie Pattern B Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

Tie Pattern D Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.343	1.646	1.864	2.082	2.254	2.425	2.543	2.607	2.672	2.745	2.818	2.892	2.965	3.038
24	1.934	2.370	2.684	2.998	3.245	3.492	3.662	3.755	3.847	3.953	4.058	4.164	4.269	4.375
28	2.632	3.226	3.653	4.081	4.417	4.753	4.985	5.111	5.237	5.380	5.524	5.668	5.811	5.955
32	3.438	4.214	4.772	5.330	5.769	6.208	6.510	6.675	6.840	7.027	7.215	7.403	7.590	7.778
36	4.351	5.333	6.039	6.746	7.302	7.858	8.240	8.448	8.657	8.894	9.131	9.369	9.606	9.844
40	5.372	6.584	7.456	8.328	9.014	9.701	10.172	10.430	10.687	10.980	11.273	11.566	11.860	12.153

Tie Pattern E Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

2500 Bay Tube Transom

LC3&4 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.399	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	7	6
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	3	3
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	7	6
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	3	2
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0	0
40	-5.223	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0	0

LC3&4 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	8	7
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	4	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	2	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	7	7
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	4	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	2	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	2.55	9.78
		B	0.99	11.06
LC3	1.78	D	2.56	9.78
LC4	1.78	E	0.99	10.7

(Country, Debris, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.853	0.980	1.060	1.141	1.205	1.269	1.312	1.334	1.357	1.381	1.405	1.429	1.453	1.477
24	1.228	1.410	1.527	1.644	1.736	1.827	1.889	1.922	1.954	1.989	2.023	2.058	2.093	2.128
28	1.672	1.920	2.079	2.237	2.362	2.487	2.572	2.615	2.659	2.707	2.754	2.801	2.849	2.896
32	2.183	2.508	2.715	2.922	3.085	3.249	3.359	3.416	3.474	3.535	3.597	3.659	3.721	3.782
36	2.763	3.174	3.436	3.698	3.905	4.111	4.251	4.324	4.396	4.474	4.552	4.631	4.709	4.787
40	3.411	3.918	4.242	4.566	4.821	5.076	5.248	5.338	5.427	5.524	5.620	5.717	5.813	5.910

Tie Pattern B Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

Tie Pattern D Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
24	1.233	1.416	1.533	1.650	1.742	1.834	1.897	1.929	1.962	1.996	2.031	2.066	2.101	2.136
28	1.678	1.927	2.087	2.246	2.371	2.497	2.582	2.626	2.670	2.717	2.765	2.812	2.860	2.907
32	2.192	2.517	2.725	2.934	3.097	3.261	3.372	3.430	3.487	3.549	3.611	3.673	3.735	3.797
36	2.774	3.186	3.449	3.713	3.920	4.128	4.268	4.341	4.413	4.492	4.570	4.649	4.727	4.806
40	3.425	3.933	4.259	4.584	4.840	5.096	5.269	5.359	5.449	5.545	5.642	5.739	5.836	5.933

Tie Pattern E Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

2.5m Bay x 1.3m (5) Width

(Town, Debris, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.647	0.793	0.899	1.004	1.086	1.169	1.226	1.257	1.288	1.323	1.359	1.394	1.429	1.465
24	0.932	1.143	1.294	1.445	1.564	1.683	1.765	1.810	1.855	1.905	1.956	2.007	2.058	2.109
28	1.269	1.555	1.761	1.967	2.129	2.291	2.403	2.464	2.524	2.594	2.663	2.732	2.801	2.870
32	1.657	2.031	2.300	2.569	2.781	2.993	3.138	3.218	3.297	3.387	3.478	3.568	3.659	3.749
36	2.098	2.571	2.911	3.252	3.520	3.788	3.972	4.072	4.173	4.287	4.402	4.516	4.631	4.745
40	2.590	3.174	3.594	4.015	4.345	4.676	4.904	5.028	5.152	5.293	5.434	5.576	5.717	5.858

Tie Pattern B Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

Tie Pattern D Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
24	0.936	1.147	1.299	1.451	1.570	1.690	1.772	1.817	1.862	1.913	1.964	2.015	2.066	2.117
28	1.274	1.561	1.768	1.975	2.138	2.300	2.412	2.473	2.534	2.604	2.673	2.743	2.812	2.882
32	1.664	2.039	2.309	2.579	2.792	3.004	3.151	3.230	3.310	3.401	3.492	3.582	3.673	3.764
36	2.106	2.581	2.923	3.265	3.534	3.803	3.987	4.088	4.189	4.304	4.419	4.534	4.649	4.764
40	2.600	3.186	3.608	4.030	4.362	4.694	4.923	5.047	5.172	5.314	5.456	5.597	5.739	5.881

Tie Pattern E Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

2500 Bay Tube Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	3	3
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	12	11
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	7	6
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	4	4
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	2	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	3	3
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	12	11
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	7	6
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	4	3
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0	0

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	4	4
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	2	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	13	12
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	8	7
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	5	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	3	3
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	4	4
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	2	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	12	11
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	8	7
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	5	5
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	3	3
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	2	2

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.24	9.78
B	0.49	11.06
D	1.25	9.78
E	0.49	10.7

(Country, Uncład, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.24

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.415	0.476	0.516	0.555	0.586	0.617	0.638	0.649	0.660	0.672	0.683	0.695	0.707	0.718
24	0.597	0.686	0.743	0.799	0.844	0.889	0.919	0.934	0.950	0.967	0.984	1.001	1.018	1.035
28	0.813	0.934	1.011	1.088	1.149	1.209	1.251	1.272	1.293	1.316	1.339	1.362	1.385	1.408
32	1.062	1.219	1.320	1.421	1.500	1.580	1.633	1.661	1.689	1.719	1.749	1.779	1.809	1.839
36	1.344	1.543	1.671	1.798	1.899	1.999	2.067	2.102	2.138	2.176	2.214	2.252	2.290	2.328
40	1.659	1.905	2.063	2.220	2.344	2.468	2.552	2.596	2.639	2.686	2.733	2.780	2.827	2.874

Tie Pattern B Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

Tie Pattern D Max Mmt coefficient= 1.25

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.418	0.480	0.520	0.560	0.591	0.622	0.643	0.654	0.665	0.677	0.689	0.701	0.712	0.724
24	0.602	0.691	0.749	0.806	0.851	0.896	0.926	0.942	0.958	0.975	0.992	1.009	1.026	1.043
28	0.819	0.941	1.019	1.097	1.158	1.219	1.261	1.282	1.304	1.327	1.350	1.373	1.396	1.420
32	1.070	1.229	1.331	1.432	1.512	1.592	1.646	1.675	1.703	1.733	1.763	1.794	1.824	1.854
36	1.355	1.556	1.684	1.813	1.914	2.015	2.084	2.119	2.155	2.193	2.232	2.270	2.308	2.347
40	1.672	1.921	2.079	2.238	2.363	2.488	2.573	2.617	2.660	2.708	2.755	2.802	2.850	2.897

Tie Pattern E Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

2.5m Bay x 1.3m (5) Width

(Town, Uncład, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.24

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.315	0.386	0.437	0.488	0.528	0.568	0.596	0.611	0.626	0.643	0.661	0.678	0.695	0.712
24	0.453	0.556	0.629	0.703	0.761	0.819	0.858	0.880	0.902	0.927	0.951	0.976	1.001	1.026
28	0.617	0.756	0.856	0.957	1.035	1.114	1.168	1.198	1.228	1.261	1.295	1.329	1.362	1.396
32	0.806	0.988	1.119	1.249	1.352	1.455	1.526	1.565	1.603	1.647	1.691	1.735	1.779	1.823
36	1.020	1.250	1.416	1.581	1.712	1.842	1.931	1.980	2.029	2.085	2.140	2.196	2.252	2.307
40	1.259	1.543	1.748	1.952	2.113	2.274	2.384	2.445	2.505	2.574	2.643	2.711	2.780	2.849

Tie Pattern B Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124403	0.152462	0.172658	0.192854	0.208746	0.224638	0.235563	0.241523	0.2474822	0.254269	0.2610564	0.267844	0.2746307	0.2814179
24	0.179141	0.219546	0.248628	0.27771	0.300594	0.323478	0.339211	0.347793	0.3563743	0.366148	0.3759213	0.385695	0.3954682	0.4052417
28	0.24383	0.298826	0.33841	0.377994	0.409142	0.44029	0.461704	0.473385	0.4850651	0.498368	0.5116706	0.524973	0.5382762	0.551579
32	0.318472	0.390303	0.442005	0.493706	0.534389	0.575072	0.603042	0.618298	0.6335544	0.650929	0.6683045	0.68568	0.7030546	0.7204297
36	0.403067	0.493978	0.559412	0.624847	0.676336	0.727826	0.763225	0.782534	0.8018422	0.823833	0.8458229	0.867813	0.8898035	0.9117938
40	0.497613	0.609849	0.690633	0.771416	0.834983	0.898551	0.942253	0.966091	0.9899287	1.017077	1.0442258	1.071374	1.0985229	1.1256714

Tie Pattern D Max Mmt coefficient= 1.25

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.317	0.389	0.440	0.492	0.533	0.573	0.601	0.616	0.631	0.649	0.666	0.683	0.701	0.718
24	0.457	0.560	0.634	0.708	0.767	0.825	0.865	0.887	0.909	0.934	0.959	0.984	1.009	1.034
28	0.622	0.762	0.863	0.964	1.044	1.123	1.178	1.208	1.237	1.271	1.305	1.339	1.373	1.407
32	0.812	0.996	1.128	1.259	1.363	1.467	1.538	1.577	1.616	1.661	1.705	1.749	1.794	1.838
36	1.028	1.260	1.427	1.594	1.725	1.857	1.947	1.996	2.046	2.102	2.158	2.214	2.270	2.326
40	1.269	1.556	1.762	1.968	2.130	2.292	2.404	2.465	2.525	2.595	2.664	2.733	2.802	2.872

Tie Pattern E Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

2500 Bay Tube Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	12	11
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	7	6
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	4	3
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	2	2
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	14	13
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	11	10
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	7	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	12	11
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	7	6
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	4	3
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	2	0
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	13	12
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	10	9
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	7	6

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	12	11
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	8	7
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	5	4
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	3	3
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	14	13
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	11	10
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	8	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	12	11
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	8	7
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	5	4
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	3	3
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2	2
40	2.805	1.232	0.100	-1.032	-1.925	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	14	13
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	11	10
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	8	7

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.26	9.78
B	1.98	11.06
D	5.29	9.78
E	1.98	10.7

(Country, Sheeted, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.759	2.020	2.188	2.355	2.486	2.618	2.706	2.753	2.799	2.849	2.898	2.948	2.998	3.048
24	2.533	2.909	3.150	3.391	3.580	3.769	3.897	3.964	4.030	4.102	4.174	4.245	4.317	4.389
28	3.448	3.960	4.288	4.615	4.873	5.130	5.305	5.395	5.486	5.583	5.681	5.778	5.876	5.973
32	4.504	5.172	5.600	6.028	6.364	6.701	6.928	7.047	7.165	7.292	7.420	7.547	7.674	7.802
36	5.700	6.546	7.088	7.629	8.055	8.481	8.769	8.918	9.068	9.229	9.391	9.552	9.713	9.874
40	7.037	8.082	8.750	9.418	9.944	10.470	10.826	11.010	11.195	11.394	11.593	11.792	11.991	12.190

Tie Pattern B Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

Tie Pattern D Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.769	2.032	2.200	2.368	2.500	2.632	2.722	2.768	2.815	2.865	2.915	2.965	3.015	3.065
24	2.548	2.926	3.168	3.410	3.600	3.791	3.919	3.986	4.053	4.125	4.197	4.269	4.342	4.414
28	3.468	3.983	4.312	4.641	4.900	5.160	5.335	5.426	5.517	5.615	5.713	5.811	5.909	6.007
32	4.529	5.202	5.632	6.062	6.401	6.739	6.968	7.087	7.206	7.334	7.462	7.590	7.718	7.846
36	5.732	6.584	7.128	7.672	8.101	8.529	8.819	8.969	9.120	9.282	9.444	9.606	9.768	9.931
40	7.077	8.128	8.800	9.472	10.001	10.530	10.887	11.073	11.259	11.459	11.659	11.860	12.060	12.260

Tie Pattern E Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.335	1.637	1.853	2.070	2.241	2.411	2.529	2.593	2.657	2.730	2.802	2.875	2.948	3.021
24	1.923	2.357	2.669	2.981	3.227	3.472	3.641	3.733	3.826	3.930	4.035	4.140	4.245	4.350
28	2.617	3.208	3.633	4.058	4.392	4.726	4.956	5.082	5.207	5.350	5.493	5.635	5.778	5.921
32	3.419	4.190	4.745	5.300	5.737	6.173	6.473	6.637	6.801	6.988	7.174	7.361	7.547	7.734
36	4.327	5.303	6.005	6.708	7.260	7.813	8.193	8.400	8.608	8.844	9.080	9.316	9.552	9.788
40	5.342	6.547	7.414	8.281	8.963	9.646	10.115	10.371	10.627	10.918	11.209	11.501	11.792	12.084

Tie Pattern B Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

Tie Pattern D Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.343	1.646	1.864	2.082	2.254	2.425	2.543	2.607	2.672	2.745	2.818	2.892	2.965	3.038
24	1.934	2.370	2.684	2.998	3.245	3.492	3.662	3.755	3.847	3.953	4.058	4.164	4.269	4.375
28	2.632	3.226	3.653	4.081	4.417	4.753	4.985	5.111	5.237	5.380	5.524	5.668	5.811	5.955
32	3.438	4.214	4.772	5.330	5.769	6.208	6.510	6.675	6.840	7.027	7.215	7.403	7.590	7.778
36	4.351	5.333	6.039	6.746	7.302	7.858	8.240	8.448	8.657	8.894	9.131	9.369	9.606	9.844
40	5.372	6.584	7.456	8.328	9.014	9.701	10.172	10.430	10.687	10.980	11.273	11.566	11.860	12.153

Tie Pattern E Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.399	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	8	7
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	4	3
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	7	7
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	3	3
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0	0
40	-5.223	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0	0

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	9	8
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	5	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	3	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	8	7
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	5	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	3	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	2.55	9.78
B	0.99	11.06
D	2.56	9.78
E	0.99	10.7

(Country, Debris, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.853	0.980	1.060	1.141	1.205	1.269	1.312	1.334	1.357	1.381	1.405	1.429	1.453	1.477
24	1.228	1.410	1.527	1.644	1.736	1.827	1.889	1.922	1.954	1.989	2.023	2.058	2.093	2.128
28	1.672	1.920	2.079	2.237	2.362	2.487	2.572	2.615	2.659	2.707	2.754	2.801	2.849	2.896
32	2.183	2.508	2.715	2.922	3.085	3.249	3.359	3.416	3.474	3.535	3.597	3.659	3.721	3.782
36	2.763	3.174	3.436	3.698	3.905	4.111	4.251	4.324	4.396	4.474	4.552	4.631	4.709	4.787
40	3.411	3.918	4.242	4.566	4.821	5.076	5.248	5.338	5.427	5.524	5.620	5.717	5.813	5.910

Tie Pattern B Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

Tie Pattern D Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
24	1.233	1.416	1.533	1.650	1.742	1.834	1.897	1.929	1.962	1.996	2.031	2.066	2.101	2.136
28	1.678	1.927	2.087	2.246	2.371	2.497	2.582	2.626	2.670	2.717	2.765	2.812	2.860	2.907
32	2.192	2.517	2.725	2.934	3.097	3.261	3.372	3.430	3.487	3.549	3.611	3.673	3.735	3.797
36	2.774	3.186	3.449	3.713	3.920	4.128	4.268	4.341	4.413	4.492	4.570	4.649	4.727	4.806
40	3.425	3.933	4.259	4.584	4.840	5.096	5.269	5.359	5.449	5.545	5.642	5.739	5.836	5.933

Tie Pattern E Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

2.5m Bay x 1.3m (5) Width

(Town, Debris, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.647	0.793	0.899	1.004	1.086	1.169	1.226	1.257	1.288	1.323	1.359	1.394	1.429	1.465
24	0.932	1.143	1.294	1.445	1.564	1.683	1.765	1.810	1.855	1.905	1.956	2.007	2.058	2.109
28	1.269	1.555	1.761	1.967	2.129	2.291	2.403	2.464	2.524	2.594	2.663	2.732	2.801	2.870
32	1.657	2.031	2.300	2.569	2.781	2.993	3.138	3.218	3.297	3.387	3.478	3.568	3.659	3.749
36	2.098	2.571	2.911	3.252	3.520	3.788	3.972	4.072	4.173	4.287	4.402	4.516	4.631	4.745
40	2.590	3.174	3.594	4.015	4.345	4.676	4.904	5.028	5.152	5.293	5.434	5.576	5.717	5.858

Tie Pattern B Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

Tie Pattern D Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
24	0.936	1.147	1.299	1.451	1.570	1.690	1.772	1.817	1.862	1.913	1.964	2.015	2.066	2.117
28	1.274	1.561	1.768	1.975	2.138	2.300	2.412	2.473	2.534	2.604	2.673	2.743	2.812	2.882
32	1.664	2.039	2.309	2.579	2.792	3.004	3.151	3.230	3.310	3.401	3.492	3.582	3.673	3.764
36	2.106	2.581	2.923	3.265	3.534	3.803	3.987	4.088	4.189	4.304	4.419	4.534	4.649	4.764
40	2.600	3.186	3.608	4.030	4.362	4.694	4.923	5.047	5.172	5.314	5.456	5.597	5.739	5.881

Tie Pattern E Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

2500 Bay Tube Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	4	3
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	12	12
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	8	7
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	5	4
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	3	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	4	3
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	12	11
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	8	7
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	5	4
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0	0

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	5	5
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	3	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	13	12
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	9	8
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	6	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	4	4
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	3	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	5	5
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	3	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	12	11
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	9	8
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	6	5
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	4	3
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	2	2

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.24	9.78
B	0.49	11.06
D	1.25	9.78
E	0.49	10.7

(Country, Unclad, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{rez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.24

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.415	0.476	0.516	0.555	0.586	0.617	0.638	0.649	0.660	0.672	0.683	0.695	0.707	0.718
24	0.597	0.686	0.743	0.799	0.844	0.889	0.919	0.934	0.950	0.967	0.984	1.001	1.018	1.035
28	0.813	0.934	1.011	1.088	1.149	1.209	1.251	1.272	1.293	1.316	1.339	1.362	1.385	1.408
32	1.062	1.219	1.320	1.421	1.500	1.580	1.633	1.661	1.689	1.719	1.749	1.779	1.809	1.839
36	1.344	1.543	1.671	1.798	1.899	1.999	2.067	2.102	2.138	2.176	2.214	2.252	2.290	2.328
40	1.659	1.905	2.063	2.220	2.344	2.468	2.552	2.596	2.639	2.686	2.733	2.780	2.827	2.874

Tie Pattern B Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

Tie Pattern D Max Mmt coefficient= 1.25

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.418	0.480	0.520	0.560	0.591	0.622	0.643	0.654	0.665	0.677	0.689	0.701	0.712	0.724
24	0.602	0.691	0.749	0.806	0.851	0.896	0.926	0.942	0.958	0.975	0.992	1.009	1.026	1.043
28	0.819	0.941	1.019	1.097	1.158	1.219	1.261	1.282	1.304	1.327	1.350	1.373	1.396	1.420
32	1.070	1.229	1.331	1.432	1.512	1.592	1.646	1.675	1.703	1.733	1.763	1.794	1.824	1.854
36	1.355	1.556	1.684	1.813	1.914	2.015	2.084	2.119	2.155	2.193	2.232	2.270	2.308	2.347
40	1.672	1.921	2.079	2.238	2.363	2.488	2.573	2.617	2.660	2.708	2.755	2.802	2.850	2.897

Tie Pattern E Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

2.5m Bay x 1.3m (5) Width

(Town, Unclad, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{rez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.24

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.315	0.386	0.437	0.488	0.528	0.568	0.596	0.611	0.626	0.643	0.661	0.678	0.695	0.712
24	0.453	0.556	0.629	0.703	0.761	0.819	0.858	0.880	0.902	0.927	0.951	0.976	1.001	1.026
28	0.617	0.756	0.856	0.957	1.035	1.114	1.168	1.198	1.228	1.261	1.295	1.329	1.362	1.396
32	0.806	0.988	1.119	1.249	1.352	1.455	1.526	1.565	1.603	1.647	1.691	1.735	1.779	1.823
36	1.020	1.250	1.416	1.581	1.712	1.842	1.931	1.980	2.029	2.085	2.140	2.196	2.252	2.307
40	1.259	1.543	1.748	1.952	2.113	2.274	2.384	2.445	2.505	2.574	2.643	2.711	2.780	2.849

Tie Pattern B Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

Tie Pattern D Max Mmt coefficient= 1.25

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.317	0.389	0.440	0.492	0.533	0.573	0.601	0.616	0.631	0.649	0.666	0.683	0.701	0.718
24	0.457	0.560	0.634	0.708	0.767	0.825	0.865	0.887	0.909	0.934	0.959	0.984	1.009	1.034
28	0.622	0.762	0.863	0.964	1.044	1.123	1.178	1.208	1.237	1.271	1.305	1.339	1.373	1.407
32	0.812	0.996	1.128	1.259	1.363	1.467	1.538	1.577	1.616	1.661	1.705	1.749	1.794	1.838
36	1.028	1.260	1.427	1.594	1.725	1.857	1.947	1.996	2.046	2.102	2.158	2.214	2.270	2.326
40	1.269	1.556	1.762	1.968	2.130	2.292	2.404	2.465	2.525	2.595	2.664	2.733	2.802	2.872

Tie Pattern E Max Mmt coefficient= 0.49

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

2500 Bay Tube Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	12	11
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	8	7
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	4	4
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	2	2
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	14	13
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	11	10
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	8	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	12	11
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	8	7
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	4	4
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	2	2
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	14	13
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	11	10
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	7	7

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	12	11
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	9	8
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	6	5
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	4	3
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	14	13
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	11	11
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	9	8

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	12	11
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	8	8
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	5	5
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	3	3
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2	2
40	2.805	1.232	0.100	-1.032	-1.925	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	14	13
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	11	10
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	8	8

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.26	9.78
B	1.98	11.06
D	5.29	9.78
E	1.98	10.7

(Country, Sheeted, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.759	2.020	2.188	2.359	2.486	2.618	2.704	2.753	2.799	2.849	2.898	2.948	2.998	3.048
24	2.533	2.909	3.150	3.391	3.580	3.769	3.897	3.964	4.030	4.102	4.174	4.245	4.317	4.389
28	3.448	3.960	4.288	4.615	4.873	5.130	5.305	5.395	5.486	5.583	5.681	5.778	5.876	5.973
32	4.504	5.172	5.600	6.028	6.364	6.701	6.928	7.047	7.165	7.292	7.420	7.547	7.674	7.802
36	5.700	6.546	7.088	7.629	8.055	8.481	8.769	8.918	9.068	9.229	9.391	9.552	9.713	9.874
40	7.037	8.082	8.750	9.418	9.944	10.470	10.824	11.010	11.195	11.394	11.593	11.792	11.991	12.190

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.769	2.032	2.200	2.368	2.500	2.632	2.722	2.768	2.815	2.865	2.915	2.965	3.015	3.065
24	2.548	2.926	3.168	3.410	3.600	3.791	3.919	3.986	4.053	4.125	4.197	4.269	4.342	4.414
28	3.468	3.983	4.312	4.641	4.900	5.160	5.335	5.426	5.517	5.615	5.713	5.811	5.909	6.007
32	4.529	5.202	5.632	6.062	6.401	6.739	6.968	7.087	7.206	7.334	7.462	7.590	7.718	7.846
36	5.732	6.584	7.128	7.672	8.101	8.529	8.819	8.969	9.120	9.282	9.444	9.606	9.768	9.931
40	7.077	8.128	8.800	9.472	10.001	10.530	10.887	11.073	11.259	11.459	11.659	11.860	12.060	12.260

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.335	1.637	1.853	2.070	2.241	2.411	2.529	2.593	2.657	2.730	2.802	2.875	2.948	3.021
24	1.923	2.357	2.669	2.981	3.227	3.472	3.641	3.733	3.826	3.930	4.035	4.140	4.245	4.350
28	2.617	3.208	3.633	4.058	4.392	4.726	4.956	5.082	5.207	5.350	5.493	5.635	5.778	5.921
32	3.419	4.190	4.745	5.300	5.737	6.173	6.473	6.637	6.801	6.988	7.174	7.361	7.547	7.734
36	4.327	5.303	6.005	6.708	7.260	7.813	8.193	8.400	8.608	8.844	9.080	9.316	9.552	9.788
40	5.342	6.547	7.414	8.281	8.963	9.646	10.115	10.371	10.627	10.918	11.209	11.501	11.792	12.084

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.343	1.646	1.864	2.082	2.254	2.425	2.543	2.607	2.672	2.745	2.818	2.892	2.965	3.038
24	1.934	2.370	2.684	2.998	3.245	3.492	3.662	3.755	3.847	3.953	4.058	4.164	4.269	4.375
28	2.632	3.226	3.653	4.081	4.417	4.753	4.983	5.111	5.237	5.380	5.524	5.668	5.811	5.955
32	3.438	4.214	4.772	5.330	5.769	6.208	6.510	6.675	6.840	7.027	7.215	7.403	7.590	7.778
36	4.351	5.333	6.039	6.746	7.302	7.858	8.240	8.448	8.657	8.894	9.131	9.369	9.606	9.844
40	5.372	6.584	7.456	8.328	9.014	9.701	10.175	10.430	10.687	10.980	11.273	11.566	11.860	12.153

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

LC3 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.399	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	6
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	2
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.429	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.533	-21.071	-21.610	-22.149	-22.688	-23.227	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.085	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	6
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	2
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0
40	-5.225	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.085	-15.533	-15.983	-16.434	-16.884	0

LC3 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	7
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	6
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.838	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0

LC4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.635	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.865	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.397	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	4
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	2
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	4
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	2
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0
40	-5.223	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0

LC4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.185	-21.968	-22.752	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	6
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	3
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.537	-0.828	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0
32	-9.111	-13.372	-16.438	-19.505	-21.916	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	5
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	3
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	0
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0

2.5m Bay x 1.3m (5) Width

		Tie Pattern	Moment Coefficients	Strut Capacity
Residual Moments		A	2.55	9.78
		B	0.99	11.06
LC3	1.78	D	2.56	9.78
LC4	1.78	E	0.99	10.7

(Country, Debris, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.853	0.980	1.060	1.141	1.205	1.269	1.312	1.334	1.357	1.381	1.405	1.429	1.453	1.477
24	1.228	1.410	1.527	1.644	1.736	1.827	1.889	1.922	1.954	1.989	2.023	2.058	2.093	2.128
28	1.672	1.920	2.079	2.237	2.362	2.487	2.572	2.615	2.659	2.707	2.754	2.801	2.849	2.896
32	2.183	2.508	2.715	2.922	3.085	3.249	3.359	3.416	3.474	3.535	3.597	3.659	3.721	3.782
36	2.763	3.174	3.436	3.698	3.905	4.111	4.251	4.324	4.396	4.474	4.552	4.631	4.709	4.787
40	3.411	3.918	4.242	4.566	4.821	5.076	5.248	5.338	5.427	5.524	5.620	5.717	5.813	5.910

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
24	1.233	1.416	1.533	1.650	1.742	1.834	1.897	1.929	1.962	1.996	2.031	2.066	2.101	2.136
28	1.678	1.927	2.087	2.246	2.371	2.497	2.582	2.626	2.670	2.717	2.765	2.812	2.860	2.907
32	2.192	2.517	2.725	2.934	3.097	3.261	3.372	3.430	3.487	3.549	3.611	3.673	3.735	3.797
36	2.774	3.186	3.449	3.713	3.920	4.128	4.268	4.341	4.413	4.492	4.570	4.649	4.727	4.806
40	3.425	3.933	4.259	4.584	4.840	5.096	5.269	5.359	5.449	5.545	5.642	5.739	5.836	5.933

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

2.5m Bay x 1.3m (5) Width

(Town, Debris, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.647	0.793	0.899	1.004	1.084	1.169	1.224	1.257	1.288	1.323	1.359	1.394	1.429	1.465
24	0.932	1.143	1.294	1.445	1.564	1.683	1.765	1.810	1.855	1.905	1.956	2.007	2.058	2.109
28	1.269	1.555	1.761	1.967	2.129	2.291	2.403	2.464	2.524	2.594	2.663	2.732	2.801	2.870
32	1.657	2.031	2.300	2.569	2.781	2.993	3.138	3.218	3.297	3.387	3.478	3.568	3.659	3.749
36	2.098	2.571	2.911	3.252	3.520	3.788	3.972	4.072	4.173	4.287	4.402	4.516	4.631	4.745
40	2.590	3.174	3.594	4.015	4.345	4.676	4.904	5.028	5.152	5.293	5.434	5.576	5.717	5.858

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.666	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
24	0.936	1.147	1.299	1.451	1.570	1.690	1.772	1.817	1.862	1.913	1.964	2.015	2.066	2.117
28	1.274	1.561	1.768	1.975	2.138	2.300	2.412	2.473	2.534	2.604	2.673	2.743	2.812	2.882
32	1.664	2.039	2.309	2.579	2.792	3.004	3.151	3.230	3.310	3.401	3.492	3.582	3.673	3.764
36	2.106	2.581	2.923	3.265	3.534	3.803	3.987	4.088	4.189	4.304	4.419	4.534	4.649	4.764
40	2.600	3.186	3.608	4.030	4.362	4.694	4.923	5.047	5.172	5.314	5.456	5.597	5.739	5.881

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.666	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

2500 Bay Tube Transom

LC3 2.5m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	3
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	11
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	6
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	3
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	3
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	10
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	6
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	3
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0

LC3 2.5m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	4
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.465	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	11
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	7
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	3
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	4
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	11
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	7
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	4
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	3
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	2

LC4 2.5m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	2
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	13
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	8
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	5
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	2
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	0
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	2
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.403	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	12
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	8
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	4
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	2
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.238	0.036	-0.107	-0.289	-0.472	0
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0

LC4 2.5m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	3
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	0
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	13
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	9
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	6
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	4
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	2
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	3
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	0
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	12
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	8
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	5
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	3
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	2
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.24	9.78
B	0.49	11.06
D	1.25	9.78
E	0.49	10.7

(Country, Uncladd, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.415	0.476	0.516	0.559	0.586	0.617	0.638	0.649	0.660	0.672	0.683	0.695	0.707	0.718
24	0.597	0.686	0.743	0.799	0.844	0.889	0.919	0.934	0.950	0.967	0.984	1.001	1.018	1.035
28	0.813	0.934	1.011	1.088	1.149	1.209	1.251	1.272	1.293	1.316	1.339	1.362	1.385	1.408
32	1.062	1.219	1.320	1.421	1.500	1.580	1.633	1.661	1.689	1.719	1.749	1.779	1.809	1.839
36	1.344	1.543	1.671	1.798	1.899	1.999	2.067	2.102	2.138	2.176	2.214	2.252	2.290	2.328
40	1.659	1.905	2.063	2.220	2.344	2.468	2.552	2.596	2.639	2.686	2.733	2.780	2.827	2.874

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.418	0.480	0.520	0.560	0.591	0.622	0.643	0.654	0.665	0.677	0.689	0.701	0.712	0.724
24	0.602	0.691	0.749	0.806	0.851	0.896	0.926	0.942	0.958	0.975	0.992	1.009	1.026	1.043
28	0.819	0.941	1.019	1.097	1.158	1.219	1.261	1.282	1.304	1.327	1.350	1.373	1.396	1.420
32	1.070	1.229	1.331	1.432	1.512	1.592	1.646	1.675	1.703	1.733	1.763	1.794	1.824	1.854
36	1.355	1.556	1.684	1.813	1.914	2.015	2.084	2.119	2.155	2.193	2.232	2.270	2.308	2.347
40	1.672	1.921	2.079	2.238	2.363	2.488	2.579	2.617	2.660	2.708	2.755	2.802	2.850	2.897

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

2.5m Bay x 1.3m (5) Width

(Town, Uncladd, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.315	0.386	0.437	0.488	0.528	0.568	0.596	0.611	0.626	0.643	0.661	0.678	0.695	0.712
24	0.453	0.556	0.629	0.703	0.761	0.819	0.858	0.880	0.902	0.927	0.951	0.976	1.001	1.026
28	0.617	0.756	0.856	0.957	1.035	1.114	1.168	1.198	1.228	1.261	1.295	1.329	1.362	1.396
32	0.806	0.988	1.119	1.249	1.352	1.455	1.526	1.565	1.603	1.647	1.691	1.735	1.779	1.823
36	1.020	1.250	1.416	1.581	1.712	1.842	1.931	1.980	2.029	2.085	2.140	2.196	2.252	2.307
40	1.259	1.543	1.748	1.952	2.113	2.274	2.384	2.445	2.505	2.574	2.643	2.711	2.780	2.849

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.317	0.389	0.440	0.492	0.533	0.573	0.601	0.616	0.631	0.649	0.666	0.683	0.701	0.718
24	0.457	0.560	0.634	0.708	0.767	0.825	0.865	0.887	0.909	0.934	0.959	0.984	1.009	1.034
28	0.622	0.762	0.863	0.964	1.044	1.123	1.178	1.208	1.237	1.271	1.305	1.339	1.373	1.407
32	0.812	0.996	1.128	1.259	1.363	1.467	1.538	1.577	1.616	1.661	1.705	1.749	1.794	1.838
36	1.028	1.260	1.427	1.594	1.725	1.857	1.947	1.996	2.046	2.102	2.158	2.214	2.270	2.326
40	1.269	1.556	1.762	1.968	2.130	2.292	2.404	2.465	2.525	2.595	2.664	2.733	2.802	2.872

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

LC3 2.5m Bay x 1.3m (5) Width (Country, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	10
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	6
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	3
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	0
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	13
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	9
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	10
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	6
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	3
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	0
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	12
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	8
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	6

LC3 2.5m Bay x 1.3m (5) Width (Town, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	11
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	7
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	4
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	3
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	13
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	10
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	11
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	6
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	4
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	2
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2
40	2.805	1.232	0.100	-1.032	-1.923	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	12
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	9
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.935	7

LC4 2.5m Bay x 1.3m (S) Width (Country, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	7
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	4
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	2
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	0
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15
28	9.066	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	13
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	10
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	7
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	7
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	4
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	2
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	0
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	13
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	9
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	6
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	4

LC4 2.5m Bay x 1.3m (S) Width (Town, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	8
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	5
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	3
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	2
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	0
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.342	-4.739	-5.117	-5.494	-5.872	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	14
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	11
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	8
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	8
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	5
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	3
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	2
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	0
40	2.805	1.232	0.100	-1.032	-1.923	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	13
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	10
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	7
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	5

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.26	9.78
B	1.98	11.06
D	5.29	9.78
E	1.98	10.7

(Country, Sheeted, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1													
20	1.759	2.020	2.188	2.359	2.486	2.618	2.704	2.753	2.799	2.849	2.898	2.948	2.998	3.048
24	2.533	2.909	3.150	3.391	3.580	3.769	3.897	3.964	4.030	4.102	4.174	4.245	4.317	4.389
28	3.448	3.960	4.288	4.615	4.873	5.130	5.305	5.395	5.486	5.583	5.681	5.778	5.876	5.973
32	4.504	5.172	5.600	6.028	6.364	6.701	6.928	7.047	7.165	7.292	7.420	7.547	7.674	7.802
36	5.700	6.546	7.088	7.629	8.055	8.481	8.769	8.918	9.068	9.229	9.391	9.552	9.713	9.874
40	7.037	8.082	8.750	9.418	9.944	10.470	10.826	11.010	11.195	11.394	11.593	11.792	11.991	12.190

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.769	2.032	2.200	2.368	2.500	2.632	2.722	2.768	2.815	2.865	2.915	2.965	3.015	3.065
24	2.548	2.926	3.168	3.410	3.600	3.791	3.919	3.986	4.053	4.125	4.197	4.269	4.342	4.414
28	3.468	3.983	4.312	4.641	4.900	5.160	5.335	5.426	5.517	5.615	5.713	5.811	5.909	6.007
32	4.529	5.202	5.632	6.062	6.401	6.739	6.968	7.087	7.206	7.334	7.462	7.590	7.718	7.846
36	5.732	6.584	7.128	7.672	8.101	8.529	8.819	8.969	9.120	9.282	9.444	9.606	9.768	9.931
40	7.077	8.128	8.800	9.472	10.001	10.530	10.887	11.073	11.259	11.459	11.659	11.860	12.060	12.260

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1													
20	1.335	1.637	1.853	2.070	2.241	2.411	2.529	2.593	2.657	2.730	2.802	2.875	2.948	3.021
24	1.923	2.357	2.669	2.981	3.227	3.472	3.641	3.733	3.826	3.930	4.035	4.140	4.245	4.350
28	2.617	3.208	3.633	4.058	4.392	4.726	4.956	5.082	5.207	5.350	5.493	5.635	5.778	5.921
32	3.419	4.190	4.745	5.300	5.737	6.173	6.473	6.637	6.801	6.988	7.174	7.361	7.547	7.734
36	4.327	5.303	6.005	6.708	7.260	7.813	8.193	8.400	8.608	8.844	9.080	9.316	9.552	9.788
40	5.342	6.547	7.414	8.281	8.963	9.646	10.115	10.371	10.627	10.918	11.209	11.501	11.792	12.084

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.343	1.646	1.864	2.082	2.254	2.425	2.543	2.607	2.672	2.745	2.818	2.892	2.965	3.038
24	1.934	2.370	2.684	2.998	3.245	3.492	3.662	3.755	3.847	3.953	4.058	4.164	4.269	4.375
28	2.632	3.226	3.653	4.081	4.417	4.753	4.983	5.111	5.237	5.380	5.524	5.668	5.811	5.955
32	3.438	4.214	4.772	5.330	5.769	6.208	6.510	6.675	6.840	7.027	7.215	7.403	7.590	7.778
36	4.351	5.333	6.039	6.746	7.302	7.858	8.240	8.448	8.657	8.894	9.131	9.369	9.606	9.844
40	5.372	6.584	7.456	8.328	9.014	9.701	10.175	10.430	10.687	10.980	11.273	11.566	11.860	12.153

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.503	0.616	0.698	0.779	0.844	0.908	0.952	0.976	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

LC3 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.399	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	7
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	3
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.429	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.533	-21.071	-21.610	-22.149	-22.688	-23.227	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0
															0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	7
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	3
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0
40	-5.225	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.085	-15.533	-15.983	-16.434	-16.884	0
															0

LC3 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	8
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	8
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.769	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0

LC4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.635	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.865	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.397	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	6
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	2
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.075	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	6
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	2
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0
40	-5.223	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0

LC4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.185	-21.968	-22.752	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	7
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.537	-0.828	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0
32	-9.111	-13.372	-16.438	-19.505	-21.916	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	6
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	2.55	9.78
B	0.99	11.06
D	2.56	9.78
E	0.99	10.7

(Country, Debris, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ac}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.853	0.980	1.060	1.141	1.205	1.269	1.312	1.334	1.357	1.381	1.405	1.429	1.453	1.477
24	1.228	1.410	1.527	1.644	1.736	1.827	1.889	1.922	1.954	1.989	2.023	2.058	2.093	2.128
28	1.672	1.920	2.079	2.237	2.362	2.487	2.572	2.615	2.659	2.707	2.754	2.801	2.849	2.896
32	2.183	2.508	2.715	2.922	3.085	3.249	3.359	3.416	3.474	3.535	3.597	3.659	3.721	3.782
36	2.763	3.174	3.436	3.698	3.905	4.111	4.251	4.324	4.396	4.474	4.552	4.631	4.709	4.787
40	3.411	3.918	4.242	4.566	4.821	5.076	5.248	5.338	5.427	5.524	5.620	5.717	5.813	5.910

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
24	1.233	1.416	1.533	1.650	1.742	1.834	1.897	1.929	1.962	1.996	2.031	2.066	2.101	2.136
28	1.678	1.927	2.087	2.246	2.371	2.497	2.582	2.626	2.670	2.717	2.765	2.812	2.860	2.907
32	2.192	2.517	2.725	2.934	3.097	3.261	3.372	3.430	3.487	3.549	3.611	3.673	3.735	3.797
36	2.774	3.186	3.449	3.713	3.920	4.128	4.268	4.341	4.413	4.492	4.570	4.649	4.727	4.806
40	3.425	3.933	4.259	4.584	4.840	5.096	5.269	5.359	5.449	5.545	5.642	5.739	5.836	5.933

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.326	1.349	1.373	1.396	1.420	1.444	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

2.5m Bay x 1.3m (5) Width

(Town, Debris, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ac}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.647	0.793	0.899	1.004	1.084	1.169	1.226	1.257	1.288	1.323	1.359	1.394	1.429	1.465
24	0.932	1.143	1.294	1.445	1.564	1.683	1.765	1.810	1.855	1.905	1.956	2.007	2.058	2.109
28	1.269	1.555	1.761	1.967	2.129	2.291	2.403	2.464	2.524	2.594	2.663	2.732	2.801	2.870
32	1.657	2.031	2.300	2.569	2.781	2.993	3.138	3.218	3.297	3.387	3.478	3.568	3.659	3.749
36	2.098	2.571	2.911	3.252	3.520	3.788	3.972	4.072	4.173	4.287	4.402	4.516	4.631	4.745
40	2.590	3.174	3.594	4.015	4.345	4.676	4.904	5.028	5.152	5.293	5.434	5.576	5.717	5.858

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.666	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
24	0.936	1.147	1.299	1.451	1.570	1.690	1.772	1.817	1.862	1.913	1.964	2.015	2.066	2.117
28	1.274	1.561	1.768	1.975	2.138	2.300	2.412	2.473	2.534	2.604	2.673	2.743	2.812	2.882
32	1.664	2.039	2.309	2.579	2.792	3.004	3.151	3.230	3.310	3.401	3.492	3.582	3.673	3.764
36	2.106	2.581	2.923	3.265	3.534	3.803	3.987	4.088	4.189	4.304	4.419	4.534	4.649	4.764
40	2.600	3.186	3.608	4.030	4.362	4.694	4.923	5.047	5.172	5.314	5.456	5.597	5.739	5.881

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.666	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

LC3 2.5m Bay x 1.3m (5) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	3
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	12
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	7
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	4
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	3
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	12
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	7
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	4
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0

LC3 2.5m Bay x 1.3m (5) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	5
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.465	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	13
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	8
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	4
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	5
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	12
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	8
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	5
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	3
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	2

LC4 2.5m Bay x 1.3m (S) Width (Country, Debris, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	3
24	3.032	2.030	1.390	0.749	0.244	-0.260	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	11
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	6
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	3
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	3
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	10
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	6
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	3
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Debris, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	4
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	11
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	7
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	3
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	4
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.406	-8.905	-9.404	-9.903	-10.401	-10.900	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	11
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	7
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	4
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	3
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.033	-1.323	-1.653	-1.982	-2.312	-2.642	-2.971	2

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.24	9.78
B	0.49	11.06
D	1.25	9.78
E	0.49	10.7

(Country, Unclad, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.415	0.476	0.516	0.559	0.586	0.617	0.638	0.649	0.660	0.672	0.683	0.695	0.707	0.718
24	0.597	0.686	0.743	0.799	0.844	0.889	0.919	0.934	0.950	0.967	0.984	1.001	1.018	1.035
28	0.813	0.934	1.011	1.088	1.149	1.209	1.251	1.272	1.293	1.316	1.339	1.362	1.385	1.408
32	1.062	1.219	1.320	1.421	1.500	1.580	1.633	1.661	1.689	1.719	1.749	1.779	1.809	1.839
36	1.344	1.543	1.671	1.798	1.899	1.999	2.067	2.102	2.138	2.176	2.214	2.252	2.290	2.328
40	1.659	1.905	2.063	2.220	2.344	2.468	2.552	2.596	2.639	2.686	2.733	2.780	2.827	2.874

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.418	0.480	0.520	0.560	0.591	0.622	0.643	0.654	0.665	0.677	0.689	0.701	0.712	0.724
24	0.602	0.691	0.749	0.806	0.851	0.896	0.926	0.942	0.958	0.975	0.992	1.009	1.026	1.043
28	0.819	0.941	1.019	1.097	1.158	1.219	1.261	1.282	1.304	1.327	1.350	1.373	1.396	1.420
32	1.070	1.229	1.331	1.432	1.512	1.592	1.646	1.675	1.703	1.733	1.763	1.794	1.824	1.854
36	1.355	1.556	1.684	1.813	1.914	2.015	2.084	2.119	2.155	2.193	2.232	2.270	2.308	2.347
40	1.672	1.921	2.079	2.238	2.363	2.488	2.579	2.617	2.660	2.708	2.755	2.802	2.850	2.897

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

2.5m Bay x 1.3m (5) Width

(Town, Unclad, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.315	0.386	0.437	0.488	0.528	0.568	0.596	0.611	0.626	0.643	0.661	0.678	0.695	0.712
24	0.453	0.556	0.629	0.703	0.761	0.819	0.858	0.880	0.902	0.927	0.951	0.976	1.001	1.026
28	0.617	0.756	0.856	0.957	1.035	1.114	1.168	1.198	1.228	1.261	1.295	1.329	1.362	1.396
32	0.806	0.988	1.119	1.249	1.352	1.455	1.526	1.565	1.603	1.647	1.691	1.735	1.779	1.823
36	1.020	1.250	1.416	1.581	1.712	1.842	1.931	1.980	2.029	2.085	2.140	2.196	2.252	2.307
40	1.259	1.543	1.748	1.952	2.113	2.274	2.384	2.445	2.505	2.574	2.643	2.711	2.780	2.849

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.317	0.389	0.440	0.492	0.533	0.573	0.601	0.616	0.631	0.649	0.666	0.683	0.701	0.718
24	0.457	0.560	0.634	0.708	0.767	0.825	0.865	0.887	0.909	0.934	0.959	0.984	1.009	1.034
28	0.622	0.762	0.863	0.964	1.044	1.123	1.178	1.208	1.237	1.271	1.305	1.339	1.373	1.407
32	0.812	0.996	1.128	1.259	1.363	1.467	1.538	1.577	1.616	1.661	1.705	1.749	1.794	1.838
36	1.028	1.260	1.427	1.594	1.725	1.857	1.947	1.996	2.046	2.102	2.158	2.214	2.270	2.326
40	1.269	1.556	1.762	1.968	2.130	2.292	2.404	2.465	2.525	2.595	2.664	2.733	2.802	2.872

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

LC3 2.5m Bay x 1.3m (5) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	12
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	7
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	4
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	2
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	14
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	11
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	12
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	7
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	4
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	2
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	14
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	10
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	7

LC3 2.5m Bay x 1.3m (5) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	12
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	8
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	5
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	3
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	14
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	11
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	8

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	12
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	8
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	5
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	3
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2
40	2.805	1.232	0.100	-1.032	-1.923	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	14
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	11
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.935	8

LC4 2.5m Bay x 1.3m (S) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	10
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	6
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	3
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	0
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15
28	9.066	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	12
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	9
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	10
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	6
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	3
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	0
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0
40	0.592	-0.773	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	12
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	8
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	6

LC4 2.5m Bay x 1.3m (S) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	10
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	6
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	4
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	2
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.342	-4.739	-5.117	-5.494	-5.872	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	13
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	10
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	10
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	6
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	4
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	2
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	0
40	2.805	1.232	0.100	-1.032	-1.923	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	12
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	9
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	6

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.26	9.78
B	1.98	11.06
D	5.29	9.78
E	1.98	10.7

(Country, Sheeted, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.204	3.242	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.565	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.759	2.020	2.188	2.355	2.486	2.618	2.706	2.753	2.799	2.849	2.898	2.948	2.998	3.048
24	2.533	2.909	3.150	3.391	3.580	3.769	3.897	3.964	4.030	4.102	4.174	4.245	4.317	4.389
28	3.448	3.960	4.288	4.615	4.873	5.130	5.305	5.395	5.486	5.583	5.681	5.778	5.874	5.973
32	4.504	5.172	5.600	6.028	6.364	6.701	6.928	7.047	7.165	7.292	7.420	7.547	7.674	7.802
36	5.700	6.546	7.088	7.629	8.055	8.481	8.769	8.918	9.068	9.229	9.391	9.552	9.713	9.874
40	7.037	8.082	8.750	9.418	9.944	10.470	10.826	11.010	11.195	11.394	11.593	11.792	11.991	12.190

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.769	2.032	2.200	2.368	2.500	2.632	2.722	2.768	2.815	2.865	2.915	2.965	3.015	3.065
24	2.548	2.926	3.168	3.410	3.600	3.791	3.919	3.986	4.053	4.125	4.197	4.269	4.342	4.414
28	3.468	3.983	4.312	4.641	4.900	5.160	5.333	5.428	5.517	5.615	5.713	5.811	5.909	6.007
32	4.529	5.202	5.632	6.062	6.401	6.739	6.968	7.087	7.206	7.334	7.462	7.590	7.718	7.846
36	5.732	6.584	7.128	7.672	8.101	8.529	8.819	8.969	9.120	9.282	9.444	9.606	9.768	9.931
40	7.077	8.128	8.800	9.472	10.001	10.530	10.887	11.073	11.259	11.459	11.659	11.860	12.060	12.260

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.662	0.761	0.823	0.886	0.936	0.985	1.019	1.036	1.054	1.072	1.091	1.110	1.128	1.147
24	0.954	1.095	1.186	1.276	1.348	1.419	1.467	1.492	1.517	1.544	1.571	1.598	1.625	1.652
28	1.298	1.491	1.614	1.737	1.834	1.931	1.997	2.031	2.065	2.102	2.138	2.175	2.212	2.248
32	1.695	1.947	2.108	2.269	2.396	2.522	2.608	2.653	2.697	2.745	2.793	2.841	2.889	2.937
36	2.146	2.464	2.668	2.872	3.032	3.192	3.301	3.357	3.413	3.474	3.535	3.596	3.656	3.717
40	2.649	3.042	3.294	3.545	3.743	3.941	4.075	4.145	4.214	4.289	4.364	4.439	4.514	4.589

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.240	2.297

Tie Pattern A — Max Mmt coefficient= 5.26

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.335	1.637	1.853	2.070	2.241	2.411	2.529	2.593	2.657	2.730	2.802	2.875	2.948	3.021
24	1.923	2.357	2.669	2.981	3.227	3.472	3.641	3.733	3.826	3.930	4.033	4.140	4.245	4.350
28	2.617	3.208	3.633	4.058	4.392	4.726	4.954	5.082	5.207	5.350	5.493	5.635	5.778	5.921
32	3.419	4.190	4.745	5.300	5.737	6.173	6.473	6.637	6.801	6.988	7.174	7.361	7.547	7.734
36	4.327	5.303	6.005	6.708	7.260	7.813	8.193	8.400	8.608	8.844	9.080	9.316	9.552	9.788
40	5.342	6.547	7.414	8.281	8.963	9.646	10.115	10.371	10.627	10.918	11.209	11.501	11.792	12.084

Tie Pattern B — Max Mmt coefficient= 1.98

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.503	0.614	0.698	0.779	0.844	0.908	0.952	0.974	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

Tie Pattern D — Max Mmt coefficient= 5.29

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.343	1.646	1.864	2.082	2.254	2.425	2.543	2.607	2.672	2.745	2.818	2.892	2.965	3.038
24	1.934	2.370	2.684	2.998	3.245	3.492	3.660	3.753	3.847	3.953	4.058	4.164	4.269	4.375
28	2.632	3.226	3.653	4.081	4.417	4.753	4.985	5.111	5.237	5.380	5.524	5.668	5.811	5.955
32	3.438	4.214	4.772	5.330	5.769	6.208	6.510	6.673	6.840	7.027	7.215	7.403	7.590	7.778
36	4.351	5.333	6.039	6.746	7.302	7.858	8.240	8.448	8.657	8.894	9.131	9.369	9.606	9.844
40	5.372	6.584	7.456	8.328	9.014	9.701	10.172	10.430	10.687	10.980	11.273	11.566	11.860	12.153

Tie Pattern E — Max Mmt coefficient= 1.98

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.503	0.614	0.698	0.779	0.844	0.908	0.952	0.974	1.000	1.027	1.055	1.082	1.110	1.137
24	0.724	0.887	1.005	1.122	1.215	1.307	1.371	1.405	1.440	1.480	1.519	1.559	1.598	1.638
28	0.985	1.208	1.367	1.527	1.653	1.779	1.866	1.913	1.960	2.014	2.068	2.121	2.175	2.229
32	1.287	1.577	1.786	1.995	2.159	2.324	2.437	2.498	2.560	2.630	2.700	2.771	2.841	2.911
36	1.629	1.996	2.260	2.525	2.733	2.941	3.084	3.162	3.240	3.329	3.418	3.507	3.596	3.684
40	2.011	2.464	2.791	3.117	3.374	3.631	3.807	3.904	4.000	4.110	4.220	4.329	4.439	4.549

LC3 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.151	-13.545	-13.939	-14.332	0	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.399	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	8	8
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	4	4
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.347	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	2	2
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0	0
28	-9.275	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0	0
40	-29.104	-34.878	-38.570	-42.262	-45.169	-48.076	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	8	7
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	4	4
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.303	-1.508	-1.713	-1.934	-2.154	-2.375	-2.596	-2.816	2	2
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0	0
36	-2.196	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0	0
40	-5.223	-7.588	-9.099	-10.611	-11.805	-12.999	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0	0

LC3 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.465	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0	0
24	-0.786	-3.169	-4.884	-6.599	-7.940	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0	0
40	-19.567	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	9	9
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	5	5
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.455	-2.789	3	3
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	2	2
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0	0
24	-0.846	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	9	8
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	5	5
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	3	3
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	2	2
36	0.909	-1.299	-2.888	-4.478	-5.728	-6.979	-7.838	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.762	-13.346	-14.005	-14.665	-15.324	-15.985	-16.645	0	0

LC4 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.114	-1.321	-2.239	-3.157	-3.879	-4.602	-5.090	-5.344	-5.598	-5.871	-6.144	-6.418	-6.691	-6.965	0	0
24	-4.139	-6.206	-7.527	-8.849	-9.889	-10.930	-11.633	-11.998	-12.364	-12.758	-13.181	-13.545	-13.939	-14.332	0	0
28	-9.165	-11.978	-13.777	-15.576	-16.992	-18.408	-19.365	-19.863	-20.360	-20.896	-21.432	-21.968	-22.504	-23.039	0	0
32	-14.965	-18.639	-20.989	-23.338	-25.188	-27.037	-28.287	-28.937	-29.587	-30.287	-30.987	-31.687	-32.386	-33.086	0	0
36	-21.538	-26.188	-29.162	-32.135	-34.476	-36.817	-38.397	-39.221	-40.044	-40.930	-41.815	-42.701	-43.587	-44.473	0	0
40	-28.884	-34.625	-38.296	-41.967	-44.857	-47.747	-49.700	-50.715	-51.731	-52.824	-53.918	-55.011	-56.105	-57.198	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.945	6.334	5.944	5.553	5.245	4.938	4.730	4.622	4.514	4.397	4.281	4.165	4.048	3.932	7	7
24	5.135	4.255	3.692	3.130	2.687	2.244	1.945	1.789	1.634	1.466	1.298	1.131	0.963	0.796	4	3
28	2.995	1.798	1.032	0.266	-0.337	-0.940	-1.342	-1.559	-1.771	-1.999	-2.227	-2.455	-2.683	-2.911	0	0
32	0.526	-1.038	-2.038	-3.038	-3.826	-4.613	-5.145	-5.422	-5.698	-5.996	-6.294	-6.592	-6.890	-7.188	0	0
36	-2.272	-4.251	-5.517	-6.783	-7.780	-8.776	-9.449	-9.799	-10.150	-10.527	-10.904	-11.281	-11.658	-12.035	0	0
40	-5.399	-7.843	-9.406	-10.968	-12.199	-13.429	-14.260	-14.692	-15.125	-15.590	-16.056	-16.521	-16.987	-17.452	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	0.059	-1.385	-2.308	-3.231	-3.957	-4.684	-5.175	-5.430	-5.685	-5.960	-6.235	-6.510	-6.785	-7.060	0	0
24	-4.218	-6.297	-7.626	-8.955	-10.002	-11.048	-11.755	-12.123	-12.490	-12.886	-13.282	-13.678	-14.074	-14.470	0	0
28	-9.273	-12.103	-13.912	-15.721	-17.145	-18.569	-19.531	-20.032	-20.532	-21.071	-21.610	-22.149	-22.688	-23.227	0	0
32	-15.106	-18.801	-21.164	-23.527	-25.387	-27.247	-28.504	-29.158	-29.811	-30.515	-31.219	-31.923	-32.627	-33.331	0	0
36	-21.716	-26.393	-29.384	-32.374	-34.729	-37.083	-38.674	-39.501	-40.328	-41.219	-42.110	-43.000	-43.891	-44.782	0	0
40	-29.104	-34.878	-38.570	-42.262	-45.149	-48.073	-50.039	-51.060	-52.082	-53.181	-54.281	-55.381	-56.481	-57.580	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.719	6.128	5.750	5.372	5.075	4.777	4.576	4.471	4.367	4.254	4.142	4.029	3.917	3.804	7	7
24	4.968	4.116	3.572	3.028	2.599	2.171	1.881	1.731	1.580	1.418	1.256	1.094	0.932	0.770	3	3
28	2.898	1.739	0.998	0.257	-0.326	-0.909	-1.305	-1.508	-1.713	-1.934	-2.154	-2.375	-2.595	-2.816	0	0
32	0.509	-1.004	-1.972	-2.939	-3.701	-4.463	-4.977	-5.245	-5.513	-5.801	-6.089	-6.377	-6.666	-6.954	0	0
36	-2.198	-4.113	-5.338	-6.562	-7.526	-8.490	-9.142	-9.481	-9.819	-10.184	-10.549	-10.914	-11.278	-11.643	0	0
40	-5.223	-7.588	-9.099	-10.611	-11.802	-12.992	-13.796	-14.214	-14.632	-15.083	-15.533	-15.983	-16.434	-16.884	0	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.443	0.788	-0.403	-1.595	-2.532	-3.469	-4.114	-4.463	-4.817	-5.217	-5.617	-6.018	-6.418	-6.818	0	0
24	-0.786	-3.169	-4.884	-6.599	-7.949	-9.299	-10.227	-10.733	-11.239	-11.816	-12.392	-12.968	-13.545	-14.121	0	0
28	-4.601	-7.845	-10.180	-12.514	-14.351	-16.189	-17.452	-18.140	-18.829	-19.614	-20.399	-21.183	-21.968	-22.752	0	0
32	-9.004	-13.240	-16.290	-19.339	-21.739	-24.138	-25.788	-26.688	-27.587	-28.612	-29.637	-30.662	-31.687	-32.711	0	0
36	-13.993	-19.355	-23.214	-27.074	-30.111	-33.148	-35.235	-36.374	-37.513	-38.810	-40.107	-41.404	-42.701	-43.998	0	0
40	-19.569	-26.189	-30.954	-35.719	-39.468	-43.217	-45.795	-47.201	-48.606	-50.208	-51.809	-53.410	-55.011	-56.613	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.937	7.232	6.725	6.218	5.819	5.420	5.146	4.996	4.846	4.676	4.506	4.335	4.165	3.994	8	8
24	6.562	5.548	4.818	4.087	3.513	2.938	2.543	2.328	2.112	1.867	1.622	1.376	1.131	0.885	5	4
28	4.938	3.557	2.563	1.570	0.787	0.005	-0.532	-0.826	-1.119	-1.453	-1.787	-2.121	-2.453	-2.789	3	2
32	3.064	1.260	-0.038	-1.336	-2.357	-3.379	-4.081	-4.464	-4.847	-5.283	-5.719	-6.156	-6.592	-7.028	0	0
36	0.940	-1.343	-2.985	-4.628	-5.921	-7.214	-8.103	-8.587	-9.072	-9.624	-10.177	-10.729	-11.281	-11.833	0	0
40	-1.434	-4.252	-6.280	-8.308	-9.904	-11.500	-12.598	-13.196	-13.795	-14.476	-15.158	-15.840	-16.521	-17.203	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	2.401	0.736	-0.462	-1.660	-2.602	-3.545	-4.193	-4.546	-4.900	-5.302	-5.705	-6.108	-6.510	-6.913	0	0
24	-0.844	-3.243	-4.968	-6.693	-8.050	-9.408	-10.341	-10.850	-11.359	-11.939	-12.518	-13.098	-13.678	-14.258	0	0
28	-4.683	-7.945	-10.293	-12.641	-14.489	-16.337	-17.607	-18.300	-18.993	-19.782	-20.571	-21.360	-22.149	-22.938	0	0
32	-9.111	-13.372	-16.438	-19.505	-21.918	-24.332	-25.991	-26.896	-27.800	-28.831	-29.862	-30.892	-31.923	-32.954	0	0
36	-14.129	-19.521	-23.403	-27.284	-30.338	-33.392	-35.492	-36.637	-37.783	-39.087	-40.392	-41.696	-43.000	-44.305	0	0
40	-19.737	-26.394	-31.186	-35.978	-39.749	-43.519	-46.112	-47.526	-48.940	-50.550	-52.160	-53.771	-55.381	-56.991	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.678	6.997	6.506	6.016	5.630	5.243	4.978	4.833	4.689	4.524	4.359	4.194	4.029	3.864	8	7
24	6.349	5.367	4.661	3.954	3.398	2.843	2.460	2.252	2.044	1.806	1.569	1.331	1.094	0.857	5	4
28	4.777	3.441	2.480	1.518	0.762	0.005	-0.515	-0.799	-1.082	-1.406	-1.729	-2.052	-2.375	-2.698	3	2
32	2.964	1.219	-0.036	-1.292	-2.280	-3.269	-3.948	-4.319	-4.689	-5.111	-5.533	-5.955	-6.377	-6.799	0	0
36	0.909	-1.299	-2.888	-4.478	-5.708	-6.939	-7.839	-8.308	-8.777	-9.311	-9.845	-10.379	-10.914	-11.448	0	0
40	-1.387	-4.113	-6.076	-8.038	-9.582	-11.126	-12.188	-12.767	-13.346	-14.005	-14.665	-15.324	-15.983	-16.643	0	0

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	2.55	9.78
		B	0.99	11.06
LC3	1.78	D	2.56	9.78
LC4	1.78	E	0.99	10.7

(Country, Debris, 0&1, F&P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{end} C_{fe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.099	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.853	0.980	1.060	1.141	1.205	1.269	1.312	1.334	1.357	1.381	1.405	1.429	1.453	1.477
24	1.228	1.410	1.527	1.644	1.736	1.827	1.889	1.922	1.954	1.989	2.023	2.058	2.093	2.128
28	1.672	1.920	2.079	2.237	2.362	2.487	2.572	2.615	2.659	2.707	2.754	2.801	2.849	2.896
32	2.183	2.508	2.715	2.922	3.085	3.249	3.359	3.414	3.474	3.535	3.597	3.659	3.721	3.782
36	2.763	3.174	3.436	3.698	3.905	4.111	4.251	4.324	4.396	4.474	4.552	4.631	4.709	4.787
40	3.411	3.918	4.242	4.566	4.821	5.076	5.248	5.336	5.427	5.524	5.620	5.717	5.815	5.910

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.324	1.349	1.373	1.398	1.422	1.446	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.854	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
24	1.233	1.416	1.533	1.650	1.742	1.834	1.897	1.929	1.962	1.996	2.031	2.066	2.101	2.136
28	1.678	1.927	2.087	2.246	2.371	2.497	2.582	2.626	2.670	2.717	2.765	2.812	2.860	2.907
32	2.192	2.517	2.725	2.934	3.097	3.261	3.372	3.430	3.487	3.549	3.611	3.673	3.735	3.797
36	2.774	3.186	3.449	3.713	3.920	4.128	4.268	4.341	4.413	4.492	4.570	4.649	4.727	4.806
40	3.425	3.933	4.259	4.584	4.840	5.096	5.269	5.359	5.449	5.545	5.642	5.739	5.836	5.933

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.331	0.380	0.412	0.443	0.468	0.493	0.509	0.518	0.527	0.536	0.546	0.555	0.564	0.574
24	0.477	0.548	0.593	0.638	0.674	0.709	0.734	0.746	0.759	0.772	0.786	0.799	0.812	0.826
28	0.649	0.745	0.807	0.869	0.917	0.966	0.998	1.015	1.032	1.051	1.069	1.088	1.106	1.124
32	0.848	0.974	1.054	1.134	1.198	1.261	1.304	1.324	1.349	1.373	1.398	1.422	1.446	1.468
36	1.073	1.232	1.334	1.436	1.516	1.596	1.650	1.679	1.707	1.737	1.767	1.798	1.828	1.858
40	1.324	1.521	1.647	1.773	1.872	1.971	2.038	2.072	2.107	2.145	2.182	2.219	2.257	2.294

2.5m Bay x 1.3m (5) Width

(Town, Debris, 0&1, F&P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{end} C_{fe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.075	3.154	3.234	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.506	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.825	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.021	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.55

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.647	0.793	0.899	1.004	1.086	1.169	1.224	1.251	1.288	1.323	1.359	1.394	1.429	1.465
24	0.935	1.143	1.294	1.445	1.564	1.683	1.765	1.810	1.855	1.905	1.956	2.007	2.058	2.109
28	1.269	1.555	1.761	1.967	2.129	2.291	2.403	2.464	2.526	2.594	2.663	2.732	2.801	2.870
32	1.657	2.031	2.300	2.569	2.781	2.993	3.138	3.218	3.297	3.387	3.478	3.568	3.659	3.749
36	2.098	2.571	2.911	3.252	3.520	3.788	3.972	4.073	4.173	4.287	4.402	4.516	4.631	4.745
40	2.590	3.174	3.594	4.015	4.345	4.676	4.904	5.028	5.152	5.295	5.434	5.576	5.717	5.858

Tie Pattern B — Max Mmt coefficient= 0.99

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.760	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.034	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.709	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.110	2.165	2.219	2.274

Tie Pattern D — Max Mmt coefficient= 2.56

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
24	0.936	1.147	1.299	1.451	1.570	1.690	1.772	1.817	1.862	1.913	1.964	2.015	2.066	2.117
28	1.274	1.561	1.768	1.975	2.138	2.300	2.412	2.473	2.534	2.604	2.673	2.743	2.812	2.882
32	1.664	2.039	2.309	2.579	2.792	3.004	3.151	3.232	3.312	3.401	3.492	3.582	3.672	3.764
36	2.106	2.581	2.923	3.265	3.534	3.803	3.987	4.088	4.189	4.304	4.419	4.534	4.649	4.764
40	2.600	3.186	3.608	4.030	4.362	4.694	4.923	5.047	5.172	5.314	5.456	5.597	5.739	5.881

Tie Pattern E — Max Mmt coefficient= 0.99

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.251	0.308	0.349	0.390	0.422	0.454	0.476	0.488	0.500	0.514	0.527	0.541	0.555	0.569
24	0.362	0.444	0.502	0.561	0.607	0.654	0.685	0.703	0.720	0.740	0.759	0.779	0.799	0.819
28	0.493	0.604	0.684	0.764	0.827	0.890	0.933	0.956	0.980	1.007	1.033	1.061	1.088	1.114
32	0.643	0.789	0.893	0.997	1.080	1.162	1.218	1.249	1.280	1.315	1.350	1.385	1.420	1.456
36	0.814	0.998	1.130	1.262	1.366	1.471	1.542	1.581	1.620	1.664	1.708	1.753	1.798	1.842
40	1.005	1.232	1.395	1.559	1.687	1.815	1.904	1.952	2.000	2.055	2.109	2.166	2.219	2.274

2500 Bay Tube Transom

LC3 2.5m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	4	4
24	3.032	2.030	1.390	0.749	0.244	-0.265	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	2	2
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.591	-4.832	-5.092	-5.351	-5.611	-5.871	-6.131	0	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	13	13
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	8	8
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	5	5
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	3	3
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.818	-2.035	-2.285	-2.498	-2.731	-2.963	-3.196	2	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	4	4
24	3.006	2.000	1.357	0.715	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	2	2
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.063	-9.380	-9.720	-10.061	-10.401	-10.742	-11.083	0	0
36	-5.462	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.900	-15.331	-15.762	-16.193	-16.624	0	0
40	-9.037	-11.852	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.285	-22.818	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.586	7.533	7.477	7.421	7.365	7.308	7.252	15	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	12	12
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	8	8
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.450	2.305	2.161	2.017	1.873	5	5
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.078	-0.107	-0.289	-0.472	3	3
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	2	0

LC3 2.5m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	5	5
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	3	3
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	2	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.899	-8.335	-8.832	-9.329	-9.826	-10.323	-10.819	0	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.302	-20.078	-20.854	-21.630	-22.407	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	13	13
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	9	9
32	7.062	6.160	5.511	4.862	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	6	6
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	4	4
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	3	3

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	5	5
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	3	3
28	2.781	1.209	0.066	-1.078	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	2	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.404	-8.905	-9.404	-9.903	-10.401	-10.900	0	0
36	-1.790	-4.400	-6.278	-8.156	-9.634	-11.112	-12.129	-12.682	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0	0
40	-4.500	-7.728	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.418	-20.199	-20.979	-21.757	-22.535	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	13	12
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	9	9
32	6.832	5.960	5.332	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	6	6
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	4	4
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.031	-1.321	-1.653	-1.985	-2.317	-2.649	-2.971	3	3

LC4 2.5m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	5.094	4.398	3.953	3.508	3.158	2.808	2.571	2.448	2.325	2.192	2.060	1.927	1.795	1.662	4	4
24	3.032	2.030	1.390	0.749	0.244	-0.240	-0.601	-0.778	-0.955	-1.146	-1.337	-1.528	-1.719	-1.909	0	0
28	0.595	-0.768	-1.640	-2.512	-3.199	-3.885	-4.349	-4.593	-4.837	-5.092	-5.351	-5.611	-5.871	-6.131	0	0
32	-2.216	-3.997	-5.136	-6.275	-7.172	-8.069	-8.675	-8.990	-9.305	-9.644	-9.983	-10.323	-10.662	-11.001	0	0
36	-5.403	-7.657	-9.099	-10.540	-11.675	-12.810	-13.577	-13.975	-14.374	-14.804	-15.233	-15.662	-16.092	-16.521	0	0
40	-8.964	-11.747	-13.527	-15.307	-16.708	-18.109	-19.055	-19.548	-20.040	-20.570	-21.100	-21.630	-22.160	-22.691	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.003	8.697	8.502	8.306	8.153	7.999	7.895	7.841	7.787	7.729	7.671	7.612	7.554	7.496	15	15
24	8.097	7.657	7.376	7.095	6.873	6.652	6.502	6.425	6.347	6.263	6.179	6.095	6.012	5.928	12	12
28	7.028	6.429	6.046	5.663	5.362	5.060	4.857	4.751	4.645	4.531	4.417	4.303	4.189	4.075	8	7
32	5.793	5.011	4.511	4.011	3.617	3.224	2.958	2.819	2.681	2.532	2.383	2.234	2.085	1.936	5	4
36	4.394	3.404	2.771	2.139	1.640	1.142	0.805	0.630	0.455	0.267	0.078	-0.110	-0.299	-0.487	3	2
40	2.831	1.609	0.827	0.046	-0.569	-1.184	-1.600	-1.816	-2.032	-2.265	-2.498	-2.731	-2.963	-3.196	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	5.076	4.377	3.930	3.484	3.132	2.780	2.543	2.419	2.296	2.163	2.030	1.897	1.764	1.631	4	4
24	3.006	2.000	1.357	0.713	0.207	-0.299	-0.641	-0.819	-0.997	-1.189	-1.380	-1.572	-1.764	-1.955	0	0
28	0.559	-0.810	-1.685	-2.561	-3.250	-3.939	-4.405	-4.647	-4.889	-5.150	-5.411	-5.671	-5.932	-6.193	0	0
32	-2.263	-4.051	-5.195	-6.338	-7.239	-8.139	-8.747	-9.043	-9.340	-9.700	-10.061	-10.401	-10.742	-11.083	0	0
36	-5.482	-7.725	-9.173	-10.620	-11.759	-12.898	-13.668	-14.069	-14.469	-14.935	-15.331	-15.762	-16.193	-16.624	0	0
40	-9.037	-11.832	-13.618	-15.405	-16.812	-18.218	-19.168	-19.663	-20.157	-20.689	-21.221	-21.753	-22.286	-22.818	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.710	8.414	8.225	8.036	7.887	7.739	7.638	7.584	7.533	7.477	7.421	7.365	7.308	7.252	15	15
24	7.834	7.408	7.136	6.864	6.650	6.435	6.291	6.215	6.140	6.059	5.978	5.897	5.816	5.735	11	11
28	6.799	6.220	5.849	5.479	5.187	4.896	4.698	4.596	4.494	4.383	4.273	4.163	4.052	3.942	7	7
32	5.605	4.848	4.364	3.880	3.499	3.119	2.861	2.727	2.594	2.452	2.302	2.161	2.017	1.873	4	4
36	4.251	3.294	2.681	2.069	1.587	1.105	0.779	0.610	0.440	0.258	0.076	-0.107	-0.289	-0.472	2	2
40	2.738	1.556	0.800	0.044	-0.551	-1.146	-1.548	-1.757	-1.966	-2.191	-2.417	-2.642	-2.867	-3.092	0	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.223	5.421	4.843	4.266	3.811	3.357	3.044	2.874	2.704	2.510	2.316	2.121	1.927	1.733	5	5
24	4.658	3.502	2.671	1.839	1.185	0.531	0.081	-0.165	-0.410	-0.689	-0.969	-1.248	-1.528	-1.807	3	2
28	2.808	1.236	0.104	-1.028	-1.919	-2.809	-3.422	-3.756	-4.090	-4.470	-4.850	-5.231	-5.611	-5.991	0	0
32	0.674	-1.380	-2.858	-4.337	-5.500	-6.663	-7.463	-7.897	-8.330	-8.832	-9.329	-9.826	-10.323	-10.819	0	0
36	-1.745	-4.344	-6.215	-8.086	-9.559	-11.031	-12.043	-12.595	-13.147	-13.776	-14.405	-15.034	-15.662	-16.291	0	0
40	-4.448	-7.658	-9.967	-12.277	-14.095	-15.912	-17.162	-17.844	-18.525	-19.309	-20.078	-20.854	-21.630	-22.407	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.498	9.146	8.892	8.639	8.439	8.240	8.103	8.028	7.953	7.868	7.783	7.698	7.612	7.527	15	15
24	8.811	8.304	7.939	7.574	7.286	6.999	6.802	6.694	6.586	6.463	6.341	6.218	6.095	5.973	12	12
28	7.999	7.309	6.812	6.315	5.924	5.533	5.264	5.117	4.971	4.804	4.637	4.470	4.303	4.136	9	8
32	7.062	6.140	5.511	4.882	4.351	3.841	3.490	3.298	3.107	2.888	2.670	2.452	2.234	2.016	6	5
36	6.000	4.859	4.037	3.216	2.569	1.923	1.479	1.236	0.994	0.718	0.442	0.166	-0.110	-0.386	4	4
40	4.813	3.404	2.390	1.376	0.578	-0.220	-0.769	-1.068	-1.367	-1.708	-2.049	-2.390	-2.731	-3.071	3	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.209	5.404	4.824	4.244	3.788	3.332	3.018	2.847	2.676	2.481	2.286	2.091	1.897	1.702	5	5
24	4.638	3.478	2.643	1.808	1.151	0.494	0.043	-0.204	-0.450	-0.730	-1.011	-1.292	-1.572	-1.853	3	2
28	2.781	1.202	0.066	-1.070	-1.965	-2.859	-3.473	-3.809	-4.144	-4.526	-4.908	-5.290	-5.671	-6.053	0	0
32	0.638	-1.424	-2.908	-4.392	-5.560	-6.728	-7.531	-7.968	-8.404	-8.900	-9.404	-9.903	-10.401	-10.900	0	0
36	-1.790	-4.408	-6.278	-8.148	-9.634	-11.112	-12.129	-12.683	-13.237	-13.868	-14.500	-15.131	-15.762	-16.393	0	0
40	-4.504	-7.726	-10.045	-12.364	-14.188	-16.013	-17.268	-17.952	-18.636	-19.416	-20.195	-20.974	-21.753	-22.533	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.189	8.848	8.603	8.358	8.165	7.972	7.839	7.767	7.694	7.612	7.529	7.447	7.365	7.282	15	15
24	8.524	8.034	7.680	7.327	7.049	6.771	6.580	6.476	6.372	6.253	6.134	6.016	5.897	5.778	12	11
28	7.739	7.071	6.590	6.109	5.731	5.353	5.093	4.951	4.809	4.647	4.486	4.324	4.163	4.001	8	8
32	6.832	5.960	5.352	4.704	4.210	3.716	3.376	3.191	3.005	2.794	2.583	2.372	2.161	1.950	5	5
36	5.805	4.701	3.906	3.111	2.486	1.860	1.431	1.196	0.962	0.694	0.427	0.160	-0.107	-0.374	4	4
40	4.656	3.293	2.312	1.331	0.559	-0.213	-0.744	-1.035	-1.325	-1.658	-1.992	-2.325	-2.658	-2.991	2	2

2500 Bay Tube Transom

2.5m Bay x 1.3m (5) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	1.24	9.78
		B	0.49	11.06
LC3	1.78	D	1.25	9.78
LC4	1.78	E	0.49	10.7

(Country, Uncload, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.513	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.165	2.204	2.242	2.282	2.318

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.415	0.476	0.516	0.555	0.586	0.617	0.638	0.649	0.660	0.672	0.683	0.695	0.707	0.718
24	0.597	0.686	0.743	0.799	0.844	0.889	0.919	0.934	0.950	0.967	0.984	1.001	1.018	1.035
28	0.813	0.934	1.011	1.089	1.149	1.209	1.251	1.272	1.293	1.314	1.339	1.362	1.385	1.408
32	1.062	1.219	1.320	1.421	1.500	1.580	1.633	1.661	1.689	1.719	1.749	1.779	1.809	1.839
36	1.344	1.543	1.671	1.798	1.899	1.999	2.067	2.102	2.138	2.176	2.214	2.252	2.290	2.328
40	1.659	1.905	2.063	2.220	2.344	2.468	2.552	2.596	2.639	2.686	2.733	2.780	2.827	2.874

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.418	0.480	0.520	0.560	0.591	0.622	0.643	0.654	0.665	0.677	0.689	0.701	0.712	0.724
24	0.602	0.691	0.749	0.806	0.851	0.896	0.926	0.942	0.958	0.975	0.992	1.009	1.026	1.043
28	0.819	0.941	1.019	1.097	1.158	1.219	1.261	1.282	1.304	1.327	1.350	1.373	1.396	1.420
32	1.070	1.229	1.331	1.432	1.512	1.592	1.646	1.675	1.703	1.733	1.763	1.794	1.824	1.854
36	1.355	1.556	1.684	1.813	1.914	2.015	2.084	2.119	2.155	2.193	2.232	2.270	2.308	2.347
40	1.672	1.921	2.079	2.238	2.363	2.488	2.573	2.617	2.660	2.708	2.755	2.802	2.850	2.897

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.164	0.188	0.204	0.219	0.232	0.244	0.252	0.256	0.261	0.265	0.270	0.275	0.279	0.284
24	0.236	0.271	0.293	0.316	0.333	0.351	0.363	0.369	0.375	0.382	0.389	0.395	0.402	0.409
28	0.321	0.369	0.399	0.430	0.454	0.478	0.494	0.503	0.511	0.520	0.529	0.538	0.547	0.556
32	0.420	0.482	0.522	0.562	0.593	0.624	0.645	0.656	0.667	0.679	0.691	0.703	0.715	0.727
36	0.531	0.610	0.660	0.711	0.750	0.790	0.817	0.831	0.845	0.860	0.875	0.890	0.905	0.920
40	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136

2.5m Bay x 1.3m (5) Width

(Town, Uncload, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.428	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.615	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.815	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.24

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.315	0.384	0.437	0.488	0.528	0.568	0.596	0.611	0.626	0.643	0.661	0.678	0.695	0.712
24	0.453	0.556	0.629	0.703	0.761	0.819	0.858	0.880	0.902	0.927	0.951	0.976	1.001	1.026
28	0.617	0.756	0.856	0.957	1.035	1.114	1.168	1.198	1.228	1.261	1.295	1.329	1.362	1.396
32	0.806	0.988	1.119	1.249	1.352	1.455	1.526	1.565	1.603	1.647	1.691	1.735	1.779	1.823
36	1.020	1.250	1.416	1.581	1.712	1.842	1.931	1.980	2.029	2.085	2.140	2.196	2.252	2.307
40	1.259	1.545	1.748	1.952	2.115	2.274	2.384	2.445	2.505	2.574	2.643	2.711	2.786	2.849

Tie Pattern B — Max Mmt coefficient= 0.49

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

Tie Pattern D — Max Mmt coefficient= 1.25

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.317	0.389	0.440	0.492	0.533	0.573	0.601	0.616	0.631	0.649	0.666	0.683	0.701	0.718
24	0.457	0.560	0.634	0.708	0.767	0.825	0.865	0.887	0.909	0.934	0.959	0.984	1.009	1.034
28	0.622	0.762	0.863	0.964	1.044	1.123	1.178	1.208	1.237	1.271	1.305	1.339	1.373	1.407
32	0.812	0.996	1.128	1.259	1.363	1.467	1.538	1.577	1.616	1.661	1.705	1.749	1.794	1.838
36	1.028	1.260	1.427	1.594	1.725	1.857	1.947	1.996	2.046	2.102	2.158	2.214	2.275	2.326
40	1.269	1.554	1.762	1.968	2.130	2.292	2.404	2.465	2.525	2.595	2.664	2.733	2.807	2.872

Tie Pattern E — Max Mmt coefficient= 0.49

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.124	0.152	0.173	0.193	0.209	0.225	0.236	0.242	0.247	0.254	0.261	0.268	0.275	0.281
24	0.179	0.220	0.249	0.278	0.301	0.323	0.339	0.348	0.356	0.366	0.376	0.386	0.395	0.405
28	0.244	0.299	0.338	0.378	0.409	0.440	0.462	0.473	0.485	0.498	0.512	0.525	0.538	0.552
32	0.318	0.390	0.442	0.494	0.534	0.575	0.603	0.618	0.634	0.651	0.668	0.686	0.703	0.720
36	0.403	0.494	0.559	0.625	0.676	0.728	0.763	0.783	0.802	0.824	0.846	0.868	0.890	0.912
40	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126

LC3 2.5m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	13	12
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	8	8
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	5	5
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	3	2
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.323	9.296	15	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	15	14
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	11	11
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	8	8

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.866	5.801	13	12
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	8	8
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	5	4
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	3	2
36	2.338	1.232	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0	0
40	0.592	-0.775	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	14	14
36	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	11	11
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	8	8

LC3 2.5m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	13	12
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	9	9
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	6	6
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	4	4
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.653	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	2	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.123	7.015	6.908	6.800	6.692	6.584	15	14
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	12	12
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	9	9

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.026	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.026	5.931	5.836	13	12
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	9	8
28	6.342	5.592	5.037	4.482	4.043	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	6	5
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	4	4
36	4.131	2.856	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2	2
40	2.805	1.232	0.100	-1.032	-1.928	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	2	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	14	14
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	11	11
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	9	8

2500 Bay Tube Transom

LC4 2.5m Bay x 1.3m (5) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.501	7.163	6.947	6.730	6.560	6.390	6.275	6.215	6.155	6.090	6.026	5.961	5.897	5.833	12	11
24	6.499	6.011	5.700	5.388	5.143	4.898	4.732	4.646	4.560	4.467	4.374	4.281	4.189	4.096	7	7
28	5.314	4.651	4.227	3.803	3.469	3.135	2.909	2.792	2.675	2.548	2.422	2.296	2.169	2.043	4	4
32	3.947	3.080	2.527	1.973	1.537	1.101	0.806	0.653	0.500	0.335	0.170	0.005	-0.160	-0.325	2	2
36	2.397	1.301	0.600	-0.101	-0.653	-1.205	-1.578	-1.772	-1.966	-2.174	-2.383	-2.592	-2.801	-3.010	0	0
40	0.665	-0.688	-1.554	-2.419	-3.100	-3.782	-4.242	-4.481	-4.721	-4.978	-5.236	-5.494	-5.752	-6.010	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.042	9.891	9.794	9.697	9.621	9.545	9.493	9.467	9.440	9.411	9.382	9.354	9.325	9.296	15	15
24	9.594	9.376	9.237	9.097	8.988	8.878	8.804	8.766	8.727	8.686	8.644	8.603	8.561	8.520	15	15
28	9.064	8.768	8.578	8.389	8.240	8.090	7.990	7.937	7.885	7.828	7.772	7.715	7.659	7.603	15	15
32	8.453	8.066	7.819	7.571	7.376	7.181	7.050	6.981	6.913	6.839	6.765	6.692	6.618	6.544	14	13
36	7.761	7.271	6.958	6.644	6.398	6.151	5.984	5.898	5.811	5.718	5.625	5.531	5.438	5.345	11	10
40	6.987	6.382	5.995	5.609	5.304	5.000	4.794	4.687	4.580	4.465	4.350	4.234	4.119	4.004	7	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.483	7.142	6.924	6.706	6.534	6.362	6.246	6.186	6.126	6.061	5.996	5.931	5.868	5.801	12	11
24	6.472	5.981	5.667	5.353	5.106	4.858	4.691	4.605	4.518	4.424	4.331	4.237	4.143	4.050	7	7
28	5.278	4.609	4.182	3.754	3.418	3.081	2.854	2.736	2.617	2.490	2.363	2.235	2.108	1.981	4	4
32	3.900	3.026	2.468	1.910	1.470	1.031	0.734	0.579	0.425	0.258	0.092	-0.074	-0.241	-0.407	2	2
34	2.338	1.292	0.526	-0.181	-0.737	-1.293	-1.669	-1.865	-2.060	-2.271	-2.481	-2.692	-2.902	-3.113	0	0
40	0.592	-0.775	-1.645	-2.517	-3.204	-3.891	-4.355	-4.596	-4.838	-5.097	-5.357	-5.617	-5.877	-6.137	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.715	9.569	9.475	9.381	9.308	9.234	9.184	9.159	9.133	9.105	9.077	9.049	9.021	8.993	15	15
24	9.281	9.071	8.936	8.801	8.695	8.589	8.518	8.480	8.443	8.403	8.363	8.323	8.283	8.243	15	15
28	8.769	8.482	8.299	8.116	7.971	7.827	7.730	7.679	7.628	7.574	7.519	7.464	7.410	7.355	15	15
32	8.178	7.804	7.564	7.325	7.136	6.948	6.820	6.754	6.688	6.616	6.545	6.474	6.402	6.331	13	13
34	7.508	7.034	6.731	6.428	6.189	5.951	5.790	5.706	5.622	5.532	5.441	5.351	5.261	5.171	10	10
40	6.759	6.174	5.800	5.426	5.131	4.837	4.638	4.534	4.431	4.319	4.208	4.097	3.985	3.874	7	7

LC4 2.5m Bay x 1.3m (5) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.050	7.660	7.379	7.099	6.878	6.657	6.505	6.422	6.339	6.245	6.150	6.056	5.961	5.867	12	12
24	7.289	6.727	6.323	5.919	5.600	5.282	5.064	4.944	4.825	4.689	4.553	4.417	4.281	4.145	8	8
28	6.390	5.625	5.075	4.524	4.091	3.658	3.360	3.198	3.036	2.851	2.666	2.481	2.296	2.111	5	5
32	5.352	4.353	3.634	2.915	2.350	1.784	1.395	1.183	0.971	0.729	0.488	0.246	0.005	-0.237	3	3
36	4.176	2.912	2.002	1.092	0.376	-0.340	-0.832	-1.100	-1.369	-1.675	-1.980	-2.286	-2.592	-2.898	2	2
40	2.861	1.301	0.177	-0.946	-1.830	-2.714	-3.321	-3.655	-3.984	-4.362	-4.739	-5.117	-5.494	-5.872	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.287	10.113	9.987	9.862	9.763	9.664	9.596	9.559	9.522	9.480	9.438	9.396	9.354	9.311	15	15
24	9.947	9.696	9.515	9.334	9.192	9.050	8.952	8.899	8.846	8.785	8.724	8.663	8.603	8.542	15	15
28	9.545	9.203	8.957	8.711	8.518	8.324	8.191	8.119	8.046	7.963	7.881	7.798	7.715	7.633	15	15
32	9.081	8.635	8.314	7.992	7.740	7.487	7.313	7.218	7.125	7.015	6.908	6.800	6.692	6.584	14	13
36	8.556	7.991	7.584	7.178	6.858	6.538	6.318	6.198	6.078	5.941	5.804	5.668	5.531	5.395	11	11
40	7.968	7.271	6.769	6.267	5.872	5.477	5.205	5.057	4.909	4.740	4.572	4.403	4.234	4.066	8	8

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.036	7.643	7.360	7.077	6.854	6.631	6.478	6.395	6.311	6.216	6.121	6.028	5.931	5.836	12	11
24	7.269	6.703	6.295	5.888	5.567	5.246	5.026	4.905	4.785	4.648	4.511	4.374	4.237	4.100	8	8
28	6.362	5.592	5.037	4.482	4.045	3.609	3.309	3.145	2.981	2.795	2.608	2.422	2.235	2.049	5	5
32	5.316	4.309	3.585	2.860	2.290	1.720	1.328	1.114	0.900	0.656	0.413	0.169	-0.074	-0.318	3	3
34	4.131	2.854	1.939	1.022	0.300	-0.421	-0.918	-1.188	-1.459	-1.767	-2.075	-2.384	-2.692	-3.000	2	2
40	2.805	1.232	0.100	-1.032	-1.923	-2.814	-3.427	-3.761	-4.095	-4.476	-4.856	-5.237	-5.617	-5.998	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

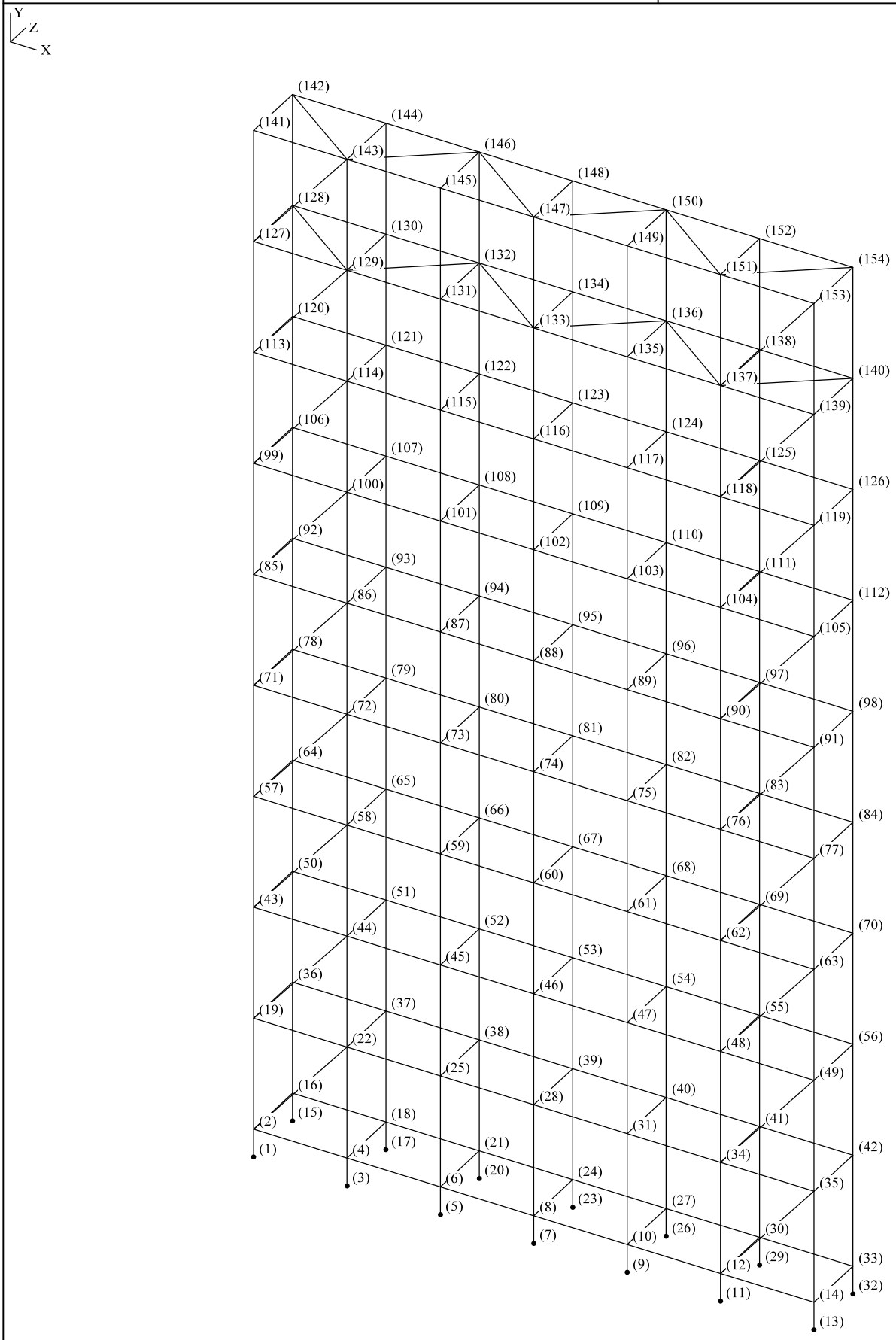
Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.952	9.784	9.662	9.541	9.445	9.350	9.284	9.248	9.212	9.172	9.131	9.090	9.049	9.008	15	15
24	9.623	9.380	9.205	9.031	8.893	8.755	8.661	8.609	8.558	8.499	8.440	8.381	8.323	8.264	15	15
28	9.234	8.904	8.666	8.428	8.241	8.053	7.925	7.854	7.784	7.704	7.624	7.544	7.464	7.384	15	15
32	8.786	8.354	8.043	7.732	7.488	7.243	7.075	6.983	6.892	6.787	6.683	6.578	6.474	6.369	13	13
36	8.277	7.731	7.337	6.944	6.634	6.325	6.112	5.996	5.880	5.748	5.616	5.483	5.351	5.219	11	10
40	7.709	7.034	6.548	6.063	5.681	5.299	5.036	4.893	4.749	4.586	4.423	4.260	4.097	3.933	8	8

1.8m x 1.3m Tube Transom SWH Design Sheets

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12385

Job Ref : 1462
Sheet : 1800 T A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :



Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F1	Support
Load Group F3	Support

Load Case 001 : A - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : A - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : A - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : D - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : D - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : D - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : A WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : A WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : A WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : D WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : D WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : D WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	1.800	0.000	0.000	4	1.800	0.500	0.000
5	3.600	0.000	0.000	6	3.600	0.500	0.000
7	5.400	0.000	0.000	8	5.400	0.500	0.000
9	7.200	0.000	0.000	10	7.200	0.500	0.000
11	9.000	0.000	0.000	12	9.000	0.500	0.000
13	10.800	0.000	0.000	14	10.800	0.500	0.000
15	0.000	0.000	1.300	16	0.000	0.500	1.300
17	1.800	0.000	1.300	18	1.800	0.500	1.300
19	0.000	2.500	0.000	20	3.600	0.000	1.300
21	3.600	0.500	1.300	22	1.800	2.500	0.000
23	5.400	0.000	1.300	24	5.400	0.500	1.300
25	3.600	2.500	0.000	26	7.200	0.000	1.300
27	7.200	0.500	1.300	28	5.400	2.500	0.000
29	9.000	0.000	1.300	30	9.000	0.500	1.300
31	7.200	2.500	0.000	32	10.800	0.000	1.300
33	10.800	0.500	1.300	34	9.000	2.500	0.000
35	10.800	2.500	0.000	36	0.000	2.500	1.300
37	1.800	2.500	1.300	38	3.600	2.500	1.300
39	5.400	2.500	1.300	40	7.200	2.500	1.300
41	9.000	2.500	1.300	42	10.800	2.500	1.300
43	0.000	4.500	0.000	44	1.800	4.500	0.000
45	3.600	4.500	0.000	46	5.400	4.500	0.000
47	7.200	4.500	0.000	48	9.000	4.500	0.000
49	10.800	4.500	0.000	50	0.000	4.500	1.300
51	1.800	4.500	1.300	52	3.600	4.500	1.300
53	5.400	4.500	1.300	54	7.200	4.500	1.300
55	9.000	4.500	1.300	56	10.800	4.500	1.300
57	0.000	6.500	0.000	58	1.800	6.500	0.000
59	3.600	6.500	0.000	60	5.400	6.500	0.000
61	7.200	6.500	0.000	62	9.000	6.500	0.000
63	10.800	6.500	0.000	64	0.000	6.500	1.300
65	1.800	6.500	1.300	66	3.600	6.500	1.300
67	5.400	6.500	1.300	68	7.200	6.500	1.300
69	9.000	6.500	1.300	70	10.800	6.500	1.300
71	0.000	8.500	0.000	72	1.800	8.500	0.000
73	3.600	8.500	0.000	74	5.400	8.500	0.000
75	7.200	8.500	0.000	76	9.000	8.500	0.000
77	10.800	8.500	0.000	78	0.000	8.500	1.300
79	1.800	8.500	1.300	80	3.600	8.500	1.300
81	5.400	8.500	1.300	82	7.200	8.500	1.300
83	9.000	8.500	1.300	84	10.800	8.500	1.300
85	0.000	10.500	0.000	86	1.800	10.500	0.000
87	3.600	10.500	0.000	88	5.400	10.500	0.000
89	7.200	10.500	0.000	90	9.000	10.500	0.000
91	10.800	10.500	0.000	92	0.000	10.500	1.300
93	1.800	10.500	1.300	94	3.600	10.500	1.300
95	5.400	10.500	1.300	96	7.200	10.500	1.300
97	9.000	10.500	1.300	98	10.800	10.500	1.300
99	0.000	12.500	0.000	100	1.800	12.500	0.000
101	3.600	12.500	0.000	102	5.400	12.500	0.000
103	7.200	12.500	0.000	104	9.000	12.500	0.000
105	10.800	12.500	0.000	106	0.000	12.500	1.300
107	1.800	12.500	1.300	108	3.600	12.500	1.300
109	5.400	12.500	1.300	110	7.200	12.500	1.300
111	9.000	12.500	1.300	112	10.800	12.500	1.300
113	0.000	14.500	0.000	114	1.800	14.500	0.000
115	3.600	14.500	0.000	116	5.400	14.500	0.000
117	7.200	14.500	0.000	118	9.000	14.500	0.000
119	10.800	14.500	0.000	120	0.000	14.500	1.300
121	1.800	14.500	1.300	122	3.600	14.500	1.300
123	5.400	14.500	1.300	124	7.200	14.500	1.300
125	9.000	14.500	1.300	126	10.800	14.500	1.300
127	0.000	16.500	0.000	128	0.000	16.500	1.300
129	1.800	16.500	0.000	130	1.800	16.500	1.300

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Date : 08 June 2016 / Ver. 2015.14
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Approved :

131	3.600	16.500	0.000	132	3.600	16.500	1.300
133	5.400	16.500	0.000	134	5.400	16.500	1.300
135	7.200	16.500	0.000	136	7.200	16.500	1.300
137	9.000	16.500	0.000	138	9.000	16.500	1.300
139	10.800	16.500	0.000	140	10.800	16.500	1.300
141	0.000	18.500	0.000	142	0.000	18.500	1.300
143	1.800	18.500	0.000	144	1.800	18.500	1.300
145	3.600	18.500	0.000	146	3.600	18.500	1.300
147	5.400	18.500	0.000	148	5.400	18.500	1.300
149	7.200	18.500	0.000	150	7.200	18.500	1.300
151	9.000	18.500	0.000	152	9.000	18.500	1.300
153	10.800	18.500	0.000	154	10.800	18.500	1.300

Member Properties

Members 1-202 and 221-360

```
M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4           Ix 11.59E-8        Iy 11.59E-8        J 23.17E-8
 E 205.0E6           G 78.85E6
```

Members 203-220

```
M  ...  ...          48.3 2.30 []    E 210E6    G 80E6
 A 3.32E-4           Ix 8.81E-8         Iy 8.81E-8         J 17.62E-8
```

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®O® ®O®	2	®O® ®O®	3	®O® ®O®	4	®O® ®O®
5	®O® ®O®	6	®O® ®O®	7	®O® ®O®	8	®O® ®O®
9	®O® ®O®	10	®O® ®O®	11	®O® ®O®	12	®O® ®O®
13	®O® ®O®	14	®O® ®O®	15	®O® ®O®	16	®O® ®O®
17	®O® ®O®	18	®O® ®O®	19	®O® ®O®	20	®O® ®O®
21	®O® ®O®	22	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
37	®O® ®O®	38	®O® ®O®	39	®O® ®O®	40	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®O® ®O®	48	®O® ®O®
49	®O® ®O®	50	®O® ®O®	51	®O® ®O®	52	®O® ®O®
53	®O® ®O®	54	®O® ®O®	55	®O® ®O®	56	®O® ®O®
57	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	68	®O® ®O®
69	®O® ®O®	70	®O® ®O®	71	®O® ®O®	72	®O® ®O®
73	®O® ®O®	74	®O® ®O®	75	®O® ®O®	76	®O® ®O®
77	®O® ®O®	78	®O® ®O®	79	®O® ®O®	80	®O® ®O®
81	®O® ®O®	82	®O® ®O®	83	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	88	®O® ®O®
89	®O® ®O®	90	®O® ®O®	91	®O® ®O®	92	®O® ®O®
93	®O® ®O®	94	®O® ®O®	95	®O® ®O®	96	®O® ®O®
97	®O® ®O®	98	®O® ®O®	99	®O® ®O®	100	®O® ®O®
101	®O® ®O®	102	®O® ®O®	103	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	108	®O® ®O®
109	®O® ®O®	110	®O® ®O®	111	®O® ®O®	112	®O® ®O®
113	®O® ®O®	114	®O® ®O®	115	®O® ®O®	116	®O® ®O®
117	®O® ®O®	118	®O® ®O®	119	®O® ®O®	120	®O® ®O®
121	®OO ®OO	122	®OO ®OO	123	®OO ®OO	124	®OO ®OO
125	®OO ®OO	126	®OO ®OO	127	®OO ®OO	128	®OO ®OO
129	®OO ®OO	130	®OO ®OO	131	®OO ®OO	132	®OO ®OO
133	®O® ®O®	134	®O® ®O®	135	®O® ®O®	136	®O® ®O®
137	®O® ®O®	138	®O® ®O®	139	®O® ®O®	140	®O® ®O®
141	®O® ®O®	142	®O® ®O®	143	®O® ®O®	144	®O® ®O®
145	®O® ®O®	146	®O® ®O®	147	®O® ®O®	148	®O® ®O®
149	®O® ®O®	150	®O® ®O®	151	®O® ®O®	152	®O® ®O®

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12385

Job Ref : 1462
Sheet : 1800 T A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

153 ®O® ®O®	154 ®O® ®O®	155 ®O® ®O®	156 ®O® ®O®
157 ®O® ®O®	158 ®O® ®O®	159 ®O® ®O®	160 ®O® ®O®
161 ®O® ®O®	162 ®O® ®O®	163 ®O® ®O®	164 ®O® ®O®
165 ®O® ®O®	166 ®O® ®O®	167 ®O® ®O®	168 ®O® ®O®
169 ®O® ®O®	170 ®O® ®O®	171 ®O® ®O®	172 ®O® ®O®
173 ®O® ®O®	174 ®O® ®O®	175 ®O® ®O®	176 ®O® ®O®
177 ®O® ®O®	178 ®O® ®O®	179 ®O® ®O®	180 ®O® ®O®
181 ®O® ®O®	182 ®O® ®O®	183 ®O® ®O®	184 ®O® ®O®
185 ®O® ®O®	186 ®O® ®O®	187 ®O® ®O®	188 ®O® ®O®
189 ®O® ®O®	190 ®O® ®O®	191 ®O® ®O®	192 ®O® ®O®
193 ®O® ®O®	194 ®O® ®O®	195 ®O® ®O®	196 ®O® ®O®
197 ®O® ®O®	198 ®O® ®O®	199 ®O® ®O®	200 ®O® ®O®
201 ®O® ®O®	202 ®O® ®O®	203 ®OO ®OO	204 ®OO ®OO
205 ®OO ®OO	206 ®OO ®OO	207 ®OO ®OO	208 ®OO ®OO
209 ®OO ®OO	210 ®OO ®OO	211 ®OO ®OO	212 ®OO ®OO
213 ®OO ®OO	214 ®OO ®OO	215 ®OO ®OO	216 ®OO ®OO
217 ®OO ®OO	218 ®OO ®OO	219 ®OO ®OO	220 ®OO ®OO

Nodal Loading and Support Conditions

NODES 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
D1 Ls +0000.000 -0000.480 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
D1 Ls +0000.000 -0000.760 +0000.000 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
D1 Ls +0000.000 -0000.710 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2, 4, 19, 22, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
D1 Ls +0000.000 -0000.250 +0000.000 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 14, 16, 18, 21, 24-25, 27-28, 30-31, 33-42, 45-56, 59-70, 73-84, 87-98, 101-112 and 115-126
D1 Ls +0000.000 -0000.200 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L3 Ls +0000.000 -0002.115 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L4 Ls +0000.000 -0001.058 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L5 Ls +0000.000 -0003.170 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L6 Ls +0000.000 -0001.586 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-154
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W1 Ls +0000.000 +0000.000 -0000.246 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W1 Ls +0000.000 +0000.000 -0000.230 +0000.000 +0000.000 +0000.000
NODES 2, 4, 19, 22, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W1 Ls +0000.000 +0000.000 -0000.060 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 14, 16, 18, 21, 24-25, 27-28, 30-31, 33-42, 45-56, 59-70, 73-84, 87-98, 101-112, 115-126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
W1 Ls +0000.000 +0000.000 -0000.045 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 14, 19, 22, 25, 28, 31, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W2 Ls +0000.000 +0000.000 -0000.180 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 14, 19, 22, 25, 28, 31, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W3 Ls +0000.000 +0000.000 -0000.360 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W4 Ls +0000.000 +0000.000 -0001.452 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W4 Ls +0000.000 +0000.000 -0001.374 +0000.000 +0000.000 +0000.000
NODES 2, 4, 19, 22, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 14, 25, 28, 31, 34-35, 45-49, 59-63, 73-77, 87-91, 101-105 and 115-119
W4 Ls +0000.000 +0000.000 -0000.448 +0000.000 +0000.000 +0000.000

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Job Ref : 1462
Sheet : 1800 T A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

NODES 2, 4, 6, 8, 10, 12, 14, 19, 22, 25, 28, 31, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153

```
W5 Ls +0000.000 +0000.000 -0000.900 +0000.000 +0000.000 +0000.000
```

NODES 2, 4, 6, 8, 10, 12, 14, 19, 22, 25, 28, 31, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153

```
W6 Ls +0000.000 +0000.000 -0001.800 +0000.000 +0000.000 +0000.000
```

NODES 15, 17, 20, 23, 26, 29 and 32

```
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
```

NODES 1, 3, 5, 7, 9, 11 and 13

```
UT Rs 1 1 0 0 1 0
```

NODES 50, 52, 54, 56, 78, 80, 82, 84, 106, 108, 110, 112, 128, 132, 136, 140, 142, 146, 150 and 154

```
F1 Rs 1 0 1 0 0 0 (Horizontally Restraint)
```

NODES 38, 42, 50, 54, 66, 70, 78, 82, 94, 98, 106, 110, 122, 126, 128, 136, 146 and 154

```
F3 Rs 1 0 1 0 0 0 (Horizontally Restraint)
```

NODES 2, 4, 6, 8, 10, 12, 14, 16, 18-19, 21-22, 24-25, 27-28, 30-31 and 33-154

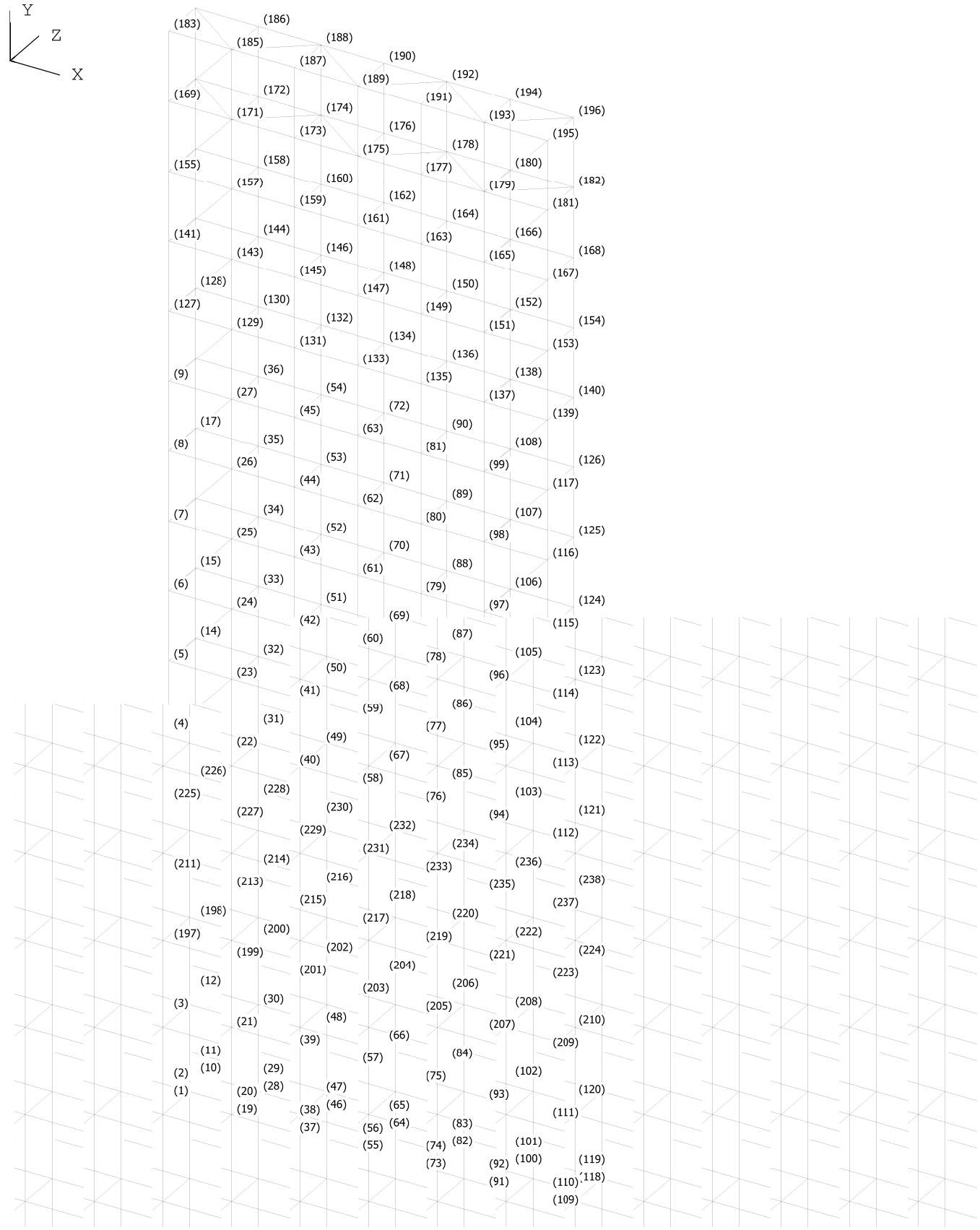
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UT Springs 0000.000 0000.000 0000.000 0071.940 0000.000 0071.940
```

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Sheet	**: T 1800 B E /**
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Approved	**:**



Frame Geometry - (Full Frame) - 3D Front View

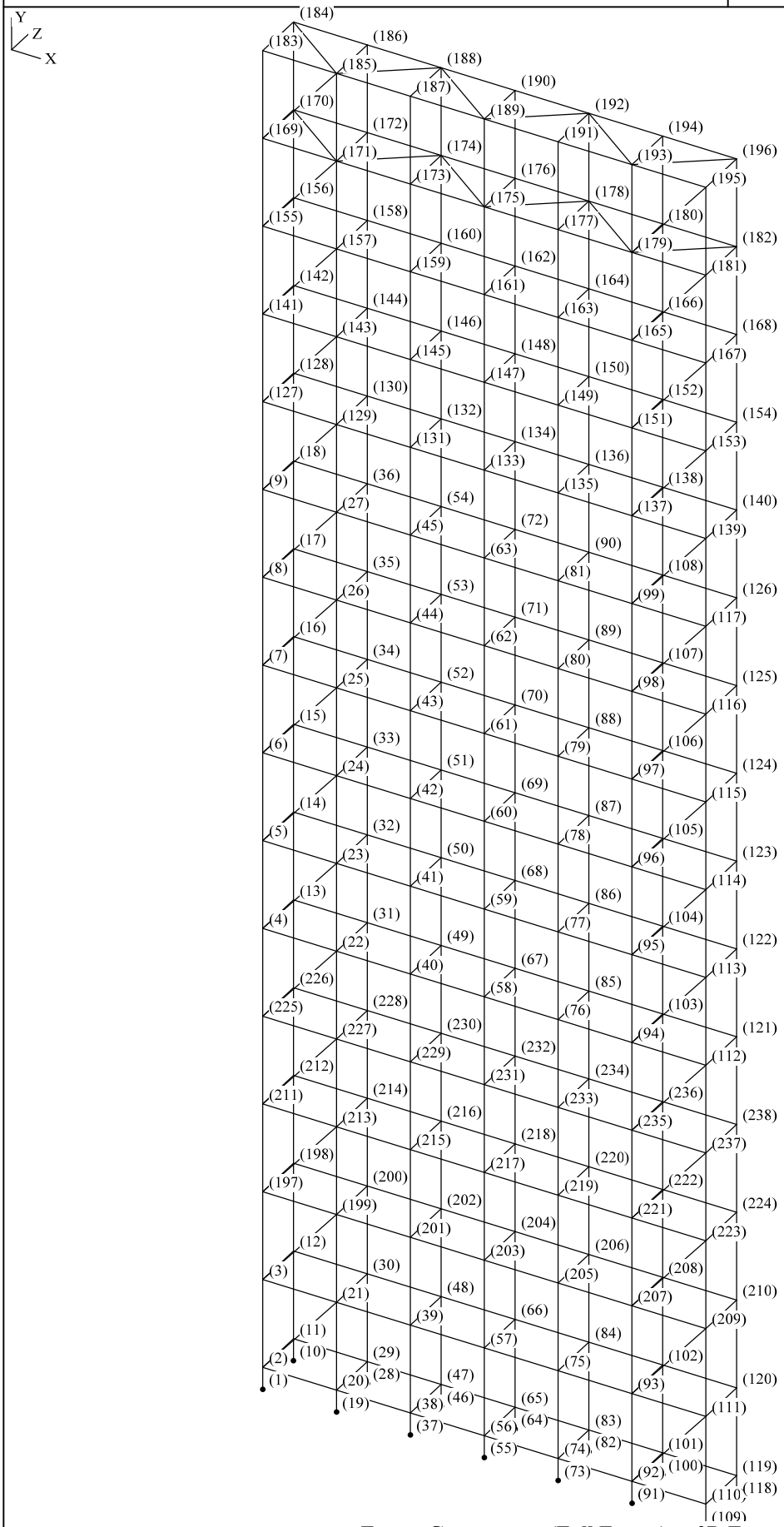
Not to Scale

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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F2	Support
Load Group F4	Support

Load Case 001 : B - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : B - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : B - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : E - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : E - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : E - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : B WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : B WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : B WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : E WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : E WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : E WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	0.000	2.500	0.000	4	0.000	10.500	0.000
5	0.000	12.500	0.000	6	0.000	14.500	0.000
7	0.000	16.500	0.000	8	0.000	18.500	0.000
9	0.000	20.500	0.000	10	0.000	0.000	1.300
11	0.000	0.500	1.300	12	0.000	2.500	1.300
13	0.000	10.500	1.300	14	0.000	12.500	1.300
15	0.000	14.500	1.300	16	0.000	16.500	1.300
17	0.000	18.500	1.300	18	0.000	20.500	1.300
19	1.800	0.000	0.000	20	1.800	0.500	0.000
21	1.800	2.500	0.000	22	1.800	10.500	0.000
23	1.800	12.500	0.000	24	1.800	14.500	0.000
25	1.800	16.500	0.000	26	1.800	18.500	0.000
27	1.800	20.500	0.000	28	1.800	0.000	1.300
29	1.800	0.500	1.300	30	1.800	2.500	1.300
31	1.800	10.500	1.300	32	1.800	12.500	1.300
33	1.800	14.500	1.300	34	1.800	16.500	1.300
35	1.800	18.500	1.300	36	1.800	20.500	1.300
37	3.600	0.000	0.000	38	3.600	0.500	0.000
39	3.600	2.500	0.000	40	3.600	10.500	0.000
41	3.600	12.500	0.000	42	3.600	14.500	0.000
43	3.600	16.500	0.000	44	3.600	18.500	0.000
45	3.600	20.500	0.000	46	3.600	0.000	1.300
47	3.600	0.500	1.300	48	3.600	2.500	1.300
49	3.600	10.500	1.300	50	3.600	12.500	1.300
51	3.600	14.500	1.300	52	3.600	16.500	1.300
53	3.600	18.500	1.300	54	3.600	20.500	1.300
55	5.400	0.000	0.000	56	5.400	0.500	0.000
57	5.400	2.500	0.000	58	5.400	10.500	0.000
59	5.400	12.500	0.000	60	5.400	14.500	0.000
61	5.400	16.500	0.000	62	5.400	18.500	0.000
63	5.400	20.500	0.000	64	5.400	0.000	1.300
65	5.400	0.500	1.300	66	5.400	2.500	1.300
67	5.400	10.500	1.300	68	5.400	12.500	1.300
69	5.400	14.500	1.300	70	5.400	16.500	1.300
71	5.400	18.500	1.300	72	5.400	20.500	1.300
73	7.200	0.000	0.000	74	7.200	0.500	0.000
75	7.200	2.500	0.000	76	7.200	10.500	0.000
77	7.200	12.500	0.000	78	7.200	14.500	0.000
79	7.200	16.500	0.000	80	7.200	18.500	0.000
81	7.200	20.500	0.000	82	7.200	0.000	1.300
83	7.200	0.500	1.300	84	7.200	2.500	1.300
85	7.200	10.500	1.300	86	7.200	12.500	1.300
87	7.200	14.500	1.300	88	7.200	16.500	1.300
89	7.200	18.500	1.300	90	7.200	20.500	1.300
91	9.000	0.000	0.000	92	9.000	0.500	0.000
93	9.000	2.500	0.000	94	9.000	10.500	0.000
95	9.000	12.500	0.000	96	9.000	14.500	0.000
97	9.000	16.500	0.000	98	9.000	18.500	0.000
99	9.000	20.500	0.000	100	9.000	0.000	1.300
101	9.000	0.500	1.300	102	9.000	2.500	1.300
103	9.000	10.500	1.300	104	9.000	12.500	1.300
105	9.000	14.500	1.300	106	9.000	16.500	1.300
107	9.000	18.500	1.300	108	9.000	20.500	1.300
109	10.800	0.000	0.000	110	10.800	0.500	0.000
111	10.800	2.500	0.000	112	10.800	10.500	0.000
113	10.800	12.500	0.000	114	10.800	14.500	0.000
115	10.800	16.500	0.000	116	10.800	18.500	0.000
117	10.800	20.500	0.000	118	10.800	0.000	1.300
119	10.800	0.500	1.300	120	10.800	2.500	1.300
121	10.800	10.500	1.300	122	10.800	12.500	1.300
123	10.800	14.500	1.300	124	10.800	16.500	1.300
125	10.800	18.500	1.300	126	10.800	20.500	1.300
127	0.000	22.500	0.000	128	0.000	22.500	1.300
129	1.800	22.500	0.000	130	1.800	22.500	1.300

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12385

Job Ref : 1462
Sheet : T 1800 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

131	3.600	22.500	0.000	132	3.600	22.500	1.300
133	5.400	22.500	0.000	134	5.400	22.500	1.300
135	7.200	22.500	0.000	136	7.200	22.500	1.300
137	9.000	22.500	0.000	138	9.000	22.500	1.300
139	10.800	22.500	0.000	140	10.800	22.500	1.300
141	0.000	24.500	0.000	142	0.000	24.500	1.300
143	1.800	24.500	0.000	144	1.800	24.500	1.300
145	3.600	24.500	0.000	146	3.600	24.500	1.300
147	5.400	24.500	0.000	148	5.400	24.500	1.300
149	7.200	24.500	0.000	150	7.200	24.500	1.300
151	9.000	24.500	0.000	152	9.000	24.500	1.300
153	10.800	24.500	0.000	154	10.800	24.500	1.300
155	0.000	26.500	0.000	156	0.000	26.500	1.300
157	1.800	26.500	0.000	158	1.800	26.500	1.300
159	3.600	26.500	0.000	160	3.600	26.500	1.300
161	5.400	26.500	0.000	162	5.400	26.500	1.300
163	7.200	26.500	0.000	164	7.200	26.500	1.300
165	9.000	26.500	0.000	166	9.000	26.500	1.300
167	10.800	26.500	0.000	168	10.800	26.500	1.300
169	0.000	28.500	0.000	170	0.000	28.500	1.300
171	1.800	28.500	0.000	172	1.800	28.500	1.300
173	3.600	28.500	0.000	174	3.600	28.500	1.300
175	5.400	28.500	0.000	176	5.400	28.500	1.300
177	7.200	28.500	0.000	178	7.200	28.500	1.300
179	9.000	28.500	0.000	180	9.000	28.500	1.300
181	10.800	28.500	0.000	182	10.800	28.500	1.300
183	0.000	30.500	0.000	184	0.000	30.500	1.300
185	1.800	30.500	0.000	186	1.800	30.500	1.300
187	3.600	30.500	0.000	188	3.600	30.500	1.300
189	5.400	30.500	0.000	190	5.400	30.500	1.300
191	7.200	30.500	0.000	192	7.200	30.500	1.300
193	9.000	30.500	0.000	194	9.000	30.500	1.300
195	10.800	30.500	0.000	196	10.800	30.500	1.300
197	0.000	4.500	0.000	198	0.000	4.500	1.300
199	1.800	4.500	0.000	200	1.800	4.500	1.300
201	3.600	4.500	0.000	202	3.600	4.500	1.300
203	5.400	4.500	0.000	204	5.400	4.500	1.300
205	7.200	4.500	0.000	206	7.200	4.500	1.300
207	9.000	4.500	0.000	208	9.000	4.500	1.300
209	10.800	4.500	0.000	210	10.800	4.500	1.300
211	0.000	6.500	0.000	212	0.000	6.500	1.300
213	1.800	6.500	0.000	214	1.800	6.500	1.300
215	3.600	6.500	0.000	216	3.600	6.500	1.300
217	5.400	6.500	0.000	218	5.400	6.500	1.300
219	7.200	6.500	0.000	220	7.200	6.500	1.300
221	9.000	6.500	0.000	222	9.000	6.500	1.300
223	10.800	6.500	0.000	224	10.800	6.500	1.300
225	0.000	8.500	0.000	226	0.000	8.500	1.300
227	1.800	8.500	0.000	228	1.800	8.500	1.300
229	3.600	8.500	0.000	230	3.600	8.500	1.300
231	5.400	8.500	0.000	232	5.400	8.500	1.300
233	7.200	8.500	0.000	234	7.200	8.500	1.300
235	9.000	8.500	0.000	236	9.000	8.500	1.300
237	10.800	8.500	0.000	238	10.800	8.500	1.300

Member Properties

Members 1-46, 48-185, 189-254, 257-421, 427-461, 463-495, 497-529, 531-550 and 552-555

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M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4            Ix 11.59E-8          Iy 11.59E-8          J 23.17E-8
 E 205.0E6            G 78.85E6
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Members 47, 186-188, 255-256, 422-426, 462, 496, 530, 551 and 556-570

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M  ...  ...          48.3 2.30 []    E 210E6    G 80E6
 A 3.32E-4            Ix 8.81E-8           Iy 8.81E-8           J 17.62E-8
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Job Ref : 1462
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Approved :

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

5	®O® ®O®	6	®O® ®O®	11	®O® ®O®	12	®O® ®O®
17	®O® ®O®	18	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®OO ®OO	52	®O® ®O®
53	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	74	®O® ®O®
75	®O® ®O®	76	®O® ®O®	77	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	94	®O® ®O®
95	®O® ®O®	96	®O® ®O®	97	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	114	®O® ®O®
115	®O® ®O®	116	®O® ®O®	117	®O® ®O®	124	®O® ®O®
125	®O® ®O®	126	®O® ®O®	127	®O® ®O®	134	®O® ®O®
135	®O® ®O®	136	®O® ®O®	137	®O® ®O®	138	®O® ®O®
139	®O® ®O®	140	®O® ®O®	141	®O® ®O®	142	®O® ®O®
143	®O® ®O®	144	®O® ®O®	145	®O® ®O®	146	®O® ®O®
147	®O® ®O®	148	®O® ®O®	149	®O® ®O®	150	®O® ®O®
151	®O® ®O®	152	®O® ®O®	153	®O® ®O®	154	®O® ®O®
155	®O® ®O®	156	®O® ®O®	157	®O® ®O®	158	®O® ®O®
159	®O® ®O®	160	®O® ®O®	161	®O® ®O®	162	®O® ®O®
163	®O® ®O®	164	®O® ®O®	165	®O® ®O®	166	®O® ®O®
167	®O® ®O®	168	®O® ®O®	169	®O® ®O®	170	®O® ®O®
171	®O® ®O®	172	®O® ®O®	173	®O® ®O®	174	®O® ®O®
175	®O® ®O®	176	®O® ®O®	177	®O® ®O®	178	®O® ®O®
179	®O® ®O®	180	®O® ®O®	181	®O® ®O®	182	®O® ®O®
183	®O® ®O®	184	®O® ®O®	185	®O® ®O®	186	®OO ®OO
187	®OO ®OO	188	®OO ®OO	193	®O® ®O®	194	®O® ®O®
199	®O® ®O®	200	®O® ®O®	205	®O® ®O®	206	®O® ®O®
211	®O® ®O®	212	®O® ®O®	217	®O® ®O®	218	®O® ®O®
223	®O® ®O®	224	®O® ®O®	229	®O® ®O®	230	®O® ®O®
231	®O® ®O®	232	®O® ®O®	233	®O® ®O®	234	®O® ®O®
235	®O® ®O®	236	®O® ®O®	237	®O® ®O®	238	®O® ®O®
239	®O® ®O®	240	®O® ®O®	241	®O® ®O®	242	®O® ®O®
243	®O® ®O®	244	®O® ®O®	245	®O® ®O®	246	®O® ®O®
247	®O® ®O®	248	®O® ®O®	249	®O® ®O®	250	®O® ®O®
251	®O® ®O®	252	®O® ®O®	253	®O® ®O®	254	®O® ®O®
255	®OO ®OO	256	®OO ®OO	257	®O® ®O®	258	®O® ®O®
259	®O® ®O®	260	®O® ®O®	261	®O® ®O®	262	®O® ®O®
263	®O® ®O®	264	®O® ®O®	265	®O® ®O®	266	®O® ®O®
267	®O® ®O®	268	®O® ®O®	269	®O® ®O®	270	®O® ®O®
271	®O® ®O®	272	®O® ®O®	273	®O® ®O®	274	®O® ®O®
275	®O® ®O®	276	®O® ®O®	277	®O® ®O®	278	®O® ®O®
279	®O® ®O®	280	®O® ®O®	281	®O® ®O®	282	®O® ®O®
283	®O® ®O®	284	®O® ®O®	285	®O® ®O®	286	®O® ®O®
287	®O® ®O®	288	®O® ®O®	289	®O® ®O®	290	®O® ®O®
291	®O® ®O®	292	®O® ®O®	293	®O® ®O®	294	®O® ®O®
295	®O® ®O®	296	®O® ®O®	297	®O® ®O®	298	®O® ®O®
299	®O® ®O®	300	®O® ®O®	301	®O® ®O®	302	®O® ®O®
303	®O® ®O®	304	®O® ®O®	305	®O® ®O®	306	®O® ®O®
307	®O® ®O®	308	®O® ®O®	309	®O® ®O®	310	®O® ®O®
311	®O® ®O®	312	®O® ®O®	313	®O® ®O®	314	®O® ®O®
315	®O® ®O®	316	®O® ®O®	317	®O® ®O®	318	®O® ®O®
319	®O® ®O®	320	®O® ®O®	321	®O® ®O®	322	®O® ®O®
323	®O® ®O®	324	®O® ®O®	325	®O® ®O®	326	®O® ®O®
327	®O® ®O®	328	®O® ®O®	329	®O® ®O®	330	®O® ®O®
331	®O® ®O®	332	®O® ®O®	333	®O® ®O®	334	®O® ®O®
335	®O® ®O®	336	®O® ®O®	337	®O® ®O®	338	®O® ®O®
339	®O® ®O®	340	®O® ®O®	341	®O® ®O®	342	®O® ®O®
343	®O® ®O®	344	®O® ®O®	345	®O® ®O®	346	®O® ®O®

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12385

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347 ®O® ®O®	348 ®O® ®O®	349 ®O® ®O®	350 ®O® ®O®
351 ®O® ®O®	422 ®OO ®OO	423 ®OO ®OO	424 ®OO ®OO
425 ®OO ®OO	426 ®OO ®OO	427 ®OO ®OO	428 ®OO ®OO
429 ®OO ®OO	430 ®OO ®OO	431 ®OO ®OO	432 ®OO ®OO
433 ®OO ®OO	434 ®OO ®OO	435 ®OO ®OO	436 ®OO ®OO
437 ®OO ®OO	438 ®OO ®OO	441 ®O® ®O®	444 ®O® ®O®
447 ®O® ®O®	450 ®O® ®O®	451 ®O® ®O®	452 ®O® ®O®
453 ®O® ®O®	454 ®O® ®O®	455 ®O® ®O®	456 ®O® ®O®
459 ®O® ®O®	460 ®O® ®O®	461 ®O® ®O®	462 ®OO ®OO
465 ®O® ®O®	468 ®O® ®O®	469 ®O® ®O®	470 ®O® ®O®
471 ®O® ®O®	472 ®O® ®O®	475 ®O® ®O®	478 ®O® ®O®
481 ®O® ®O®	484 ®O® ®O®	485 ®O® ®O®	486 ®O® ®O®
487 ®O® ®O®	488 ®O® ®O®	489 ®O® ®O®	490 ®O® ®O®
493 ®O® ®O®	494 ®O® ®O®	495 ®O® ®O®	496 ®OO ®OO
499 ®O® ®O®	502 ®O® ®O®	503 ®O® ®O®	504 ®O® ®O®
505 ®O® ®O®	506 ®O® ®O®	509 ®O® ®O®	512 ®O® ®O®
515 ®O® ®O®	518 ®O® ®O®	519 ®O® ®O®	520 ®O® ®O®
521 ®O® ®O®	522 ®O® ®O®	523 ®O® ®O®	524 ®O® ®O®
527 ®O® ®O®	528 ®O® ®O®	529 ®O® ®O®	530 ®OO ®OO
533 ®O® ®O®	536 ®O® ®O®	537 ®O® ®O®	538 ®O® ®O®
539 ®O® ®O®	540 ®O® ®O®	551 ®OO ®OO	556 ®OO ®OO
557 ®OO ®OO	558 ®OO ®OO	559 ®OO ®OO	560 ®OO ®OO
561 ®OO ®OO	562 ®OO ®OO	563 ®OO ®OO	564 ®OO ®OO
565 ®OO ®OO	566 ®OO ®OO	567 ®OO ®OO	568 ®OO ®OO
569 ®OO ®OO	570 ®OO ®OO		

Nodal Loading and Support Conditions

NODES 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194 and 196
D1 Ls +0000.000 -0000.480 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
D1 Ls +0000.000 -0000.760 +0000.000 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
D1 Ls +0000.000 -0000.710 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
D1 Ls +0000.000 -0000.250 +0000.000 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108,
110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 198, 200-210, 212,
214-224, 226 and 228-238
D1 Ls +0000.000 -0000.200 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L3 Ls +0000.000 -0002.115 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L4 Ls +0000.000 -0001.058 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L5 Ls +0000.000 -0003.170 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L6 Ls +0000.000 -0001.586 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-196
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W1 Ls +0000.000 +0000.000 -0000.246 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W1 Ls +0000.000 +0000.000 -0000.230 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W1 Ls +0000.000 +0000.000 -0000.060 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108,
110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 170, 172, 174,
176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200-210, 212,
214-224, 226 and 228-238
W1 Ls +0000.000 +0000.000 -0000.045 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W2 Ls +0000.000 +0000.000 -0000.180 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,

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Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W3 Ls +0000.000 +0000.000 -0000.360 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W4 Ls +0000.000 +0000.000 -0001.452 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W4 Ls +0000.000 +0000.000 -0001.374 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 38-45, 56-63, 74-81, 92-99, 110-117, 131, 133, 135, 137, 139, 145, 147,
149, 151, 153, 159, 161, 163, 165, 167, 201, 203, 205, 207, 209, 215, 217,
219, 221, 223, 229, 231, 233, 235 and 237
W4 Ls +0000.000 +0000.000 -0000.448 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W5 Ls +0000.000 +0000.000 -0000.900 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W6 Ls +0000.000 +0000.000 -0001.800 +0000.000 +0000.000 +0000.000
NODES 10, 28, 46, 64, 82, 100 and 118
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 19, 37, 55, 73, 91 and 109
UT Rs 1 1 0 0 1 0
NODES 15, 30-31, 35, 51, 66-67, 71, 87, 102-103, 107, 123, 128, 132, 136, 140,
158, 162, 166, 184, 188, 192, 196, 212, 216, 220 and 224
F2 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 15, 32, 36, 48-49, 53, 70, 87, 104, 108, 120-121, 125, 128, 136, 148, 160,
168, 172, 180, 184, 192, 200, 208, 212, 220 and 232
F4 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2-9, 11-18, 20-27, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99,
101-108, 110-117 and 119-238
UT Springs 0000.000 0000.000 0000.000 0071.940 0000.000 0071.940

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1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width				Axial Gravity Loads - LC3											
Bay: 1.8		Component	Comp.	3-5-0s			3-5-1s			3-5-2s			3-5-3s		
No of Boards 5		weight Kg	Wind Area												
Element				Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6
Ledger and Guardrail	2.50m int	9.7	0.121												
	2.50m ext	9.7	0.121												
	1.80m Int	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7
	1.80m Ext	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7
Tube Trans'	1.3m (5bd)	5.2	0.063		5.2	5.2		5.2	5.2		5.2	5.2		5.2	5.2
	1.3m +1	7.5	0.075						7.5						
	1.3m +2	8.6	0.087									8.6			
	1.3m +3	9.5	0.099												9.5
Toe Boards	2.5m	13.75	0.563												
	1.8m	9.9	0.405	0.405		9.9	0.405		9.9	0.405		9.9	0.405		9.9
	1.3m	7.15	0.293												
Tube Int Board Bracket (Hop up)	1bd	1.5							1.5						
	2bd	6.3										6.3			
	3bd	7.7													7.7
	Infill Bd 2.50m	12							12			12			12
	Infill Bd 1.80m	9							9			9			9
Facade Bracing	2.5x2.0m	11.5	0.154												
	1.8x2.00m	9.8	0.130	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8
Timber Boards 25Kg/m^2	2.5m	14.06													
	1.8m	10.12				10.12			10.12			10.12			10.12
Total weight per bay Int Standard, kg					21.20	49.09		21.20	70.87		21.20	76.22		21.20	78.07
Total weight per bay Ext Standard, kg					26.10	77.89		26.10	83.95		26.10	84.50		26.10	84.95
Total load per bay Int Standard, kN					0.21	0.48		0.21	0.70		0.21	0.75		0.21	0.77
Total load per bay Ext Standard, kN					0.26	0.76		0.26	0.82		0.26	0.83		0.26	0.83
Out of Service factor					0.25			0.25			0.25			0.25	
Imposed load Intensity kN/m2					2			2			2			2	
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.21	2.51		0.21	3.53		0.21	4.39		0.21	5.22
Main Deck, Fully Loaded, Ext std, kN /lift					0.26	2.79		0.26	2.85		0.26	2.85		0.26	2.86
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						2.51			3.02			3.38			3.70
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						1.49			2.11			2.57			2.99
2nd lift Part Loaded, Ext Std, kN/lift						1.78			1.84			1.84			1.85
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						1.49			2.01			2.37			2.69
Wind Area Unsheeted															
Wind Area Debris Netting m^2					0.90			0.90	0.90		0.90	0.90		0.90	0.90
Wind Area Sheeted m^2					1.80	1.80		1.80	1.80		1.80	1.80		1.80	1.80
Wind Load In Service (kN)															

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Fully Loaded Internal Boards											
IN SERVICE		Boarded Tube		Boarded Tube		Boarded Tube		Boarded Tube	
Lifts		Internal	External	Internal	External	Internal	External	Internal	External
2		4.00	4.57	5.64	4.68	6.96	4.70	8.21	4.70
3		4.21	4.82	5.85	4.94	7.17	4.95	8.42	4.96
4		4.42	5.08	6.06	5.20	7.38	5.21	8.63	5.22
5		4.62	5.33	6.27	5.45	7.59	5.46	8.84	5.47
6		4.83	5.59	6.47	5.71	7.79	5.72	9.05	5.73
7		5.04	5.85	6.68	5.96	8.00	5.98	9.25	5.98
8		5.25	6.10	6.89	6.22	8.21	6.23	9.46	6.24
9		5.46	6.36	7.10	6.48	8.42	6.49	9.67	6.50
10		5.66	6.61	7.31	6.73	8.63	6.74	9.88	6.75
11		5.87	6.87	7.51	6.99	8.83	7.00	10.09	7.01
12		6.08	7.13	7.72	7.25	9.04	7.26	10.29	7.26
13		6.29	7.38	7.93	7.50	9.25	7.51	10.50	7.52
14		6.50	7.64	8.14	7.76	9.46	7.77	10.71	7.78
15		6.70	7.89	8.35	8.01	9.67	8.02	10.92	8.03
OUT OF SERVICE		Boarded Tube		Boarded Tube		Boarded Tube		Boarded Tube	
Lifts		Internal	External	Internal	External	Internal	External	Internal	External
2		1.47	2.03	2.10	2.15	2.41	2.16	2.65	2.17
3		1.68	2.29	2.31	2.41	2.61	2.42	2.85	2.43
4		1.89	2.55	2.52	2.67	2.82	2.68	3.06	2.69
5		2.09	2.80	2.72	2.92	3.03	2.93	3.27	2.94
6		2.30	3.06	2.93	3.18	3.24	3.19	3.48	3.20
7		2.51	3.31	3.14	3.43	3.45	3.44	3.69	3.45
8		2.72	3.57	3.35	3.69	3.65	3.70	3.89	3.71
9		2.93	3.83	3.56	3.95	3.86	3.96	4.10	3.97
10		3.13	4.08	3.76	4.20	4.07	4.21	4.31	4.22
11		3.34	4.34	3.97	4.46	4.28	4.47	4.52	4.48
12		3.55	4.59	4.18	4.71	4.49	4.72	4.73	4.73
13		3.76	4.85	4.39	4.97	4.69	4.98	4.93	4.99
14		3.97	5.11	4.59	5.23	4.90	5.24	5.14	5.25
15		4.17	5.36	4.80	5.48	5.11	5.49	5.35	5.50
Partially Loaded Internal Boards											
IN SERVICE		Boarded Tube		Boarded Tube		Boarded Tube		Boarded Tube	
Lifts		Internal	External	Internal	External	Internal	External	Internal	External
2		4.00	4.57	5.04	4.68	5.75	4.70	6.39	4.70
3		4.21	4.82	5.24	4.94	5.96	4.95	6.60	4.96
4		4.42	5.08	5.45	5.20	6.16	5.21	6.81	5.22
5		4.62	5.33	5.66	5.45	6.37	5.46	7.02	5.47
6		4.83	5.59	5.87	5.71	6.58	5.72	7.22	5.73
7		5.04	5.85	6.08	5.96	6.79	5.98	7.43	5.98
8		5.25	6.10	6.28	6.22	7.00	6.23	7.64	6.24
9		5.46	6.36	6.49	6.48	7.20	6.49	7.85	6.50
10		5.66	6.61	6.70	6.73	7.41	6.74	8.06	6.75
11		5.87	6.87	6.91	6.99	7.62	7.00	8.26	7.01
12		6.08	7.13	7.12	7.25	7.83	7.26	8.47	7.26
13		6.29	7.38	7.32	7.50	8.04	7.51	8.68	7.52
14		6.50	7.64	7.53	7.76	8.24	7.77	8.89	7.78
15		6.70	7.89	7.74	8.01	8.45	8.02	9.10	8.03
OUT OF SERVICE		Boarded Tube		Boarded Tube		Boarded Tube		Boarded Tube	
Lifts		Internal	External	Internal	External	Internal	External	Internal	External
2		1.47	2.03	1.97	2.15	2.15	2.16	2.27	2.17
3		1.68	2.29	2.18	2.41	2.36	2.42	2.47	2.43
4		1.89	2.55	2.39	2.67	2.57	2.68	2.68	2.69
5		2.09	2.80	2.60	2.92	2.78	2.93	2.89	2.94
6		2.30	3.06	2.80	3.18	2.99	3.19	3.10	3.20
7		2.51	3.31	3.01	3.43	3.19	3.44	3.31	3.45
8		2.72	3.57	3.22	3.69	3.40	3.70	3.51	3.71
9		2.93	3.83	3.43	3.95	3.61	3.96	3.72	3.97
10		3.13	4.08	3.64	4.20	3.82	4.21	3.93	4.22
11		3.34	4.34	3.84	4.46	4.03	4.47	4.14	4.48
12		3.55	4.59	4.05	4.71	4.23	4.72	4.35	4.73
13		3.76	4.85	4.26	4.97	4.44	4.98	4.55	4.99
14		3.97	5.11	4.47	5.23	4.65	5.24	4.76	5.25
15		4.17	5.36	4.68	5.48	4.86	5.49	4.97	5.50

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1.8m Bay x 1.3m (5) Width				Axial Gravity Loads - LC4												
Bay: 1.8 No of Boards 5		Component weight Kg	Comp. Wind Area	4-5-0s			4-5-1s			4-5-2s			4-5-3s			
Element				Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	Wind Area	Unboarded tube	Boarded tube	
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	
Ledger and Guardrail	2.50m int	9.7	0.121													
	2.50m ext	9.7	0.121													
	1.80m Int	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7	
	1.80m Ext	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7	
Tube Trans'	1.3m (5bd)	5.2	0.063		5.2	5.2		5.2	5.2		5.2	5.2		5.2	5.2	
	1.3m +1	7.5	0.075						7.5							
	1.3m +2	8.6	0.087									8.6				
	1.3m +3	9.5	0.099												9.5	
Toe Boards	2.5m	13.75	0.563													
	1.8m	9.9	0.405	0.405		9.9	0.405		9.9	0.405		9.9	0.405		9.9	
	1.3m	7.15	0.293													
Tube Int Board Bracket (Hop up)	1bd	1.5							1.5							
	2bd	6.3										6.3				
	3bd	7.7													7.7	
	Infill Bd 2.50m	12							12			12			12	
	Infill Bd 1.80m	9							9			9			9	
Facade Bracing	2.5x2.0m	11.5	0.154													
	1.8x2.00m	9.8	0.130	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	
Timber Boards 25Kg/m^2	2.5m	14.06														
	1.8m	10.12				10.12			10.12			10.12			10.12	
Total weight per bay Int Standard, kg					21.20	49.09		21.20	70.87		21.20	76.22		21.20	78.07	
Total weight per bay Ext Standard, kg					26.10	82.79		26.10	83.95		26.10	84.50		26.10	84.95	
Total load per bay Int Standard, kN					0.21	0.48		0.21	0.70		0.21	0.75		0.21	0.77	
Total load per bay Ext Standard, kN					0.26	0.81		0.26	0.82		0.26	0.83		0.26	0.83	
Out of Service factor					0.25			0.25			0.25			0.25		
Imposed load Intensity kN/m2					3			3			3			3		
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.21	3.52		0.21	4.95		0.21	6.22		0.21	7.45	
Main Deck, Fully Loaded, Ext std, kN /lift					0.26	3.85		0.26	3.86		0.26	3.87		0.26	3.87	
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						3.52			4.04			4.46			4.71	
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						2.00			2.82			3.48			4.11	
2nd lift Part Loaded, Ext Std, kN/lift						2.33			2.34			2.35			2.35	
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						2.00			2.52			2.87			3.20	
Wind Area Unsheeted																
Wind Area Debris Netting m^2					0.90	0.90		0.90	0.90		0.90	0.90		0.90	0.90	
Wind Area Sheeted m^2					1.80	1.80		1.80	1.80		1.80	1.80		1.80	1.80	
Wind Load In Service (kN)																

1800 Bay Tube Transom

Fully Loaded Internal Boards		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		5.52	6.18		7.77	6.20		9.70	6.21		11.56	6.22
3		5.73	6.44		7.98	6.46		9.90	6.47		11.76	6.48
4		5.94	6.69		8.19	6.72		10.11	6.73		11.97	6.74
5		6.14	6.95		8.39	6.97		10.32	6.98		12.18	6.99
6		6.35	7.20		8.60	7.23		10.53	7.24		12.39	7.25
7		6.56	7.46		8.81	7.48		10.74	7.49		12.60	7.50
8		6.77	7.72		9.02	7.74		10.94	7.75		12.80	7.76
9		6.98	7.97		9.23	8.00		11.15	8.01		13.01	8.02
10		7.18	8.23		9.43	8.25		11.36	8.26		13.22	8.27
11		7.39	8.49		9.64	8.51		11.57	8.52		13.43	8.53
12		7.60	8.74		9.85	8.76		11.78	8.77		13.64	8.78
13		7.81	9.00		10.06	9.02		11.98	9.03		13.84	9.04
14		8.02	9.25		10.26	9.28		12.19	9.29		14.05	9.30
15		8.22	9.51		10.47	9.53		12.40	9.54		14.26	9.55
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		1.72	2.38		2.45	2.41		2.86	2.42		3.20	2.43
3		1.93	2.64		2.66	2.66		3.07	2.67		3.41	2.68
4		2.14	2.90		2.87	2.92		3.28	2.93		3.62	2.94
5		2.35	3.15		3.08	3.17		3.49	3.19		3.83	3.19
6		2.55	3.41		3.29	3.43		3.69	3.44		4.03	3.45
7		2.76	3.66		3.49	3.69		3.90	3.70		4.24	3.71
8		2.97	3.92		3.70	3.94		4.11	3.95		4.45	3.96
9		3.18	4.18		3.91	4.20		4.32	4.21		4.66	4.22
10		3.39	4.43		4.12	4.45		4.53	4.47		4.87	4.47
11		3.59	4.69		4.33	4.71		4.73	4.72		5.07	4.73
12		3.80	4.94		4.53	4.97		4.94	4.98		5.28	4.99
13		4.01	5.20		4.74	5.22		5.15	5.23		5.49	5.24
14		4.22	5.46		4.95	5.48		5.36	5.49		5.70	5.50
15		4.43	5.71		5.16	5.74		5.57	5.75		5.91	5.75
Partially Loaded Internal Boards		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		5.52	6.18		6.55	6.20		7.33	6.21		7.91	6.22
3		5.73	6.44		6.76	6.46		7.54	6.47		8.12	6.48
4		5.94	6.69		6.97	6.72		7.75	6.73		8.33	6.74
5		6.14	6.95		7.18	6.97		7.96	6.98		8.53	6.99
6		6.35	7.20		7.39	7.23		8.17	7.24		8.74	7.25
7		6.56	7.46		7.59	7.48		8.37	7.49		8.95	7.50
8		6.77	7.72		7.80	7.74		8.58	7.75		9.16	7.76
9		6.98	7.97		8.01	8.00		8.79	8.01		9.37	8.02
10		7.18	8.23		8.22	8.25		9.00	8.26		9.57	8.27
11		7.39	8.49		8.43	8.51		9.21	8.52		9.78	8.53
12		7.60	8.74		8.63	8.76		9.41	8.77		9.99	8.78
13		7.81	9.00		8.84	9.02		9.62	9.03		10.20	9.04
14		8.02	9.25		9.05	9.28		9.83	9.29		10.41	9.30
15		8.22	9.51		9.26	9.53		10.04	9.54		10.61	9.55
OUT OF SERVICE		Boarded Tube			Boarded Tube			Boarded Tube			Boarded Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		1.72	2.38		2.23	2.41		2.42	2.42		2.52	2.43
3		1.93	2.64		2.43	2.66		2.63	2.67		2.73	2.68
4		2.14	2.90		2.64	2.92		2.84	2.93		2.93	2.94
5		2.35	3.15		2.85	3.17		3.05	3.19		3.14	3.19
6		2.55	3.41		3.06	3.43		3.26	3.44		3.35	3.45
7		2.76	3.66		3.27	3.69		3.46	3.70		3.56	3.71
8		2.97	3.92		3.47	3.94		3.67	3.95		3.77	3.96
9		3.18	4.18		3.68	4.20		3.88	4.21		3.97	4.22
10		3.39	4.43		3.89	4.45		4.09	4.47		4.18	4.47
11		3.59	4.69		4.10	4.71		4.30	4.72		4.39	4.73
12		3.80	4.94		4.31	4.97		4.50	4.98		4.60	4.99
13		4.01	5.20		4.51	5.22		4.71	5.23		4.81	5.24
14		4.22	5.46		4.72	5.48		4.92	5.49		5.01	5.50
15		4.43	5.71		4.93	5.74		5.13	5.75		5.22	5.75

1.8m Bay x 1.3m (5) Width						Frame Analysis Outputs					
Tie Arrangement A 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	9.78	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.21							1.05	
Debris			0.36							1.81	
Sheeted			0.72							3.69	

Tie Arrangement B 15 Lift (30m) Frame											
In Service										Out of Service	
Axial Cap	11.06	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.08							0.39	
Debris			0.13							0.67	
Sheeted			0.27							1.33	

Tie Arrangement D 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	9.78	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.21							1.05	
Debris			0.36							1.81	
Sheeted			0.72							3.69	

Tie Arrangement E											
In Service										Out of Service	
Axial Cap	10.7	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.08							0.33	
Debris			0.14							0.67	
Sheeted			0.28							1.35	

Fully Loaded Inside Boards									
1.8m Bay x 1.3m (5)	In Service Maximum Safe Working Height								
	Resid'	3-5-0s	3-5-1s	3-5-2s	3-5-3s	4-5-0s	4-5-1s	4-5-2s	4-5-3s
		SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	8.63	15	15	8	3	11	6	0	0
debris	7.80	14	12	6	0	8	2	0	0
sheeting	5.82	6	2	0	0	0	0	0	0
unclad	10.56	15	15	15	13	15	15	6	0
debris	10.25	15	15	15	11	15	13	4	0
sheeting	9.38	15	15	13	7	14	8	0	0
unclad	8.63	15	15	8	3	11	6	0	0
debris	7.80	14	12	6	0	8	2	0	0
sheeting	5.82	6	2	0	0	0	0	0	0
unclad	10.22	15	15	15	11	15	13	4	0
debris	9.86	15	15	15	8	15	12	2	0
sheeting	9.02	15	15	11	5	13	7	0	0

Partially Loaded Inside Boards								
1.8m Bay x 1.3m (5)								
	3-5-0s	3-5-1s	3-5-2s	3-5-3s	4-5-0s	4-5-1s	4-5-2s	4-5-3s
	SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	15	15	15	12	11	11	8	5
debris	14	14	11	8	8	7	4	0
sheeting	6	5	2	0	0	0	0	0
unclad	15	15	15	15	15	15	15	14
debris	15	15	15	15	15	15	15	13
sheeting	15	15	15	15	14	14	11	8
unclad	15	15	15	12	11	11	8	5
debris	14	14	11	8	8	7	4	0
sheeting	6	5	2	0	0	0	0	0
unclad	15	15	15	15	15	15	15	13
debris	15	15	15	15	15	15	14	11
sheeting	15	15	15	14	13	12	10	7

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	26	30	26	30	28	30	28	30	26	30	26	30	28	30	28	30
	28	18	30	18	30	18	30	18	30	18	30	18	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
3-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
3-5-1s	40	0	28	0	30	6	30	6	30	0	28	0	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	16	30	16	30	16	30	16	30
	24	26	30	26	30	26	30	26	30	16	30	16	30	16	30	16	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	16	30	16	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	8	30	8	30	4	30	4	30	8	30	8	30
3-5-2s	40	0	28	0	30	6	30	6	30	0	28	0	30	4	30	4	30
	20	24	30	24	30	24	30	24	30	6	26	6	22	6	26	6	22
	24	24	30	24	30	24	30	24	30	6	26	6	22	6	26	6	22
	28	16	30	16	30	18	30	18	30	6	26	6	22	6	26	6	22
	32	10	30	10	30	12	30	12	30	6	26	6	22	6	26	6	22
	36	6	30	6	30	8	30	8	30	4	26	4	22	6	26	6	22
3-5-3s	40	0	28	0	30	6	28	6	30	0	26	0	22	4	26	4	22
	20	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	24	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	28	16	30	16	30	18	30	18	30	16	30	16	30	18	30	18	30
	32	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	36	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
4-5-0s	40	0	28	0	30	4	28	4	30	0	28	0	30	4	28	4	30
	20	22	30	22	30	22	30	22	30	12	30	12	26	12	30	12	26
	24	22	30	22	30	22	30	22	30	12	30	12	26	12	30	12	26
	28	16	30	16	30	18	30	18	30	12	30	12	26	12	30	12	26
	32	8	30	8	30	12	30	12	30	8	30	8	26	12	30	12	26
	36	4	30	4	30	8	30	8	30	4	30	4	26	8	30	8	26
4-5-1s	40	0	28	0	30	4	28	4	30	0	28	0	26	4	28	4	26
	20	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	24	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	28	16	30	16	30	16	30	16	30	0	12	0	8	0	12	0	8
	32	8	30	8	30	12	30	12	30	0	12	0	8	0	12	0	8
	36	4	30	4	30	8	30	8	30	0	12	0	8	0	12	0	8
4-5-2s	40	0	28	0	30	4	28	4	30	0	12	0	8	0	12	0	8
	20	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	24	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	28	10	28	10	26	10	28	10	26	0	0	0	0	0	0	0	0
	32	8	28	8	26	10	28	10	26	0	0	0	0	0	0	0	0
	36	4	28	4	26	8	28	8	26	0	0	0	0	0	0	0	0
4-5-3s	40	0	28	0	26	4	28	4	26	0	0	0	0	0	0	0	0

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	26	0	26	4	26	4	26	0	26	0	26	4	26	4	26
	36	0	18	0	18	0	20	0	20	0	18	0	18	0	20	0	20
3-5-0s	40	0	12	0	12	0	14	0	12	0	12	0	12	0	14	0	12
	20	20	30	20	30	22	30	22	30	20	30	20	30	22	30	22	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	36	0	18	0	16	0	20	0	18	0	18	0	16	0	20	0	18
3-5-1s	40	0	12	0	10	0	12	0	12	0	12	0	10	0	12	0	12
	20	20	30	20	30	22	30	22	30	12	30	12	30	12	30	12	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	36	0	18	0	16	0	20	0	18	0	18	0	16	0	20	0	18
3-5-2s	40	0	12	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	16	30	16	30	16	30	16	30	0	22	0	16	0	22	0	16
	24	10	30	10	30	12	30	12	30	0	22	0	16	0	22	0	16
	28	4	30	4	30	8	30	8	30	0	22	0	16	0	22	0	16
	32	0	26	0	24	4	26	4	26	0	22	0	16	0	22	0	16
	36	0	18	0	16	0	20	0	18	0	16	0	16	0	18	0	16
3-5-3s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	10	30	10	30	12	30	12	30	10	30	10	30	12	30	12	30
	28	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	32	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	36	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	18
4-5-0s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	14	30	14	30	14	30	14	30	4	26	4	24	4	26	4	24
	24	10	30	10	30	12	30	12	30	4	26	4	24	4	26	4	24
	28	4	30	4	30	6	30	6	30	4	26	4	24	4	26	4	24
	32	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	36	0	16	0	16	0	18	0	18	0	16	0	16	0	18	0	18
4-5-1s	40	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	20	8	30	8	28	8	30	8	28	0	8	0	4	0	8	0	4
	24	8	30	8	28	8	30	8	28	0	8	0	4	0	8	0	4
	28	4	30	4	28	6	30	6	28	0	8	0	4	0	8	0	4
	32	0	24	0	24	4	26	4	24	0	8	0	4	0	8	0	4
	36	0	16	0	16	0	18	0	18	0	8	0	4	0	8	0	4
4-5-2s	40	0	10	0	10	0	12	0	12	0	8	0	4	0	8	0	4
	20	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	24	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	28	0	26	0	22	0	26	0	22	0	0	0	0	0	0	0	0
	32	0	24	0	22	0	24	0	22	0	0	0	0	0	0	0	0
	36	0	16	0	16	0	18	0	18	0	0	0	0	0	0	0	0
4-5-3s	40	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	24	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	28	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	4	0	0	0	6	0	6
3-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	6	30	6	30	4	30	4	30	4	30	4	30
	24	0	22	0	20	4	24	4	22	0	22	0	20	4	24	4	22
	28	0	12	0	12	0	14	0	12	0	12	0	12	0	14	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	6
3-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	4	30	4	30	0	26	0	22	0	26	0	22
	24	0	22	0	20	0	22	4	22	0	22	0	20	0	22	0	22
	28	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	6	0	4
3-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	30	0	28	0	30	0	28	0	14	0	10	0	14	0	10
	24	0	22	0	20	0	22	0	22	0	14	0	10	0	14	0	10
	28	0	12	0	10	0	14	0	12	0	10	0	10	0	12	0	10
	32	0	6	0	6	0	8	0	8	0	6	0	4	0	8	0	8
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	4
3-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	0
	20	0	28	0	26	0	28	0	26	0	14	0	10	0	14	0	10
	24	0	20	0	20	0	22	0	20	0	20	0	20	0	22	0	20
	28	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
4-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	28	0	24	0	28	0	24	0	16	0	14	0	16	0	14
	24	0	20	0	20	0	22	0	20	0	16	0	14	0	16	0	14
	28	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	32	0	6	0	6	0	8	0	8	0	6	0	6	0	8	0	8
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	6	0	4
4-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	22	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	24	0	20	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	28	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	32	0	6	0	6	0	8	0	8	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
4-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	20	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	24	0	16	0	14	0	16	0	14	0	0	0	0	0	0	0	0
	28	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	32	0	6	0	4	0	8	0	8	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	6	0	4	0	0	0	0	0	0	0	0
4-5-3s	40	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.69	9.78
B	1.33	11.06
D	3.69	9.78
E	1.35	10.7

(Country, Sheeted, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 3.69

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern B Max Mmt coefficient= 1.33

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.445	0.511	0.553	0.595	0.629	0.662	0.684	0.696	0.708	0.720	0.733	0.745	0.758	0.771
24	0.641	0.736	0.796	0.857	0.905	0.953	0.985	1.002	1.019	1.037	1.055	1.073	1.092	1.110
28	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.486	1.510
32	1.139	1.308	1.416	1.524	1.609	1.694	1.752	1.782	1.812	1.844	1.876	1.908	1.940	1.973
36	1.441	1.655	1.792	1.929	2.037	2.144	2.217	2.255	2.293	2.334	2.374	2.415	2.456	2.497
40	1.779	2.044	2.212	2.381	2.514	2.647	2.737	2.784	2.831	2.881	2.931	2.982	3.032	3.082

Tie Pattern D Max Mmt coefficient= 3.69

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern E Max Mmt coefficient= 1.35

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.452	0.519	0.561	0.604	0.638	0.672	0.695	0.706	0.718	0.731	0.744	0.757	0.769	0.782
24	0.650	0.747	0.808	0.870	0.919	0.967	1.000	1.017	1.034	1.053	1.071	1.090	1.108	1.126
28	0.885	1.016	1.100	1.184	1.251	1.317	1.361	1.385	1.408	1.433	1.458	1.483	1.508	1.533
32	1.156	1.328	1.437	1.547	1.633	1.720	1.778	1.809	1.839	1.872	1.904	1.937	1.970	2.002
36	1.463	1.680	1.819	1.958	2.067	2.177	2.251	2.289	2.327	2.369	2.410	2.451	2.493	2.534
40	1.806	2.074	2.246	2.417	2.552	2.687	2.778	2.826	2.873	2.924	2.975	3.027	3.078	3.129

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 3.69

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern B Max Mmt coefficient= 1.33

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.338	0.414	0.469	0.523	0.567	0.610	0.639	0.656	0.672	0.690	0.709	0.727	0.745	0.764
24	0.486	0.596	0.675	0.754	0.816	0.878	0.921	0.944	0.967	0.994	1.020	1.047	1.073	1.100
28	0.662	0.811	0.919	1.026	1.111	1.195	1.253	1.285	1.317	1.353	1.389	1.425	1.461	1.497
32	0.864	1.059	1.200	1.340	1.450	1.561	1.637	1.678	1.720	1.767	1.814	1.861	1.908	1.955
36	1.094	1.341	1.518	1.696	1.836	1.976	2.072	2.124	2.176	2.236	2.296	2.355	2.415	2.475
40	1.351	1.655	1.875	2.094	2.266	2.439	2.558	2.622	2.687	2.761	2.834	2.908	2.982	3.055

Tie Pattern D Max Mmt coefficient= 3.69

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern E Max Mmt coefficient= 1.35

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.343	0.420	0.476	0.531	0.575	0.619	0.649	0.665	0.682	0.701	0.719	0.738	0.757	0.775
24	0.494	0.605	0.685	0.765	0.828	0.891	0.935	0.958	0.982	1.009	1.036	1.063	1.090	1.116
28	0.672	0.823	0.932	1.041	1.127	1.213	1.272	1.304	1.336	1.373	1.410	1.446	1.483	1.520
32	0.877	1.075	1.218	1.360	1.472	1.584	1.661	1.703	1.746	1.793	1.841	1.889	1.937	1.985
36	1.110	1.361	1.541	1.722	1.863	2.005	2.103	2.156	2.209	2.270	2.330	2.391	2.451	2.512
40	1.371	1.680	1.903	2.125	2.300	2.476	2.596	2.662	2.727	2.802	2.877	2.952	3.027	3.101

1800 Bay Tube Transom

LC3&4 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	11	10
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	6	5
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	10	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	3	2
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0	0
40	-0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0	0

LC3&4 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	2	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	7	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	3	3
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	2	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	11	10
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	3	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	2	0

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.81	9.78
B	0.67	11.06
D	1.81	9.78
E	0.67	10.7

(Country, Debris, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern B Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern E Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

1.8m Bay x 1.3m (5) Width

(Town, Debris, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern B Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern E Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

1800 Bay Tube Transom

LC3&4 1.8m Bay x 1.3m (5) Width (Country, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	13	12
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	9	8
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	5	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	8	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5	5

LC3&4 1.8m Bay x 1.3m (5) Width (Town, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13	12
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	10	9
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	13	12
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	9	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6	6

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.05	9.78
B	0.39	11.06
D	1.05	9.78
E	0.33	10.7

(Country, Unclad, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern E Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.110	0.127	0.137	0.148	0.156	0.164	0.170	0.173	0.176	0.179	0.182	0.185	0.188	0.191
24	0.159	0.183	0.198	0.213	0.225	0.236	0.245	0.249	0.253	0.257	0.262	0.266	0.271	0.275
28	0.216	0.248	0.269	0.290	0.306	0.322	0.333	0.338	0.344	0.350	0.356	0.363	0.369	0.375
32	0.283	0.325	0.351	0.378	0.399	0.420	0.435	0.442	0.450	0.458	0.465	0.473	0.481	0.489
36	0.358	0.411	0.445	0.479	0.505	0.532	0.550	0.560	0.569	0.579	0.589	0.599	0.609	0.619
40	0.441	0.507	0.549	0.591	0.624	0.657	0.679	0.691	0.702	0.715	0.727	0.740	0.752	0.765

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099015	0.121348	0.137422	0.153496	0.166145	0.178793	0.187489	0.192232	0.1969756	0.202378	0.2077796	0.213182	0.2185836	0.2239856
24	0.142581	0.17474	0.197887	0.221034	0.239248	0.257462	0.269984	0.276815	0.2836449	0.291424	0.2992027	0.306982	0.3147604	0.3225393
28	0.194069	0.237841	0.269347	0.300852	0.325643	0.350435	0.367479	0.376775	0.3860722	0.39666	0.4072481	0.417836	0.4284239	0.4390119
32	0.253478	0.31065	0.3518	0.39295	0.42533	0.457711	0.479972	0.492115	0.5042576	0.518087	0.5319158	0.545745	0.5595741	0.5734032
36	0.320808	0.393166	0.445247	0.497327	0.538309	0.57929	0.607465	0.622833	0.638201	0.655703	0.673206	0.690708	0.708211	0.7257135
40	0.396059	0.48539	0.549687	0.613984	0.664579	0.715173	0.749957	0.76893	0.7879024	0.80951	0.8311185	0.852727	0.8743345	0.8959426

Tie Pattern D Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern E Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.084	0.103	0.116	0.130	0.141	0.151	0.159	0.163	0.167	0.171	0.176	0.180	0.185	0.190
24	0.121	0.148	0.167	0.187	0.202	0.218	0.228	0.234	0.240	0.247	0.253	0.260	0.266	0.273
28	0.164	0.201	0.228	0.255	0.276	0.297	0.311	0.319	0.327	0.338	0.345	0.354	0.363	0.371
32	0.214	0.263	0.298	0.332	0.360	0.387	0.406	0.416	0.427	0.438	0.450	0.462	0.473	0.485
36	0.271	0.333	0.377	0.421	0.455	0.490	0.514	0.527	0.540	0.555	0.570	0.584	0.599	0.614
40	0.335	0.411	0.465	0.520	0.562	0.605	0.635	0.651	0.667	0.685	0.703	0.722	0.740	0.758

1800 Bay Tube Transom

LC3&4 1.8m Bay x 1.3m (5) Width (Country, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	7
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	7
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15	15

LC3&4 1.8m Bay x 1.3m (5) Width (Town, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	12
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	14	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	12
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.69	9.78
B	1.33	11.06
D	3.69	9.78
E	1.35	10.7

(Country, Sheeted, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern B Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.445	0.511	0.553	0.595	0.629	0.662	0.684	0.696	0.708	0.720	0.733	0.745	0.758	0.771
24	0.641	0.736	0.796	0.857	0.905	0.953	0.985	1.002	1.019	1.037	1.055	1.073	1.092	1.110
28	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.486	1.510
32	1.139	1.308	1.416	1.524	1.609	1.694	1.752	1.782	1.812	1.844	1.876	1.908	1.940	1.973
36	1.441	1.655	1.792	1.929	2.037	2.144	2.217	2.255	2.293	2.334	2.374	2.415	2.456	2.497
40	1.779	2.044	2.212	2.381	2.514	2.647	2.737	2.784	2.831	2.881	2.931	2.982	3.032	3.082

Tie Pattern D Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern E Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.452	0.519	0.561	0.604	0.638	0.672	0.695	0.706	0.718	0.731	0.744	0.757	0.769	0.782
24	0.650	0.747	0.808	0.870	0.919	0.967	1.000	1.017	1.034	1.053	1.071	1.090	1.108	1.126
28	0.885	1.016	1.100	1.184	1.251	1.317	1.361	1.385	1.408	1.433	1.458	1.483	1.508	1.533
32	1.156	1.328	1.437	1.547	1.633	1.720	1.778	1.809	1.839	1.872	1.904	1.937	1.970	2.002
36	1.463	1.680	1.819	1.958	2.067	2.177	2.251	2.289	2.327	2.369	2.410	2.451	2.493	2.534
40	1.806	2.074	2.246	2.417	2.552	2.687	2.778	2.826	2.873	2.924	2.975	3.027	3.078	3.129

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern B Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.338	0.414	0.469	0.523	0.567	0.610	0.639	0.656	0.672	0.690	0.709	0.727	0.745	0.764
24	0.486	0.596	0.675	0.754	0.816	0.878	0.921	0.944	0.967	0.994	1.020	1.047	1.073	1.100
28	0.662	0.811	0.919	1.026	1.111	1.195	1.253	1.285	1.317	1.353	1.389	1.425	1.461	1.497
32	0.864	1.059	1.200	1.340	1.450	1.561	1.637	1.678	1.720	1.767	1.814	1.861	1.908	1.955
36	1.094	1.341	1.518	1.696	1.836	1.976	2.072	2.124	2.176	2.236	2.296	2.355	2.415	2.475
40	1.351	1.655	1.875	2.094	2.266	2.439	2.558	2.622	2.687	2.761	2.834	2.908	2.982	3.055

Tie Pattern D Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern E Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.343	0.420	0.476	0.531	0.575	0.619	0.649	0.665	0.682	0.701	0.719	0.738	0.757	0.775
24	0.494	0.605	0.685	0.765	0.828	0.891	0.935	0.958	0.982	1.009	1.036	1.063	1.090	1.116
28	0.672	0.823	0.932	1.041	1.127	1.213	1.272	1.304	1.336	1.373	1.410	1.446	1.483	1.520
32	0.877	1.075	1.218	1.360	1.472	1.584	1.661	1.703	1.746	1.793	1.841	1.889	1.937	1.985
36	1.110	1.361	1.541	1.722	1.863	2.005	2.103	2.156	2.209	2.270	2.330	2.391	2.451	2.512
40	1.371	1.680	1.903	2.125	2.300	2.476	2.596	2.662	2.727	2.802	2.877	2.952	3.027	3.101

1800 Bay Tube Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	11	10
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	6	5
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	10	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	3	3
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0	0
40	-0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0	0

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	7	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	3	3
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	2	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	11	10
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	3	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	2	2

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.81	9.78
B	0.67	11.06
D	1.81	9.78
E	0.67	10.7

(Country, Debris, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.81

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D Max Mmt coefficient= 1.81

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern E Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

1.8m Bay x 1.3m (5) Width

(Town, Debris, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.81

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D Max Mmt coefficient= 1.81

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern E Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

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LC3&4 1.8m Bay x 1.3m (S) Width (Country, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	13	12
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	9	8
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	6	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	8	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5	5

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13	13
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	10	9
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	13	12
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	9	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6	6

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.05	9.78
B	0.39	11.06
D	1.05	9.78
E	0.33	10.7

(Country, Unclad, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern E Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.110	0.127	0.137	0.148	0.156	0.164	0.170	0.173	0.176	0.179	0.182	0.185	0.188	0.191
24	0.159	0.183	0.198	0.213	0.225	0.236	0.245	0.249	0.253	0.257	0.262	0.266	0.271	0.275
28	0.216	0.248	0.269	0.290	0.306	0.322	0.333	0.338	0.344	0.350	0.356	0.363	0.369	0.375
32	0.283	0.325	0.351	0.378	0.399	0.420	0.435	0.442	0.450	0.458	0.465	0.473	0.481	0.489
36	0.358	0.411	0.445	0.479	0.505	0.532	0.550	0.560	0.569	0.579	0.589	0.599	0.609	0.619
40	0.441	0.507	0.549	0.591	0.624	0.657	0.679	0.691	0.702	0.715	0.727	0.740	0.752	0.765

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern E Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.084	0.103	0.116	0.130	0.141	0.151	0.159	0.163	0.167	0.171	0.176	0.180	0.185	0.190
24	0.121	0.148	0.167	0.187	0.202	0.218	0.228	0.234	0.240	0.247	0.253	0.260	0.266	0.273
28	0.164	0.201	0.228	0.255	0.276	0.297	0.311	0.319	0.327	0.336	0.345	0.354	0.363	0.371
32	0.214	0.263	0.298	0.332	0.360	0.387	0.406	0.416	0.427	0.438	0.450	0.462	0.473	0.485
36	0.271	0.333	0.377	0.421	0.455	0.490	0.514	0.527	0.540	0.555	0.570	0.584	0.599	0.614
40	0.335	0.411	0.465	0.520	0.562	0.605	0.635	0.651	0.667	0.685	0.703	0.722	0.740	0.758

1800 Bay Tube Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15	15

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	15	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.69	9.78
B	1.33	11.06
D	3.69	9.78
E	1.35	10.7

(Country, Sheeted, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.995	8.133	8.273	8.412	8.552

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.445	0.511	0.553	0.595	0.629	0.662	0.684	0.696	0.708	0.720	0.733	0.745	0.758	0.771
24	0.641	0.736	0.796	0.857	0.905	0.953	0.985	1.002	1.019	1.037	1.055	1.073	1.092	1.110
28	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.486	1.510
32	1.139	1.308	1.416	1.524	1.609	1.694	1.752	1.782	1.812	1.844	1.876	1.908	1.940	1.973
36	1.441	1.655	1.792	1.929	2.037	2.144	2.217	2.255	2.293	2.334	2.374	2.415	2.456	2.497
40	1.779	2.044	2.212	2.381	2.514	2.647	2.737	2.784	2.831	2.881	2.931	2.982	3.032	3.082

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.995	8.133	8.273	8.412	8.552

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.452	0.519	0.561	0.604	0.638	0.672	0.695	0.706	0.718	0.731	0.744	0.757	0.769	0.782
24	0.650	0.747	0.808	0.870	0.919	0.967	1.000	1.017	1.034	1.053	1.071	1.090	1.108	1.126
28	0.885	1.016	1.100	1.184	1.251	1.317	1.361	1.385	1.408	1.433	1.458	1.483	1.508	1.533
32	1.156	1.328	1.437	1.547	1.633	1.720	1.778	1.809	1.839	1.872	1.904	1.937	1.970	2.002
36	1.463	1.680	1.819	1.958	2.067	2.177	2.251	2.289	2.327	2.369	2.410	2.451	2.493	2.534
40	1.806	2.074	2.246	2.417	2.552	2.687	2.778	2.826	2.873	2.924	2.975	3.027	3.078	3.129

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.338	0.414	0.469	0.523	0.567	0.610	0.639	0.656	0.672	0.690	0.709	0.727	0.745	0.764
24	0.486	0.596	0.675	0.754	0.816	0.878	0.921	0.944	0.967	0.994	1.020	1.047	1.073	1.100
28	0.662	0.811	0.919	1.026	1.111	1.195	1.253	1.285	1.317	1.353	1.389	1.425	1.461	1.497
32	0.864	1.059	1.200	1.340	1.450	1.561	1.637	1.678	1.720	1.767	1.814	1.861	1.908	1.955
36	1.094	1.341	1.518	1.696	1.836	1.976	2.072	2.124	2.176	2.236	2.296	2.355	2.415	2.475
40	1.351	1.655	1.875	2.094	2.268	2.439	2.558	2.622	2.687	2.761	2.834	2.908	2.982	3.055

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.343	0.420	0.476	0.531	0.575	0.619	0.649	0.665	0.682	0.701	0.719	0.738	0.757	0.775
24	0.494	0.605	0.685	0.765	0.828	0.891	0.935	0.958	0.982	1.009	1.036	1.063	1.090	1.116
28	0.672	0.823	0.932	1.041	1.127	1.213	1.272	1.304	1.336	1.373	1.410	1.446	1.483	1.520
32	0.877	1.075	1.218	1.360	1.472	1.584	1.661	1.703	1.746	1.793	1.841	1.889	1.937	1.985
36	1.110	1.361	1.541	1.722	1.863	2.005	2.103	2.156	2.209	2.270	2.330	2.391	2.451	2.512
40	1.371	1.680	1.903	2.125	2.300	2.476	2.596	2.662	2.727	2.802	2.877	2.952	3.027	3.101

LC3 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	11
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	5
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.455	6.382	6.305	6.228	6.152	6.075	5.998	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	2
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0
40	0.137	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0

LC3 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.639	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	2
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	11
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.240	-2.540	-2.944	-3.308	-3.672	-4.037	-4.401	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.908	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	0

1800 Bay Tube Transom

LC4 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	0
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	9
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	4
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	2
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	0
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	8
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	4
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	2
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0
40	-0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0

LC4 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	10
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	3
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	2
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	9
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	5
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	3
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	0

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.81	9.78
B	0.67	11.06
D	1.81	9.78
E	0.67	10.7

(Country, Debris, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

1.8m Bay x 1.3m (5) Width

(Town, Debris, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

LC3 1.8m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	13
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	8
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5

LC3 1.8m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	9
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	13
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6

LC4 1.8m Bay x 1.3m (S) Width (Country, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	8
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	4
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	11
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	7
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	4

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	8
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	4
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	11
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.635	3.510	3.386	3.263	3.139	6
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	4

LC4 1.8m Bay x 1.3m (S) Width (Town, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	9
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	5
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	12
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	8
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	5

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	9
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	5
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	11
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	7
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	5

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.05	9.78
B	0.39	11.06
D	1.05	9.78
E	0.33	10.7

(Country, Uncladd, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{str}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.110	0.127	0.137	0.148	0.156	0.164	0.170	0.173	0.176	0.179	0.182	0.185	0.188	0.191
24	0.159	0.183	0.198	0.213	0.225	0.236	0.245	0.249	0.253	0.257	0.262	0.266	0.271	0.275
28	0.216	0.248	0.269	0.290	0.306	0.322	0.333	0.338	0.344	0.350	0.356	0.363	0.369	0.375
32	0.283	0.325	0.351	0.378	0.399	0.420	0.435	0.442	0.450	0.458	0.465	0.473	0.481	0.489
36	0.358	0.411	0.445	0.479	0.505	0.532	0.550	0.560	0.569	0.579	0.589	0.599	0.609	0.619
40	0.441	0.507	0.549	0.591	0.624	0.657	0.679	0.691	0.702	0.715	0.727	0.740	0.752	0.765

1.8m Bay x 1.3m (5) Width

(Town, Uncladd, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{str}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.668	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.084	0.103	0.116	0.130	0.141	0.151	0.159	0.163	0.167	0.171	0.176	0.180	0.185	0.190
24	0.121	0.148	0.167	0.187	0.202	0.218	0.228	0.234	0.240	0.247	0.253	0.260	0.266	0.273
28	0.164	0.201	0.228	0.255	0.274	0.297	0.311	0.319	0.327	0.336	0.345	0.354	0.363	0.371
32	0.214	0.263	0.298	0.332	0.360	0.387	0.406	0.416	0.427	0.438	0.450	0.462	0.473	0.485
36	0.271	0.333	0.377	0.421	0.455	0.490	0.514	0.527	0.540	0.555	0.570	0.584	0.599	0.614
40	0.335	0.411	0.465	0.520	0.562	0.605	0.635	0.651	0.667	0.685	0.703	0.722	0.740	0.758

1800 Bay Tube Transom

LC3 1.8m Bay x 1.3m (5) Width (Country, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15

LC3 1.8m Bay x 1.3m (5) Width (Town, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	14

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	11
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	6
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	13

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	11
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	6
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	12
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	7
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	5
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	3
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	13

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	12
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	7
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	5
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	3
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.69	9.78
B	1.33	11.06
D	3.69	9.78
E	1.35	10.7

(Country, Sheeted, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sz}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.995	8.133	8.273	8.412	8.552

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.445	0.511	0.553	0.595	0.629	0.662	0.684	0.696	0.708	0.720	0.733	0.745	0.758	0.771
24	0.641	0.736	0.796	0.857	0.905	0.953	0.985	1.002	1.019	1.037	1.055	1.073	1.092	1.110
28	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.486	1.510
32	1.139	1.308	1.416	1.524	1.609	1.694	1.752	1.782	1.812	1.844	1.876	1.908	1.940	1.973
36	1.441	1.655	1.792	1.929	2.037	2.144	2.217	2.255	2.293	2.334	2.374	2.415	2.456	2.497
40	1.779	2.044	2.212	2.381	2.514	2.647	2.737	2.784	2.831	2.881	2.931	2.982	3.032	3.082

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.452	0.519	0.561	0.604	0.638	0.672	0.695	0.706	0.718	0.731	0.744	0.757	0.769	0.782
24	0.650	0.747	0.808	0.870	0.919	0.967	1.000	1.017	1.034	1.053	1.071	1.090	1.108	1.126
28	0.885	1.016	1.100	1.184	1.251	1.317	1.361	1.385	1.408	1.433	1.458	1.483	1.508	1.533
32	1.156	1.328	1.437	1.547	1.633	1.720	1.778	1.809	1.839	1.872	1.904	1.937	1.970	2.002
36	1.463	1.680	1.819	1.958	2.067	2.177	2.251	2.289	2.327	2.369	2.410	2.451	2.493	2.534
40	1.806	2.074	2.246	2.417	2.552	2.687	2.778	2.826	2.873	2.924	2.975	3.027	3.078	3.129

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sz}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.338	0.414	0.469	0.523	0.567	0.610	0.639	0.656	0.672	0.690	0.709	0.727	0.745	0.764
24	0.486	0.596	0.675	0.754	0.816	0.878	0.921	0.944	0.967	0.994	1.020	1.047	1.073	1.100
28	0.662	0.811	0.919	1.026	1.111	1.195	1.253	1.285	1.317	1.353	1.389	1.425	1.461	1.497
32	0.864	1.059	1.200	1.340	1.450	1.561	1.637	1.678	1.720	1.767	1.814	1.861	1.908	1.955
36	1.094	1.341	1.518	1.696	1.836	1.976	2.072	2.124	2.176	2.236	2.296	2.355	2.415	2.475
40	1.351	1.655	1.875	2.094	2.268	2.439	2.558	2.622	2.687	2.761	2.834	2.908	2.982	3.055

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.905	2.978	3.052
28	1.836	2.250	2.548	2.847	3.081	3.316	3.477	3.565	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.343	0.420	0.476	0.531	0.575	0.619	0.649	0.665	0.682	0.701	0.719	0.738	0.757	0.775
24	0.494	0.605	0.685	0.765	0.828	0.891	0.935	0.958	0.982	1.009	1.036	1.063	1.090	1.116
28	0.672	0.823	0.932	1.041	1.127	1.213	1.272	1.304	1.336	1.373	1.410	1.446	1.483	1.520
32	0.877	1.075	1.218	1.360	1.472	1.584	1.661	1.703	1.746	1.793	1.841	1.889	1.937	1.985
36	1.110	1.361	1.541	1.722	1.863	2.005	2.103	2.156	2.209	2.270	2.330	2.391	2.451	2.512
40	1.371	1.680	1.903	2.125	2.300	2.476	2.596	2.662	2.727	2.802	2.877	2.952	3.027	3.101

LC3 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	11
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	6
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0
															0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.455	6.382	6.305	6.228	6.152	6.075	5.998	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	3
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0
40	0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0
															0

LC3 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	7
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.639	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	3
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	11
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.240	-2.540	-2.944	-3.348	-3.672	-4.037	-4.401	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	2

LC4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	10
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	5
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	2
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	9
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	2
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0
40	-0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0

LC4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	2
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	10
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	0

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.81	9.78
B	0.67	11.06
D	1.81	9.78
E	0.67	10.7

(Country, Debris, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.856	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.425	2.466	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.120	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.126	4.195

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

1.8m Bay x 1.3m (5) Width

(Town, Debris, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.176	1.442	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

LC3 1.8m Bay x 1.3m (5) Width (Country, Debris, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	13
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	9
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	5

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5

LC3 1.8m Bay x 1.3m (5) Width (Town, Debris, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	10
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	13
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6

LC4 1.8m Bay x 1.3m (S) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	9
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	4
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	12
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	8
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	9
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	4
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2
32	1.265	0.001	-0.808	-1.616	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.082	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.635	3.510	3.386	3.263	3.139	7
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5

LC4 1.8m Bay x 1.3m (S) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	5
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	9
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	5
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	12
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	8
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.05	9.78
B	0.39	11.06
D	1.05	9.78
E	0.33	10.7

(Country, Unclad, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.110	0.127	0.137	0.148	0.156	0.164	0.170	0.173	0.176	0.179	0.182	0.185	0.188	0.191
24	0.159	0.183	0.198	0.213	0.225	0.236	0.245	0.249	0.253	0.257	0.262	0.266	0.271	0.275
28	0.216	0.248	0.269	0.290	0.306	0.322	0.333	0.338	0.344	0.350	0.356	0.363	0.369	0.375
32	0.283	0.325	0.351	0.378	0.399	0.420	0.435	0.442	0.450	0.458	0.465	0.473	0.481	0.489
36	0.358	0.411	0.445	0.479	0.505	0.532	0.550	0.560	0.569	0.579	0.589	0.599	0.609	0.619
40	0.441	0.507	0.549	0.591	0.624	0.657	0.679	0.691	0.702	0.715	0.727	0.740	0.752	0.765

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.668	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.595	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.084	0.103	0.116	0.130	0.141	0.151	0.159	0.163	0.167	0.171	0.176	0.180	0.185	0.190
24	0.121	0.148	0.167	0.187	0.202	0.218	0.228	0.234	0.240	0.247	0.253	0.260	0.266	0.273
28	0.164	0.201	0.228	0.255	0.274	0.297	0.311	0.319	0.327	0.336	0.345	0.354	0.363	0.371
32	0.214	0.263	0.298	0.332	0.360	0.387	0.406	0.416	0.427	0.438	0.450	0.462	0.473	0.485
36	0.271	0.333	0.377	0.421	0.455	0.490	0.514	0.527	0.540	0.555	0.570	0.584	0.599	0.614
40	0.335	0.411	0.465	0.520	0.562	0.605	0.635	0.651	0.667	0.685	0.703	0.722	0.740	0.758

LC3 1.8m Bay x 1.3m (5) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15

LC3 1.8m Bay x 1.3m (5) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	7
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	7
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	5
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	3
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	8
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	5
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	3
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.69	9.78
B	1.33	11.06
D	3.69	9.78
E	1.35	10.7

(Country, Sheeted, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.204	3.242	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.445	0.511	0.553	0.595	0.629	0.662	0.684	0.696	0.708	0.720	0.733	0.745	0.758	0.771
24	0.641	0.736	0.796	0.857	0.905	0.953	0.985	1.002	1.019	1.037	1.055	1.073	1.092	1.110
28	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.486	1.510
32	1.139	1.308	1.416	1.524	1.609	1.694	1.752	1.782	1.812	1.844	1.876	1.908	1.940	1.973
36	1.441	1.655	1.792	1.929	2.037	2.144	2.217	2.255	2.293	2.334	2.374	2.415	2.454	2.497
40	1.779	2.044	2.212	2.381	2.514	2.647	2.737	2.784	2.831	2.881	2.931	2.982	3.032	3.082

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.234	1.417	1.535	1.652	1.744	1.836	1.899	1.931	1.963	1.998	2.033	2.068	2.103	2.138
24	1.777	2.041	2.210	2.379	2.511	2.644	2.734	2.781	2.827	2.878	2.928	2.978	3.028	3.079
28	2.419	2.778	3.008	3.237	3.418	3.599	3.721	3.785	3.848	3.917	3.985	4.054	4.122	4.190
32	3.159	3.629	3.929	4.229	4.465	4.701	4.860	4.943	5.026	5.116	5.205	5.294	5.384	5.473
36	3.999	4.592	4.972	5.352	5.651	5.950	6.151	6.256	6.361	6.475	6.588	6.701	6.814	6.927
40	4.937	5.670	6.138	6.607	6.976	7.345	7.594	7.724	7.854	7.993	8.133	8.273	8.412	8.552

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.452	0.519	0.561	0.604	0.638	0.672	0.693	0.704	0.718	0.731	0.744	0.757	0.769	0.782
24	0.650	0.747	0.808	0.870	0.919	0.967	1.003	1.017	1.034	1.053	1.071	1.090	1.108	1.126
28	0.885	1.016	1.100	1.184	1.251	1.317	1.361	1.385	1.408	1.433	1.458	1.483	1.508	1.533
32	1.156	1.328	1.437	1.547	1.633	1.720	1.778	1.809	1.839	1.872	1.904	1.937	1.970	2.002
36	1.463	1.680	1.819	1.958	2.067	2.177	2.251	2.289	2.327	2.369	2.410	2.451	2.493	2.534
40	1.806	2.074	2.246	2.417	2.552	2.687	2.778	2.824	2.873	2.924	2.975	3.027	3.078	3.129

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.240	2.297

Tie Pattern A — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.903	2.978	3.052
28	1.836	2.253	2.548	2.847	3.081	3.316	3.477	3.563	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern B — Max Mmt coefficient= 1.33

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.338	0.414	0.469	0.523	0.567	0.610	0.639	0.654	0.672	0.690	0.709	0.727	0.745	0.764
24	0.486	0.596	0.675	0.754	0.816	0.878	0.921	0.944	0.967	0.994	1.020	1.047	1.073	1.100
28	0.662	0.811	0.919	1.026	1.111	1.195	1.253	1.285	1.317	1.353	1.389	1.425	1.461	1.497
32	0.864	1.059	1.200	1.340	1.450	1.561	1.637	1.678	1.720	1.767	1.814	1.861	1.908	1.955
36	1.094	1.341	1.518	1.696	1.836	1.976	2.072	2.124	2.176	2.236	2.294	2.353	2.415	2.475
40	1.351	1.655	1.875	2.094	2.266	2.439	2.558	2.622	2.687	2.761	2.834	2.908	2.982	3.055

Tie Pattern D — Max Mmt coefficient= 3.69

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.937	1.148	1.300	1.452	1.572	1.692	1.774	1.819	1.864	1.915	1.966	2.017	2.068	2.119
24	1.349	1.653	1.872	2.091	2.264	2.436	2.554	2.619	2.684	2.757	2.831	2.903	2.978	3.052
28	1.836	2.253	2.548	2.847	3.081	3.316	3.477	3.563	3.653	3.753	3.853	3.953	4.054	4.154
32	2.398	2.939	3.329	3.718	4.024	4.331	4.541	4.656	4.771	4.902	5.033	5.164	5.294	5.425
36	3.035	3.720	4.213	4.705	5.093	5.481	5.748	5.893	6.038	6.204	6.370	6.535	6.701	6.866
40	3.747	4.593	5.201	5.809	6.288	6.767	7.096	7.275	7.455	7.659	7.864	8.068	8.273	8.477

Tie Pattern E — Max Mmt coefficient= 1.35

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.343	0.420	0.474	0.531	0.573	0.619	0.649	0.663	0.682	0.701	0.719	0.738	0.757	0.775
24	0.494	0.605	0.685	0.765	0.828	0.891	0.935	0.958	0.982	1.009	1.036	1.063	1.090	1.116
28	0.672	0.823	0.932	1.041	1.127	1.213	1.272	1.304	1.336	1.373	1.410	1.446	1.483	1.520
32	0.877	1.075	1.218	1.360	1.472	1.584	1.661	1.703	1.746	1.793	1.841	1.889	1.937	1.985
36	1.110	1.361	1.541	1.722	1.863	2.005	2.103	2.158	2.209	2.270	2.330	2.391	2.451	2.512
40	1.371	1.681	1.903	2.125	2.300	2.476	2.596	2.662	2.727	2.802	2.877	2.952	3.027	3.101

1800 Bay Tube Transom

LC3 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	11	11
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	6	6
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.932	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	2	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	11	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	6	6
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	3	3
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.285	-4.534	0	0
40	-0.157	-1.769	-2.890	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0	0

LC3 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	4	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	2	2
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	12	12
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	7	7
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	3	3
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	4	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.255	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	2	2
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	11	11
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	7	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	3	3
40	2.459	0.600	-0.738	-2.076	-3.109	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	2	2

LC4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.296	7.886	7.623	7.361	7.154	6.948	6.808	6.735	6.663	6.585	6.506	6.428	6.350	6.272	15	15
24	7.080	6.489	6.111	5.733	5.436	5.138	4.937	4.833	4.728	4.615	4.503	4.390	4.278	4.165	10	10
28	5.643	4.838	4.324	3.810	3.405	3.000	2.726	2.584	2.442	2.288	2.135	1.982	1.829	1.675	5	5
32	3.984	2.934	2.262	1.590	1.061	0.532	0.175	-0.011	-0.197	-0.397	-0.597	-0.797	-0.997	-1.197	3	3
36	2.105	0.775	-0.075	-0.925	-1.595	-2.264	-2.716	-2.952	-3.187	-3.440	-3.693	-3.947	-4.200	-4.453	0	0
40	0.004	-1.637	-2.687	-3.737	-4.563	-5.390	-5.948	-6.238	-6.529	-6.841	-7.154	-7.467	-7.779	-8.092	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	2.999	1.992	1.348	0.705	0.198	-0.309	-0.652	-0.830	-1.008	-1.200	-1.391	-1.583	-1.775	-1.967	2	2
24	0.016	-1.434	-2.362	-3.289	-4.019	-4.748	-5.242	-5.498	-5.754	-6.031	-6.307	-6.583	-6.859	-7.135	0	0
28	-3.511	-5.484	-6.746	-8.008	-9.001	-9.995	-10.666	-11.015	-11.364	-11.740	-12.116	-12.492	-12.868	-13.244	0	0
32	-7.579	-10.157	-11.805	-13.453	-14.751	-16.048	-16.925	-17.381	-17.837	-18.328	-18.819	-19.310	-19.801	-20.292	0	0
36	-12.190	-15.452	-17.538	-19.624	-21.267	-22.909	-24.018	-24.595	-25.172	-25.794	-26.415	-27.037	-27.658	-28.279	0	0
40	-17.344	-21.371	-23.946	-26.522	-28.549	-30.577	-31.946	-32.659	-33.371	-34.138	-34.905	-35.673	-36.440	-37.207	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.986	7.583	7.325	7.067	6.865	6.662	6.525	6.453	6.382	6.305	6.228	6.152	6.075	5.998	15	15
24	6.792	6.211	5.840	5.469	5.177	4.885	4.687	4.585	4.482	4.372	4.261	4.150	4.040	3.929	10	10
28	5.380	4.590	4.085	3.580	3.182	2.785	2.516	2.376	2.237	2.086	1.936	1.785	1.635	1.484	5	5
32	3.752	2.720	2.060	1.400	0.881	0.362	0.011	-0.172	-0.354	-0.551	-0.747	-0.944	-1.140	-1.337	3	3
36	1.906	0.600	-0.235	-1.070	-1.727	-2.384	-2.828	-3.059	-3.290	-3.539	-3.788	-4.037	-4.286	-4.534	0	0
40	-0.157	-1.769	-2.800	-3.830	-4.642	-5.454	-6.002	-6.287	-6.572	-6.879	-7.186	-7.493	-7.800	-8.107	0	0

LC4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.253	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.962	8.489	8.148	7.807	7.539	7.271	7.087	6.987	6.886	6.772	6.657	6.543	6.428	6.314	15	15
24	8.039	7.357	6.867	6.376	5.990	5.604	5.339	5.194	5.050	4.885	4.720	4.555	4.390	4.226	11	11
28	6.948	6.020	5.353	4.685	4.160	3.634	3.273	3.076	2.879	2.655	2.431	2.206	1.982	1.758	6	6
32	5.689	4.477	3.606	2.734	2.047	1.361	0.890	0.632	0.375	0.082	-0.211	-0.504	-0.797	-1.090	4	4
36	4.262	2.729	1.625	0.522	-0.347	-1.215	-1.812	-2.138	-2.463	-2.834	-3.205	-3.576	-3.947	-4.318	3	3
40	2.668	0.775	-0.588	-1.950	-3.022	-4.094	-4.831	-5.233	-5.635	-6.093	-6.551	-7.009	-7.467	-7.925	2	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	4.633	3.472	2.636	1.800	1.143	0.485	0.033	-0.213	-0.460	-0.741	-1.021	-1.302	-1.583	-1.864	3	3
24	2.368	0.696	-0.507	-1.711	-2.657	-3.604	-4.253	-4.610	-4.965	-5.370	-5.774	-6.179	-6.583	-6.987	0	0
28	-0.309	-2.584	-4.222	-5.860	-7.149	-8.437	-9.323	-9.807	-10.290	-10.840	-11.391	-11.941	-12.492	-13.042	0	0
32	-3.397	-6.369	-8.508	-10.648	-12.331	-14.014	-15.172	-15.803	-16.434	-17.153	-17.872	-18.591	-19.310	-20.029	0	0
36	-6.897	-10.659	-13.366	-16.074	-18.204	-20.335	-21.799	-22.598	-23.397	-24.307	-25.217	-26.127	-27.037	-27.946	0	0
40	-10.809	-15.453	-18.796	-22.138	-24.768	-27.398	-29.207	-30.193	-31.179	-32.303	-33.426	-34.549	-35.673	-36.796	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.640	8.175	7.841	7.506	7.243	6.980	6.799	6.700	6.601	6.489	6.376	6.264	6.152	6.039	15	15
24	7.733	7.064	6.582	6.101	5.722	5.343	5.082	4.940	4.798	4.636	4.474	4.312	4.150	3.989	10	10
28	6.662	5.751	5.095	4.440	3.924	3.408	3.053	2.860	2.667	2.446	2.226	2.006	1.785	1.565	6	6
32	5.426	4.236	3.380	2.523	1.850	1.176	0.713	0.460	0.207	-0.080	-0.368	-0.656	-0.944	-1.231	4	4
36	4.025	2.519	1.435	0.352	-0.501	-1.354	-1.940	-2.260	-2.580	-2.944	-3.308	-3.672	-4.037	-4.401	2	2
40	2.459	0.600	-0.738	-2.076	-3.129	-4.181	-4.905	-5.300	-5.695	-6.144	-6.594	-7.044	-7.493	-7.943	2	2

1.8m Bay x 1.3m (S) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	1.81	9.78
		B	0.67	11.06
LC3	1.78	D	1.81	9.78
LC4	1.78	E	0.67	10.7

(Country, Debris, 0&1, F&P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m) / S_{min} C_{pe}	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.099	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.854	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.423	2.464	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.123	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.124	4.195

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.605	0.695	0.753	0.810	0.855	0.901	0.931	0.947	0.963	0.980	0.997	1.014	1.032	1.049
24	0.872	1.001	1.084	1.167	1.232	1.297	1.341	1.364	1.387	1.412	1.436	1.461	1.485	1.510
28	1.187	1.363	1.475	1.588	1.677	1.765	1.825	1.854	1.888	1.921	1.955	1.988	2.022	2.055
32	1.550	1.780	1.927	2.074	2.190	2.306	2.384	2.423	2.464	2.509	2.553	2.597	2.641	2.685
36	1.961	2.253	2.439	2.625	2.772	2.918	3.017	3.069	3.123	3.176	3.231	3.287	3.342	3.398
40	2.421	2.781	3.011	3.241	3.422	3.603	3.725	3.789	3.852	3.921	3.989	4.058	4.124	4.195

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

1.8m Bay x 1.3m (S) Width

(Town, Debris, 0&1, F&P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m) / S_{min} C_{pe}	4	6	8	10	12	14	16	18	20	22	24	26	28	30
	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.825	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.021	2.076	2.131	2.186	2.240	2.297

Tie Pattern A — Max Mmt coefficient= 1.81

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.174	1.440	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.81

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.460	0.563	0.638	0.712	0.771	0.830	0.870	0.892	0.914	0.939	0.964	0.989	1.014	1.040
24	0.662	0.811	0.918	1.026	1.110	1.195	1.253	1.285	1.316	1.353	1.389	1.425	1.461	1.497
28	0.901	1.104	1.250	1.396	1.511	1.626	1.705	1.749	1.792	1.841	1.890	1.939	1.988	2.037
32	1.174	1.440	1.633	1.824	1.974	2.124	2.228	2.284	2.340	2.404	2.469	2.533	2.597	2.661
36	1.489	1.825	2.066	2.308	2.498	2.689	2.819	2.891	2.962	3.043	3.124	3.206	3.287	3.368
40	1.838	2.253	2.551	2.850	3.084	3.319	3.481	3.569	3.657	3.757	3.857	3.958	4.058	4.158

Tie Pattern E — Max Mmt coefficient= 0.67

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.356954731	0.366235101	0.375515472	0.384795842
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514018813	0.527378546	0.540742279	0.554106012
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.699631273	0.717820798	0.736010324	0.75419985
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.913804111	0.937561859	0.961319607	0.985077355
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.156533328	1.186601728	1.216670128	1.246738528
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.427818924	1.464940405	1.502061886	1.539183367

1800 Bay Tube Transom

LC3 1.8m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	11	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	3	2
32	1.265	0.001	-0.808	-1.618	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.080	-7.362	-7.669	-7.975	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.389	5.288	5.188	5.087	4.986	4.885	13	13
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.880	3.755	3.628	3.500	3.373	3.245	9	9
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	6	6

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	11	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	3	2
32	1.265	0.001	-0.808	-1.618	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.620	-4.643	-5.449	-6.254	-6.799	-7.080	-7.362	-7.669	-7.975	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.593	8.557	8.519	8.481	8.443	8.405	8.366	15	15
24	8.760	8.473	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	13	12
36	6.336	5.688	5.273	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	9	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	6	5

LC3 1.8m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	4
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.822	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13	13
36	7.636	6.963	6.307	5.651	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	10	10
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	7	6

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	11	11
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	4
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.822	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	13	13
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	10	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6	6

1800 Bay Tube Transom

LC4 1.8m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.618	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.600	-4.643	-5.449	-6.254	-6.799	-7.085	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.668	9.461	9.329	9.196	9.092	8.988	8.918	8.881	8.845	8.806	8.766	8.727	8.687	8.648	15	15
24	9.055	8.757	8.567	8.377	8.227	8.077	7.976	7.923	7.870	7.814	7.757	7.700	7.643	7.587	15	15
28	8.331	7.926	7.667	7.408	7.204	7.000	6.862	6.790	6.718	6.641	6.564	6.487	6.410	6.332	15	15
32	7.496	6.966	6.628	6.289	6.023	5.757	5.577	5.483	5.388	5.288	5.188	5.087	4.986	4.885	12	12
36	6.549	5.879	5.451	5.022	4.685	4.348	4.120	4.001	3.883	3.755	3.628	3.500	3.373	3.245	8	8
40	5.491	4.664	4.135	3.606	3.190	2.773	2.492	2.346	2.200	2.042	1.884	1.727	1.569	1.412	5	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.454	5.960	5.644	5.328	5.080	4.831	4.663	4.576	4.488	4.394	4.300	4.206	4.112	4.018	10	10
24	4.990	4.279	3.824	3.370	3.012	2.654	2.412	2.286	2.160	2.025	1.889	1.754	1.618	1.483	5	5
28	3.261	2.293	1.674	1.055	0.567	0.080	-0.249	-0.420	-0.591	-0.776	-0.960	-1.145	-1.329	-1.513	2	2
32	1.265	0.001	-0.808	-1.618	-2.253	-2.889	-3.319	-3.543	-3.766	-4.007	-4.248	-4.489	-4.730	-4.971	0	0
36	-0.997	-2.597	-3.600	-4.643	-5.449	-6.254	-6.799	-7.085	-7.365	-7.669	-7.974	-8.279	-8.584	-8.889	0	0
40	-3.525	-5.500	-6.763	-8.027	-9.021	-10.016	-10.687	-11.037	-11.386	-11.763	-12.139	-12.515	-12.891	-13.268	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.353	9.153	9.025	8.897	8.796	8.696	8.628	8.592	8.557	8.519	8.481	8.443	8.405	8.366	15	15
24	8.760	8.472	8.288	8.104	7.959	7.814	7.716	7.665	7.614	7.559	7.504	7.449	7.395	7.340	15	15
28	8.060	7.668	7.417	7.166	6.969	6.772	6.638	6.569	6.500	6.425	6.350	6.276	6.201	6.126	15	15
32	7.252	6.740	6.412	6.085	5.827	5.569	5.395	5.304	5.214	5.116	5.019	4.921	4.824	4.726	12	12
36	6.336	5.688	5.275	4.859	4.533	4.206	3.986	3.871	3.757	3.633	3.510	3.386	3.263	3.139	8	8
40	5.312	4.512	4.000	3.489	3.086	2.683	2.411	2.269	2.128	1.976	1.823	1.671	1.518	1.366	5	5

LC4 1.8m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	10	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.003	9.765	9.593	9.422	9.286	9.151	9.059	9.008	8.957	8.900	8.842	8.784	8.727	8.669	15	15
24	9.538	9.195	8.948	8.701	8.506	8.312	8.178	8.105	8.032	7.949	7.866	7.783	7.700	7.617	15	15
28	8.988	8.521	8.185	7.849	7.584	7.319	7.137	7.038	6.939	6.826	6.713	6.600	6.487	6.374	15	15
32	8.354	7.744	7.305	6.865	6.520	6.174	5.937	5.807	5.677	5.530	5.382	5.234	5.087	4.939	13	13
36	7.636	6.863	6.307	5.751	5.314	4.876	4.576	4.412	4.248	4.061	3.874	3.687	3.500	3.313	9	9
40	6.832	5.879	5.192	4.506	3.966	3.426	3.055	2.852	2.650	2.419	2.188	1.958	1.727	1.496	6	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.255	6.686	6.276	5.866	5.543	5.221	4.999	4.878	4.757	4.619	4.482	4.344	4.206	4.068	10	10
24	6.144	5.324	4.734	4.144	3.679	3.215	2.896	2.721	2.547	2.349	2.150	1.952	1.754	1.555	6	6
28	4.831	3.715	2.912	2.108	1.476	0.844	0.409	0.172	-0.065	-0.335	-0.605	-0.875	-1.145	-1.415	4	3
32	3.316	1.859	0.809	-0.240	-1.066	-1.891	-2.459	-2.769	-3.078	-3.431	-3.784	-4.136	-4.489	-4.842	2	2
36	1.600	-0.246	-1.574	-2.902	-3.947	-4.992	-5.710	-6.102	-6.494	-6.940	-7.386	-7.833	-8.279	-8.725	0	0
40	-0.319	-2.597	-4.237	-5.876	-7.166	-8.457	-9.344	-9.827	-10.311	-10.862	-11.413	-11.964	-12.515	-13.066	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.677	9.447	9.281	9.115	8.984	8.854	8.764	8.715	8.666	8.610	8.554	8.498	8.443	8.387	15	15
24	9.228	8.895	8.656	8.417	8.229	8.041	7.912	7.841	7.771	7.690	7.610	7.530	7.449	7.369	15	15
28	8.696	8.244	7.918	7.593	7.337	7.081	6.905	6.809	6.713	6.604	6.494	6.385	6.276	6.166	15	15
32	8.082	7.492	7.067	6.642	6.308	5.973	5.743	5.618	5.493	5.350	5.207	5.064	4.921	4.778	12	12
36	7.387	6.640	6.102	5.564	5.141	4.718	4.427	4.268	4.109	3.929	3.748	3.567	3.386	3.206	9	9
40	6.610	5.687	5.023	4.359	3.837	3.314	2.955	2.759	2.563	2.340	2.117	1.894	1.671	1.448	6	6

1800 Bay Tube Transom

1.8m Bay x 1.3m (5) Width

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.05	9.78
B	0.39	11.06
D	1.05	9.78
E	0.33	10.7

Residual Moments

LC3	1.78
LC4	1.78

(Country, Uncload, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.418	0.448	0.473	0.498	0.513	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.164	2.204	2.242	2.282	2.318

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.351	0.403	0.437	0.470	0.496	0.523	0.540	0.549	0.559	0.569	0.579	0.588	0.598	0.608
24	0.506	0.581	0.629	0.677	0.715	0.752	0.778	0.791	0.805	0.819	0.833	0.847	0.862	0.876
28	0.688	0.791	0.856	0.921	0.973	1.024	1.059	1.077	1.095	1.115	1.134	1.153	1.173	1.192
32	0.899	1.033	1.118	1.203	1.270	1.338	1.383	1.407	1.430	1.456	1.481	1.507	1.532	1.557
36	1.138	1.307	1.415	1.523	1.608	1.693	1.750	1.780	1.810	1.842	1.875	1.907	1.939	1.971
40	1.405	1.613	1.747	1.880	1.985	2.090	2.161	2.198	2.235	2.275	2.314	2.354	2.394	2.433

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.110	0.127	0.137	0.148	0.156	0.164	0.170	0.173	0.176	0.179	0.182	0.185	0.188	0.191
24	0.159	0.183	0.198	0.213	0.225	0.236	0.245	0.249	0.253	0.257	0.262	0.266	0.271	0.275
28	0.216	0.249	0.269	0.290	0.306	0.322	0.333	0.338	0.344	0.350	0.356	0.363	0.369	0.375
32	0.283	0.325	0.351	0.378	0.399	0.420	0.435	0.442	0.450	0.458	0.465	0.473	0.481	0.489
36	0.358	0.411	0.443	0.479	0.505	0.532	0.550	0.560	0.569	0.579	0.589	0.599	0.609	0.619
40	0.441	0.507	0.549	0.591	0.624	0.657	0.679	0.691	0.702	0.715	0.727	0.740	0.752	0.765

1.8m Bay x 1.3m (5) Width

(Town, Uncload, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.428	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.615	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.815	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.05

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.593	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.384	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.675	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.05

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.267	0.327	0.370	0.413	0.447	0.481	0.505	0.518	0.530	0.545	0.559	0.574	0.588	0.603
24	0.384	0.470	0.533	0.593	0.644	0.693	0.727	0.745	0.764	0.785	0.806	0.826	0.847	0.868
28	0.522	0.640	0.725	0.810	0.877	0.943	0.989	1.014	1.039	1.068	1.096	1.125	1.153	1.182
32	0.682	0.836	0.947	1.058	1.145	1.232	1.292	1.325	1.358	1.395	1.432	1.469	1.507	1.544
36	0.864	1.059	1.199	1.339	1.449	1.560	1.635	1.677	1.718	1.765	1.812	1.860	1.907	1.954
40	1.066	1.307	1.480	1.653	1.789	1.925	2.019	2.070	2.121	2.179	2.238	2.296	2.354	2.412

Tie Pattern E — Max Mmt coefficient= 0.33

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.084	0.103	0.116	0.130	0.141	0.151	0.159	0.163	0.167	0.171	0.176	0.180	0.185	0.190
24	0.121	0.148	0.167	0.187	0.202	0.218	0.228	0.234	0.240	0.247	0.253	0.260	0.266	0.273
28	0.164	0.201	0.228	0.255	0.276	0.297	0.311	0.319	0.327	0.336	0.345	0.354	0.363	0.371
32	0.214	0.263	0.298	0.332	0.360	0.387	0.406	0.416	0.427	0.438	0.450	0.462	0.473	0.485
36	0.271	0.333	0.377	0.421	0.455	0.490	0.514	0.527	0.540	0.555	0.570	0.584	0.599	0.614
40	0.335	0.411	0.465	0.520	0.562	0.605	0.635	0.651	0.667	0.685	0.703	0.722	0.740	0.758

LC3 1.8m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	9	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	5
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	3
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	2	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	15	14

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	13	13
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	9	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	5
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.696	-0.873	-1.050	3	3
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	2	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15	15
28	9.400	9.207	9.083	8.960	8.862	8.763	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15	15

LC3 1.8m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	14	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	3

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 11.06 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	15	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 9.78 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	14	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	3	3

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 10.7 kN

Height, m \ S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.196	10.083	10.001	9.919	9.858	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15	15

1800 Bay Tube Transom

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	12	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.694	-0.873	-1.050	2	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.250	10.129	10.052	9.975	9.915	9.854	9.813	9.792	9.771	9.748	9.725	9.702	9.679	9.656	15	15
24	9.893	9.720	9.609	9.498	9.411	9.324	9.265	9.234	9.203	9.170	9.137	9.104	9.071	9.038	15	15
28	9.471	9.236	9.085	8.934	8.815	8.696	8.616	8.574	8.533	8.488	8.443	8.398	8.353	8.308	15	15
32	8.985	8.677	8.480	8.283	8.128	7.973	7.868	7.814	7.759	7.700	7.642	7.583	7.524	7.466	15	15
36	8.434	8.044	7.795	7.545	7.349	7.153	7.020	6.951	6.882	6.808	6.734	6.660	6.585	6.511	15	15
40	7.818	7.337	7.029	6.721	6.479	6.236	6.073	5.988	5.902	5.811	5.719	5.627	5.536	5.444	14	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	7.850	7.564	7.381	7.198	7.053	6.909	6.812	6.761	6.710	6.656	6.601	6.547	6.492	6.437	15	15
24	7.001	6.589	6.325	6.061	5.854	5.646	5.506	5.433	5.360	5.281	5.202	5.124	5.045	4.967	12	12
28	5.998	5.437	5.077	4.718	4.436	4.153	3.962	3.863	3.763	3.656	3.549	3.443	3.336	3.229	8	8
32	4.840	4.107	3.638	3.169	2.800	2.431	2.181	2.051	1.922	1.782	1.642	1.502	1.363	1.223	5	4
36	3.528	2.600	2.006	1.413	0.946	0.478	0.163	-0.002	-0.166	-0.343	-0.519	-0.694	-0.873	-1.050	2	2
40	2.062	0.916	0.183	-0.550	-1.127	-1.704	-2.093	-2.296	-2.499	-2.717	-2.935	-3.154	-3.372	-3.590	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.037	9.938	9.875	9.812	9.762	9.713	9.679	9.662	9.644	9.626	9.607	9.588	9.569	9.551	15	15
24	9.745	9.603	9.512	9.421	9.350	9.278	9.230	9.205	9.180	9.153	9.126	9.099	9.072	9.045	15	15
28	9.400	9.207	9.083	8.960	8.862	8.765	8.699	8.665	8.631	8.594	8.558	8.521	8.484	8.447	15	15
32	9.002	8.749	8.588	8.427	8.300	8.173	8.087	8.042	7.998	7.950	7.902	7.854	7.806	7.758	15	15
36	8.550	8.231	8.027	7.823	7.662	7.502	7.393	7.337	7.280	7.219	7.159	7.098	7.037	6.976	15	15
40	8.046	7.652	7.400	7.148	6.950	6.751	6.617	6.548	6.478	6.403	6.328	6.253	6.178	6.103	15	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 11.06 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.445	10.306	10.206	10.106	10.028	9.949	9.895	9.866	9.836	9.803	9.769	9.735	9.702	9.668	15	15
24	10.174	9.974	9.830	9.687	9.573	9.460	9.382	9.340	9.298	9.249	9.201	9.153	9.104	9.056	15	15
28	9.854	9.582	9.386	9.191	9.037	8.883	8.777	8.719	8.661	8.595	8.530	8.464	8.398	8.332	15	15
32	9.485	9.130	8.874	8.618	8.417	8.216	8.078	8.002	7.927	7.841	7.755	7.669	7.583	7.497	15	15
36	9.067	8.617	8.293	7.970	7.715	7.461	7.286	7.190	7.095	6.986	6.877	6.768	6.660	6.551	15	15
40	8.599	8.044	7.645	7.245	6.931	6.616	6.400	6.282	6.164	6.030	5.896	5.762	5.627	5.493	14	14

Tie Pattern D Residual Axial Capacity Strut Capacity= 9.78 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.315	7.985	7.747	7.509	7.322	7.135	7.007	6.936	6.866	6.786	6.706	6.626	6.547	6.467	15	15
24	7.671	7.195	6.853	6.510	6.241	5.971	5.786	5.685	5.584	5.469	5.354	5.239	5.124	5.009	13	13
28	6.909	6.262	5.796	5.330	4.963	4.596	4.344	4.207	4.069	3.912	3.756	3.599	3.443	3.286	9	9
32	6.030	5.185	4.576	3.967	3.488	3.009	2.680	2.500	2.321	2.116	1.912	1.707	1.502	1.298	6	6
36	5.034	3.964	3.194	2.423	1.817	1.211	0.794	0.567	0.339	0.080	-0.178	-0.437	-0.696	-0.955	4	4
40	3.921	2.600	1.649	0.698	-0.051	-0.799	-1.314	-1.594	-1.875	-2.195	-2.514	-2.834	-3.154	-3.473	2	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 10.7 kN

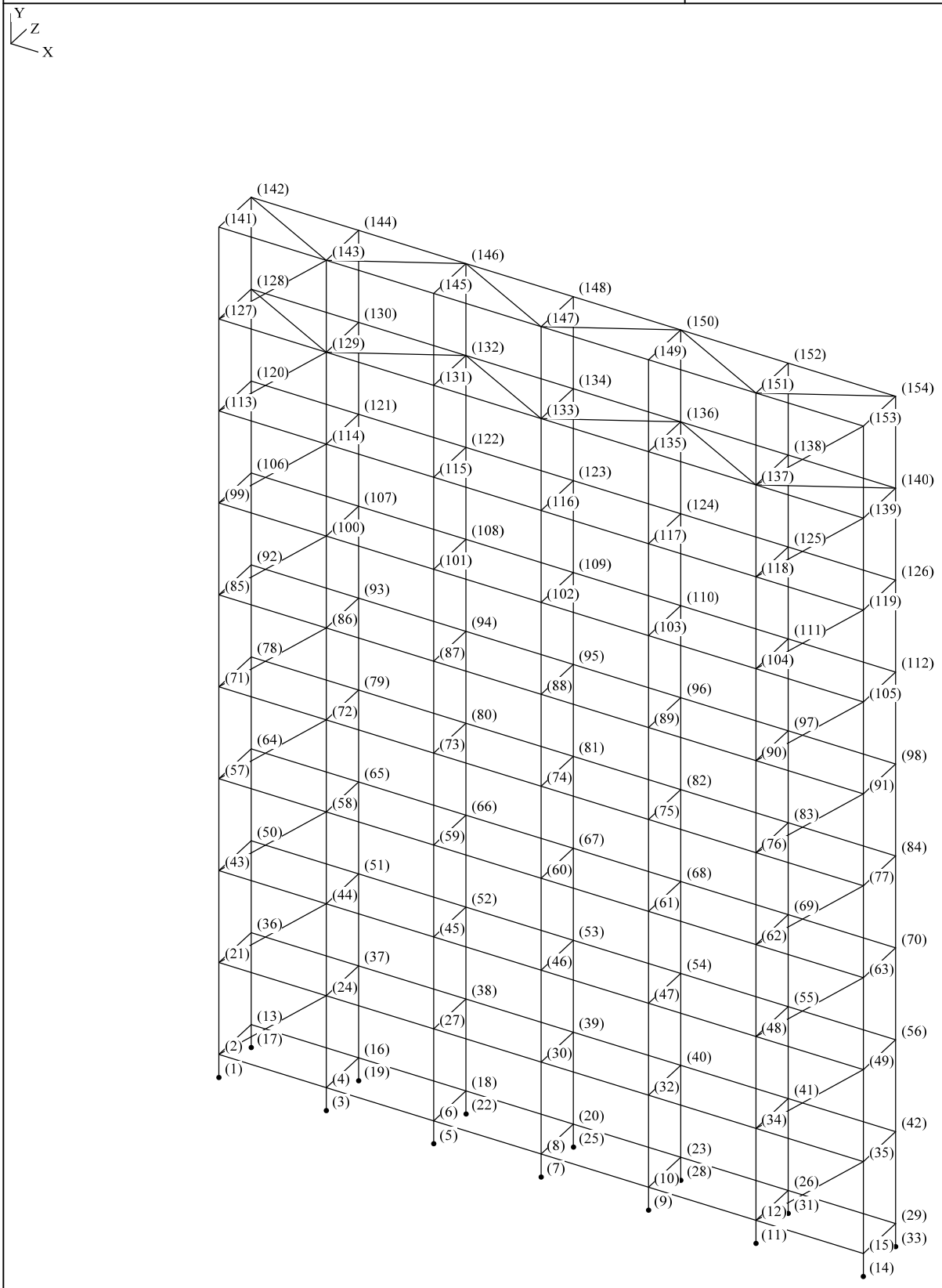
Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.196	10.083	10.001	9.919	9.855	9.791	9.746	9.722	9.698	9.671	9.643	9.616	9.588	9.561	15	15
24	9.975	9.811	9.693	9.576	9.483	9.390	9.327	9.292	9.257	9.218	9.178	9.139	9.099	9.059	15	15
28	9.713	9.490	9.330	9.170	9.044	8.918	8.831	8.784	8.736	8.682	8.629	8.575	8.521	8.467	15	15
32	9.411	9.120	8.911	8.701	8.537	8.372	8.259	8.197	8.135	8.065	7.994	7.924	7.854	7.783	15	15
36	9.068	8.700	8.435	8.170	7.962	7.753	7.610	7.532	7.454	7.365	7.276	7.187	7.098	7.009	15	15
40	8.685	8.231	7.904	7.577	7.320	7.062	6.885	6.789	6.692	6.582	6.473	6.363	6.253	6.143	15	15

2.5m x 1.3m Omega Transom SWH Design Sheets

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12385

Job Ref	**: 1462**
Sheet	**: O 2500 A D /**
Made by	**: IH**
Date	**: 08 June 2016 / Ver. 2015.14**
Checked	**: IH**
Approved	**:**



Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F1	Support
Load Group F3	Support

Load Case 001 : A - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : A - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : A - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : D - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : D - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : D - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : A WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : A WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : A WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : D WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : D WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : D WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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Job Ref : 1462
Sheet : O 2500 A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	2.500	0.000	0.000	4	2.500	0.500	0.000
5	5.000	0.000	0.000	6	5.000	0.500	0.000
7	7.500	0.000	0.000	8	7.500	0.500	0.000
9	10.000	0.000	0.000	10	10.000	0.500	0.000
11	12.500	0.000	0.000	12	12.500	0.500	0.000
13	0.000	0.500	1.300	14	15.000	0.000	0.000
15	15.000	0.500	0.000	16	2.500	0.500	1.300
17	0.000	0.000	1.300	18	5.000	0.500	1.300
19	2.500	0.000	1.300	20	7.500	0.500	1.300
21	0.000	2.500	0.000	22	5.000	0.000	1.300
23	10.000	0.500	1.300	24	2.500	2.500	0.000
25	7.500	0.000	1.300	26	12.500	0.500	1.300
27	5.000	2.500	0.000	28	10.000	0.000	1.300
29	15.000	0.500	1.300	30	7.500	2.500	0.000
31	12.500	0.000	1.300	32	10.000	2.500	0.000
33	15.000	0.000	1.300	34	12.500	2.500	0.000
35	15.000	2.500	0.000	36	0.000	2.500	1.300
37	2.500	2.500	1.300	38	5.000	2.500	1.300
39	7.500	2.500	1.300	40	10.000	2.500	1.300
41	12.500	2.500	1.300	42	15.000	2.500	1.300
43	0.000	4.500	0.000	44	2.500	4.500	0.000
45	5.000	4.500	0.000	46	7.500	4.500	0.000
47	10.000	4.500	0.000	48	12.500	4.500	0.000
49	15.000	4.500	0.000	50	0.000	4.500	1.300
51	2.500	4.500	1.300	52	5.000	4.500	1.300
53	7.500	4.500	1.300	54	10.000	4.500	1.300
55	12.500	4.500	1.300	56	15.000	4.500	1.300
57	0.000	6.500	0.000	58	2.500	6.500	0.000
59	5.000	6.500	0.000	60	7.500	6.500	0.000
61	10.000	6.500	0.000	62	12.500	6.500	0.000
63	15.000	6.500	0.000	64	0.000	6.500	1.300
65	2.500	6.500	1.300	66	5.000	6.500	1.300
67	7.500	6.500	1.300	68	10.000	6.500	1.300
69	12.500	6.500	1.300	70	15.000	6.500	1.300
71	0.000	8.500	0.000	72	2.500	8.500	0.000
73	5.000	8.500	0.000	74	7.500	8.500	0.000
75	10.000	8.500	0.000	76	12.500	8.500	0.000
77	15.000	8.500	0.000	78	0.000	8.500	1.300
79	2.500	8.500	1.300	80	5.000	8.500	1.300
81	7.500	8.500	1.300	82	10.000	8.500	1.300
83	12.500	8.500	1.300	84	15.000	8.500	1.300
85	0.000	10.500	0.000	86	2.500	10.500	0.000
87	5.000	10.500	0.000	88	7.500	10.500	0.000
89	10.000	10.500	0.000	90	12.500	10.500	0.000
91	15.000	10.500	0.000	92	0.000	10.500	1.300
93	2.500	10.500	1.300	94	5.000	10.500	1.300
95	7.500	10.500	1.300	96	10.000	10.500	1.300
97	12.500	10.500	1.300	98	15.000	10.500	1.300
99	0.000	12.500	0.000	100	2.500	12.500	0.000
101	5.000	12.500	0.000	102	7.500	12.500	0.000
103	10.000	12.500	0.000	104	12.500	12.500	0.000
105	15.000	12.500	0.000	106	0.000	12.500	1.300
107	2.500	12.500	1.300	108	5.000	12.500	1.300
109	7.500	12.500	1.300	110	10.000	12.500	1.300
111	12.500	12.500	1.300	112	15.000	12.500	1.300
113	0.000	14.500	0.000	114	2.500	14.500	0.000
115	5.000	14.500	0.000	116	7.500	14.500	0.000
117	10.000	14.500	0.000	118	12.500	14.500	0.000
119	15.000	14.500	0.000	120	0.000	14.500	1.300
121	2.500	14.500	1.300	122	5.000	14.500	1.300
123	7.500	14.500	1.300	124	10.000	14.500	1.300
125	12.500	14.500	1.300	126	15.000	14.500	1.300
127	0.000	16.500	0.000	128	0.000	16.500	1.300
129	2.500	16.500	0.000	130	2.500	16.500	1.300

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Job Ref : 1462
Sheet : O 2500 A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

131	5.000	16.500	0.000	132	5.000	16.500	1.300
133	7.500	16.500	0.000	134	7.500	16.500	1.300
135	10.000	16.500	0.000	136	10.000	16.500	1.300
137	12.500	16.500	0.000	138	12.500	16.500	1.300
139	15.000	16.500	0.000	140	15.000	16.500	1.300
141	0.000	18.500	0.000	142	0.000	18.500	1.300
143	2.500	18.500	0.000	144	2.500	18.500	1.300
145	5.000	18.500	0.000	146	5.000	18.500	1.300
147	7.500	18.500	0.000	148	7.500	18.500	1.300
149	10.000	18.500	0.000	150	10.000	18.500	1.300
151	12.500	18.500	0.000	152	12.500	18.500	1.300
153	15.000	18.500	0.000	154	15.000	18.500	1.300

Member Properties

Members 1-132 and 221-360

```
M  ...  ...          48.3x3.2 CHS 3.56 [S 355]
 A 4.53E-4           Ix 11.59E-8         Iy 11.59E-8         J 23.17E-8
 E 205.0E6           G 78.85E6
```

Members 133-202

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M  ...  ...          FL OT []    E 210E6    G 80E6
 A 6.76E-4           Ix 34.08E-8         Iy 54.05E-8         J 68.16E-8
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Members 203-220

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M  ...  ...          48.3 2.30 []    E 210E6    G 80E6
 A 3.32E-4           Ix 8.81E-8          Iy 8.81E-8          J 17.62E-8
```

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1	®O® ®O®	2	®O® ®O®	3	®O® ®O®	4	®O® ®O®
5	®O® ®O®	6	®O® ®O®	7	®O® ®O®	8	®O® ®O®
9	®O® ®O®	10	®O® ®O®	11	®O® ®O®	12	®O® ®O®
13	®O® ®O®	14	®O® ®O®	15	®O® ®O®	16	®O® ®O®
17	®O® ®O®	18	®O® ®O®	19	®O® ®O®	20	®O® ®O®
21	®O® ®O®	22	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
37	®O® ®O®	38	®O® ®O®	39	®O® ®O®	40	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®O® ®O®	48	®O® ®O®
49	®O® ®O®	50	®O® ®O®	51	®O® ®O®	52	®O® ®O®
53	®O® ®O®	54	®O® ®O®	55	®O® ®O®	56	®O® ®O®
57	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	68	®O® ®O®
69	®O® ®O®	70	®O® ®O®	71	®O® ®O®	72	®O® ®O®
73	®O® ®O®	74	®O® ®O®	75	®O® ®O®	76	®O® ®O®
77	®O® ®O®	78	®O® ®O®	79	®O® ®O®	80	®O® ®O®
81	®O® ®O®	82	®O® ®O®	83	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	88	®O® ®O®
89	®O® ®O®	90	®O® ®O®	91	®O® ®O®	92	®O® ®O®
93	®O® ®O®	94	®O® ®O®	95	®O® ®O®	96	®O® ®O®
97	®O® ®O®	98	®O® ®O®	99	®O® ®O®	100	®O® ®O®
101	®O® ®O®	102	®O® ®O®	103	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	108	®O® ®O®
109	®O® ®O®	110	®O® ®O®	111	®O® ®O®	112	®O® ®O®
113	®O® ®O®	114	®O® ®O®	115	®O® ®O®	116	®O® ®O®
117	®O® ®O®	118	®O® ®O®	119	®O® ®O®	120	®O® ®O®
121	®OO ®OO	122	®OO ®OO	123	®OO ®OO	124	®OO ®OO
125	®OO ®OO	126	®OO ®OO	127	®OO ®OO	128	®OO ®OO
129	®OO ®OO	130	®OO ®OO	131	®OO ®OO	132	®OO ®OO
133	®O® ®O®	134	®O® ®O®	135	®O® ®O®	136	®O® ®O®

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Sheet : O 2500 A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

137 ®O® ®O®	138 ®O® ®O®	139 ®O® ®O®	140 ®O® ®O®
141 ®O® ®O®	142 ®O® ®O®	143 ®O® ®O®	144 ®O® ®O®
145 ®O® ®O®	146 ®O® ®O®	147 ®O® ®O®	148 ®O® ®O®
149 ®O® ®O®	150 ®O® ®O®	151 ®O® ®O®	152 ®O® ®O®
153 ®O® ®O®	154 ®O® ®O®	155 ®O® ®O®	156 ®O® ®O®
157 ®O® ®O®	158 ®O® ®O®	159 ®O® ®O®	160 ®O® ®O®
161 ®O® ®O®	162 ®O® ®O®	163 ®O® ®O®	164 ®O® ®O®
165 ®O® ®O®	166 ®O® ®O®	167 ®O® ®O®	168 ®O® ®O®
169 ®O® ®O®	170 ®O® ®O®	171 ®O® ®O®	172 ®O® ®O®
173 ®O® ®O®	174 ®O® ®O®	175 ®O® ®O®	176 ®O® ®O®
177 ®O® ®O®	178 ®O® ®O®	179 ®O® ®O®	180 ®O® ®O®
181 ®O® ®O®	182 ®O® ®O®	183 ®O® ®O®	184 ®O® ®O®
185 ®O® ®O®	186 ®O® ®O®	187 ®O® ®O®	188 ®O® ®O®
189 ®O® ®O®	190 ®O® ®O®	191 ®O® ®O®	192 ®O® ®O®
193 ®O® ®O®	194 ®O® ®O®	195 ®O® ®O®	196 ®O® ®O®
197 ®O® ®O®	198 ®O® ®O®	199 ®O® ®O®	200 ®O® ®O®
201 ®O® ®O®	202 ®O® ®O®	203 ®OO ®OO	204 ®OO ®OO
205 ®OO ®OO	206 ®OO ®OO	207 ®OO ®OO	208 ®OO ®OO
209 ®OO ®OO	210 ®OO ®OO	211 ®OO ®OO	212 ®OO ®OO
213 ®OO ®OO	214 ®OO ®OO	215 ®OO ®OO	216 ®OO ®OO
217 ®OO ®OO	218 ®OO ®OO	219 ®OO ®OO	220 ®OO ®OO

Nodal Loading and Support Conditions

NODES 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
D1 Ls +0000.000 -0000.660 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
D1 Ls +0000.000 -0001.030 +0000.000 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
D1 Ls +0000.000 -0000.970 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
D1 Ls +0000.000 -0000.290 +0000.000 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70,
73-84, 87-98, 101-112 and 115-126
D1 Ls +0000.000 -0000.230 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L3 Ls +0000.000 -0002.938 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L4 Ls +0000.000 -0001.469 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L5 Ls +0000.000 -0004.406 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L6 Ls +0000.000 -0002.203 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-154
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W1 Ls +0000.000 +0000.000 -0000.330 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W1 Ls +0000.000 +0000.000 -0000.311 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W1 Ls +0000.000 +0000.000 -0000.071 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70,
73-84, 87-98, 101-112, 115-126, 128, 130, 132, 134, 136, 138, 140, 142, 144,
146, 148, 150, 152 and 154
W1 Ls +0000.000 +0000.000 -0000.053 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
W2 Ls +0000.000 +0000.000 -0000.250 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
W3 Ls +0000.000 +0000.000 -0000.500 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W4 Ls +0000.000 +0000.000 -0001.911 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W4 Ls +0000.000 +0000.000 -0001.819 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114

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Job Ref : 1462
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Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

W4 Ls +0000.000 +0000.000 -0000.618 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 15, 27, 30, 32, 34-35, 45-49, 59-63, 73-77, 87-91, 101-105 and 115-119
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W5 Ls +0000.000 +0000.000 -0001.250 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77, 85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151 and 153
W6 Ls +0000.000 +0000.000 -0002.500 +0000.000 +0000.000 +0000.000
NODES 17, 19, 22, 25, 28, 31 and 33
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 3, 5, 7, 9, 11 and 14
UT Rs 1 1 0 0 1 0
NODES 50, 52, 54, 56, 78, 80, 82, 84, 106, 108, 110, 112, 128, 132, 136, 140, 142, 146, 150 and 154
F1 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 38, 42, 50, 54, 66, 70, 78, 82, 94, 98, 106, 110, 122, 126, 128, 136, 146 and 154
F3 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2, 4, 6, 8, 10, 12-13, 15-16, 18, 20-21, 23-24, 26-27, 29-30, 32 and 34-154
UT Springs 0000.000 0000.000 0000.000 0092.200 0000.000 0071.940

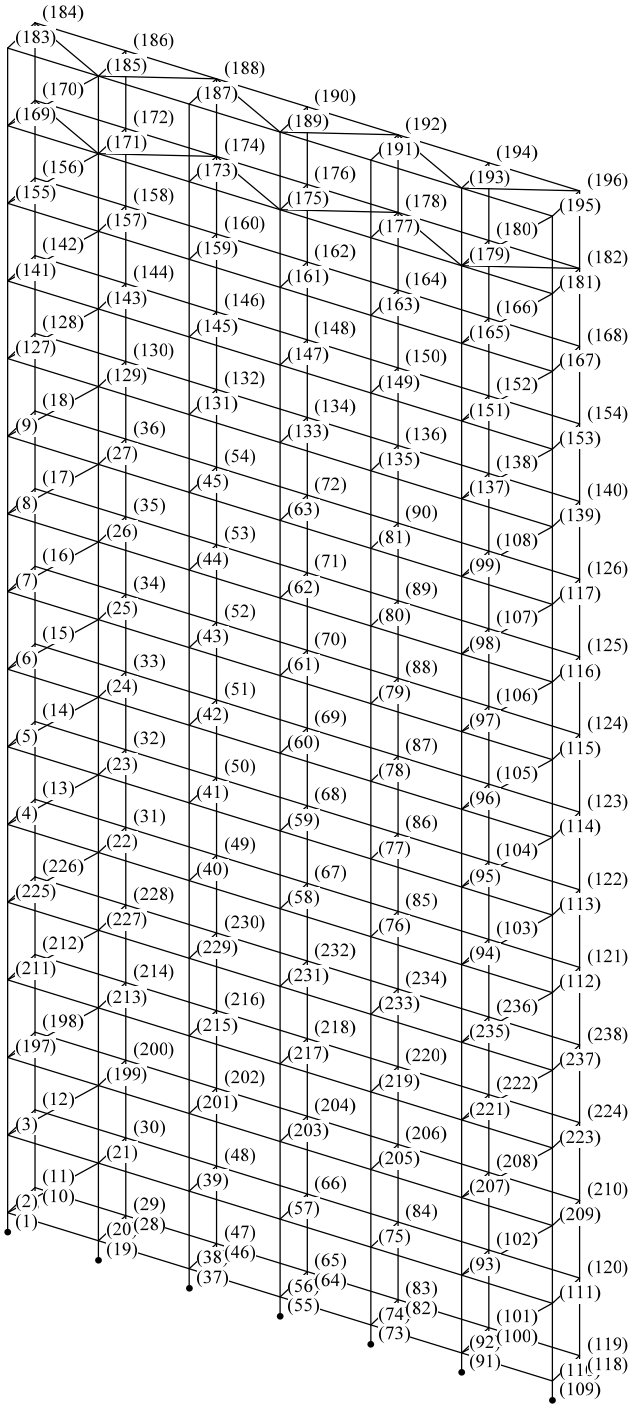
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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F2	Support
Load Group F4	Support

Load Case 001 : B - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : B - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : B - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : E - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : E - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : E - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : B WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : B WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : B WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : E WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : E WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : E WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	0.000	2.500	0.000	4	0.000	10.500	0.000
5	0.000	12.500	0.000	6	0.000	14.500	0.000
7	0.000	16.500	0.000	8	0.000	18.500	0.000
9	0.000	20.500	0.000	10	0.000	0.000	1.300
11	0.000	0.500	1.300	12	0.000	2.500	1.300
13	0.000	10.500	1.300	14	0.000	12.500	1.300
15	0.000	14.500	1.300	16	0.000	16.500	1.300
17	0.000	18.500	1.300	18	0.000	20.500	1.300
19	2.500	0.000	0.000	20	2.500	0.500	0.000
21	2.500	2.500	0.000	22	2.500	10.500	0.000
23	2.500	12.500	0.000	24	2.500	14.500	0.000
25	2.500	16.500	0.000	26	2.500	18.500	0.000
27	2.500	20.500	0.000	28	2.500	0.000	1.300
29	2.500	0.500	1.300	30	2.500	2.500	1.300
31	2.500	10.500	1.300	32	2.500	12.500	1.300
33	2.500	14.500	1.300	34	2.500	16.500	1.300
35	2.500	18.500	1.300	36	2.500	20.500	1.300
37	5.000	0.000	0.000	38	5.000	0.500	0.000
39	5.000	2.500	0.000	40	5.000	10.500	0.000
41	5.000	12.500	0.000	42	5.000	14.500	0.000
43	5.000	16.500	0.000	44	5.000	18.500	0.000
45	5.000	20.500	0.000	46	5.000	0.000	1.300
47	5.000	0.500	1.300	48	5.000	2.500	1.300
49	5.000	10.500	1.300	50	5.000	12.500	1.300
51	5.000	14.500	1.300	52	5.000	16.500	1.300
53	5.000	18.500	1.300	54	5.000	20.500	1.300
55	7.500	0.000	0.000	56	7.500	0.500	0.000
57	7.500	2.500	0.000	58	7.500	10.500	0.000
59	7.500	12.500	0.000	60	7.500	14.500	0.000
61	7.500	16.500	0.000	62	7.500	18.500	0.000
63	7.500	20.500	0.000	64	7.500	0.000	1.300
65	7.500	0.500	1.300	66	7.500	2.500	1.300
67	7.500	10.500	1.300	68	7.500	12.500	1.300
69	7.500	14.500	1.300	70	7.500	16.500	1.300
71	7.500	18.500	1.300	72	7.500	20.500	1.300
73	10.000	0.000	0.000	74	10.000	0.500	0.000
75	10.000	2.500	0.000	76	10.000	10.500	0.000
77	10.000	12.500	0.000	78	10.000	14.500	0.000
79	10.000	16.500	0.000	80	10.000	18.500	0.000
81	10.000	20.500	0.000	82	10.000	0.000	1.300
83	10.000	0.500	1.300	84	10.000	2.500	1.300
85	10.000	10.500	1.300	86	10.000	12.500	1.300
87	10.000	14.500	1.300	88	10.000	16.500	1.300
89	10.000	18.500	1.300	90	10.000	20.500	1.300
91	12.500	0.000	0.000	92	12.500	0.500	0.000
93	12.500	2.500	0.000	94	12.500	10.500	0.000
95	12.500	12.500	0.000	96	12.500	14.500	0.000
97	12.500	16.500	0.000	98	12.500	18.500	0.000
99	12.500	20.500	0.000	100	12.500	0.000	1.300
101	12.500	0.500	1.300	102	12.500	2.500	1.300
103	12.500	10.500	1.300	104	12.500	12.500	1.300
105	12.500	14.500	1.300	106	12.500	16.500	1.300
107	12.500	18.500	1.300	108	12.500	20.500	1.300
109	15.000	0.000	0.000	110	15.000	0.500	0.000
111	15.000	2.500	0.000	112	15.000	10.500	0.000
113	15.000	12.500	0.000	114	15.000	14.500	0.000
115	15.000	16.500	0.000	116	15.000	18.500	0.000
117	15.000	20.500	0.000	118	15.000	0.000	1.300
119	15.000	0.500	1.300	120	15.000	2.500	1.300
121	15.000	10.500	1.300	122	15.000	12.500	1.300
123	15.000	14.500	1.300	124	15.000	16.500	1.300
125	15.000	18.500	1.300	126	15.000	20.500	1.300
127	0.000	22.500	0.000	128	0.000	22.500	1.300
129	2.500	22.500	0.000	130	2.500	22.500	1.300

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131	5.000	22.500	0.000	132	5.000	22.500	1.300
133	7.500	22.500	0.000	134	7.500	22.500	1.300
135	10.000	22.500	0.000	136	10.000	22.500	1.300
137	12.500	22.500	0.000	138	12.500	22.500	1.300
139	15.000	22.500	0.000	140	15.000	22.500	1.300
141	0.000	24.500	0.000	142	0.000	24.500	1.300
143	2.500	24.500	0.000	144	2.500	24.500	1.300
145	5.000	24.500	0.000	146	5.000	24.500	1.300
147	7.500	24.500	0.000	148	7.500	24.500	1.300
149	10.000	24.500	0.000	150	10.000	24.500	1.300
151	12.500	24.500	0.000	152	12.500	24.500	1.300
153	15.000	24.500	0.000	154	15.000	24.500	1.300
155	0.000	26.500	0.000	156	0.000	26.500	1.300
157	2.500	26.500	0.000	158	2.500	26.500	1.300
159	5.000	26.500	0.000	160	5.000	26.500	1.300
161	7.500	26.500	0.000	162	7.500	26.500	1.300
163	10.000	26.500	0.000	164	10.000	26.500	1.300
165	12.500	26.500	0.000	166	12.500	26.500	1.300
167	15.000	26.500	0.000	168	15.000	26.500	1.300
169	0.000	28.500	0.000	170	0.000	28.500	1.300
171	2.500	28.500	0.000	172	2.500	28.500	1.300
173	5.000	28.500	0.000	174	5.000	28.500	1.300
175	7.500	28.500	0.000	176	7.500	28.500	1.300
177	10.000	28.500	0.000	178	10.000	28.500	1.300
179	12.500	28.500	0.000	180	12.500	28.500	1.300
181	15.000	28.500	0.000	182	15.000	28.500	1.300
183	0.000	30.500	0.000	184	0.000	30.500	1.300
185	2.500	30.500	0.000	186	2.500	30.500	1.300
187	5.000	30.500	0.000	188	5.000	30.500	1.300
189	7.500	30.500	0.000	190	7.500	30.500	1.300
191	10.000	30.500	0.000	192	10.000	30.500	1.300
193	12.500	30.500	0.000	194	12.500	30.500	1.300
195	15.000	30.500	0.000	196	15.000	30.500	1.300
197	0.000	4.500	0.000	198	0.000	4.500	1.300
199	2.500	4.500	0.000	200	2.500	4.500	1.300
201	5.000	4.500	0.000	202	5.000	4.500	1.300
203	7.500	4.500	0.000	204	7.500	4.500	1.300
205	10.000	4.500	0.000	206	10.000	4.500	1.300
207	12.500	4.500	0.000	208	12.500	4.500	1.300
209	15.000	4.500	0.000	210	15.000	4.500	1.300
211	0.000	6.500	0.000	212	0.000	6.500	1.300
213	2.500	6.500	0.000	214	2.500	6.500	1.300
215	5.000	6.500	0.000	216	5.000	6.500	1.300
217	7.500	6.500	0.000	218	7.500	6.500	1.300
219	10.000	6.500	0.000	220	10.000	6.500	1.300
221	12.500	6.500	0.000	222	12.500	6.500	1.300
223	15.000	6.500	0.000	224	15.000	6.500	1.300
225	0.000	8.500	0.000	226	0.000	8.500	1.300
227	2.500	8.500	0.000	228	2.500	8.500	1.300
229	5.000	8.500	0.000	230	5.000	8.500	1.300
231	7.500	8.500	0.000	232	7.500	8.500	1.300
233	10.000	8.500	0.000	234	10.000	8.500	1.300
235	12.500	8.500	0.000	236	12.500	8.500	1.300
237	15.000	8.500	0.000	238	15.000	8.500	1.300

Member Properties

Members 1-4, 7-10, 13-16, 19-22, 25-40, 43-46, 48-51, 54-57, 60-73, 78-83,
88-93, 98-103, 108-113, 118-123, 128-133, 138-185, 189-192, 195-198, 201-204,
207-210, 213-216, 219-222, 225-228, 231-254, 264-275, 283-294, 302-313,
321-332, 340-421, 427-440, 442-443, 445-446, 448-449, 451-458, 460-461,
463-464, 466-467, 469-474, 476-477, 479-480, 482-483, 485-492, 494-495,
497-498, 500-501, 503-508, 510-511, 513-514, 516-517, 519-526, 528-529,
531-532, 534-535, 537-550 and 552-555

M ... ... 48.3x3.2 CHS 3.56 [S 355]
A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

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12385

Job Ref : 1462
Sheet : O 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Members 5-6, 11-12, 17-18, 23-24, 41-42, 52-53, 58-59, 74-77, 84-87, 94-97, 104-107, 114-117, 124-127, 134-137, 193-194, 199-200, 205-206, 211-212, 217-218, 223-224, 229-230, 257-263, 276-282, 295-301, 314-320, 333-339, 441, 444, 447, 450, 459, 465, 468, 475, 478, 481, 484, 493, 499, 502, 509, 512, 515, 518, 527, 533 and 536

M ... ... FL OT [] E 210E6 G 80E6
A 6.76E-4 Ix 34.08E-8 Iy 54.05E-8 J 68.16E-8

Members 47, 186-188, 255-256, 422-426, 462, 496, 530, 551 and 556-570

M ... ... 48.3 2.30 [] E 210E6 G 80E6
A 3.32E-4 Ix 8.81E-8 Iy 8.81E-8 J 17.62E-8

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

5	®O® ®O®	6	®O® ®O®	11	®O® ®O®	12	®O® ®O®
17	®O® ®O®	18	®O® ®O®	23	®O® ®O®	24	®O® ®O®
25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
29	®O® ®O®	30	®O® ®O®	31	®O® ®O®	32	®O® ®O®
33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
41	®O® ®O®	42	®O® ®O®	43	®O® ®O®	44	®O® ®O®
45	®O® ®O®	46	®O® ®O®	47	®O® ®O®	52	®O® ®O®
53	®O® ®O®	58	®O® ®O®	59	®O® ®O®	60	®O® ®O®
61	®O® ®O®	62	®O® ®O®	63	®O® ®O®	64	®O® ®O®
65	®O® ®O®	66	®O® ®O®	67	®O® ®O®	74	®O® ®O®
75	®O® ®O®	76	®O® ®O®	77	®O® ®O®	84	®O® ®O®
85	®O® ®O®	86	®O® ®O®	87	®O® ®O®	94	®O® ®O®
95	®O® ®O®	96	®O® ®O®	97	®O® ®O®	104	®O® ®O®
105	®O® ®O®	106	®O® ®O®	107	®O® ®O®	114	®O® ®O®
115	®O® ®O®	116	®O® ®O®	117	®O® ®O®	124	®O® ®O®
125	®O® ®O®	126	®O® ®O®	127	®O® ®O®	134	®O® ®O®
135	®O® ®O®	136	®O® ®O®	137	®O® ®O®	138	®O® ®O®
139	®O® ®O®	140	®O® ®O®	141	®O® ®O®	142	®O® ®O®
143	®O® ®O®	144	®O® ®O®	145	®O® ®O®	146	®O® ®O®
147	®O® ®O®	148	®O® ®O®	149	®O® ®O®	150	®O® ®O®
151	®O® ®O®	152	®O® ®O®	153	®O® ®O®	154	®O® ®O®
155	®O® ®O®	156	®O® ®O®	157	®O® ®O®	158	®O® ®O®
159	®O® ®O®	160	®O® ®O®	161	®O® ®O®	162	®O® ®O®
163	®O® ®O®	164	®O® ®O®	165	®O® ®O®	166	®O® ®O®
167	®O® ®O®	168	®O® ®O®	169	®O® ®O®	170	®O® ®O®
171	®O® ®O®	172	®O® ®O®	173	®O® ®O®	174	®O® ®O®
175	®O® ®O®	176	®O® ®O®	177	®O® ®O®	178	®O® ®O®
179	®O® ®O®	180	®O® ®O®	181	®O® ®O®	182	®O® ®O®
183	®O® ®O®	184	®O® ®O®	185	®O® ®O®	186	®O® ®O®
187	®O® ®O®	188	®O® ®O®	193	®O® ®O®	194	®O® ®O®
199	®O® ®O®	200	®O® ®O®	205	®O® ®O®	206	®O® ®O®
211	®O® ®O®	212	®O® ®O®	217	®O® ®O®	218	®O® ®O®
223	®O® ®O®	224	®O® ®O®	229	®O® ®O®	230	®O® ®O®
231	®O® ®O®	232	®O® ®O®	233	®O® ®O®	234	®O® ®O®
235	®O® ®O®	236	®O® ®O®	237	®O® ®O®	238	®O® ®O®
239	®O® ®O®	240	®O® ®O®	241	®O® ®O®	242	®O® ®O®
243	®O® ®O®	244	®O® ®O®	245	®O® ®O®	246	®O® ®O®
247	®O® ®O®	248	®O® ®O®	249	®O® ®O®	250	®O® ®O®
251	®O® ®O®	252	®O® ®O®	253	®O® ®O®	254	®O® ®O®
255	®O® ®O®	256	®O® ®O®	257	®O® ®O®	258	®O® ®O®
259	®O® ®O®	260	®O® ®O®	261	®O® ®O®	262	®O® ®O®
263	®O® ®O®	264	®O® ®O®	265	®O® ®O®	266	®O® ®O®
267	®O® ®O®	268	®O® ®O®	269	®O® ®O®	270	®O® ®O®
271	®O® ®O®	272	®O® ®O®	273	®O® ®O®	274	®O® ®O®
275	®O® ®O®	276	®O® ®O®	277	®O® ®O®	278	®O® ®O®
279	®O® ®O®	280	®O® ®O®	281	®O® ®O®	282	®O® ®O®
283	®O® ®O®	284	®O® ®O®	285	®O® ®O®	286	®O® ®O®
287	®O® ®O®	288	®O® ®O®	289	®O® ®O®	290	®O® ®O®
291	®O® ®O®	292	®O® ®O®	293	®O® ®O®	294	®O® ®O®

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12385

Job Ref : 1462
Sheet : O 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

295 ®O® ®O®	296 ®O® ®O®	297 ®O® ®O®	298 ®O® ®O®
299 ®O® ®O®	300 ®O® ®O®	301 ®O® ®O®	302 ®O® ®O®
303 ®O® ®O®	304 ®O® ®O®	305 ®O® ®O®	306 ®O® ®O®
307 ®O® ®O®	308 ®O® ®O®	309 ®O® ®O®	310 ®O® ®O®
311 ®O® ®O®	312 ®O® ®O®	313 ®O® ®O®	314 ®O® ®O®
315 ®O® ®O®	316 ®O® ®O®	317 ®O® ®O®	318 ®O® ®O®
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331 ®O® ®O®	332 ®O® ®O®	333 ®O® ®O®	334 ®O® ®O®
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347 ®O® ®O®	348 ®O® ®O®	349 ®O® ®O®	350 ®O® ®O®
351 ®O® ®O®	422 ®OO ®OO	423 ®OO ®OO	424 ®OO ®OO
425 ®OO ®OO	426 ®OO ®OO	427 ®OO ®OO	428 ®OO ®OO
429 ®OO ®OO	430 ®OO ®OO	431 ®OO ®OO	432 ®OO ®OO
433 ®OO ®OO	434 ®OO ®OO	435 ®OO ®OO	436 ®OO ®OO
437 ®OO ®OO	438 ®OO ®OO	441 ®O® ®O®	444 ®O® ®O®
447 ®O® ®O®	450 ®O® ®O®	451 ®O® ®O®	452 ®O® ®O®
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465 ®O® ®O®	468 ®O® ®O®	469 ®O® ®O®	470 ®O® ®O®
471 ®O® ®O®	472 ®O® ®O®	475 ®O® ®O®	478 ®O® ®O®
481 ®O® ®O®	484 ®O® ®O®	485 ®O® ®O®	486 ®O® ®O®
487 ®O® ®O®	488 ®O® ®O®	489 ®O® ®O®	490 ®O® ®O®
493 ®O® ®O®	494 ®O® ®O®	495 ®O® ®O®	496 ®OO ®OO
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515 ®O® ®O®	518 ®O® ®O®	519 ®O® ®O®	520 ®O® ®O®
521 ®O® ®O®	522 ®O® ®O®	523 ®O® ®O®	524 ®O® ®O®
527 ®O® ®O®	528 ®O® ®O®	529 ®O® ®O®	530 ®OO ®OO
533 ®O® ®O®	536 ®O® ®O®	537 ®O® ®O®	538 ®O® ®O®
539 ®O® ®O®	540 ®O® ®O®	551 ®OO ®OO	556 ®OO ®OO
557 ®OO ®OO	558 ®OO ®OO	559 ®OO ®OO	560 ®OO ®OO
561 ®OO ®OO	562 ®OO ®OO	563 ®OO ®OO	564 ®OO ®OO
565 ®OO ®OO	566 ®OO ®OO	567 ®OO ®OO	568 ®OO ®OO
569 ®OO ®OO	570 ®OO ®OO		

Nodal Loading and Support Conditions

NODES 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194 and 196
D1 Ls +0000.000 -0000.660 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
D1 Ls +0000.000 -0001.030 +0000.000 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
D1 Ls +0000.000 -0000.970 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
D1 Ls +0000.000 -0000.290 +0000.000 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108, 110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 198, 200-210, 212, 214-224, 226 and 228-238
D1 Ls +0000.000 -0000.230 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L3 Ls +0000.000 -0002.938 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L4 Ls +0000.000 -0001.469 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L5 Ls +0000.000 -0004.406 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L6 Ls +0000.000 -0002.203 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-196
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W1 Ls +0000.000 +0000.000 -0000.330 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W1 Ls +0000.000 +0000.000 -0000.311 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227

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12385

Job Ref : 1462
Sheet : O 2500 B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

W1 Ls +0000.000 +0000.000 -0000.071 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108,
110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 170, 172, 174,
176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200-210, 212,
214-224, 226 and 228-238
W1 Ls +0000.000 +0000.000 -0000.053 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W2 Ls +0000.000 +0000.000 -0000.250 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W3 Ls +0000.000 +0000.000 -0000.500 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W4 Ls +0000.000 +0000.000 -0001.911 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W4 Ls +0000.000 +0000.000 -0001.819 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W4 Ls +0000.000 +0000.000 -0000.618 +0000.000 +0000.000 +0000.000
NODES 38-45, 56-63, 74-81, 92-99, 110-117, 131, 133, 135, 137, 139, 145, 147,
149, 151, 153, 159, 161, 163, 165, 167, 201, 203, 205, 207, 209, 215, 217,
219, 221, 223, 229, 231, 233, 235 and 237
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135,
137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165,
167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195,
197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225,
227, 229, 231, 233, 235 and 237
W5 Ls +0000.000 +0000.000 -0001.250 +0000.000 +0000.000 +0000.000
NODES 1, 10-17, 19, 28-36, 46-54, 56, 65-72, 74, 84-90, 92-99, 110-117, 127,
129, 131, 136-137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161,
163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191,
193, 195, 198, 200, 202, 204, 206-207, 209, 212, 214, 216, 218, 220-221, 223,
226, 228, 230, 232, 234-235 and 237
W6 Ls +0000.000 +0000.000 -0002.500 +0000.000 +0000.000 +0000.000
NODES 10, 28, 46, 64, 82, 100 and 118
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 19, 37, 55, 73, 91 and 109
UT Rs 1 1 0 0 1 0
NODES 15, 30-31, 35, 51, 66-67, 71, 87, 102-103, 107, 123, 128, 132, 136, 140,
158, 162, 166, 184, 188, 192, 196, 212, 216, 220 and 224
F2 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 15, 32, 36, 48-49, 53, 70, 87, 104, 108, 120-121, 125, 128, 136, 148, 160,
168, 172, 180, 184, 192, 200, 208, 212, 220 and 232
F4 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2-9, 11-18, 20-27, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99,
101-108, 110-117 and 119-238
UT Springs 0000.000 0000.000 0000.000 0092.200 0000.000 0071.940

2500 Bay Omega Transom

2.5m Bay x 1.3m (5) Width			**Axial Gravity Loads - LC3**													
Bay: 2.5 No of Boards 5		Component weight Kg	Comp. Wind Area	3-5-0			3-5-1			3-5-2			3-5-3			
Element				Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	
Ledger and Guardrail	2.50m int	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	2.50m ext	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	1.80m Int	7	0.087													
	1.80m Ext	7	0.087													
Omega Trans'	1.3m (5bd)	9.8	0.074		9.8	9.8		9.8	9.8		9.8	9.8		9.8	9.8	
Toe Boards	2.5m	13.75	0.563	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	
	1.8m	9.9	0.405													
	1.3m	7.15	0.293													
Omega Int Board Bracket (Hop up)	1bd	2.7							2.7							
	2bd	9										9				
	3bd	9.8													9.8	
	Infill Bd 2.50m	12							12			12			12	
	Infill Bd 1.80m	9														
Facade Bracing	2.5x2.0m	11.5	0.154	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	
	1.8x2.00m	9.8	0.130													
Steel Batts	2.5m	13				13			13			13			13	
	1.8m	9.1														
Total weight per bay Int Standard, kg					26.20	58.70		26.20	86.40		26.20	105.7		26.20	119.50	
Total weight per bay Ext Standard, kg					31.95	97.60		31.95	103.35		31.95	103.35		31.95	103.35	
Total load per bay Int Standard, kN					0.26	0.58		0.26	0.85		0.26	1.04		0.26	1.17	
Total load per bay Ext Standard, kN					0.31	0.96		0.31	1.01		0.31	1.01		0.31	1.01	
Out of Service factor					0.25			0.25			0.25			0.25		
Imposed load Intensity kN/m2					2			2			2			2		
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.26	3.39		0.26	4.79		0.26	6.10		0.26	7.36	
Main Deck, Fully Loaded, Ext std, kN /lift					0.31	3.77		0.31	3.83		0.31	3.83		0.31	3.83	
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						3.39			4.08			4.69			5.25	
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						1.98			2.82			3.57			4.27	
2nd lift Part Loaded, Ext Std, kN/lift						2.36			2.42			2.42			2.42	
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						1.98			2.68			3.29			3.84	
Wind Area Unsheeted																
Wind Area Debris Netting m^2					1.25			1.25	1.25		1.25	1.25		1.25	1.25	
Wind Area Sheeted m^2					2.50	2.50		2.50	2.50		2.50	2.50		2.50	2.50	
Wind Load In Service (kN)																

2500 Bay Omega Transom

Fully Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		5.37	6.13		7.60	6.25		9.67	6.25		11.63	6.25
3		5.63	6.45		7.86	6.56		9.92	6.56		11.88	6.56
4		5.88	6.76		8.12	6.87		10.18	6.87		12.14	6.87
5		6.14	7.07		8.37	7.19		10.44	7.19		12.40	7.19
6		6.40	7.39		8.63	7.50		10.70	7.50		12.65	7.50
7		6.66	7.70		8.89	7.81		10.95	7.81		12.91	7.81
8		6.91	8.01		9.14	8.13		11.21	8.13		13.17	8.13
9		7.17	8.33		9.40	8.44		11.47	8.44		13.42	8.44
10		7.43	8.64		9.66	8.75		11.72	8.75		13.68	8.75
11		7.68	8.95		9.91	9.07		11.98	9.07		13.94	9.07
12		7.94	9.27		10.17	9.38		12.24	9.38		14.20	9.38
13		8.20	9.58		10.43	9.69		12.49	9.69		14.45	9.69
14		8.45	9.89		10.69	10.01		12.75	10.01		14.71	10.01
15		8.71	10.21		10.94	10.32		13.01	10.32		14.97	10.32
OUT OF SERVICE		Battened Tube			Battened Tube			Battened Tube			Battened Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		1.85	2.62		2.68	2.73		3.34	2.73		3.89	2.73
3		2.11	2.93		2.94	3.04		3.60	3.04		4.15	3.04
4		2.37	3.24		3.19	3.36		3.85	3.36		4.41	3.36
5		2.63	3.56		3.45	3.67		4.11	3.67		4.66	3.67
6		2.88	3.87		3.71	3.98		4.37	3.98		4.92	3.98
7		3.14	4.19		3.96	4.30		4.62	4.30		5.18	4.30
8		3.40	4.50		4.22	4.61		4.88	4.61		5.43	4.61
9		3.65	4.81		4.48	4.92		5.14	4.92		5.69	4.92
10		3.91	5.13		4.74	5.24		5.40	5.24		5.95	5.24
11		4.17	5.44		4.99	5.55		5.65	5.55		6.20	5.55
12		4.43	5.75		5.25	5.87		5.91	5.87		6.46	5.87
13		4.68	6.07		5.51	6.18		6.17	6.18		6.72	6.18
14		4.94	6.38		5.76	6.49		6.42	6.49		6.98	6.49
15		5.20	6.69		6.02	6.81		6.68	6.81		7.23	6.81
Partially Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube	
IN SERVICE												
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		5.37	6.13		6.76	6.25		7.98	6.25		9.09	6.25
3		5.63	6.45		7.01	6.56		8.24	6.56		9.35	6.56
4		5.88	6.76		7.27	6.87		8.49	6.87		9.61	6.87
5		6.14	7.07		7.53	7.19		8.75	7.19		9.87	7.19
6		6.40	7.39		7.79	7.50		9.01	7.50		10.12	7.50
7		6.66	7.70		8.04	7.81		9.27	7.81		10.38	7.81
8		6.91	8.01		8.30	8.13		9.52	8.13		10.64	8.13
9		7.17	8.33		8.56	8.44		9.78	8.44		10.89	8.44
10		7.43	8.64		8.81	8.75		10.04	8.75		11.15	8.75
11		7.68	8.95		9.07	9.07		10.29	9.07		11.41	9.07
12		7.94	9.27		9.33	9.38		10.55	9.38		11.66	9.38
13		8.20	9.58		9.58	9.69		10.81	9.69		11.92	9.69
14		8.45	9.89		9.84	10.01		11.06	10.01		12.18	10.01
15		8.71	10.21		10.10	10.32		11.32	10.32		12.44	10.32
OUT OF SERVICE		Battened Tube			Battened Tube			Battened Tube			Battened Tube	
Lifts		Internal	External		Internal	External		Internal	External		Internal	External
2		1.85	2.62		2.50	2.73		2.99	2.73		3.36	2.73
3		2.11	2.93		2.76	3.04		3.24	3.04		3.62	3.04
4		2.37	3.24		3.02	3.36		3.50	3.36		3.88	3.36
5		2.63	3.56		3.27	3.67		3.76	3.67		4.14	3.67
6		2.88	3.87		3.53	3.98		4.02	3.98		4.39	3.98
7		3.14	4.19		3.79	4.30		4.27	4.30		4.65	4.30
8		3.40	4.50		4.05	4.61		4.53	4.61		4.91	4.61
9		3.65	4.81		4.30	4.92		4.79	4.92		5.16	4.92
10		3.91	5.13		4.56	5.24		5.04	5.24		5.42	5.24
11		4.17	5.44		4.82	5.55		5.30	5.55		5.68	5.55
12		4.43	5.75		5.07	5.87		5.56	5.87		5.93	5.87
13		4.68	6.07		5.33	6.18		5.82	6.18		6.19	6.18
14		4.94	6.38		5.59	6.49		6.07	6.49		6.45	6.49
15		5.20	6.69		5.85	6.81		6.33	6.81		6.71	6.81

2500 Bay Omega Transom

2.5m Bay x 1.3m (5) Width			Axial Gravity Loads - LC4													
Bay: 2.5 No of Boards 5		Component weight Kg	Comp. Wind Area	4-5-0			4-5-1			4-5-2			4-5-3			
Element				Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	
Ledger and Guardrail	2.50m int	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	2.50m ext	9.7	0.121	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	0.121	9.7	9.7	
	1.80m Int	7	0.087													
	1.80m Ext	7	0.087													
Omega Trans'	1.3m (5bd)	9.8	0.074		9.8	9.8		9.8	9.8		9.8	9.8		9.8	9.8	
Toe Boards	2.5m	13.75	0.563	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	0.563	13.75	13.75	
	1.8m	9.9	0.405													
	1.3m	7.15	0.293													
Omega Int Board Bracket (Hop up)	1bd	2.7							2.7							
	2bd	9										9				
	3bd	9.8													9.8	
	Infill Bd 2.50m	12							12			12			12	
	Infill Bd 1.80m	9														
Facade Bracing	2.5x2.0m	11.5	0.154	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	0.154	11.5	11.5	
	1.8x2.00m	9.8	0.130													
Steel Batts	2.5m	13				13			13			13			13	
	1.8m	9.1														
Total weight per bay Int Standard, kg					26.20	58.70		26.20	86.40		26.20	105.7		26.20	119.50	
Total weight per bay Ext Standard, kg					31.95	97.60		31.95	103.35		31.95	103.35		31.95	103.35	
Total load per bay Int Standard, kN					0.26	0.58		0.26	0.85		0.26	1.04		0.26	1.17	
Total load per bay Ext Standard, kN					0.31	0.96		0.31	1.01		0.31	1.01		0.31	1.01	
Out of Service factor					0.25			0.25			0.25			0.25		
Imposed load Intensity kN/m2					3			3			3			3		
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.26	4.79		0.26	6.75		0.26	8.63		0.26	10.45	
Main Deck, Fully Loaded, Ext std, kN /lift					0.31	5.18		0.31	5.23		0.31	5.23		0.31	5.23	
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						4.79			5.49			6.10			6.66	
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						2.69			3.80			4.83			5.81	
2nd lift Part Loaded, Ext Std, kN/lift						3.07			3.12			3.12			3.12	
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						2.69			3.38			3.99			4.55	
Wind Area Unsheeted																
Wind Area Debris Netting m^2					1.25	1.25		1.25	1.25		1.25	1.25		1.25	1.25	
Wind Area Sheeted m^2					2.50	2.50		2.50	2.50		2.50	2.50		2.50	2.50	
Wind Load In Service (kN)																

Fully Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		7.48	8.24		10.55	8.36		13.46	8.36		16.27	8.36			
3		7.74	8.56		10.81	8.67		13.72	8.67		16.52	8.67			
4		7.99	8.87		11.07	8.98		13.98	8.98		16.78	8.98			
5		8.25	9.18		11.33	9.30		14.24	9.30		17.04	9.30			
6		8.51	9.50		11.58	9.61		14.49	9.61		17.29	9.61			
7		8.76	9.81		11.84	9.92		14.75	9.92		17.55	9.92			
8		9.02	10.12		12.10	10.24		15.01	10.24		17.81	10.24			
9		9.28	10.44		12.35	10.55		15.26	10.55		18.07	10.55			
10		9.54	10.75		12.61	10.86		15.52	10.86		18.32	10.86			
11		9.79	11.06		12.87	11.18		15.78	11.18		18.58	11.18			
12		10.05	11.38		13.12	11.49		16.03	11.49		18.84	11.49			
13		10.31	11.69		13.38	11.80		16.29	11.80		19.09	11.80			
14		10.56	12.00		13.64	12.12		16.55	12.12		19.35	12.12			
15		10.82	12.32		13.90	12.43		16.81	12.43		19.61	12.43			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		2.21	2.97		3.17	3.08		3.97	3.08		4.66	3.08			
3		2.46	3.28		3.43	3.40		4.23	3.40		4.92	3.40			
4		2.72	3.60		3.69	3.71		4.49	3.71		5.18	3.71			
5		2.98	3.91		3.94	4.02		4.74	4.02		5.44	4.02			
6		3.23	4.22		4.20	4.34		5.00	4.34		5.69	4.34			
7		3.49	4.54		4.46	4.65		5.26	4.65		5.95	4.65			
8		3.75	4.85		4.71	4.96		5.51	4.96		6.21	4.96			
9		4.01	5.16		4.97	5.28		5.77	5.28		6.46	5.28			
10		4.26	5.48		5.23	5.59		6.03	5.59		6.72	5.59			
11		4.52	5.79		5.48	5.90		6.29	5.90		6.98	5.90			
12		4.78	6.10		5.74	6.22		6.54	6.22		7.24	6.22			
13		5.03	6.42		6.00	6.53		6.80	6.53		7.49	6.53			
14		5.29	6.73		6.26	6.84		7.06	6.84		7.75	6.84			
15		5.55	7.04		6.51	7.16		7.31	7.16		8.01	7.16			
Partially Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		7.48	8.24		8.87	8.36		10.09	8.36		11.20	8.36			
3		7.74	8.56		9.12	8.67		10.35	8.67		11.46	8.67			
4		7.99	8.87		9.38	8.98		10.60	8.98		11.72	8.98			
5		8.25	9.18		9.64	9.30		10.86	9.30		11.98	9.30			
6		8.51	9.50		9.90	9.61		11.12	9.61		12.23	9.61			
7		8.76	9.81		10.15	9.92		11.37	9.92		12.49	9.92			
8		9.02	10.12		10.41	10.24		11.63	10.24		12.75	10.24			
9		9.28	10.44		10.67	10.55		11.89	10.55		13.00	10.55			
10		9.54	10.75		10.92	10.86		12.15	10.86		13.26	10.86			
11		9.79	11.06		11.18	11.18		12.40	11.18		13.52	11.18			
12		10.05	11.38		11.44	11.49		12.66	11.49		13.77	11.49			
13		10.31	11.69		11.69	11.80		12.92	11.80		14.03	11.80			
14		10.56	12.00		11.95	12.12		13.17	12.12		14.29	12.12			
15		10.82	12.32		12.21	12.43		13.43	12.43		14.55	12.43			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		2.21	2.97		2.86	3.08		3.34	3.08		3.72	3.08			
3		2.46	3.28		3.11	3.40		3.60	3.40		3.97	3.40			
4		2.72	3.60		3.37	3.71		3.85	3.71		4.23	3.71			
5		2.98	3.91		3.63	4.02		4.11	4.02		4.49	4.02			
6		3.23	4.22		3.88	4.34		4.37	4.34		4.74	4.34			
7		3.49	4.54		4.14	4.65		4.62	4.65		5.00	4.65			
8		3.75	4.85		4.40	4.96		4.88	4.96		5.26	4.96			
9		4.01	5.16		4.65	5.28		5.14	5.28		5.51	5.28			
10		4.26	5.48		4.91	5.59		5.40	5.59		5.77	5.59			
11		4.52	5.79		5.17	5.90		5.65	5.90		6.03	5.90			
12		4.78	6.10		5.43	6.22		5.91	6.22		6.29	6.22			
13		5.03	6.42		5.68	6.53		6.17	6.53		6.54	6.53			
14		5.29	6.73		5.94	6.84		6.42	6.84		6.80	6.84			
15		5.55	7.04		6.20	7.16		6.68	7.16		7.06	7.16			

2.5m Bay x 1.3m (5) Width						**Frame Analysis Outputs**					
Tie Arrangement A 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	12.36	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.24							1.2	
Debris			0.48							2.46	
Sheeted			0.97							5.1	

Tie Arrangement B 15 Lift (30m) Frame											
In Service										Out of Service	
Axial Cap	14.17	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.09							0.46	
Debris			0.19							0.93	
Sheeted			0.37							1.86	

Tie Arrangement D 9 Lift (18m) Frame											
In Service										Out of Service	
Axial Cap	12.36	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.24							1.2	
Debris			0.48							2.47	
Sheeted			0.97							5.11	

Tie Arrangement E											
In Service										Out of Service	
Axial Cap	13.92	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.08							0.47	
Debris			0.19							0.95	
Sheeted			0.38							1.9	

Fully Loaded Inside Boards									
2.5m Bay x 1.3m (5)	In Service Maximum Safe Working Height								
	Resid'	3-5-0	3-5-1	3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
		SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	10.69	15	14	5	0	8	2	0	0
debris	9.03	11	7	0	0	4	0	0	0
sheeting	5.62	0	0	0	0	0	0	0	0
unclad	13.45	15	15	15	8	15	13	0	0
debris	12.66	15	15	13	6	15	10	0	0
sheeting	11.22	15	15	8	0	11	4	0	0
unclad	10.69	15	14	5	0	8	2	0	0
debris	9.03	11	7	0	0	4	0	0	0
sheeting	5.62	0	0	0	0	0	0	0	0
unclad	13.29	15	15	15	8	15	12	0	0
debris	12.43	15	15	12	5	15	8	0	0
sheeting	10.95	15	15	6	0	10	3	0	0

Partially Loaded Inside Boards								
2.5m Bay x 1.3m (5)								
	3-5-0	3-5-1	3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
	SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	15	15	12	8	8	8	4	0
debris	11	10	6	0	4	2	0	0
sheeting	0	0	0	0	0	0	0	0
unclad	15	15	15	15	15	15	15	10
debris	15	15	15	15	15	15	11	7
sheeting	15	15	14	10	11	11	6	2
unclad	15	15	12	8	8	8	4	0
debris	11	10	6	0	4	2	0	0
sheeting	0	0	0	0	0	0	0	0
unclad	15	15	15	15	15	15	14	10
debris	15	15	15	14	15	15	11	6
sheeting	15	15	13	8	10	10	5	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	28	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	32	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
	36	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
3-5-0	40	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	20	30	30	30	30	30	30	30	30	28	30	28	30	28	30	28	30
	24	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	28	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	32	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
	36	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
3-5-1	40	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	20	24	30	24	30	24	30	24	30	10	30	10	30	10	30	10	30
	24	22	30	22	30	24	30	24	30	10	30	10	30	10	30	10	30
	28	12	30	12	30	14	30	14	30	10	30	10	30	10	30	10	30
	32	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
	36	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
3-5-2	40	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	20	16	30	16	30	16	30	16	30	0	16	0	16	0	16	0	16
	24	16	30	16	30	16	30	16	30	0	16	0	16	0	16	0	16
	28	12	30	12	30	14	30	14	30	0	16	0	16	0	16	0	16
	32	6	30	6	30	8	30	8	30	0	16	0	16	0	16	0	16
	36	0	30	0	30	6	30	6	30	0	16	0	16	0	16	0	16
3-5-3	40	0	24	0	22	4	24	4	24	0	16	0	16	0	16	0	16
	20	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	24	16	30	16	30	16	30	16	30	16	30	16	30	16	30	16	30
	28	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	32	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	36	4	30	4	28	6	30	6	30	4	30	4	28	6	30	6	30
4-5-0	40	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	20	16	30	16	30	16	30	16	30	4	26	4	24	4	26	4	24
	24	16	30	16	30	16	30	16	30	4	26	4	24	4	26	4	24
	28	12	30	12	30	14	30	14	30	4	26	4	24	4	26	4	24
	32	6	30	6	30	8	30	8	30	4	26	4	24	4	26	4	24
	36	4	30	4	28	6	30	6	28	4	26	4	24	4	26	4	24
4-5-1	40	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
	20	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	24	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	28	8	30	8	28	8	30	8	28	0	0	0	0	0	0	0	0
	32	6	30	6	28	8	30	8	28	0	0	0	0	0	0	0	0
	36	0	30	0	28	6	30	6	28	0	0	0	0	0	0	0	0
4-5-2	40	0	22	0	22	4	24	4	22	0	0	0	0	0	0	0	0
	20	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	24	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	28	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	32	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
	36	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0
4-5-3	40	0	20	0	20	0	20	0	20	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	32	0	14	0	14	0	18	0	16	0	14	0	14	0	18	0	16
	36	0	8	0	8	0	12	0	10	0	8	0	8	0	12	0	10
3-5-0	40	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	20	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	24	4	26	4	24	0	24	0	24	4	26	4	24
	32	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
3-5-1	40	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	20	12	30	12	30	12	30	12	30	0	26	0	24	0	26	0	24
	24	4	30	4	30	8	30	8	30	0	26	0	24	0	26	0	24
	28	0	24	0	24	4	26	4	24	0	24	0	22	0	26	0	24
	32	0	14	0	14	0	16	0	16	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
3-5-2	40	0	4	0	4	0	8	0	6	0	4	0	4	0	6	0	6
	20	0	30	0	28	0	30	0	28	0	12	0	10	0	12	0	10
	24	0	30	0	28	0	30	0	28	0	12	0	10	0	12	0	10
	28	0	24	0	22	0	26	0	24	0	12	0	10	0	12	0	10
	32	0	14	0	12	0	16	0	14	0	12	0	10	0	12	0	10
	36	0	8	0	8	0	10	0	10	0	6	0	6	0	10	0	8
3-5-3	40	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
	20	8	30	8	30	8	30	8	30	8	30	8	30	8	30	8	30
	24	4	30	4	30	8	30	8	30	4	30	4	30	8	30	8	30
	28	0	24	0	22	4	24	4	24	0	24	0	22	4	24	4	24
	32	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
4-5-0	40	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	20	4	30	4	30	4	30	4	30	0	20	0	16	0	20	0	16
	24	4	30	4	30	4	30	4	30	0	20	0	16	0	20	0	16
	28	0	22	0	22	4	24	4	22	0	20	0	16	0	20	0	16
	32	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	36	0	8	0	8	0	10	0	10	0	8	0	8	0	10	0	10
4-5-1	40	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	20	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	24	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	28	0	22	0	22	0	22	0	22	0	0	0	0	0	0	0	0
	32	0	14	0	12	0	16	0	14	0	0	0	0	0	0	0	0
	36	0	8	0	8	0	10	0	10	0	0	0	0	0	0	0	0
4-5-2	40	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0
	20	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	24	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	28	0	14	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	32	0	12	0	12	0	14	0	12	0	0	0	0	0	0	0	0
	36	0	6	0	6	0	10	0	8	0	0	0	0	0	0	0	0
4-5-3	40	0	4	0	4	0	6	0	6	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	0	24	0	22	0	26	0	24	0	24	0	22	0	26	0	24
	24	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	28	0	6	0	4	0	8	0	8	0	6	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	24	0	22	0	24	0	24	0	24	0	22	0	24	0	24
	24	0	12	0	10	0	14	0	12	0	12	0	10	0	14	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	24	0	22	0	24	0	24	0	16	0	12	0	16	0	12
	24	0	12	0	10	0	14	0	12	0	10	0	10	0	12	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	20	0	16	0	20	0	16	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	12	0	0	0	0	0	0	0	0
	28	0	4	0	4	0	8	0	6	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	22	0	20	0	22	0	20	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	12	0	10	0	10	0	12	0	12
	28	0	4	0	4	0	8	0	8	0	4	0	4	0	8	0	8
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	22	0	20	0	22	0	20	0	8	0	6	0	8	0	6
	24	0	10	0	10	0	12	0	12	0	8	0	6	0	8	0	6
	28	0	4	0	4	0	8	0	6	0	4	0	4	0	8	0	6
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-1	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	12	0	10	0	12	0	10	0	0	0	0	0	0	0	0
	24	0	10	0	10	0	12	0	10	0	0	0	0	0	0	0	0
	28	0	4	0	4	0	8	0	6	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-2	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	20	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	24	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	28	0	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	32	0	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0
	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4-5-3	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.1	12.36
B	1.86	14.17
D	5.11	12.36
E	1.9	13.92

(Country, Sheeted, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 5.1

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.706	1.959	2.121	2.283	2.410	2.538	2.624	2.669	2.714	2.762	2.810	2.858	2.907	2.955
24	2.456	2.821	3.054	3.287	3.471	3.655	3.779	3.843	3.908	3.977	4.047	4.116	4.186	4.255
28	3.343	3.840	4.157	4.475	4.724	4.974	5.143	5.231	5.319	5.413	5.508	5.602	5.697	5.792
32	4.367	5.015	5.430	5.844	6.171	6.497	6.718	6.832	6.947	7.071	7.194	7.318	7.441	7.565
36	5.527	6.347	6.872	7.397	7.810	8.223	8.502	8.647	8.792	8.949	9.105	9.261	9.418	9.574
40	6.823	7.836	8.484	9.132	9.642	10.152	10.496	10.676	10.855	11.048	11.241	11.434	11.627	11.820

Tie Pattern B Max Mmt coefficient= 1.86

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.622	0.714	0.774	0.833	0.879	0.926	0.957	0.973	0.990	1.007	1.025	1.042	1.060	1.078
24	0.896	1.029	1.114	1.199	1.266	1.333	1.378	1.402	1.425	1.450	1.476	1.501	1.527	1.552
28	1.219	1.400	1.516	1.632	1.723	1.814	1.876	1.908	1.940	1.974	2.009	2.043	2.078	2.112
32	1.593	1.829	1.980	2.131	2.250	2.370	2.450	2.492	2.534	2.579	2.624	2.669	2.714	2.759
36	2.016	2.315	2.506	2.698	2.848	2.999	3.101	3.154	3.207	3.264	3.321	3.378	3.435	3.492
40	2.488	2.858	3.094	3.330	3.516	3.702	3.828	3.893	3.959	4.029	4.100	4.170	4.240	4.311

Tie Pattern D Max Mmt coefficient= 5.11

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.709	1.963	2.125	2.287	2.415	2.543	2.629	2.674	2.719	2.767	2.816	2.864	2.912	2.961
24	2.461	2.827	3.060	3.294	3.478	3.662	3.786	3.851	3.915	3.985	4.055	4.124	4.194	4.263
28	3.350	3.847	4.165	4.483	4.734	4.984	5.153	5.241	5.329	5.424	5.519	5.613	5.708	5.803
32	4.375	5.025	5.440	5.856	6.183	6.510	6.731	6.846	6.961	7.084	7.208	7.332	7.456	7.579
36	5.537	6.360	6.885	7.411	7.825	8.239	8.519	8.664	8.810	8.966	9.123	9.279	9.436	9.593
40	6.836	7.851	8.501	9.150	9.661	10.172	10.517	10.696	10.876	11.069	11.263	11.456	11.649	11.843

Tie Pattern E Max Mmt coefficient= 1.9

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.635	0.730	0.790	0.851	0.898	0.946	0.978	0.994	1.011	1.029	1.047	1.065	1.083	1.101
24	0.915	1.051	1.138	1.225	1.293	1.362	1.408	1.432	1.456	1.482	1.508	1.533	1.559	1.585
28	1.246	1.430	1.549	1.667	1.760	1.853	1.916	1.949	1.982	2.017	2.052	2.087	2.122	2.158
32	1.627	1.868	2.023	2.177	2.299	2.420	2.503	2.545	2.588	2.634	2.680	2.726	2.772	2.818
36	2.059	2.365	2.560	2.756	2.910	3.063	3.167	3.221	3.276	3.334	3.392	3.450	3.508	3.567
40	2.542	2.919	3.161	3.402	3.592	3.782	3.910	3.977	4.044	4.116	4.188	4.260	4.331	4.403

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 5.1

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.295	1.587	1.797	2.007	2.173	2.338	2.452	2.514	2.576	2.646	2.717	2.788	2.858	2.929
24	1.865	2.285	2.588	2.890	3.129	3.367	3.531	3.620	3.709	3.811	3.913	4.014	4.116	4.218
28	2.538	3.110	3.522	3.934	4.258	4.583	4.805	4.927	5.049	5.187	5.326	5.464	5.602	5.741
32	3.315	4.062	4.600	5.139	5.562	5.985	6.277	6.435	6.594	6.775	6.956	7.137	7.318	7.498
36	4.195	5.141	5.822	6.504	7.039	7.575	7.944	8.145	8.346	8.575	8.803	9.032	9.261	9.490
40	5.179	6.347	7.188	8.029	8.691	9.352	9.807	10.055	10.303	10.586	10.868	11.151	11.434	11.716

Tie Pattern B Max Mmt coefficient= 1.86

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.472	0.579	0.655	0.732	0.792	0.853	0.894	0.917	0.939	0.965	0.991	1.017	1.042	1.068
24	0.680	0.833	0.944	1.054	1.141	1.228	1.288	1.320	1.353	1.390	1.427	1.464	1.501	1.538
28	0.926	1.134	1.285	1.435	1.553	1.671	1.753	1.797	1.841	1.892	1.942	1.993	2.043	2.094
32	1.209	1.482	1.678	1.874	2.028	2.183	2.289	2.347	2.405	2.471	2.537	2.603	2.669	2.735
36	1.530	1.875	2.123	2.372	2.567	2.763	2.897	2.970	3.044	3.127	3.211	3.294	3.378	3.461
40	1.889	2.315	2.622	2.928	3.170	3.411	3.577	3.667	3.758	3.861	3.964	4.067	4.170	4.273

Tie Pattern D Max Mmt coefficient= 5.11

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.297	1.590	1.801	2.011	2.177	2.343	2.457	2.519	2.581	2.652	2.722	2.793	2.864	2.935
24	1.868	2.290	2.593	2.896	3.135	3.373	3.537	3.627	3.716	3.818	3.920	4.022	4.124	4.226
28	2.543	3.116	3.529	3.942	4.267	4.592	4.815	4.937	5.059	5.197	5.336	5.475	5.613	5.752
32	3.321	4.070	4.609	5.149	5.573	5.997	6.289	6.448	6.607	6.788	6.969	7.151	7.332	7.513
36	4.203	5.151	5.834	6.516	7.053	7.590	7.959	8.161	8.362	8.591	8.821	9.050	9.279	9.509
40	5.189	6.360	7.202	8.045	8.708	9.371	9.826	10.075	10.324	10.607	10.890	11.173	11.456	11.739

Tie Pattern E Max Mmt coefficient= 1.9

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.482	0.591	0.669	0.748	0.809	0.871	0.913	0.937	0.960	0.986	1.012	1.039	1.065	1.091
24	0.695	0.851	0.964	1.077	1.166	1.254	1.315	1.349	1.382	1.420	1.458	1.496	1.533	1.571
28	0.945	1.159	1.312	1.466	1.586	1.707	1.790	1.836	1.881	1.932	1.984	2.036	2.087	2.139
32	1.235	1.513	1.714	1.914	2.072	2.230	2.338	2.397	2.457	2.524	2.591	2.659	2.726	2.794
36	1.563	1.915	2.169	2.423	2.623	2.822	2.959	3.034	3.109	3.194	3.280	3.365	3.450	3.536
40	1.930	2.365	2.678	2.991	3.238	3.484	3.654	3.746	3.838	3.944	4.049	4.154	4.260	4.365

2500 Bay Omega Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0	0
24	-4.696	-7.228	-8.848	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	12	11
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	5	5
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	2	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.716	-7.075	-7.434	-7.792	0	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	11	10
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	5	4
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.273	-11.696	-12.151	-12.606	-13.062	-13.517	-13.973	0	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0	0

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	2	0
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0	0
32	-10.657	-15.848	-19.585	-23.321	-26.262	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	12	11
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	6	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	4	3
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	0	0
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	12	11
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	6	6
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	3	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0	0

2.5m Bay x 1.3m (5) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	2.46	12.36
		B	0.93	14.17
LC3	1.78	D	2.47	12.36
LC4	1.78	E	0.95	13.92

(Country, Debris, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.823	0.945	1.023	1.101	1.163	1.224	1.266	1.287	1.309	1.332	1.355	1.379	1.402	1.425
24	1.185	1.361	1.473	1.586	1.674	1.763	1.823	1.854	1.885	1.918	1.952	1.985	2.019	2.052
28	1.613	1.852	2.005	2.158	2.279	2.399	2.481	2.523	2.566	2.611	2.657	2.702	2.748	2.794
32	2.106	2.419	2.619	2.819	2.976	3.134	3.240	3.296	3.351	3.410	3.470	3.530	3.589	3.649
36	2.666	3.062	3.315	3.568	3.767	3.966	4.101	4.171	4.241	4.316	4.392	4.467	4.543	4.618
40	3.291	3.780	4.092	4.405	4.651	4.897	5.063	5.149	5.236	5.329	5.422	5.515	5.608	5.701

Tie Pattern B Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.311	0.357	0.387	0.416	0.440	0.463	0.479	0.487	0.495	0.504	0.512	0.521	0.530	0.539
24	0.448	0.514	0.557	0.599	0.633	0.666	0.689	0.701	0.713	0.725	0.738	0.751	0.763	0.776
28	0.610	0.700	0.758	0.816	0.862	0.907	0.938	0.954	0.970	0.987	1.004	1.022	1.039	1.056
32	0.796	0.915	0.990	1.066	1.125	1.185	1.225	1.246	1.267	1.289	1.312	1.334	1.357	1.379
36	1.008	1.157	1.253	1.349	1.424	1.499	1.550	1.577	1.603	1.632	1.660	1.689	1.717	1.746
40	1.244	1.429	1.547	1.665	1.758	1.851	1.914	1.947	1.979	2.015	2.050	2.085	2.120	2.155

Tie Pattern D Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.826	0.949	1.027	1.106	1.167	1.229	1.271	1.293	1.314	1.338	1.361	1.384	1.408	1.431
24	1.190	1.366	1.479	1.592	1.681	1.770	1.830	1.861	1.893	1.926	1.960	1.993	2.027	2.061
28	1.619	1.860	2.013	2.167	2.288	2.409	2.491	2.533	2.576	2.622	2.668	2.713	2.759	2.805
32	2.115	2.429	2.630	2.830	2.989	3.147	3.253	3.309	3.365	3.424	3.484	3.544	3.604	3.664
36	2.677	3.074	3.328	3.582	3.782	3.982	4.118	4.188	4.258	4.334	4.410	4.485	4.561	4.637
40	3.304	3.795	4.109	4.423	4.670	4.917	5.084	5.170	5.257	5.351	5.444	5.537	5.631	5.724

Tie Pattern E Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.318	0.365	0.395	0.425	0.449	0.473	0.489	0.497	0.505	0.514	0.523	0.532	0.541	0.550
24	0.458	0.525	0.569	0.612	0.647	0.681	0.704	0.716	0.728	0.741	0.754	0.767	0.780	0.793
28	0.623	0.715	0.774	0.833	0.880	0.927	0.958	0.974	0.991	1.008	1.026	1.044	1.061	1.079
32	0.813	0.934	1.011	1.089	1.149	1.210	1.251	1.273	1.294	1.317	1.340	1.363	1.386	1.409
36	1.029	1.182	1.280	1.378	1.455	1.532	1.584	1.611	1.638	1.667	1.696	1.725	1.754	1.783
40	1.271	1.460	1.580	1.701	1.796	1.891	1.955	1.989	2.022	2.058	2.094	2.130	2.166	2.202

2.5m Bay x 1.3m (5) Width

(Town, Debris, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.625	0.765	0.867	0.968	1.048	1.128	1.183	1.213	1.242	1.277	1.311	1.345	1.379	1.413
24	0.899	1.102	1.248	1.394	1.509	1.624	1.703	1.746	1.789	1.838	1.887	1.936	1.985	2.034
28	1.224	1.500	1.699	1.898	2.054	2.210	2.318	2.377	2.435	2.502	2.569	2.636	2.702	2.769
32	1.599	1.959	2.219	2.479	2.683	2.887	3.028	3.104	3.181	3.268	3.355	3.442	3.530	3.617
36	2.024	2.480	2.808	3.137	3.395	3.654	3.832	3.929	4.026	4.136	4.246	4.357	4.467	4.578
40	2.498	3.062	3.467	3.873	4.192	4.511	4.730	4.850	4.970	5.106	5.242	5.379	5.515	5.651

Tie Pattern B Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.236	0.289	0.328	0.366	0.396	0.426	0.447	0.458	0.470	0.483	0.495	0.508	0.521	0.534
24	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.676	0.695	0.713	0.732	0.751	0.769
28	0.463	0.567	0.642	0.717	0.777	0.836	0.876	0.898	0.921	0.946	0.971	0.996	1.022	1.047
32	0.604	0.741	0.839	0.937	1.014	1.091	1.145	1.174	1.202	1.235	1.268	1.301	1.334	1.367
36	0.765	0.938	1.062	1.186	1.284	1.381	1.449	1.485	1.522	1.564	1.605	1.647	1.689	1.731
40	0.944	1.157	1.311	1.464	1.585	1.705	1.788	1.834	1.879	1.930	1.982	2.033	2.085	2.136

Tie Pattern D Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.627	0.769	0.870	0.972	1.052	1.132	1.187	1.217	1.248	1.282	1.316	1.350	1.384	1.419
24	0.903	1.107	1.253	1.400	1.515	1.631	1.710	1.753	1.796	1.846	1.895	1.944	1.993	2.043
28	1.229	1.506	1.706	1.905	2.062	2.219	2.327	2.386	2.445	2.512	2.579	2.646	2.713	2.780
32	1.605	1.967	2.228	2.489	2.694	2.899	3.040	3.117	3.194	3.281	3.369	3.456	3.544	3.632
36	2.032	2.490	2.820	3.150	3.409	3.669	3.847	3.945	4.042	4.153	4.264	4.374	4.485	4.596
40	2.508	3.074	3.481	3.889	4.209	4.529	4.750	4.870	4.990	5.127	5.264	5.401	5.537	5.674

Tie Pattern E Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.241	0.296	0.335	0.374	0.405	0.436	0.457	0.468	0.480	0.493	0.506	0.519	0.532	0.546
24	0.347	0.426	0.482	0.538	0.583	0.627	0.658	0.674	0.691	0.710	0.729	0.748	0.767	0.786
28	0.473	0.579	0.656	0.733	0.793	0.854	0.895	0.918	0.940	0.966	0.992	1.018	1.044	1.069
32	0.617	0.757	0.857	0.957	1.036	1.115	1.169	1.199	1.228	1.262	1.296	1.329	1.363	1.397
36	0.781	0.958	1.085	1.211	1.311	1.411	1.480	1.517	1.555	1.597	1.640	1.682	1.725	1.768
40	0.965	1.182	1.339	1.496	1.619	1.742	1.827	1.873	1.919	1.972	2.025	2.077	2.130	2.182

2500 Bay Omega Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	5	5
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.322	-11.735	-12.149	-12.563	-12.976	0	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	12	11
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	7	6
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	4	3
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	5	5
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2	2
28	1.117	-0.553	-1.620	-2.686	-3.528	-4.369	-4.936	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	11	11
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	6	6
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	4	3
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.173	-2.454	-2.735	-3.017	-3.298	2	2

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	6	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	3	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	2	2
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	13	12
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	8	7
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	5	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	3	3

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	6	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	3	3
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	2	2
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
S																
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	12	11
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	7	7
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	5	4
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3	3

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.2	12.36
B	0.46	14.17
D	1.2	12.36
E	0.47	13.92

(Country, Unclad, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern B Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.154	0.177	0.191	0.206	0.217	0.229	0.237	0.241	0.245	0.249	0.253	0.258	0.262	0.267
24	0.222	0.254	0.275	0.297	0.313	0.330	0.341	0.347	0.352	0.359	0.365	0.371	0.378	0.384
28	0.302	0.346	0.375	0.404	0.426	0.449	0.464	0.472	0.480	0.488	0.497	0.505	0.514	0.522
32	0.394	0.452	0.490	0.527	0.557	0.586	0.606	0.616	0.627	0.638	0.649	0.660	0.671	0.682
36	0.498	0.572	0.620	0.667	0.704	0.742	0.767	0.780	0.793	0.807	0.821	0.835	0.849	0.864
40	0.615	0.707	0.765	0.824	0.870	0.916	0.947	0.963	0.979	0.996	1.014	1.031	1.049	1.066

Tie Pattern D Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern E Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.157	0.181	0.195	0.210	0.222	0.234	0.242	0.246	0.250	0.255	0.259	0.263	0.268	0.272
24	0.226	0.260	0.281	0.303	0.320	0.337	0.348	0.354	0.360	0.367	0.373	0.379	0.386	0.392
28	0.308	0.354	0.383	0.412	0.435	0.458	0.474	0.482	0.490	0.499	0.508	0.516	0.525	0.534
32	0.402	0.462	0.500	0.539	0.569	0.599	0.619	0.630	0.640	0.652	0.663	0.674	0.686	0.697
36	0.509	0.585	0.633	0.682	0.720	0.758	0.784	0.797	0.810	0.825	0.839	0.853	0.868	0.882
40	0.629	0.722	0.782	0.842	0.889	0.936	0.967	0.984	1.000	1.018	1.036	1.054	1.071	1.089

2.5m Bay x 1.3m (5) Width

(Town, Unclad, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern B Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.116787	0.143128	0.162087	0.181047	0.195965	0.210884	0.221141	0.226736	0.2323302	0.238702	0.2450734	0.251445	0.2578166	0.2641882
24	0.168173	0.206104	0.233406	0.260707	0.28219	0.303673	0.318443	0.326499	0.3345555	0.343731	0.3529057	0.362081	0.3712559	0.380431
28	0.228902	0.280531	0.317691	0.354851	0.384092	0.413333	0.433436	0.444402	0.4553672	0.467856	0.4803439	0.492832	0.5053205	0.5178089
32	0.298974	0.366407	0.414943	0.463479	0.501672	0.539864	0.566121	0.580443	0.5947653	0.611077	0.6273879	0.643699	0.6600105	0.6763218
36	0.378389	0.463734	0.525163	0.586591	0.634928	0.683265	0.716497	0.734623	0.7527499	0.773394	0.7940378	0.814682	0.8353258	0.8559697
40	0.467147	0.572511	0.648349	0.724186	0.783862	0.843537	0.884564	0.906943	0.9293208	0.954807	0.9802936	1.00578	1.0312664	1.0567528

Tie Pattern D Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern E Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.119	0.146	0.166	0.185	0.200	0.215	0.226	0.232	0.237	0.244	0.250	0.257	0.263	0.270
24	0.172	0.211	0.238	0.266	0.288	0.310	0.325	0.334	0.342	0.351	0.361	0.370	0.379	0.389
28	0.234	0.287	0.325	0.363	0.392	0.422	0.443	0.454	0.465	0.478	0.491	0.504	0.516	0.529
32	0.305	0.374	0.424	0.474	0.513	0.552	0.578	0.593	0.608	0.624	0.641	0.658	0.674	0.691
36	0.387	0.474	0.537	0.599	0.649	0.698	0.732	0.751	0.769	0.790	0.811	0.832	0.853	0.875
40	0.477	0.585	0.662	0.740	0.801	0.862	0.904	0.927	0.950	0.976	1.002	1.028	1.054	1.080

2500 Bay Omega Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	12	11

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	15	14
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	11	10

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	12	12

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	15	14
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	12	11

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.1	12.36
B	1.86	14.17
D	5.11	12.36
E	1.9	13.92

(Country, Sheeted, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.706	1.959	2.121	2.283	2.410	2.538	2.624	2.669	2.714	2.762	2.810	2.858	2.907	2.955
24	2.456	2.821	3.054	3.287	3.471	3.655	3.779	3.843	3.908	3.977	4.047	4.116	4.186	4.255
28	3.343	3.840	4.157	4.475	4.724	4.974	5.143	5.231	5.319	5.413	5.508	5.602	5.697	5.792
32	4.367	5.015	5.430	5.844	6.171	6.497	6.718	6.832	6.947	7.071	7.194	7.318	7.441	7.565
36	5.527	6.347	6.872	7.397	7.810	8.223	8.502	8.647	8.792	8.949	9.105	9.261	9.418	9.574
40	6.823	7.836	8.484	9.132	9.642	10.152	10.496	10.676	10.855	11.048	11.241	11.434	11.627	11.820

Tie Pattern B Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.622	0.714	0.774	0.833	0.879	0.926	0.957	0.973	0.990	1.007	1.025	1.042	1.060	1.078
24	0.896	1.029	1.114	1.199	1.266	1.333	1.378	1.402	1.425	1.450	1.476	1.501	1.527	1.552
28	1.219	1.400	1.516	1.632	1.723	1.814	1.876	1.908	1.940	1.974	2.009	2.043	2.078	2.112
32	1.593	1.829	1.980	2.131	2.250	2.370	2.450	2.492	2.534	2.579	2.624	2.669	2.714	2.759
36	2.016	2.315	2.506	2.698	2.848	2.999	3.101	3.154	3.207	3.264	3.321	3.378	3.435	3.492
40	2.488	2.858	3.094	3.330	3.516	3.702	3.828	3.893	3.959	4.029	4.100	4.170	4.240	4.311

Tie Pattern D Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.709	1.963	2.125	2.287	2.415	2.543	2.629	2.674	2.719	2.767	2.816	2.864	2.912	2.961
24	2.461	2.827	3.060	3.294	3.478	3.662	3.786	3.851	3.915	3.985	4.055	4.124	4.194	4.263
28	3.350	3.847	4.165	4.483	4.734	4.984	5.153	5.241	5.329	5.424	5.519	5.613	5.708	5.803
32	4.375	5.025	5.440	5.856	6.183	6.510	6.731	6.846	6.961	7.084	7.208	7.332	7.456	7.579
36	5.537	6.360	6.885	7.411	7.825	8.239	8.519	8.664	8.810	8.966	9.123	9.279	9.436	9.593
40	6.836	7.851	8.501	9.150	9.661	10.172	10.517	10.696	10.876	11.069	11.263	11.456	11.649	11.843

Tie Pattern E Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.635	0.730	0.790	0.851	0.898	0.946	0.978	0.994	1.011	1.029	1.047	1.065	1.083	1.101
24	0.915	1.051	1.138	1.225	1.293	1.362	1.408	1.432	1.456	1.482	1.508	1.533	1.559	1.585
28	1.246	1.430	1.549	1.667	1.760	1.853	1.916	1.949	1.982	2.017	2.052	2.087	2.122	2.158
32	1.627	1.868	2.023	2.177	2.299	2.420	2.503	2.545	2.588	2.634	2.680	2.726	2.772	2.818
36	2.059	2.365	2.560	2.756	2.910	3.063	3.167	3.221	3.276	3.334	3.392	3.450	3.508	3.567
40	2.542	2.919	3.161	3.402	3.592	3.782	3.910	3.977	4.044	4.116	4.188	4.260	4.331	4.403

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.295	1.587	1.797	2.007	2.173	2.338	2.452	2.514	2.576	2.646	2.717	2.788	2.858	2.929
24	1.865	2.285	2.588	2.890	3.129	3.367	3.531	3.620	3.709	3.811	3.913	4.014	4.116	4.218
28	2.538	3.110	3.522	3.934	4.258	4.583	4.805	4.927	5.049	5.187	5.326	5.464	5.602	5.741
32	3.315	4.062	4.600	5.139	5.562	5.985	6.277	6.435	6.594	6.775	6.956	7.137	7.318	7.498
36	4.195	5.141	5.822	6.504	7.039	7.575	7.944	8.145	8.346	8.575	8.803	9.032	9.261	9.490
40	5.179	6.347	7.188	8.029	8.691	9.352	9.807	10.055	10.303	10.586	10.868	11.151	11.434	11.716

Tie Pattern B Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.472	0.579	0.655	0.732	0.792	0.853	0.894	0.917	0.939	0.965	0.991	1.017	1.042	1.068
24	0.680	0.833	0.944	1.054	1.141	1.228	1.288	1.320	1.353	1.390	1.427	1.464	1.501	1.538
28	0.926	1.134	1.285	1.435	1.553	1.671	1.753	1.797	1.841	1.892	1.942	1.993	2.043	2.094
32	1.209	1.482	1.678	1.874	2.028	2.183	2.289	2.347	2.405	2.471	2.537	2.603	2.669	2.735
36	1.530	1.875	2.123	2.372	2.567	2.763	2.897	2.970	3.044	3.127	3.211	3.294	3.378	3.461
40	1.889	2.315	2.622	2.928	3.170	3.411	3.577	3.667	3.758	3.861	3.964	4.067	4.170	4.273

Tie Pattern D Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.297	1.590	1.801	2.011	2.177	2.343	2.457	2.519	2.581	2.652	2.722	2.793	2.864	2.935
24	1.868	2.290	2.593	2.896	3.135	3.373	3.537	3.627	3.716	3.818	3.920	4.022	4.124	4.226
28	2.543	3.116	3.529	3.942	4.267	4.592	4.815	4.937	5.059	5.197	5.336	5.475	5.613	5.752
32	3.321	4.070	4.609	5.149	5.573	5.997	6.289	6.448	6.607	6.788	6.969	7.151	7.332	7.513
36	4.203	5.151	5.834	6.516	7.053	7.590	7.959	8.161	8.362	8.591	8.821	9.050	9.279	9.509
40	5.189	6.360	7.202	8.045	8.708	9.371	9.826	10.075	10.324	10.607	10.890	11.173	11.456	11.739

Tie Pattern E Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.482	0.591	0.669	0.748	0.809	0.871	0.913	0.937	0.960	0.986	1.012	1.039	1.065	1.091
24	0.695	0.851	0.964	1.077	1.166	1.254	1.315	1.349	1.382	1.420	1.458	1.496	1.533	1.571
28	0.945	1.159	1.312	1.466	1.586	1.707	1.790	1.836	1.881	1.932	1.984	2.036	2.087	2.139
32	1.235	1.513	1.714	1.914	2.072	2.230	2.338	2.397	2.457	2.524	2.591	2.659	2.726	2.794
36	1.563	1.915	2.169	2.423	2.623	2.822	2.959	3.034	3.109	3.194	3.280	3.365	3.450	3.536
40	1.930	2.365	2.678	2.991	3.238	3.484	3.654	3.746	3.838	3.944	4.049	4.154	4.260	4.365

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0	0
24	-4.696	-7.228	-8.848	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	12	11
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	6	5
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	2	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.716	-7.075	-7.434	-7.792	0	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	11	10
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	5	5
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.273	-11.696	-12.151	-12.606	-13.062	-13.517	-13.973	0	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0	0

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	2	2
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0	0
32	-10.657	-15.848	-19.585	-23.321	-26.262	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	12	12
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	7	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	4	4
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	2	2
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	12	11
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	6	6
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	4	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	2.46	12.36
B	0.93	14.17
D	2.47	12.36
E	0.95	13.92

(Country, Debris, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.823	0.945	1.023	1.101	1.163	1.224	1.266	1.287	1.309	1.332	1.355	1.379	1.402	1.425
24	1.185	1.361	1.473	1.586	1.674	1.763	1.823	1.854	1.885	1.918	1.952	1.985	2.019	2.052
28	1.613	1.852	2.005	2.158	2.279	2.399	2.481	2.523	2.566	2.611	2.657	2.702	2.748	2.794
32	2.106	2.419	2.619	2.819	2.976	3.134	3.240	3.296	3.351	3.410	3.470	3.530	3.589	3.649
36	2.666	3.062	3.315	3.568	3.767	3.966	4.101	4.171	4.241	4.316	4.392	4.467	4.543	4.618
40	3.291	3.780	4.092	4.405	4.651	4.897	5.063	5.149	5.236	5.329	5.422	5.515	5.608	5.701

Tie Pattern B Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.311	0.357	0.387	0.416	0.440	0.463	0.479	0.487	0.495	0.504	0.512	0.521	0.530	0.539
24	0.448	0.514	0.557	0.599	0.633	0.666	0.689	0.701	0.713	0.725	0.738	0.751	0.763	0.776
28	0.610	0.700	0.758	0.816	0.862	0.907	0.938	0.954	0.970	0.987	1.004	1.022	1.039	1.056
32	0.796	0.915	0.990	1.066	1.125	1.185	1.225	1.246	1.267	1.289	1.312	1.334	1.357	1.379
36	1.008	1.157	1.253	1.349	1.424	1.499	1.550	1.577	1.603	1.632	1.660	1.689	1.717	1.746
40	1.244	1.429	1.547	1.665	1.758	1.851	1.914	1.947	1.979	2.015	2.050	2.085	2.120	2.155

Tie Pattern D Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.826	0.949	1.027	1.106	1.167	1.229	1.271	1.293	1.314	1.338	1.361	1.384	1.408	1.431
24	1.190	1.366	1.479	1.592	1.681	1.770	1.830	1.861	1.893	1.926	1.960	1.993	2.027	2.061
28	1.619	1.860	2.013	2.167	2.288	2.409	2.491	2.533	2.576	2.622	2.668	2.713	2.759	2.805
32	2.115	2.429	2.630	2.830	2.989	3.147	3.253	3.309	3.365	3.424	3.484	3.544	3.604	3.664
36	2.677	3.074	3.328	3.582	3.782	3.982	4.118	4.188	4.258	4.334	4.410	4.485	4.561	4.637
40	3.304	3.795	4.109	4.423	4.670	4.917	5.084	5.170	5.257	5.351	5.444	5.537	5.631	5.724

Tie Pattern E Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.318	0.365	0.395	0.425	0.449	0.473	0.489	0.497	0.505	0.514	0.523	0.532	0.541	0.550
24	0.458	0.525	0.569	0.612	0.647	0.681	0.704	0.716	0.728	0.741	0.754	0.767	0.780	0.793
28	0.623	0.715	0.774	0.833	0.880	0.927	0.958	0.974	0.991	1.008	1.026	1.044	1.061	1.079
32	0.813	0.934	1.011	1.089	1.149	1.210	1.251	1.273	1.294	1.317	1.340	1.363	1.386	1.409
36	1.029	1.182	1.280	1.378	1.455	1.532	1.584	1.611	1.638	1.667	1.696	1.725	1.754	1.783
40	1.271	1.460	1.580	1.701	1.796	1.891	1.955	1.989	2.022	2.058	2.094	2.130	2.166	2.202

2.5m Bay x 1.3m (5) Width

(Town, Debris, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.625	0.765	0.867	0.968	1.048	1.128	1.183	1.213	1.242	1.277	1.311	1.345	1.379	1.413
24	0.899	1.102	1.248	1.394	1.509	1.624	1.703	1.746	1.789	1.838	1.887	1.936	1.985	2.034
28	1.224	1.500	1.699	1.898	2.054	2.210	2.318	2.377	2.435	2.502	2.569	2.636	2.702	2.769
32	1.599	1.959	2.219	2.479	2.683	2.887	3.028	3.104	3.181	3.268	3.355	3.442	3.530	3.617
36	2.024	2.480	2.808	3.137	3.395	3.654	3.832	3.929	4.026	4.136	4.246	4.357	4.467	4.578
40	2.498	3.062	3.467	3.873	4.192	4.511	4.730	4.850	4.970	5.106	5.242	5.379	5.515	5.651

Tie Pattern B Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.236	0.289	0.328	0.366	0.396	0.426	0.447	0.458	0.470	0.483	0.495	0.508	0.521	0.534
24	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.676	0.695	0.713	0.732	0.751	0.769
28	0.463	0.567	0.642	0.717	0.777	0.836	0.876	0.898	0.921	0.946	0.971	0.996	1.022	1.047
32	0.604	0.741	0.839	0.937	1.014	1.091	1.145	1.174	1.202	1.235	1.268	1.301	1.334	1.367
36	0.765	0.938	1.062	1.186	1.284	1.381	1.449	1.485	1.522	1.564	1.605	1.647	1.689	1.731
40	0.944	1.157	1.311	1.464	1.585	1.705	1.788	1.834	1.879	1.930	1.982	2.033	2.085	2.136

Tie Pattern D Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.627	0.769	0.870	0.972	1.052	1.132	1.187	1.217	1.248	1.282	1.316	1.350	1.384	1.419
24	0.903	1.107	1.253	1.400	1.515	1.631	1.710	1.753	1.796	1.846	1.895	1.944	1.993	2.043
28	1.229	1.506	1.706	1.905	2.062	2.219	2.327	2.386	2.445	2.512	2.579	2.646	2.713	2.780
32	1.605	1.967	2.228	2.489	2.694	2.899	3.040	3.117	3.194	3.281	3.369	3.456	3.544	3.632
36	2.032	2.490	2.820	3.150	3.409	3.669	3.847	3.945	4.042	4.153	4.264	4.374	4.485	4.596
40	2.508	3.074	3.481	3.889	4.209	4.529	4.750	4.870	4.990	5.127	5.264	5.401	5.537	5.674

Tie Pattern E Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.241	0.296	0.335	0.374	0.405	0.436	0.457	0.468	0.480	0.493	0.506	0.519	0.532	0.546
24	0.347	0.426	0.482	0.538	0.583	0.627	0.658	0.674	0.691	0.710	0.729	0.748	0.767	0.786
28	0.473	0.579	0.656	0.733	0.793	0.854	0.895	0.918	0.940	0.966	0.992	1.018	1.044	1.069
32	0.617	0.757	0.857	0.957	1.036	1.115	1.169	1.199	1.228	1.262	1.296	1.329	1.363	1.397
36	0.781	0.958	1.085	1.211	1.311	1.411	1.480	1.517	1.555	1.597	1.640	1.682	1.725	1.768
40	0.965	1.182	1.339	1.496	1.619	1.742	1.827	1.873	1.919	1.972	2.025	2.077	2.130	2.182

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	6	5
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.322	-11.735	-12.149	-12.563	-12.976	0	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	12	11
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	7	7
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	4	4
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	6	5
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2	2
28	1.117	-0.553	-1.620	-2.686	-3.528	-4.369	-4.936	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	12	11
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	7	6
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	4	4
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.173	-2.454	-2.735	-3.017	-3.298	2	2

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	7	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	4	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	2	2
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	13	12
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	8	8
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	5	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	4	3

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	7	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	4	3
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	2	2
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	12	11
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	8	7
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	5	5
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3	3

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.2	12.36
B	0.46	14.17
D	1.2	12.36
E	0.47	13.92

(Country, Unclad, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern B Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.154	0.177	0.191	0.206	0.217	0.229	0.237	0.241	0.245	0.249	0.253	0.258	0.262	0.267
24	0.222	0.254	0.275	0.297	0.313	0.330	0.341	0.347	0.352	0.359	0.365	0.371	0.378	0.384
28	0.302	0.346	0.375	0.404	0.426	0.449	0.464	0.472	0.480	0.488	0.497	0.505	0.514	0.522
32	0.394	0.452	0.490	0.527	0.557	0.586	0.606	0.616	0.627	0.638	0.649	0.660	0.671	0.682
36	0.498	0.572	0.620	0.667	0.704	0.742	0.767	0.780	0.793	0.807	0.821	0.835	0.849	0.864
40	0.615	0.707	0.765	0.824	0.870	0.916	0.947	0.963	0.979	0.996	1.014	1.031	1.049	1.066

Tie Pattern D Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern E Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.157	0.181	0.195	0.210	0.222	0.234	0.242	0.246	0.250	0.255	0.259	0.263	0.268	0.272
24	0.226	0.260	0.281	0.303	0.320	0.337	0.348	0.354	0.360	0.367	0.373	0.379	0.386	0.392
28	0.308	0.354	0.383	0.412	0.435	0.458	0.474	0.482	0.490	0.499	0.508	0.516	0.525	0.534
32	0.402	0.462	0.500	0.539	0.569	0.599	0.619	0.630	0.640	0.652	0.663	0.674	0.686	0.697
36	0.509	0.585	0.633	0.682	0.720	0.758	0.784	0.797	0.810	0.825	0.839	0.853	0.868	0.882
40	0.629	0.722	0.782	0.842	0.889	0.936	0.967	0.984	1.000	1.018	1.036	1.054	1.071	1.089

2.5m Bay x 1.3m (5) Width

(Town, Unclad, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern B Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.117	0.143	0.162	0.181	0.196	0.211	0.221	0.227	0.232	0.239	0.245	0.251	0.258	0.264
24	0.168	0.206	0.233	0.261	0.282	0.304	0.318	0.326	0.335	0.344	0.353	0.362	0.371	0.380
28	0.229	0.281	0.318	0.355	0.384	0.413	0.433	0.444	0.455	0.468	0.480	0.493	0.505	0.518
32	0.299	0.366	0.415	0.463	0.502	0.540	0.566	0.580	0.595	0.611	0.627	0.644	0.660	0.676
36	0.378	0.464	0.525	0.587	0.635	0.683	0.716	0.735	0.753	0.773	0.794	0.815	0.835	0.856
40	0.467	0.573	0.648	0.724	0.784	0.844	0.885	0.907	0.929	0.955	0.980	1.006	1.031	1.057

Tie Pattern D Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern E Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.119	0.146	0.166	0.185	0.200	0.215	0.226	0.232	0.237	0.244	0.250	0.257	0.263	0.270
24	0.172	0.211	0.238	0.266	0.288	0.310	0.325	0.334	0.342	0.351	0.361	0.370	0.379	0.389
28	0.234	0.287	0.325	0.363	0.392	0.422	0.443	0.454	0.465	0.478	0.491	0.504	0.516	0.529
32	0.305	0.374	0.424	0.474	0.513	0.552	0.578	0.593	0.608	0.624	0.641	0.658	0.674	0.691
36	0.387	0.474	0.537	0.599	0.649	0.698	0.732	0.751	0.769	0.790	0.811	0.832	0.853	0.875
40	0.477	0.585	0.662	0.740	0.801	0.862	0.904	0.927	0.950	0.976	1.002	1.028	1.054	1.080

2500 Bay Omega Transom

LC3&4 2.5m Bay x 1.3m (5) Width (Country, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	12	11

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	15	14
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	11	11

LC3&4 2.5m Bay x 1.3m (5) Width (Town, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	12	12

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	15	14
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	12	11

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.1	12.36
B	1.86	14.17
D	5.11	12.36
E	1.9	13.92

(Country, Sheeted, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.706	1.959	2.121	2.283	2.410	2.538	2.624	2.669	2.714	2.760	2.810	2.858	2.907	2.955
24	2.456	2.821	3.054	3.287	3.471	3.655	3.779	3.843	3.908	3.977	4.047	4.116	4.186	4.255
28	3.343	3.840	4.157	4.475	4.724	4.974	5.143	5.231	5.319	5.413	5.508	5.602	5.697	5.792
32	4.367	5.015	5.430	5.844	6.171	6.497	6.718	6.832	6.947	7.071	7.194	7.318	7.441	7.565
36	5.527	6.347	6.872	7.397	7.810	8.223	8.502	8.647	8.792	8.949	9.105	9.261	9.418	9.574
40	6.825	7.836	8.484	9.132	9.642	10.152	10.496	10.676	10.855	11.048	11.241	11.434	11.627	11.820

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.622	0.714	0.774	0.833	0.879	0.928	0.957	0.973	0.990	1.007	1.025	1.042	1.060	1.078
24	0.896	1.029	1.114	1.199	1.266	1.333	1.378	1.402	1.425	1.450	1.476	1.501	1.527	1.552
28	1.219	1.400	1.516	1.632	1.723	1.814	1.876	1.908	1.940	1.974	2.009	2.043	2.078	2.112
32	1.593	1.829	1.980	2.131	2.250	2.370	2.450	2.492	2.534	2.579	2.624	2.669	2.714	2.759
36	2.016	2.315	2.506	2.698	2.848	2.999	3.101	3.154	3.207	3.264	3.321	3.378	3.435	3.492
40	2.488	2.858	3.094	3.330	3.518	3.702	3.828	3.893	3.959	4.029	4.100	4.170	4.240	4.311

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.709	1.963	2.125	2.287	2.415	2.543	2.629	2.674	2.719	2.767	2.816	2.864	2.912	2.961
24	2.461	2.827	3.060	3.294	3.478	3.662	3.786	3.851	3.915	3.983	4.055	4.124	4.194	4.263
28	3.350	3.847	4.165	4.483	4.734	4.984	5.153	5.241	5.329	5.424	5.519	5.613	5.708	5.803
32	4.375	5.025	5.440	5.856	6.183	6.510	6.731	6.846	6.961	7.084	7.208	7.332	7.456	7.579
36	5.537	6.360	6.885	7.411	7.825	8.239	8.519	8.664	8.810	8.966	9.123	9.279	9.436	9.593
40	6.836	7.851	8.501	9.150	9.661	10.172	10.517	10.696	10.876	11.069	11.263	11.456	11.649	11.843

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.635	0.730	0.790	0.851	0.898	0.946	0.978	0.994	1.011	1.029	1.047	1.065	1.083	1.101
24	0.915	1.051	1.138	1.225	1.293	1.362	1.408	1.432	1.456	1.482	1.508	1.533	1.559	1.585
28	1.246	1.430	1.549	1.667	1.760	1.853	1.916	1.949	1.982	2.017	2.052	2.087	2.123	2.158
32	1.627	1.868	2.023	2.177	2.299	2.420	2.503	2.545	2.588	2.634	2.680	2.726	2.772	2.818
36	2.059	2.365	2.560	2.756	2.910	3.063	3.167	3.221	3.276	3.334	3.392	3.450	3.508	3.567
40	2.542	2.919	3.161	3.402	3.592	3.782	3.910	3.977	4.044	4.116	4.188	4.260	4.331	4.403

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.295	1.587	1.797	2.007	2.173	2.338	2.452	2.514	2.576	2.646	2.717	2.788	2.858	2.929
24	1.865	2.285	2.588	2.890	3.129	3.367	3.531	3.620	3.709	3.811	3.913	4.014	4.116	4.218
28	2.538	3.110	3.522	3.934	4.258	4.583	4.805	4.927	5.049	5.187	5.326	5.464	5.602	5.741
32	3.315	4.062	4.600	5.139	5.562	5.985	6.277	6.435	6.594	6.775	6.956	7.137	7.318	7.498
36	4.195	5.141	5.822	6.504	7.039	7.575	7.944	8.145	8.346	8.575	8.803	9.032	9.261	9.490
40	5.179	6.347	7.188	8.029	8.691	9.352	9.807	10.055	10.305	10.586	10.868	11.151	11.434	11.716

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.472	0.579	0.655	0.732	0.792	0.853	0.894	0.917	0.939	0.965	0.991	1.017	1.042	1.068
24	0.680	0.833	0.944	1.054	1.141	1.228	1.288	1.320	1.353	1.390	1.427	1.464	1.501	1.538
28	0.926	1.134	1.285	1.435	1.553	1.671	1.753	1.797	1.841	1.892	1.942	1.993	2.043	2.094
32	1.209	1.482	1.678	1.874	2.028	2.183	2.289	2.347	2.405	2.471	2.537	2.603	2.669	2.735
36	1.530	1.875	2.123	2.372	2.567	2.763	2.897	2.970	3.044	3.127	3.211	3.294	3.378	3.461
40	1.889	2.315	2.622	2.928	3.170	3.411	3.577	3.667	3.758	3.861	3.964	4.067	4.170	4.273

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.297	1.590	1.801	2.011	2.177	2.343	2.457	2.519	2.581	2.652	2.722	2.793	2.864	2.935
24	1.868	2.290	2.593	2.896	3.135	3.373	3.537	3.627	3.716	3.818	3.920	4.022	4.124	4.226
28	2.543	3.116	3.529	3.942	4.267	4.592	4.815	4.937	5.059	5.197	5.336	5.475	5.613	5.752
32	3.321	4.070	4.609	5.149	5.573	5.997	6.289	6.448	6.607	6.788	6.969	7.151	7.332	7.513
36	4.203	5.151	5.834	6.516	7.053	7.590	7.959	8.161	8.362	8.591	8.821	9.050	9.279	9.509
40	5.189	6.360	7.202	8.045	8.708	9.371	9.826	10.075	10.324	10.607	10.890	11.173	11.456	11.739

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.482	0.591	0.669	0.748	0.809	0.871	0.913	0.937	0.960	0.986	1.012	1.039	1.065	1.091
24	0.695	0.851	0.964	1.077	1.166	1.254	1.313	1.349	1.382	1.420	1.458	1.496	1.533	1.571
28	0.945	1.159	1.312	1.466	1.586	1.707	1.790	1.836	1.881	1.932	1.984	2.036	2.087	2.139
32	1.235	1.513	1.714	1.914	2.072	2.230	2.338	2.397	2.457	2.524	2.591	2.659	2.726	2.794
36	1.563	1.915	2.169	2.423	2.623	2.822	2.959	3.034	3.109	3.194	3.280	3.365	3.450	3.536
40	1.930	2.365	2.678	2.991	3.238	3.484	3.654	3.746	3.838	3.944	4.049	4.154	4.260	4.365

LC3 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0
24	-4.696	-7.228	-8.848	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	10
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	4
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.716	-7.075	-7.434	-7.792	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	10
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	4
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.275	-11.696	-12.151	-12.606	-13.062	-13.517	-13.973	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.189	-17.708	-18.266	-18.829	-19.391	-19.953	-20.515	0

LC3 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	0
24	-0.587	-3.507	-5.409	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0
32	-10.637	-15.848	-19.585	-23.321	-26.262	-29.202	-31.225	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	11
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	3
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	0
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.307	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	11
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	5
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0

LC4 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0
24	-4.696	-7.228	-8.846	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	8
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	4
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.271	-1.547	-1.821	-2.096	-2.370	-2.645	0
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.338	-6.716	-7.075	-7.434	-7.792	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	8
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	3
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	0
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.275	-11.699	-12.151	-12.606	-13.062	-13.517	-13.973	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	0
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.638	-24.620	-25.581	-26.543	-27.504	0
32	-10.657	-15.848	-19.585	-23.321	-26.262	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	9
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	5
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	3
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	0
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	0
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	9
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	5
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	2
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	0
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	2.46	12.36
B	0.93	14.17
D	2.47	12.36
E	0.95	13.92

(Country, Debris, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	0.823	0.945	1.023	1.101	1.163	1.224	1.264	1.287	1.309	1.332	1.355	1.379	1.402	1.425
24	1.185	1.361	1.473	1.586	1.674	1.763	1.823	1.854	1.885	1.918	1.952	1.985	2.019	2.052
28	1.613	1.852	2.005	2.158	2.279	2.399	2.481	2.523	2.566	2.611	2.657	2.702	2.748	2.794
32	2.106	2.419	2.619	2.819	2.976	3.134	3.240	3.296	3.351	3.410	3.470	3.530	3.589	3.649
36	2.666	3.062	3.315	3.568	3.767	3.966	4.101	4.171	4.241	4.316	4.392	4.467	4.543	4.618
40	3.291	3.780	4.092	4.405	4.651	4.897	5.063	5.149	5.236	5.329	5.422	5.515	5.608	5.701

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.311	0.357	0.387	0.416	0.440	0.463	0.479	0.487	0.495	0.504	0.512	0.521	0.530	0.539
24	0.448	0.514	0.557	0.599	0.633	0.666	0.689	0.701	0.713	0.725	0.738	0.751	0.763	0.776
28	0.610	0.700	0.758	0.816	0.862	0.907	0.938	0.954	0.970	0.987	1.004	1.022	1.039	1.056
32	0.796	0.915	0.990	1.066	1.125	1.185	1.225	1.246	1.267	1.289	1.312	1.334	1.357	1.379
36	1.008	1.157	1.253	1.349	1.424	1.499	1.550	1.577	1.603	1.632	1.660	1.689	1.717	1.746
40	1.244	1.429	1.547	1.665	1.758	1.851	1.914	1.947	1.979	2.015	2.050	2.085	2.120	2.155

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.826	0.949	1.027	1.106	1.167	1.229	1.271	1.293	1.314	1.338	1.361	1.384	1.408	1.431
24	1.190	1.366	1.479	1.592	1.681	1.770	1.830	1.861	1.893	1.926	1.960	1.993	2.027	2.061
28	1.619	1.860	2.013	2.167	2.288	2.409	2.491	2.533	2.576	2.622	2.668	2.713	2.759	2.805
32	2.115	2.429	2.630	2.830	2.989	3.147	3.253	3.309	3.365	3.424	3.484	3.544	3.604	3.664
36	2.677	3.074	3.328	3.582	3.782	3.982	4.118	4.188	4.258	4.334	4.410	4.485	4.561	4.637
40	3.304	3.795	4.109	4.423	4.670	4.917	5.084	5.170	5.257	5.351	5.444	5.537	5.631	5.724

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.318	0.365	0.395	0.425	0.449	0.473	0.489	0.497	0.505	0.514	0.523	0.532	0.541	0.550
24	0.458	0.525	0.569	0.612	0.647	0.681	0.704	0.716	0.728	0.741	0.754	0.767	0.780	0.793
28	0.623	0.715	0.774	0.833	0.880	0.927	0.958	0.974	0.991	1.008	1.026	1.044	1.061	1.079
32	0.813	0.934	1.011	1.089	1.149	1.210	1.251	1.273	1.294	1.317	1.340	1.363	1.386	1.409
36	1.029	1.182	1.280	1.378	1.455	1.532	1.584	1.611	1.638	1.667	1.696	1.725	1.754	1.783
40	1.271	1.460	1.580	1.701	1.796	1.891	1.955	1.989	2.022	2.058	2.094	2.130	2.166	2.202

2.5m Bay x 1.3m (5) Width

(Town, Debris, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	0.625	0.765	0.867	0.968	1.048	1.128	1.183	1.213	1.242	1.277	1.311	1.345	1.379	1.413
24	0.899	1.102	1.248	1.394	1.509	1.624	1.703	1.746	1.789	1.838	1.887	1.936	1.985	2.034
28	1.224	1.500	1.699	1.898	2.054	2.210	2.318	2.377	2.435	2.502	2.569	2.636	2.702	2.769
32	1.599	1.959	2.219	2.479	2.683	2.887	3.028	3.104	3.181	3.268	3.355	3.442	3.530	3.617
36	2.024	2.480	2.808	3.137	3.395	3.654	3.832	3.929	4.026	4.136	4.246	4.357	4.467	4.578
40	2.498	3.062	3.467	3.873	4.192	4.511	4.730	4.850	4.970	5.106	5.242	5.379	5.515	5.651

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.236	0.289	0.328	0.366	0.398	0.428	0.447	0.458	0.470	0.483	0.495	0.508	0.521	0.534
24	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.676	0.695	0.713	0.732	0.751	0.769
28	0.463	0.567	0.642	0.717	0.777	0.836	0.876	0.898	0.921	0.946	0.971	0.996	1.022	1.047
32	0.604	0.741	0.839	0.937	1.014	1.091	1.145	1.174	1.202	1.235	1.268	1.301	1.334	1.367
36	0.765	0.938	1.062	1.186	1.284	1.381	1.449	1.485	1.522	1.564	1.605	1.647	1.689	1.731
40	0.944	1.157	1.311	1.464	1.585	1.705	1.788	1.834	1.879	1.930	1.982	2.033	2.085	2.136

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.627	0.769	0.870	0.972	1.052	1.132	1.187	1.217	1.248	1.282	1.316	1.350	1.384	1.419
24	0.903	1.107	1.253	1.400	1.515	1.631	1.710	1.753	1.796	1.846	1.895	1.944	1.993	2.043
28	1.229	1.506	1.706	1.905	2.062	2.219	2.327	2.386	2.445	2.512	2.579	2.646	2.713	2.780
32	1.605	1.967	2.228	2.489	2.694	2.899	3.040	3.117	3.194	3.281	3.369	3.456	3.544	3.632
36	2.032	2.490	2.820	3.150	3.409	3.669	3.847	3.945	4.042	4.153	4.264	4.374	4.485	4.596
40	2.508	3.074	3.481	3.889	4.209	4.529	4.750	4.870	4.990	5.127	5.264	5.401	5.537	5.674

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.241	0.296	0.335	0.374	0.405	0.436	0.457	0.468	0.480	0.493	0.506	0.519	0.532	0.546
24	0.347	0.426	0.482	0.538	0.583	0.627	0.658	0.674	0.691	0.710	0.729	0.748	0.767	0.786
28	0.473	0.579	0.656	0.733	0.793	0.854	0.895	0.918	0.940	0.966	0.992	1.018	1.044	1.069
32	0.617	0.757	0.857	0.957	1.036	1.115	1.169	1.199	1.228	1.262	1.296	1.329	1.363	1.397
36	0.781	0.958	1.085	1.211	1.311	1.411	1.480	1.517	1.555	1.597	1.640	1.682	1.725	1.768
40	0.965	1.182	1.339	1.496	1.619	1.742	1.827	1.873	1.919	1.972	2.025	2.077	2.130	2.182

LC3 2.5m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	5
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.302	-11.735	-12.149	-12.563	-12.976	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	11
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.259	4.085	3.906	3.727	3.548	3.368	3.189	6
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	3
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	5
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.936	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	10
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	6
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	3
40	3.981	2.505	1.561	0.618	-0.129	-0.868	-1.370	-1.631	-1.892	-2.175	-2.454	-2.735	-3.017	-3.298	2

LC3 2.5m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	0
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.545	-12.149	-12.755	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	11
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	7
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	3

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	3
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	0
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0
36	-1.748	-4.930	-7.221	-9.511	-11.315	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	11
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	7
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	4
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3

LC4 2.5m Bay x 1.3m (S) Width (Country, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	4
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	0
28	1.162	-0.300	-1.564	-2.827	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.322	-11.735	-12.149	-12.563	-12.976	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	14
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	9
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	5
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	3
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	4
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	0
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.938	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	14
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	8
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	4
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	2
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.173	-2.454	-2.735	-3.017	-3.298	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	5
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	2
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	0
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.012	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	10
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	6
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	4
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	3

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	5
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	2
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	0
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	14
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	9
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	6
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	4
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	2

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.2	12.36
B	0.46	14.17
D	1.2	12.36
E	0.47	13.92

(Country, Uncladd, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.154	0.177	0.191	0.206	0.217	0.229	0.237	0.241	0.245	0.249	0.253	0.258	0.262	0.267
24	0.222	0.254	0.275	0.297	0.313	0.330	0.341	0.347	0.352	0.359	0.365	0.371	0.378	0.384
28	0.302	0.346	0.375	0.404	0.426	0.449	0.464	0.472	0.480	0.488	0.497	0.505	0.514	0.522
32	0.394	0.452	0.490	0.527	0.557	0.586	0.606	0.616	0.627	0.638	0.649	0.660	0.671	0.682
36	0.498	0.572	0.620	0.667	0.704	0.742	0.767	0.780	0.793	0.807	0.821	0.835	0.849	0.864
40	0.615	0.707	0.765	0.824	0.870	0.916	0.947	0.963	0.979	0.996	1.014	1.031	1.049	1.066

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.157	0.181	0.195	0.210	0.222	0.234	0.242	0.246	0.250	0.255	0.259	0.263	0.268	0.272
24	0.226	0.260	0.281	0.303	0.320	0.337	0.348	0.354	0.360	0.367	0.373	0.379	0.386	0.392
28	0.308	0.354	0.383	0.412	0.435	0.458	0.474	0.482	0.490	0.499	0.508	0.516	0.525	0.534
32	0.402	0.462	0.500	0.539	0.569	0.599	0.619	0.630	0.640	0.652	0.663	0.674	0.686	0.697
36	0.509	0.585	0.633	0.682	0.720	0.758	0.784	0.797	0.810	0.825	0.839	0.853	0.868	0.882
40	0.629	0.722	0.782	0.842	0.889	0.936	0.967	0.984	1.000	1.018	1.036	1.054	1.071	1.089

2.5m Bay x 1.3m (5) Width

(Town, Uncladd, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.117	0.143	0.162	0.181	0.198	0.211	0.221	0.227	0.232	0.239	0.245	0.251	0.258	0.264
24	0.168	0.206	0.233	0.261	0.282	0.304	0.318	0.326	0.335	0.344	0.353	0.360	0.371	0.380
28	0.229	0.281	0.318	0.355	0.384	0.413	0.433	0.444	0.455	0.468	0.480	0.493	0.505	0.518
32	0.299	0.366	0.415	0.463	0.502	0.540	0.566	0.580	0.595	0.611	0.627	0.644	0.660	0.676
36	0.378	0.464	0.525	0.587	0.635	0.683	0.716	0.735	0.753	0.773	0.794	0.815	0.835	0.856
40	0.467	0.573	0.648	0.724	0.784	0.844	0.885	0.907	0.929	0.955	0.980	1.006	1.031	1.057

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.119	0.146	0.166	0.185	0.200	0.215	0.226	0.232	0.237	0.244	0.250	0.257	0.263	0.270
24	0.172	0.211	0.238	0.266	0.288	0.310	0.325	0.334	0.342	0.351	0.361	0.370	0.379	0.389
28	0.234	0.287	0.325	0.363	0.392	0.422	0.443	0.454	0.465	0.478	0.491	0.504	0.514	0.529
32	0.305	0.374	0.424	0.474	0.513	0.552	0.578	0.593	0.608	0.624	0.641	0.658	0.674	0.691
36	0.387	0.474	0.537	0.599	0.649	0.698	0.732	0.751	0.769	0.790	0.811	0.832	0.853	0.875
40	0.477	0.585	0.662	0.740	0.801	0.862	0.904	0.927	0.950	0.976	1.002	1.028	1.054	1.080

LC3 2.5m Bay x 1.3m (S) Width (Country, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	11

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	14
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	10

LC3 2.5m Bay x 1.3m (S) Width (Town, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	10
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	11

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	10
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	14
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	11

LC4 2.5m Bay x 1.3m (S) Width (Country, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	13
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	7
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	4
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	2
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	13
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	9

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	13
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	7
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	4
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	2
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	12
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	8

LC4 2.5m Bay x 1.3m (S) Width (Town, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	13
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	8
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	5
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	3
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	13
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	10

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	13
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	8
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	5
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	3
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	12
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	9

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.1	12.36
B	1.86	14.17
D	5.11	12.36
E	1.9	13.92

(Country, Sheeted, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.706	1.959	2.121	2.283	2.410	2.538	2.624	2.669	2.714	2.760	2.810	2.858	2.907	2.955
24	2.456	2.821	3.054	3.287	3.471	3.655	3.779	3.843	3.908	3.977	4.047	4.116	4.186	4.255
28	3.343	3.840	4.157	4.475	4.724	4.974	5.143	5.231	5.319	5.413	5.508	5.602	5.697	5.792
32	4.367	5.015	5.430	5.844	6.171	6.497	6.718	6.832	6.947	7.071	7.194	7.318	7.441	7.565
36	5.527	6.347	6.872	7.397	7.810	8.223	8.502	8.647	8.792	8.949	9.105	9.261	9.418	9.574
40	6.825	7.836	8.484	9.132	9.642	10.152	10.496	10.676	10.855	11.048	11.241	11.434	11.627	11.820

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.622	0.714	0.774	0.833	0.879	0.928	0.957	0.973	0.990	1.007	1.025	1.042	1.060	1.078
24	0.896	1.029	1.114	1.199	1.266	1.333	1.378	1.402	1.425	1.450	1.476	1.501	1.527	1.552
28	1.219	1.400	1.516	1.632	1.723	1.814	1.876	1.908	1.940	1.974	2.009	2.043	2.078	2.112
32	1.593	1.829	1.980	2.131	2.250	2.370	2.450	2.492	2.534	2.579	2.624	2.669	2.714	2.759
36	2.016	2.315	2.506	2.698	2.848	2.999	3.101	3.154	3.207	3.264	3.321	3.378	3.435	3.492
40	2.488	2.858	3.094	3.330	3.518	3.702	3.828	3.893	3.959	4.029	4.100	4.170	4.240	4.311

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.709	1.963	2.125	2.287	2.415	2.543	2.629	2.674	2.719	2.767	2.816	2.864	2.912	2.961
24	2.461	2.827	3.060	3.294	3.478	3.662	3.786	3.851	3.915	3.983	4.055	4.124	4.194	4.263
28	3.350	3.847	4.165	4.483	4.734	4.984	5.153	5.241	5.329	5.424	5.519	5.613	5.708	5.803
32	4.375	5.025	5.440	5.856	6.183	6.510	6.731	6.846	6.961	7.084	7.208	7.332	7.456	7.579
36	5.537	6.360	6.885	7.411	7.825	8.239	8.519	8.664	8.810	8.966	9.123	9.279	9.436	9.593
40	6.836	7.851	8.501	9.150	9.661	10.172	10.517	10.696	10.876	11.069	11.263	11.456	11.649	11.843

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.635	0.730	0.790	0.851	0.898	0.946	0.978	0.994	1.011	1.029	1.047	1.065	1.083	1.101
24	0.915	1.051	1.138	1.225	1.293	1.362	1.408	1.432	1.456	1.482	1.508	1.533	1.559	1.585
28	1.246	1.430	1.549	1.667	1.760	1.853	1.916	1.949	1.982	2.017	2.052	2.087	2.123	2.158
32	1.627	1.868	2.023	2.177	2.299	2.420	2.503	2.545	2.588	2.634	2.680	2.726	2.772	2.818
36	2.059	2.365	2.560	2.756	2.910	3.063	3.167	3.221	3.276	3.334	3.392	3.450	3.508	3.567
40	2.542	2.919	3.161	3.402	3.592	3.782	3.910	3.977	4.044	4.116	4.188	4.260	4.331	4.403

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.295	1.587	1.797	2.007	2.173	2.338	2.452	2.514	2.576	2.646	2.717	2.788	2.858	2.929
24	1.865	2.285	2.588	2.890	3.129	3.367	3.531	3.620	3.709	3.811	3.913	4.014	4.116	4.218
28	2.538	3.110	3.522	3.934	4.258	4.583	4.805	4.927	5.049	5.187	5.326	5.464	5.602	5.741
32	3.315	4.062	4.600	5.139	5.562	5.985	6.277	6.435	6.594	6.775	6.956	7.137	7.318	7.498
36	4.195	5.141	5.822	6.504	7.039	7.575	7.944	8.145	8.346	8.575	8.803	9.032	9.261	9.490
40	5.179	6.347	7.188	8.029	8.691	9.352	9.807	10.055	10.305	10.586	10.868	11.151	11.434	11.716

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.472	0.579	0.655	0.732	0.792	0.853	0.894	0.917	0.939	0.965	0.991	1.017	1.042	1.068
24	0.680	0.833	0.944	1.054	1.141	1.228	1.288	1.320	1.353	1.390	1.427	1.464	1.501	1.538
28	0.926	1.134	1.285	1.435	1.553	1.671	1.753	1.797	1.841	1.892	1.942	1.993	2.043	2.094
32	1.209	1.482	1.678	1.874	2.028	2.183	2.289	2.347	2.405	2.471	2.537	2.603	2.669	2.735
36	1.530	1.875	2.123	2.372	2.567	2.763	2.897	2.970	3.044	3.127	3.211	3.294	3.378	3.461
40	1.889	2.315	2.622	2.928	3.170	3.411	3.577	3.667	3.758	3.861	3.964	4.067	4.170	4.273

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.297	1.590	1.801	2.011	2.177	2.343	2.457	2.519	2.581	2.652	2.722	2.793	2.864	2.935
24	1.868	2.290	2.593	2.896	3.135	3.373	3.537	3.627	3.716	3.818	3.920	4.022	4.124	4.226
28	2.543	3.116	3.529	3.942	4.267	4.592	4.815	4.937	5.059	5.197	5.336	5.475	5.613	5.752
32	3.321	4.070	4.609	5.149	5.573	5.997	6.289	6.448	6.607	6.788	6.969	7.151	7.332	7.513
36	4.203	5.151	5.834	6.516	7.053	7.590	7.959	8.161	8.362	8.591	8.821	9.050	9.279	9.509
40	5.189	6.360	7.202	8.045	8.708	9.371	9.826	10.075	10.324	10.607	10.890	11.173	11.456	11.739

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.482	0.591	0.669	0.748	0.809	0.871	0.913	0.937	0.960	0.986	1.012	1.039	1.065	1.091
24	0.695	0.851	0.964	1.077	1.166	1.254	1.315	1.349	1.382	1.420	1.458	1.496	1.533	1.571
28	0.945	1.159	1.312	1.466	1.586	1.707	1.790	1.836	1.881	1.932	1.984	2.036	2.087	2.139
32	1.235	1.513	1.714	1.914	2.072	2.230	2.338	2.397	2.457	2.524	2.591	2.659	2.726	2.794
36	1.563	1.915	2.169	2.423	2.623	2.822	2.959	3.034	3.109	3.194	3.280	3.365	3.450	3.536
40	1.930	2.365	2.678	2.991	3.238	3.484	3.654	3.746	3.838	3.944	4.049	4.154	4.260	4.365

LC3 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0
24	-4.696	-7.228	-8.848	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	12
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	5
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.716	-7.075	-7.434	-7.792	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0
															0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	11
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	5
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.275	-11.696	-12.151	-12.606	-13.062	-13.517	-13.973	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0
															0

LC3 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	2
24	-0.587	-3.507	-5.409	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0
32	-10.637	-15.848	-19.585	-23.321	-26.262	-29.202	-31.225	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	12
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	4
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	2
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	12
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	6
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0

LC4 2.5m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0
24	-4.696	-7.228	-8.846	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	10
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	4
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.271	-1.547	-1.821	-2.096	-2.370	-2.645	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.338	-6.716	-7.075	-7.434	-7.792	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0
28	-10.900	-14.354	-16.563	-18.771	-20.510	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	9
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	4
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.275	-11.699	-12.151	-12.606	-13.062	-13.517	-13.973	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0

LC4 2.5m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	0
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0
32	-10.657	-15.848	-19.585	-23.321	-26.262	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	11
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	3
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	0
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	10
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	5
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	2.46	12.36
B	0.93	14.17
D	2.47	12.36
E	0.95	13.92

(Country, Debris, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.823	0.945	1.023	1.101	1.163	1.224	1.264	1.287	1.309	1.332	1.355	1.379	1.402	1.425
24	1.185	1.361	1.473	1.586	1.674	1.763	1.823	1.854	1.885	1.918	1.952	1.985	2.019	2.052
28	1.613	1.852	2.005	2.158	2.279	2.399	2.481	2.523	2.566	2.611	2.657	2.702	2.748	2.794
32	2.106	2.419	2.619	2.819	2.976	3.134	3.240	3.296	3.351	3.410	3.470	3.530	3.589	3.649
36	2.666	3.062	3.315	3.568	3.767	3.966	4.101	4.171	4.241	4.316	4.392	4.467	4.543	4.618
40	3.291	3.780	4.092	4.405	4.651	4.897	5.063	5.149	5.236	5.329	5.422	5.515	5.608	5.701

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.311	0.357	0.387	0.416	0.440	0.463	0.479	0.487	0.495	0.504	0.512	0.521	0.530	0.539
24	0.448	0.514	0.557	0.599	0.633	0.666	0.689	0.701	0.713	0.725	0.738	0.751	0.763	0.776
28	0.610	0.700	0.758	0.816	0.862	0.907	0.938	0.954	0.970	0.987	1.004	1.022	1.039	1.056
32	0.796	0.915	0.990	1.066	1.125	1.185	1.225	1.246	1.267	1.289	1.312	1.334	1.357	1.379
36	1.008	1.157	1.253	1.349	1.424	1.499	1.550	1.577	1.603	1.632	1.660	1.689	1.717	1.746
40	1.244	1.429	1.547	1.665	1.758	1.851	1.914	1.947	1.979	2.015	2.050	2.085	2.120	2.155

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.826	0.949	1.027	1.106	1.167	1.229	1.271	1.293	1.314	1.338	1.361	1.384	1.408	1.431
24	1.190	1.366	1.479	1.592	1.681	1.770	1.830	1.861	1.893	1.926	1.960	1.993	2.027	2.061
28	1.619	1.860	2.013	2.167	2.288	2.409	2.491	2.533	2.576	2.622	2.668	2.713	2.759	2.805
32	2.115	2.429	2.630	2.830	2.989	3.147	3.253	3.309	3.365	3.424	3.484	3.544	3.604	3.664
36	2.677	3.074	3.328	3.582	3.782	3.982	4.118	4.188	4.258	4.334	4.410	4.485	4.561	4.637
40	3.304	3.795	4.109	4.423	4.670	4.917	5.084	5.170	5.257	5.351	5.444	5.537	5.631	5.724

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.318	0.365	0.395	0.425	0.449	0.473	0.489	0.497	0.505	0.514	0.523	0.532	0.541	0.550
24	0.458	0.525	0.569	0.612	0.647	0.681	0.704	0.716	0.728	0.741	0.754	0.767	0.780	0.793
28	0.623	0.715	0.774	0.833	0.880	0.927	0.958	0.974	0.991	1.008	1.026	1.044	1.061	1.079
32	0.813	0.934	1.011	1.089	1.149	1.210	1.251	1.273	1.294	1.317	1.340	1.363	1.386	1.409
36	1.029	1.182	1.280	1.378	1.455	1.532	1.584	1.611	1.638	1.667	1.696	1.725	1.754	1.783
40	1.271	1.460	1.580	1.701	1.796	1.891	1.955	1.989	2.022	2.058	2.094	2.130	2.166	2.202

2.5m Bay x 1.3m (5) Width

(Town, Debris, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.625	0.765	0.867	0.968	1.048	1.128	1.183	1.213	1.242	1.277	1.311	1.345	1.379	1.413
24	0.899	1.102	1.248	1.394	1.509	1.624	1.703	1.746	1.789	1.838	1.887	1.936	1.985	2.034
28	1.224	1.500	1.699	1.898	2.054	2.210	2.318	2.377	2.435	2.502	2.569	2.636	2.702	2.769
32	1.599	1.959	2.219	2.479	2.683	2.887	3.028	3.104	3.181	3.268	3.355	3.442	3.530	3.617
36	2.024	2.480	2.808	3.137	3.395	3.654	3.832	3.929	4.026	4.136	4.246	4.357	4.467	4.578
40	2.498	3.062	3.467	3.873	4.192	4.511	4.730	4.850	4.970	5.106	5.242	5.379	5.515	5.651

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.236	0.289	0.328	0.366	0.398	0.428	0.447	0.458	0.470	0.483	0.495	0.508	0.521	0.534
24	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.676	0.695	0.713	0.732	0.751	0.769
28	0.463	0.567	0.642	0.717	0.777	0.836	0.876	0.898	0.921	0.946	0.971	0.996	1.022	1.047
32	0.604	0.741	0.839	0.937	1.014	1.091	1.145	1.174	1.202	1.235	1.268	1.301	1.334	1.367
36	0.765	0.938	1.062	1.186	1.284	1.381	1.449	1.485	1.522	1.564	1.605	1.647	1.689	1.731
40	0.944	1.157	1.311	1.464	1.585	1.705	1.788	1.834	1.879	1.930	1.982	2.033	2.085	2.136

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.627	0.769	0.870	0.972	1.052	1.132	1.187	1.217	1.248	1.282	1.316	1.350	1.384	1.419
24	0.903	1.107	1.253	1.400	1.515	1.631	1.710	1.753	1.796	1.846	1.895	1.944	1.993	2.043
28	1.229	1.506	1.706	1.905	2.062	2.219	2.327	2.386	2.445	2.512	2.579	2.646	2.713	2.780
32	1.605	1.967	2.228	2.489	2.694	2.899	3.040	3.117	3.194	3.281	3.369	3.456	3.544	3.632
36	2.032	2.490	2.820	3.150	3.409	3.669	3.847	3.945	4.042	4.153	4.264	4.374	4.485	4.596
40	2.508	3.074	3.481	3.889	4.209	4.529	4.750	4.870	4.990	5.127	5.264	5.401	5.537	5.674

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.241	0.296	0.335	0.374	0.405	0.436	0.457	0.468	0.480	0.493	0.506	0.519	0.532	0.546
24	0.347	0.426	0.482	0.538	0.583	0.627	0.658	0.674	0.691	0.710	0.729	0.748	0.767	0.786
28	0.473	0.579	0.656	0.733	0.793	0.854	0.895	0.918	0.940	0.966	0.992	1.018	1.044	1.069
32	0.617	0.757	0.857	0.957	1.036	1.115	1.169	1.199	1.228	1.262	1.296	1.329	1.363	1.397
36	0.781	0.958	1.085	1.211	1.311	1.411	1.480	1.517	1.555	1.597	1.640	1.682	1.725	1.768
40	0.965	1.182	1.339	1.496	1.619	1.742	1.827	1.873	1.919	1.972	2.025	2.077	2.130	2.182

LC3 2.5m Bay x 1.3m (5) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	5
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.302	-11.735	-12.149	-12.563	-12.976	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	12
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.259	4.085	3.906	3.727	3.548	3.368	3.189	7
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	4
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	5
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.936	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	11
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	6
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	4
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.175	-2.454	-2.735	-3.017	-3.298	2

LC3 2.5m Bay x 1.3m (5) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	2
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.545	-12.149	-12.755	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	13
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	8
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	3

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	3
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	2
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0
36	-1.748	-4.930	-7.221	-9.511	-11.315	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	12
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	7
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	5
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3

LC4 2.5m Bay x 1.3m (S) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	4
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2
28	1.162	-0.300	-1.564	-2.827	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.322	-11.735	-12.149	-12.563	-12.976	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	11
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	6
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	3
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	4
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.938	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	10
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	5
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	3
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.173	-2.454	-2.735	-3.017	-3.298	2

LC4 2.5m Bay x 1.3m (S) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	0
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.012	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	11
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	7
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	4
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	3

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	3
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	0
32	1.213	-1.302	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	11
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	6
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	4
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.2	12.36
B	0.46	14.17
D	1.2	12.36
E	0.47	13.92

(Country, Unclad, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.154	0.177	0.191	0.206	0.217	0.229	0.237	0.241	0.245	0.249	0.253	0.258	0.262	0.267
24	0.222	0.254	0.275	0.297	0.313	0.330	0.341	0.347	0.352	0.359	0.365	0.371	0.378	0.384
28	0.302	0.346	0.375	0.404	0.426	0.449	0.464	0.472	0.480	0.488	0.497	0.505	0.514	0.522
32	0.394	0.452	0.490	0.527	0.557	0.586	0.606	0.616	0.627	0.638	0.649	0.660	0.671	0.682
36	0.498	0.572	0.620	0.667	0.704	0.742	0.767	0.780	0.793	0.807	0.821	0.835	0.849	0.864
40	0.615	0.707	0.765	0.824	0.870	0.916	0.947	0.963	0.979	0.996	1.014	1.031	1.049	1.066

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.157	0.181	0.195	0.210	0.222	0.234	0.242	0.246	0.250	0.255	0.259	0.263	0.268	0.272
24	0.226	0.260	0.281	0.303	0.320	0.337	0.348	0.354	0.360	0.367	0.373	0.379	0.386	0.392
28	0.308	0.354	0.383	0.412	0.435	0.458	0.474	0.482	0.490	0.499	0.508	0.516	0.525	0.534
32	0.402	0.462	0.500	0.539	0.569	0.599	0.619	0.630	0.640	0.652	0.663	0.674	0.686	0.697
36	0.509	0.585	0.633	0.682	0.720	0.758	0.784	0.797	0.810	0.825	0.839	0.853	0.868	0.882
40	0.629	0.722	0.782	0.842	0.889	0.936	0.967	0.984	1.000	1.018	1.036	1.054	1.071	1.089

2.5m Bay x 1.3m (5) Width

(Town, Unclad, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{sc}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.117	0.143	0.162	0.181	0.198	0.211	0.221	0.227	0.232	0.239	0.245	0.251	0.258	0.264
24	0.168	0.206	0.233	0.261	0.282	0.304	0.318	0.326	0.335	0.344	0.353	0.363	0.371	0.380
28	0.229	0.281	0.318	0.355	0.384	0.413	0.433	0.444	0.455	0.468	0.480	0.493	0.505	0.518
32	0.299	0.366	0.415	0.463	0.502	0.540	0.566	0.580	0.595	0.611	0.627	0.644	0.660	0.676
36	0.378	0.464	0.525	0.587	0.635	0.683	0.716	0.735	0.753	0.773	0.794	0.815	0.835	0.856
40	0.467	0.573	0.648	0.724	0.784	0.844	0.885	0.907	0.929	0.955	0.980	1.006	1.031	1.057

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.606	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.119	0.146	0.166	0.185	0.200	0.215	0.226	0.232	0.237	0.244	0.250	0.257	0.263	0.270
24	0.172	0.211	0.238	0.266	0.288	0.310	0.325	0.334	0.342	0.351	0.361	0.370	0.379	0.389
28	0.234	0.287	0.325	0.363	0.392	0.422	0.443	0.454	0.465	0.478	0.491	0.504	0.516	0.529
32	0.305	0.374	0.424	0.474	0.513	0.552	0.578	0.593	0.608	0.624	0.641	0.658	0.674	0.691
36	0.387	0.474	0.537	0.599	0.649	0.698	0.732	0.751	0.769	0.790	0.811	0.832	0.853	0.875
40	0.477	0.585	0.662	0.740	0.801	0.862	0.904	0.927	0.950	0.976	1.002	1.028	1.054	1.080

2500 Bay Omega Transom

LC3 2.5m Bay x 1.3m (5) Width (Country, Unclad, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	12

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	15
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	11

LC3 2.5m Bay x 1.3m (5) Width (Town, Unclad, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	12

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	15
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	12

LC4 2.5m Bay x 1.3m (S) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	9
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	2
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	14
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	10

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	9
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	5
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	2
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	0
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	14
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	10

LC4 2.5m Bay x 1.3m (S) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	10
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	11

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	10
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	6
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	2
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	14
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	11

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	5.1	12.36
B	1.86	14.17
D	5.11	12.36
E	1.9	13.92

(Country, Sheeted, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.204	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.706	1.959	2.121	2.283	2.410	2.538	2.624	2.669	2.714	2.762	2.810	2.858	2.907	2.955
24	2.458	2.821	3.054	3.287	3.471	3.655	3.775	3.843	3.908	3.977	4.047	4.116	4.186	4.255
28	3.343	3.840	4.157	4.475	4.724	4.974	5.143	5.231	5.319	5.413	5.508	5.602	5.697	5.792
32	4.367	5.015	5.430	5.844	6.171	6.497	6.718	6.832	6.947	7.071	7.196	7.318	7.441	7.565
36	5.527	6.347	6.872	7.397	7.810	8.223	8.502	8.647	8.792	8.949	9.105	9.261	9.418	9.574
40	6.823	7.836	8.484	9.132	9.642	10.152	10.496	10.676	10.855	11.048	11.241	11.434	11.627	11.820

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.622	0.714	0.774	0.833	0.879	0.926	0.957	0.973	0.990	1.007	1.025	1.042	1.060	1.078
24	0.896	1.029	1.114	1.199	1.266	1.333	1.378	1.402	1.425	1.450	1.476	1.501	1.527	1.552
28	1.219	1.400	1.516	1.632	1.723	1.814	1.876	1.908	1.940	1.974	2.009	2.043	2.078	2.112
32	1.593	1.829	1.980	2.131	2.250	2.370	2.450	2.492	2.534	2.579	2.624	2.669	2.714	2.759
36	2.016	2.315	2.506	2.698	2.848	2.999	3.101	3.154	3.207	3.264	3.321	3.378	3.435	3.492
40	2.488	2.858	3.094	3.330	3.516	3.702	3.828	3.893	3.959	4.029	4.100	4.170	4.240	4.311

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.709	1.963	2.125	2.287	2.415	2.543	2.629	2.674	2.719	2.767	2.816	2.864	2.912	2.961
24	2.461	2.827	3.060	3.294	3.478	3.662	3.786	3.851	3.915	3.985	4.055	4.124	4.194	4.263
28	3.350	3.847	4.165	4.483	4.734	4.984	5.153	5.241	5.329	5.424	5.519	5.613	5.708	5.803
32	4.375	5.025	5.440	5.854	6.183	6.510	6.731	6.846	6.961	7.084	7.208	7.332	7.456	7.579
36	5.537	6.360	6.885	7.411	7.825	8.239	8.519	8.664	8.810	8.966	9.123	9.279	9.436	9.593
40	6.836	7.851	8.501	9.150	9.661	10.172	10.517	10.694	10.874	11.069	11.263	11.456	11.649	11.843

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.635	0.730	0.790	0.851	0.898	0.946	0.978	0.994	1.011	1.029	1.047	1.065	1.083	1.101
24	0.915	1.051	1.138	1.225	1.293	1.362	1.408	1.432	1.456	1.482	1.508	1.533	1.559	1.585
28	1.246	1.430	1.549	1.667	1.760	1.853	1.916	1.949	1.982	2.017	2.052	2.087	2.122	2.158
32	1.627	1.868	2.023	2.177	2.299	2.420	2.503	2.545	2.588	2.634	2.680	2.726	2.772	2.818
36	2.059	2.365	2.560	2.756	2.910	3.063	3.167	3.221	3.276	3.334	3.392	3.450	3.508	3.567
40	2.542	2.919	3.161	3.402	3.592	3.782	3.910	3.977	4.044	4.116	4.188	4.260	4.331	4.403

2.5m Bay x 1.3m (5) Width

(Town, Sheeted, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.240	2.297

Tie Pattern A — Max Mmt coefficient= 5.1

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.295	1.587	1.797	2.007	2.173	2.338	2.452	2.514	2.576	2.646	2.717	2.788	2.858	2.929
24	1.865	2.283	2.588	2.890	3.129	3.367	3.531	3.620	3.709	3.811	3.913	4.014	4.116	4.218
28	2.538	3.110	3.522	3.934	4.258	4.583	4.805	4.927	5.049	5.187	5.326	5.464	5.602	5.741
32	3.315	4.062	4.600	5.139	5.562	5.985	6.277	6.435	6.594	6.775	6.956	7.137	7.318	7.498
36	4.195	5.141	5.822	6.504	7.039	7.575	7.944	8.145	8.346	8.575	8.803	9.032	9.261	9.490
40	5.179	6.347	7.188	8.029	8.691	9.352	9.807	10.055	10.303	10.586	10.868	11.151	11.434	11.716

Tie Pattern B — Max Mmt coefficient= 1.86

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.472	0.579	0.655	0.732	0.792	0.853	0.894	0.917	0.939	0.965	0.991	1.017	1.042	1.068
24	0.680	0.833	0.944	1.054	1.141	1.228	1.288	1.320	1.353	1.390	1.427	1.464	1.501	1.538
28	0.926	1.134	1.285	1.435	1.553	1.671	1.753	1.797	1.841	1.892	1.942	1.993	2.043	2.094
32	1.209	1.482	1.678	1.874	2.028	2.183	2.289	2.347	2.405	2.471	2.537	2.603	2.669	2.735
36	1.530	1.873	2.123	2.372	2.567	2.763	2.897	2.970	3.044	3.127	3.211	3.294	3.378	3.461
40	1.889	2.315	2.622	2.928	3.170	3.411	3.577	3.667	3.758	3.861	3.964	4.067	4.170	4.273

Tie Pattern D — Max Mmt coefficient= 5.11

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.297	1.590	1.801	2.011	2.177	2.343	2.457	2.519	2.581	2.652	2.722	2.793	2.864	2.935
24	1.868	2.290	2.593	2.896	3.135	3.373	3.537	3.627	3.716	3.818	3.920	4.022	4.124	4.226
28	2.543	3.116	3.529	3.942	4.267	4.592	4.815	4.937	5.059	5.197	5.336	5.475	5.613	5.752
32	3.321	4.070	4.609	5.149	5.573	5.997	6.289	6.448	6.607	6.788	6.969	7.151	7.332	7.513
36	4.203	5.151	5.834	6.516	7.053	7.590	7.959	8.161	8.362	8.591	8.821	9.050	9.279	9.509
40	5.189	6.360	7.202	8.045	8.708	9.371	9.826	10.075	10.324	10.607	10.890	11.173	11.456	11.739

Tie Pattern E — Max Mmt coefficient= 1.9

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.482	0.591	0.669	0.748	0.809	0.871	0.913	0.937	0.960	0.986	1.012	1.039	1.065	1.091
24	0.695	0.851	0.964	1.077	1.166	1.254	1.315	1.349	1.382	1.420	1.458	1.496	1.533	1.571
28	0.945	1.159	1.312	1.466	1.586	1.707	1.790	1.836	1.881	1.932	1.984	2.036	2.087	2.139
32	1.235	1.513	1.714	1.914	2.072	2.230	2.338	2.397	2.457	2.524	2.591	2.659	2.726	2.794
36	1.563	1.913	2.169	2.423	2.623	2.822	2.959	3.034	3.109	3.194	3.278	3.363	3.450	3.536
40	1.930	2.363	2.678	2.991	3.238	3.484	3.654	3.744	3.838	3.944	4.049	4.154	4.260	4.365

LC3 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.823	-8.158	0	0
24	-4.696	-7.228	-8.848	-10.467	-11.742	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.132	-60.525	-61.769	-63.013	-64.353	-65.693	-67.033	-68.373	-69.713	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	12	12
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	6	6
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	3	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.716	-7.073	-7.434	-7.792	0	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.492	-1.270	-2.397	-3.525	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0	0
28	-10.900	-14.354	-16.563	-18.771	-20.519	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0	0
40	-35.110	-42.159	-46.666	-51.173	-54.722	-58.270	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	11	11
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	5	5
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.273	-11.696	-12.151	-12.606	-13.062	-13.517	-13.973	0	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0	0

LC3 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.665	-5.095	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	2	2
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0	0
32	-10.657	-15.848	-19.585	-23.321	-26.262	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.800	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.033	-68.995	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	13	12
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	7	7
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.096	-2.498	4	4
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.073	-7.600	2	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.477	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0	0
40	-0.867	-4.258	-6.700	-9.141	-11.042	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	2	2
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.525	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.223	-67.189	-69.155	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	12	12
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	6	6
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	4	4
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.366	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0	0

LC4 2.5m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	0.516	-1.243	-2.368	-3.492	-4.378	-5.263	-5.861	-6.172	-6.483	-6.818	-7.153	-7.488	-7.822	-8.158	0	0
24	-4.696	-7.228	-8.848	-10.467	-11.745	-13.017	-13.878	-14.326	-14.774	-15.257	-15.739	-16.221	-16.704	-17.186	0	0
28	-10.855	-14.302	-16.506	-18.710	-20.446	-22.181	-23.353	-23.963	-24.573	-25.229	-25.886	-26.543	-27.199	-27.856	0	0
32	-17.961	-22.464	-25.343	-28.222	-30.488	-32.755	-34.286	-35.082	-35.879	-36.736	-37.594	-38.451	-39.309	-40.167	0	0
36	-26.016	-31.714	-35.358	-39.001	-41.870	-44.738	-46.676	-47.684	-48.692	-49.778	-50.863	-51.948	-53.034	-54.119	0	0
40	-35.017	-42.052	-46.551	-51.049	-54.590	-58.130	-60.529	-61.769	-63.013	-64.353	-65.693	-67.035	-68.374	-69.713	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.218	8.482	8.012	7.542	7.172	6.802	6.552	6.421	6.291	6.151	6.011	5.871	5.731	5.591	11	11
24	7.039	5.980	5.303	4.626	4.093	3.560	3.199	3.012	2.825	2.623	2.421	2.220	2.018	1.816	5	5
28	4.464	3.022	2.101	1.179	0.454	-0.272	-0.762	-1.017	-1.272	-1.547	-1.821	-2.096	-2.370	-2.645	2	2
32	1.492	-0.390	-1.594	-2.798	-3.745	-4.693	-5.333	-5.666	-5.999	-6.358	-6.718	-7.075	-7.434	-7.792	0	0
36	-1.875	-4.258	-5.781	-7.305	-8.504	-9.704	-10.514	-10.935	-11.357	-11.811	-12.264	-12.718	-13.172	-13.626	0	0
40	-5.639	-8.580	-10.461	-12.342	-13.823	-15.304	-16.304	-16.824	-17.344	-17.905	-18.465	-19.025	-19.585	-20.146	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	0.492	-1.270	-2.397	-3.523	-4.410	-5.297	-5.897	-6.209	-6.520	-6.856	-7.191	-7.527	-7.863	-8.198	0	0
24	-4.729	-7.267	-8.889	-10.512	-11.789	-13.067	-13.930	-14.379	-14.827	-15.311	-15.794	-16.277	-16.761	-17.244	0	0
28	-10.900	-14.354	-16.563	-18.771	-20.518	-22.249	-23.423	-24.034	-24.645	-25.303	-25.961	-26.619	-27.277	-27.935	0	0
32	-18.021	-22.532	-25.417	-28.301	-30.572	-32.843	-34.378	-35.175	-35.973	-36.833	-37.692	-38.551	-39.410	-40.270	0	0
36	-26.091	-31.800	-35.451	-39.102	-41.976	-44.850	-46.792	-47.802	-48.812	-49.899	-50.987	-52.074	-53.162	-54.249	0	0
40	-35.110	-42.159	-46.666	-51.175	-54.725	-58.277	-60.667	-61.914	-63.161	-64.503	-65.846	-67.189	-68.531	-69.874	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.950	8.213	7.741	7.269	6.897	6.526	6.275	6.144	6.014	5.873	5.733	5.592	5.452	5.311	11	10
24	6.764	5.701	5.022	4.342	3.807	3.273	2.911	2.723	2.535	2.333	2.130	1.928	1.726	1.523	5	5
28	4.180	2.733	1.809	0.884	0.156	-0.572	-1.064	-1.320	-1.576	-1.851	-2.127	-2.402	-2.678	-2.953	2	2
32	1.198	-0.691	-1.899	-3.107	-4.058	-5.009	-5.651	-5.985	-6.320	-6.679	-7.039	-7.399	-7.759	-8.119	0	0
36	-2.181	-4.572	-6.101	-7.630	-8.833	-10.037	-10.850	-11.273	-11.696	-12.151	-12.606	-13.060	-13.517	-13.973	0	0
40	-5.958	-8.910	-10.797	-12.685	-14.170	-15.656	-16.660	-17.182	-17.704	-18.266	-18.829	-19.391	-19.953	-20.515	0	0

LC4 2.5m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	3.369	1.341	-0.118	-1.578	-2.727	-3.875	-4.662	-5.092	-5.526	-6.017	-6.507	-6.998	-7.488	-7.979	2	2
24	-0.587	-3.507	-5.609	-7.711	-9.365	-11.019	-12.156	-12.776	-13.396	-14.102	-14.809	-15.515	-16.221	-16.928	0	0
28	-5.262	-9.237	-12.098	-14.959	-17.210	-19.461	-21.008	-21.853	-22.697	-23.658	-24.620	-25.581	-26.543	-27.504	0	0
32	-10.657	-15.848	-19.585	-23.321	-26.242	-29.202	-31.223	-32.326	-33.429	-34.684	-35.940	-37.196	-38.451	-39.707	0	0
36	-16.771	-23.341	-28.070	-32.799	-36.520	-40.242	-42.802	-44.196	-45.591	-47.180	-48.770	-50.359	-51.948	-53.538	0	0
40	-23.604	-31.715	-37.554	-43.392	-47.986	-52.580	-55.739	-57.462	-59.185	-61.147	-63.109	-65.071	-67.035	-68.999	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.411	9.563	8.953	8.342	7.862	7.382	7.052	6.872	6.692	6.486	6.281	6.076	5.871	5.666	12	12
24	8.757	7.536	6.657	5.778	5.087	4.395	3.920	3.660	3.401	3.106	2.810	2.515	2.220	1.924	6	6
28	6.802	5.140	3.944	2.748	1.807	0.865	0.218	-0.135	-0.488	-0.890	-1.292	-1.694	-2.098	-2.498	4	4
32	4.546	2.376	0.813	-0.749	-1.978	-3.208	-4.053	-4.514	-4.975	-5.500	-6.025	-6.550	-7.075	-7.600	2	2
36	1.990	-0.757	-2.734	-4.712	-6.268	-7.823	-8.893	-9.472	-10.060	-10.725	-11.389	-12.054	-12.718	-13.383	0	0
40	-0.867	-4.258	-6.700	-9.141	-11.062	-12.982	-14.303	-15.023	-15.744	-16.564	-17.384	-18.205	-19.025	-19.846	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	3.351	1.320	-0.143	-1.605	-2.756	-3.907	-4.698	-5.130	-5.561	-6.053	-6.544	-7.036	-7.527	-8.019	2	2
24	-0.612	-3.538	-5.644	-7.750	-9.407	-11.064	-12.204	-12.825	-13.447	-14.154	-14.862	-15.570	-16.277	-16.985	0	0
28	-5.297	-9.279	-12.146	-15.012	-17.268	-19.523	-21.074	-21.920	-22.766	-23.729	-24.692	-25.655	-26.619	-27.582	0	0
32	-10.702	-15.903	-19.647	-23.391	-26.337	-29.283	-31.309	-32.414	-33.518	-34.776	-36.035	-37.293	-38.551	-39.809	0	0
36	-16.828	-23.411	-28.149	-32.888	-36.616	-40.345	-42.908	-44.306	-45.705	-47.297	-48.890	-50.482	-52.074	-53.667	0	0
40	-23.674	-31.802	-37.652	-43.501	-48.105	-52.708	-55.872	-57.599	-59.325	-61.291	-63.257	-65.225	-67.189	-69.155	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.148	9.297	8.684	8.072	7.590	7.108	6.777	6.596	6.416	6.210	6.004	5.798	5.592	5.386	11	11
24	8.488	7.263	6.381	5.499	4.805	4.111	3.634	3.374	3.114	2.817	2.521	2.224	1.928	1.632	6	6
28	6.526	4.859	3.658	2.458	1.513	0.569	-0.080	-0.435	-0.789	-1.192	-1.596	-1.999	-2.402	-2.806	4	3
32	4.263	2.085	0.517	-1.051	-2.284	-3.518	-4.368	-4.829	-5.291	-5.818	-6.345	-6.872	-7.399	-7.926	2	2
36	1.698	-1.059	-3.043	-5.027	-6.589	-8.150	-9.224	-9.809	-10.395	-11.061	-11.728	-12.395	-13.062	-13.729	0	0
40	-1.169	-4.573	-7.022	-9.472	-11.399	-13.327	-14.652	-15.375	-16.098	-16.921	-17.744	-18.568	-19.391	-20.214	0	0

2.5m Bay x 1.3m (S) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	2.46	12.36
		B	0.93	14.17
LC3	1.78	D	2.47	12.36
LC4	1.78	E	0.95	13.92

(Country, Debris, 0&1, F&P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{min} C_{ea}		1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.099	3.15	3.206	3.262	3.318	3.374	3.43
	20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
	24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
	28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
	32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
	36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
	40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.853	0.945	1.023	1.101	1.163	1.224	1.266	1.287	1.309	1.332	1.355	1.379	1.402	1.425
	24	1.185	1.361	1.473	1.586	1.674	1.763	1.823	1.854	1.885	1.918	1.952	1.985	2.019	2.052
	28	1.613	1.852	2.005	2.158	2.279	2.399	2.481	2.523	2.566	2.611	2.657	2.702	2.748	2.794
	32	2.106	2.419	2.619	2.819	2.976	3.134	3.240	3.294	3.351	3.410	3.470	3.530	3.589	3.649
	36	2.666	3.062	3.315	3.568	3.767	3.966	4.101	4.171	4.241	4.316	4.392	4.467	4.543	4.618
	40	3.291	3.780	4.092	4.405	4.651	4.897	5.063	5.149	5.236	5.329	5.422	5.515	5.608	5.701

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.311	0.357	0.387	0.416	0.440	0.463	0.479	0.487	0.495	0.504	0.512	0.521	0.530	0.539
	24	0.448	0.514	0.557	0.599	0.633	0.666	0.689	0.701	0.713	0.725	0.738	0.751	0.763	0.776
	28	0.610	0.700	0.758	0.816	0.862	0.907	0.938	0.954	0.970	0.987	1.004	1.022	1.039	1.056
	32	0.796	0.915	0.990	1.066	1.125	1.185	1.225	1.244	1.265	1.289	1.312	1.336	1.359	1.379
	36	1.008	1.157	1.253	1.349	1.424	1.499	1.550	1.577	1.603	1.632	1.660	1.689	1.717	1.746
	40	1.244	1.429	1.547	1.665	1.758	1.851	1.914	1.947	1.979	2.015	2.050	2.085	2.120	2.155

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.826	0.949	1.027	1.106	1.167	1.229	1.271	1.293	1.314	1.338	1.361	1.384	1.408	1.431
	24	1.190	1.366	1.479	1.592	1.681	1.770	1.830	1.861	1.893	1.926	1.960	1.993	2.027	2.061
	28	1.619	1.860	2.013	2.167	2.288	2.409	2.491	2.533	2.578	2.622	2.668	2.713	2.759	2.805
	32	2.115	2.429	2.630	2.830	2.989	3.147	3.253	3.309	3.365	3.424	3.484	3.544	3.604	3.664
	36	2.677	3.074	3.328	3.582	3.782	3.982	4.118	4.188	4.258	4.334	4.410	4.485	4.561	4.637
	40	3.304	3.795	4.109	4.423	4.670	4.917	5.084	5.170	5.257	5.351	5.444	5.537	5.631	5.724

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.318	0.363	0.395	0.425	0.449	0.473	0.489	0.497	0.505	0.514	0.523	0.532	0.541	0.550
	24	0.458	0.525	0.569	0.612	0.647	0.681	0.704	0.716	0.728	0.741	0.754	0.767	0.780	0.793
	28	0.623	0.715	0.774	0.833	0.880	0.927	0.958	0.974	0.991	1.008	1.026	1.044	1.061	1.079
	32	0.813	0.934	1.011	1.089	1.149	1.210	1.251	1.273	1.294	1.317	1.340	1.363	1.386	1.409
	36	1.029	1.182	1.280	1.378	1.455	1.532	1.584	1.611	1.638	1.667	1.696	1.725	1.754	1.783
	40	1.271	1.460	1.580	1.701	1.796	1.891	1.955	1.989	2.022	2.058	2.094	2.130	2.166	2.202

2.5m Bay x 1.3m (S) Width

(Town, Debris, 0&1, F&P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{min} C_{ea}		1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
	20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.506	0.519	0.533	0.547	0.560	0.574
	24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
	28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
	32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
	36	0.825	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
	40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.021	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 2.46

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.625	0.765	0.867	0.968	1.048	1.128	1.183	1.213	1.242	1.277	1.311	1.345	1.379	1.413
	24	0.899	1.100	1.248	1.394	1.509	1.624	1.703	1.746	1.789	1.838	1.887	1.936	1.985	2.034
	28	1.224	1.500	1.699	1.898	2.054	2.210	2.318	2.377	2.435	2.502	2.569	2.636	2.702	2.769
	32	1.599	1.959	2.219	2.479	2.683	2.887	3.028	3.104	3.181	3.268	3.355	3.442	3.530	3.617
	36	2.024	2.480	2.808	3.137	3.395	3.654	3.832	3.929	4.026	4.136	4.246	4.357	4.467	4.578
	40	2.498	3.060	3.467	3.873	4.192	4.511	4.730	4.850	4.970	5.106	5.242	5.379	5.515	5.651

Tie Pattern B — Max Mmt coefficient= 0.93

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.236	0.289	0.328	0.366	0.396	0.426	0.447	0.458	0.470	0.483	0.495	0.508	0.521	0.534
	24	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.676	0.695	0.713	0.732	0.751	0.769
	28	0.463	0.567	0.642	0.717	0.777	0.836	0.876	0.898	0.921	0.946	0.971	0.996	1.022	1.047
	32	0.604	0.741	0.839	0.937	1.014	1.091	1.145	1.174	1.202	1.235	1.268	1.301	1.334	1.367
	36	0.765	0.938	1.062	1.186	1.284	1.381	1.449	1.485	1.522	1.564	1.605	1.647	1.689	1.731
	40	0.944	1.157	1.311	1.464	1.585	1.705	1.788	1.834	1.879	1.930	1.982	2.033	2.085	2.136

Tie Pattern D — Max Mmt coefficient= 2.47

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.627	0.769	0.870	0.972	1.052	1.132	1.187	1.217	1.248	1.282	1.316	1.350	1.384	1.419
	24	0.903	1.107	1.253	1.400	1.515	1.631	1.710	1.753	1.796	1.846	1.895	1.944	1.993	2.043
	28	1.229	1.506	1.706	1.905	2.062	2.219	2.327	2.386	2.445	2.512	2.579	2.646	2.713	2.780
	32	1.602	1.967	2.228	2.489	2.694	2.899	3.040	3.117	3.194	3.281	3.369	3.456	3.544	3.632
	36	2.035	2.490	2.820	3.150	3.409	3.669	3.847	3.945	4.042	4.153	4.264	4.374	4.485	4.596
	40	2.508	3.074	3.481	3.889	4.209	4.529	4.750	4.870	4.990	5.127	5.264	5.401	5.537	5.674

Tie Pattern E — Max Mmt coefficient= 0.95

Height, m		4	6	8	10	12	14	16	18	20	22	24	26	28	30
S															
	20	0.241	0.296	0.335	0.374	0.405	0.436	0.457	0.468	0.480	0.493	0.506129842	0.519288574	0.5324473	0.545606044
	24	0.347	0.426	0.482	0.538	0.583	0.627	0.658	0.674	0.691	0.710	0.728826973	0.74777555	0.766724127	0.785672704
	28	0.473	0.579	0.656	0.733	0.793	0.854	0.895	0.918	0.940	0.966	0.992014491	1.01780561	1.043596728	1.069387847
	32	0.617	0.757	0.857	0.957	1.036	1.115	1.169	1.199	1.228	1.262	1.295692396	1.329378754	1.363065115	1.396751474
	36	0.781	0.958	1.085	1.211	1.311	1.411	1.480	1.517	1.555	1.597	1.639860689	1.682494987	1.725129286	1.767763584
	40	0.965	1.182	1.339	1.496	1.619	1.742	1.827	1.873	1.919	1.972	2.024519369	2.077154304	2.129789242	2.182424178

LC3 2.5m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	6	6
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.161	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.524	-10.908	-11.322	-11.735	-12.149	-12.563	-12.976	0	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.182	-16.116	-16.683	-17.089	-17.612	-18.135	-18.659	-19.183	-19.706	0	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	12	12
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	7	7
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	4	4
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.307	-1.581	-1.867	-2.147	-2.428	-2.708	-2.988	2	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	6	6
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2	2
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.936	-5.232	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0	0
32	-2.325	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.795	-25.446	-26.097	-26.748	-27.399	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	11.435	11.066	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	12	12
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	7	7
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	4	4
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.893	-2.173	-2.454	-2.735	-3.017	-3.298	2	2

LC3 2.5m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	7	7
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	4	4
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.405	-6.868	2	2
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	13	13
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	9	8
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.347	2.055	1.723	1.390	1.058	0.726	0.394	6	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	4	4

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.006	7.033	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	7	7
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	4	4
28	3.825	1.900	0.515	-0.871	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	2	2
32	1.213	-1.369	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.476	-17.246	-18.016	-18.785	-19.555	0	0
40	-5.058	-8.988	-11.841	-14.642	-16.867	-19.092	-20.621	-21.454	-22.287	-23.240	-24.193	-25.147	-26.091	-27.041	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.756	9.653	15	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.647	8.517	8.369	8.220	8.072	7.924	7.776	15	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	12	12
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	8	8
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	5	5
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.364	-0.738	-1.089	-1.501	-1.913	-2.324	-2.736	-3.147	4	4

LC4 2.5m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.647	5.799	5.256	4.714	4.287	3.860	3.571	3.421	3.271	3.109	2.948	2.786	2.625	2.463	6	5
24	4.133	2.911	2.130	1.349	0.734	0.119	-0.296	-0.512	-0.728	-0.961	-1.194	-1.426	-1.659	-1.892	2	2
28	1.162	-0.500	-1.564	-2.627	-3.464	-4.301	-4.866	-5.183	-5.455	-5.771	-6.088	-6.405	-6.721	-7.038	0	0
32	-2.266	-4.437	-5.826	-7.215	-8.308	-9.401	-10.140	-10.559	-10.958	-11.322	-11.735	-12.149	-12.563	-12.976	0	0
36	-6.151	-8.899	-10.657	-12.414	-13.798	-15.180	-16.116	-16.603	-17.089	-17.612	-18.136	-18.659	-19.183	-19.706	0	0
40	-10.493	-13.886	-16.056	-18.226	-19.934	-21.642	-22.796	-23.396	-23.996	-24.643	-25.289	-25.935	-26.582	-27.228	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	11.694	11.326	11.091	10.856	10.671	10.486	10.361	10.296	10.231	10.161	10.091	10.021	9.951	9.881	15	15
24	10.604	10.075	9.736	9.398	9.131	8.865	8.685	8.591	8.497	8.397	8.296	8.195	8.094	7.993	15	15
28	9.317	8.596	8.135	7.675	7.312	6.949	6.704	6.576	6.449	6.312	6.174	6.037	5.900	5.763	12	11
32	7.831	6.890	6.288	5.686	5.212	4.738	4.418	4.252	4.085	3.906	3.727	3.548	3.368	3.189	7	7
36	6.147	4.956	4.194	3.433	2.833	2.233	1.828	1.617	1.407	1.180	0.953	0.726	0.499	0.272	4	4
40	4.265	2.795	1.854	0.914	0.174	-0.567	-1.067	-1.327	-1.587	-1.867	-2.147	-2.428	-2.708	-2.988	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.624	5.772	5.227	4.683	4.254	3.825	3.535	3.385	3.234	3.072	2.909	2.747	2.585	2.423	6	5
24	4.100	2.873	2.089	1.304	0.687	0.070	-0.348	-0.565	-0.782	-1.015	-1.249	-1.482	-1.716	-1.950	2	2
28	1.117	-0.553	-1.620	-2.688	-3.528	-4.369	-4.936	-5.239	-5.527	-5.845	-6.163	-6.481	-6.799	-7.117	0	0
32	-2.335	-4.506	-5.900	-7.294	-8.392	-9.490	-10.231	-10.617	-11.003	-11.418	-11.833	-12.249	-12.664	-13.079	0	0
36	-6.226	-8.986	-10.750	-12.515	-13.904	-15.293	-16.232	-16.720	-17.208	-17.734	-18.260	-18.785	-19.311	-19.837	0	0
40	-10.585	-13.993	-16.171	-18.350	-20.065	-21.780	-22.939	-23.542	-24.144	-24.793	-25.442	-26.091	-26.740	-27.389	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	11.435	11.046	10.830	10.594	10.409	10.223	10.097	10.032	9.967	9.897	9.826	9.756	9.686	9.616	15	15
24	10.342	9.811	9.471	9.131	8.864	8.596	8.416	8.322	8.228	8.126	8.025	7.924	7.823	7.722	15	15
28	9.050	8.327	7.864	7.402	7.038	6.674	6.428	6.300	6.172	6.034	5.897	5.759	5.621	5.483	11	11
32	7.559	6.615	6.011	5.407	4.931	4.456	4.134	3.967	3.800	3.620	3.440	3.261	3.081	2.901	6	6
36	5.869	4.674	3.910	3.145	2.543	1.942	1.535	1.324	1.112	0.884	0.657	0.429	0.201	-0.026	4	4
40	3.981	2.505	1.561	0.618	-0.125	-0.868	-1.370	-1.631	-1.892	-2.173	-2.454	-2.735	-3.017	-3.298	2	2

LC4 2.5m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.023	7.045	6.341	5.637	5.083	4.529	4.148	3.940	3.733	3.496	3.259	3.023	2.786	2.550	6	6
24	6.115	4.706	3.693	2.679	1.881	1.083	0.535	0.236	-0.063	-0.404	-0.745	-1.086	-1.426	-1.767	4	3
28	3.860	1.943	0.563	-0.817	-1.903	-2.989	-3.735	-4.143	-4.550	-5.014	-5.477	-5.941	-6.404	-6.868	2	2
32	1.258	-1.246	-3.049	-4.851	-6.269	-7.687	-8.663	-9.194	-9.726	-10.332	-10.938	-11.543	-12.149	-12.755	0	0
36	-1.691	-4.860	-7.142	-9.423	-11.218	-13.013	-14.247	-14.920	-15.593	-16.359	-17.126	-17.893	-18.659	-19.426	0	0
40	-4.987	-8.900	-11.716	-14.532	-16.748	-18.964	-20.488	-21.319	-22.150	-23.096	-24.043	-24.989	-25.935	-26.882	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	12.290	11.866	11.561	11.256	11.016	10.776	10.611	10.521	10.431	10.328	10.226	10.123	10.021	9.918	15	15
24	11.463	10.853	10.413	9.974	9.628	9.283	9.045	8.915	8.786	8.638	8.490	8.343	8.195	8.047	15	15
28	10.486	9.655	9.057	8.459	7.988	7.518	7.194	7.018	6.841	6.640	6.439	6.238	6.037	5.836	12	12
32	9.358	8.273	7.492	6.711	6.096	5.481	5.059	4.828	4.598	4.335	4.073	3.810	3.548	3.285	8	8
36	8.080	6.706	5.718	4.729	3.951	3.173	2.638	2.342	2.055	1.723	1.390	1.058	0.726	0.394	5	5
40	6.652	4.956	3.735	2.515	1.554	0.594	-0.067	-0.427	-0.787	-1.197	-1.607	-2.017	-2.428	-2.838	4	4

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.006	7.023	6.317	5.610	5.053	4.497	4.115	3.906	3.697	3.460	3.222	2.985	2.747	2.510	6	6
24	6.090	4.675	3.657	2.639	1.838	1.037	0.487	0.186	-0.114	-0.456	-0.798	-1.140	-1.482	-1.824	4	3
28	3.825	1.900	0.515	-0.821	-1.961	-3.051	-3.801	-4.210	-4.619	-5.084	-5.550	-6.015	-6.481	-6.947	2	2
32	1.213	-1.300	-3.111	-4.921	-6.345	-7.769	-8.748	-9.282	-9.816	-10.424	-11.032	-11.641	-12.249	-12.857	0	0
36	-1.748	-4.930	-7.221	-9.511	-11.313	-13.116	-14.355	-15.031	-15.707	-16.472	-17.240	-18.007	-18.785	-19.555	0	0
40	-5.058	-8.986	-11.814	-14.642	-16.867	-19.092	-20.621	-21.456	-22.290	-23.240	-24.191	-25.141	-26.091	-27.041	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.034	11.608	11.302	10.996	10.755	10.514	10.348	10.258	10.168	10.065	9.962	9.859	9.754	9.653	15	15
24	11.204	10.591	10.150	9.709	9.362	9.016	8.777	8.642	8.517	8.369	8.220	8.072	7.924	7.776	15	15
28	10.223	9.389	8.789	8.189	7.717	7.244	6.920	6.743	6.566	6.364	6.162	5.961	5.759	5.557	12	11
32	9.091	8.002	7.218	6.435	5.818	5.201	4.777	4.546	4.314	4.051	3.787	3.524	3.261	2.997	7	7
36	7.809	6.430	5.438	4.446	3.666	2.885	2.348	2.055	1.763	1.429	1.096	0.763	0.429	0.096	5	5
40	6.375	4.674	3.449	2.224	1.260	0.296	-0.366	-0.728	-1.089	-1.501	-1.912	-2.324	-2.735	-3.147	3	3

2.5m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.2	12.36
B	0.46	14.17
D	1.2	12.36
E	0.47	13.92

(Country, Uncload, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.513	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.165	2.204	2.242	2.282	2.318

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.154	0.177	0.191	0.206	0.217	0.229	0.237	0.241	0.245	0.249	0.253	0.258	0.262	0.267
24	0.222	0.254	0.275	0.297	0.313	0.330	0.341	0.347	0.352	0.359	0.365	0.371	0.378	0.384
28	0.302	0.346	0.375	0.404	0.426	0.449	0.464	0.472	0.480	0.488	0.497	0.505	0.514	0.522
32	0.394	0.452	0.490	0.527	0.557	0.586	0.606	0.616	0.627	0.638	0.649	0.660	0.671	0.682
36	0.498	0.572	0.620	0.667	0.704	0.742	0.767	0.780	0.793	0.807	0.821	0.835	0.849	0.864
40	0.615	0.707	0.765	0.824	0.870	0.916	0.947	0.963	0.979	0.994	1.014	1.031	1.049	1.066

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.401	0.461	0.499	0.537	0.567	0.597	0.617	0.628	0.639	0.650	0.661	0.673	0.684	0.695
24	0.578	0.664	0.719	0.774	0.817	0.860	0.889	0.904	0.919	0.936	0.952	0.968	0.985	1.001
28	0.787	0.903	0.978	1.053	1.112	1.170	1.210	1.231	1.251	1.274	1.296	1.318	1.340	1.363
32	1.027	1.180	1.278	1.375	1.452	1.529	1.581	1.608	1.635	1.664	1.693	1.722	1.751	1.780
36	1.300	1.493	1.617	1.740	1.838	1.935	2.000	2.035	2.069	2.106	2.142	2.179	2.216	2.253
40	1.605	1.844	1.996	2.149	2.269	2.389	2.470	2.512	2.554	2.599	2.645	2.690	2.736	2.781

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.157	0.181	0.195	0.210	0.222	0.234	0.242	0.246	0.250	0.255	0.259	0.263	0.268	0.272
24	0.226	0.260	0.281	0.303	0.320	0.337	0.348	0.354	0.360	0.367	0.373	0.379	0.386	0.392
28	0.308	0.354	0.383	0.412	0.435	0.458	0.474	0.482	0.490	0.499	0.508	0.516	0.525	0.534
32	0.402	0.462	0.500	0.539	0.569	0.599	0.619	0.630	0.640	0.652	0.663	0.674	0.686	0.697
36	0.509	0.585	0.633	0.682	0.720	0.758	0.784	0.797	0.810	0.825	0.839	0.853	0.868	0.882
40	0.629	0.722	0.782	0.842	0.889	0.936	0.967	0.984	1.000	1.018	1.036	1.054	1.071	1.089

2.5m Bay x 1.3m (5) Width

(Town, Uncload, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.428	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.615	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.815	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.2

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.604	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern B — Max Mmt coefficient= 0.46

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.117	0.143	0.162	0.181	0.196	0.211	0.221	0.227	0.232	0.239	0.245	0.251	0.258	0.264
24	0.168	0.206	0.233	0.261	0.282	0.304	0.318	0.326	0.335	0.344	0.353	0.362	0.371	0.380
28	0.229	0.281	0.318	0.355	0.384	0.413	0.433	0.444	0.455	0.468	0.480	0.493	0.505	0.518
32	0.299	0.368	0.418	0.468	0.502	0.543	0.566	0.580	0.595	0.611	0.627	0.644	0.660	0.676
36	0.378	0.464	0.525	0.587	0.635	0.683	0.716	0.735	0.753	0.773	0.794	0.815	0.835	0.856
40	0.467	0.573	0.648	0.724	0.784	0.844	0.885	0.907	0.929	0.955	0.980	1.006	1.031	1.057

Tie Pattern D — Max Mmt coefficient= 1.2

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.305	0.373	0.423	0.472	0.511	0.550	0.577	0.591	0.604	0.623	0.639	0.656	0.673	0.689
24	0.439	0.538	0.609	0.680	0.736	0.792	0.831	0.852	0.873	0.897	0.921	0.945	0.968	0.992
28	0.597	0.732	0.829	0.926	1.002	1.078	1.131	1.159	1.188	1.220	1.253	1.286	1.318	1.351
32	0.780	0.956	1.082	1.209	1.309	1.408	1.477	1.514	1.552	1.594	1.637	1.679	1.722	1.764
36	0.987	1.210	1.370	1.530	1.656	1.782	1.869	1.916	1.964	2.018	2.071	2.125	2.179	2.233
40	1.219	1.494	1.691	1.889	2.045	2.201	2.308	2.366	2.424	2.491	2.557	2.624	2.690	2.757

Tie Pattern E — Max Mmt coefficient= 0.47

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.119	0.146	0.166	0.185	0.200	0.215	0.226	0.232	0.237	0.244	0.250	0.257	0.263	0.270
24	0.172	0.211	0.238	0.266	0.288	0.310	0.325	0.334	0.342	0.351	0.361	0.370	0.379	0.389
28	0.234	0.287	0.325	0.363	0.392	0.422	0.443	0.454	0.465	0.478	0.491	0.504	0.516	0.529
32	0.305	0.374	0.424	0.474	0.513	0.552	0.578	0.593	0.608	0.624	0.641	0.658	0.674	0.691
36	0.387	0.474	0.537	0.599	0.649	0.698	0.732	0.751	0.769	0.790	0.811	0.832	0.853	0.875
40	0.477	0.585	0.662	0.740	0.801	0.862	0.904	0.927	0.950	0.976	1.002	1.028	1.054	1.080

LC3 2.5m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	11
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	7	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	4	4
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	2
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15	15
32	11.035	10.569	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	12	12

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	11
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	7	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	4	4
34	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	2
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15	15
36	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	15	15
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	12	11

LC3 2.5m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	12
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	8	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	5
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.329	8.178	8.013	7.849	7.685	7.520	7.356	15	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	13	12

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	12	12
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	8	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	5
34	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.069	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15	15
24	12.576	12.273	12.055	11.837	11.665	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	15	15
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	12	12

LC4 2.5m Bay x 1.3m (5) Width (Country, Uncld, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
36	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	2
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.945	12.763	12.647	12.531	12.439	12.348	12.286	12.254	12.222	12.187	12.152	12.118	12.083	12.048	15	15
24	12.406	12.144	11.977	11.810	11.678	11.546	11.457	11.411	11.364	11.314	11.264	11.215	11.165	11.115	15	15
28	11.769	11.413	11.185	10.957	10.778	10.598	10.477	10.414	10.351	10.283	10.215	10.147	10.079	10.012	15	15
32	11.035	10.549	10.271	9.974	9.739	9.505	9.347	9.264	9.182	9.093	9.005	8.916	8.827	8.739	15	15
36	10.202	9.613	9.236	8.859	8.562	8.266	8.065	7.961	7.857	7.745	7.632	7.520	7.408	7.296	15	15
40	9.271	8.544	8.078	7.613	7.247	6.881	6.633	6.505	6.376	6.238	6.099	5.960	5.822	5.683	11	11

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.573	9.159	8.895	8.630	8.422	8.213	8.073	7.999	7.926	7.847	7.769	7.690	7.611	7.532	15	15
24	8.347	7.751	7.370	6.989	6.689	6.389	6.186	6.081	5.975	5.862	5.748	5.635	5.521	5.408	11	10
28	6.898	6.087	5.568	5.049	4.641	4.233	3.957	3.813	3.670	3.515	3.361	3.206	3.052	2.897	6	6
32	5.226	4.166	3.489	2.811	2.278	1.745	1.384	1.197	1.010	0.808	0.606	0.404	0.203	0.001	3	3
34	3.330	1.990	1.132	0.275	-0.400	-1.075	-1.531	-1.768	-2.005	-2.261	-2.516	-2.771	-3.027	-3.282	2	2
40	1.212	-0.443	-1.501	-2.560	-3.393	-4.226	-4.789	-5.082	-5.375	-5.690	-6.005	-6.321	-6.636	-6.951	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.691	12.508	12.391	12.275	12.183	12.091	12.029	11.997	11.964	11.930	11.895	11.860	11.825	11.790	15	15
24	12.150	11.887	11.719	11.551	11.418	11.286	11.197	11.150	11.104	11.054	11.004	10.954	10.904	10.853	15	15
28	11.511	11.153	10.924	10.695	10.515	10.335	10.213	10.150	10.087	10.019	9.951	9.882	9.814	9.746	15	15
32	10.773	10.306	10.007	9.708	9.473	9.238	9.079	8.996	8.913	8.824	8.735	8.646	8.557	8.468	15	15
34	9.937	9.346	8.967	8.589	8.292	7.994	7.793	7.688	7.584	7.471	7.358	7.246	7.133	7.020	14	14
40	9.003	8.273	7.806	7.339	6.971	6.604	6.355	6.226	6.097	5.958	5.819	5.680	5.541	5.402	11	11

LC4 2.5m Bay x 1.3m (5) Width (Town, Uncld, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	11	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.049	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	13.240	13.031	12.880	12.729	12.610	12.491	12.410	12.365	12.320	12.270	12.219	12.168	12.118	12.067	15	15
24	12.831	12.529	12.312	12.095	11.924	11.753	11.635	11.571	11.507	11.434	11.361	11.288	11.215	11.142	15	15
28	12.348	11.937	11.641	11.345	11.112	10.880	10.720	10.632	10.545	10.446	10.346	10.247	10.147	10.048	15	15
32	11.790	11.253	10.867	10.480	10.176	9.872	9.663	9.549	9.435	9.305	9.176	9.046	8.916	8.786	15	15
36	11.158	10.478	9.989	9.500	9.116	8.731	8.466	8.322	8.178	8.013	7.849	7.685	7.520	7.356	15	15
40	10.451	9.612	9.009	8.405	7.930	7.455	7.128	6.950	6.772	6.569	6.366	6.163	5.960	5.758	12	12

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.244	9.767	9.424	9.080	8.810	8.540	8.354	8.253	8.151	8.036	7.921	7.805	7.690	7.574	15	15
24	9.314	8.627	8.132	7.637	7.248	6.859	6.592	6.446	6.300	6.134	5.967	5.801	5.635	5.469	11	11
28	8.214	7.278	6.605	5.932	5.402	4.873	4.509	4.310	4.111	3.885	3.659	3.433	3.206	2.980	7	7
32	6.944	5.723	4.844	3.964	3.273	2.581	2.105	1.846	1.586	1.291	0.995	0.700	0.404	0.109	5	4
36	5.506	3.960	2.847	1.734	0.859	-0.017	-0.619	-0.947	-1.276	-1.649	-2.023	-2.397	-2.771	-3.145	3	3
40	3.898	1.989	0.616	-0.758	-1.839	-2.920	-3.663	-4.049	-4.474	-4.936	-5.397	-5.859	-6.321	-6.782	2	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.987	12.776	12.625	12.473	12.354	12.235	12.153	12.108	12.064	12.013	11.962	11.911	11.860	11.809	15	15
24	12.576	12.273	12.055	11.837	11.663	11.494	11.376	11.311	11.247	11.174	11.100	11.027	10.954	10.880	15	15
28	12.091	11.678	11.382	11.085	10.851	10.617	10.457	10.369	10.282	10.182	10.082	9.982	9.882	9.783	15	15
32	11.531	10.992	10.605	10.217	9.912	9.606	9.397	9.282	9.168	9.037	8.907	8.777	8.646	8.516	15	15
36	10.897	10.215	9.724	9.233	8.847	8.461	8.195	8.050	7.905	7.740	7.575	7.411	7.246	7.081	15	14
40	10.187	9.346	8.740	8.134	7.657	7.180	6.852	6.673	6.495	6.291	6.087	5.884	5.680	5.476	11	11

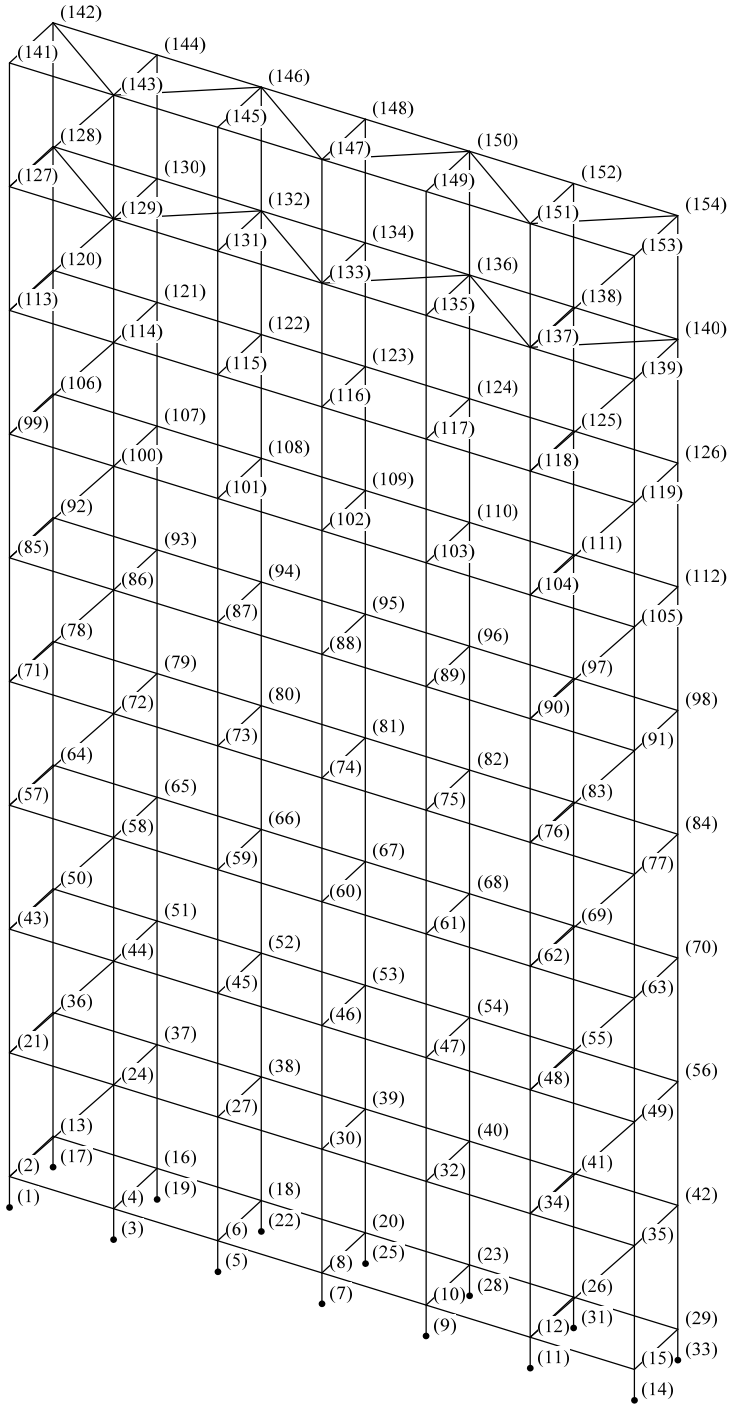
1.8m x 1.3m Omega Transom SWH Design Sheets

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12385

Job Ref : 1462
Sheet : 1800 O A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :





Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F1	Support
Load Group F3	Support

Load Case 001 : A - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : A - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : A - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : D - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : D - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : D - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : A WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : A WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : A WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F1
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : D WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : D WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : D WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F3
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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12385

Job Ref : 1462
Sheet : 1800 O A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	1.800	0.000	0.000	4	1.800	0.500	0.000
5	3.600	0.000	0.000	6	3.600	0.500	0.000
7	5.400	0.000	0.000	8	5.400	0.500	0.000
9	7.200	0.000	0.000	10	7.200	0.500	0.000
11	9.000	0.000	0.000	12	9.000	0.500	0.000
13	0.000	0.500	1.300	14	10.800	0.000	0.000
15	10.800	0.500	0.000	16	1.800	0.500	1.300
17	0.000	0.000	1.300	18	3.600	0.500	1.300
19	1.800	0.000	1.300	20	5.400	0.500	1.300
21	0.000	2.500	0.000	22	3.600	0.000	1.300
23	7.200	0.500	1.300	24	1.800	2.500	0.000
25	5.400	0.000	1.300	26	9.000	0.500	1.300
27	3.600	2.500	0.000	28	7.200	0.000	1.300
29	10.800	0.500	1.300	30	5.400	2.500	0.000
31	9.000	0.000	1.300	32	7.200	2.500	0.000
33	10.800	0.000	1.300	34	9.000	2.500	0.000
35	10.800	2.500	0.000	36	0.000	2.500	1.300
37	1.800	2.500	1.300	38	3.600	2.500	1.300
39	5.400	2.500	1.300	40	7.200	2.500	1.300
41	9.000	2.500	1.300	42	10.800	2.500	1.300
43	0.000	4.500	0.000	44	1.800	4.500	0.000
45	3.600	4.500	0.000	46	5.400	4.500	0.000
47	7.200	4.500	0.000	48	9.000	4.500	0.000
49	10.800	4.500	0.000	50	0.000	4.500	1.300
51	1.800	4.500	1.300	52	3.600	4.500	1.300
53	5.400	4.500	1.300	54	7.200	4.500	1.300
55	9.000	4.500	1.300	56	10.800	4.500	1.300
57	0.000	6.500	0.000	58	1.800	6.500	0.000
59	3.600	6.500	0.000	60	5.400	6.500	0.000
61	7.200	6.500	0.000	62	9.000	6.500	0.000
63	10.800	6.500	0.000	64	0.000	6.500	1.300
65	1.800	6.500	1.300	66	3.600	6.500	1.300
67	5.400	6.500	1.300	68	7.200	6.500	1.300
69	9.000	6.500	1.300	70	10.800	6.500	1.300
71	0.000	8.500	0.000	72	1.800	8.500	0.000
73	3.600	8.500	0.000	74	5.400	8.500	0.000
75	7.200	8.500	0.000	76	9.000	8.500	0.000
77	10.800	8.500	0.000	78	0.000	8.500	1.300
79	1.800	8.500	1.300	80	3.600	8.500	1.300
81	5.400	8.500	1.300	82	7.200	8.500	1.300
83	9.000	8.500	1.300	84	10.800	8.500	1.300
85	0.000	10.500	0.000	86	1.800	10.500	0.000
87	3.600	10.500	0.000	88	5.400	10.500	0.000
89	7.200	10.500	0.000	90	9.000	10.500	0.000
91	10.800	10.500	0.000	92	0.000	10.500	1.300
93	1.800	10.500	1.300	94	3.600	10.500	1.300
95	5.400	10.500	1.300	96	7.200	10.500	1.300
97	9.000	10.500	1.300	98	10.800	10.500	1.300
99	0.000	12.500	0.000	100	1.800	12.500	0.000
101	3.600	12.500	0.000	102	5.400	12.500	0.000
103	7.200	12.500	0.000	104	9.000	12.500	0.000
105	10.800	12.500	0.000	106	0.000	12.500	1.300
107	1.800	12.500	1.300	108	3.600	12.500	1.300
109	5.400	12.500	1.300	110	7.200	12.500	1.300
111	9.000	12.500	1.300	112	10.800	12.500	1.300
113	0.000	14.500	0.000	114	1.800	14.500	0.000
115	3.600	14.500	0.000	116	5.400	14.500	0.000
117	7.200	14.500	0.000	118	9.000	14.500	0.000
119	10.800	14.500	0.000	120	0.000	14.500	1.300
121	1.800	14.500	1.300	122	3.600	14.500	1.300
123	5.400	14.500	1.300	124	7.200	14.500	1.300
125	9.000	14.500	1.300	126	10.800	14.500	1.300
127	0.000	16.500	0.000	128	0.000	16.500	1.300
129	1.800	16.500	0.000	130	1.800	16.500	1.300

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Job Ref : 1462
Sheet : 1800 O A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

131	3.600	16.500	0.000	132	3.600	16.500	1.300
133	5.400	16.500	0.000	134	5.400	16.500	1.300
135	7.200	16.500	0.000	136	7.200	16.500	1.300
137	9.000	16.500	0.000	138	9.000	16.500	1.300
139	10.800	16.500	0.000	140	10.800	16.500	1.300
141	0.000	18.500	0.000	142	0.000	18.500	1.300
143	1.800	18.500	0.000	144	1.800	18.500	1.300
145	3.600	18.500	0.000	146	3.600	18.500	1.300
147	5.400	18.500	0.000	148	5.400	18.500	1.300
149	7.200	18.500	0.000	150	7.200	18.500	1.300
151	9.000	18.500	0.000	152	9.000	18.500	1.300
153	10.800	18.500	0.000	154	10.800	18.500	1.300

Member Properties

Members 1-132 and 221-360

M	48.3x3.2 CHS 3.56 [S 355]		
A 4.53E-4	Ix 11.59E-8	Iy 11.59E-8	J 23.17E-8
E 205.0E6	G 78.85E6		

Members 133-202

M	FL OT [] E 210E6 G 80E6		
A 6.76E-4	Ix 34.08E-8	Iy 54.05E-8	J 68.16E-8

Members 203-220

M	48.3 2.30 [] E 210E6 G 80E6		
A 3.32E-4	Ix 8.81E-8	Iy 8.81E-8	J 17.62E-8

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

1 ®O® ®O®	2 ®O® ®O®	3 ®O® ®O®	4 ®O® ®O®
5 ®O® ®O®	6 ®O® ®O®	7 ®O® ®O®	8 ®O® ®O®
9 ®O® ®O®	10 ®O® ®O®	11 ®O® ®O®	12 ®O® ®O®
13 ®O® ®O®	14 ®O® ®O®	15 ®O® ®O®	16 ®O® ®O®
17 ®O® ®O®	18 ®O® ®O®	19 ®O® ®O®	20 ®O® ®O®
21 ®O® ®O®	22 ®O® ®O®	23 ®O® ®O®	24 ®O® ®O®
25 ®O® ®O®	26 ®O® ®O®	27 ®O® ®O®	28 ®O® ®O®
29 ®O® ®O®	30 ®O® ®O®	31 ®O® ®O®	32 ®O® ®O®
33 ®O® ®O®	34 ®O® ®O®	35 ®O® ®O®	36 ®O® ®O®
37 ®O® ®O®	38 ®O® ®O®	39 ®O® ®O®	40 ®O® ®O®
41 ®O® ®O®	42 ®O® ®O®	43 ®O® ®O®	44 ®O® ®O®
45 ®O® ®O®	46 ®O® ®O®	47 ®O® ®O®	48 ®O® ®O®
49 ®O® ®O®	50 ®O® ®O®	51 ®O® ®O®	52 ®O® ®O®
53 ®O® ®O®	54 ®O® ®O®	55 ®O® ®O®	56 ®O® ®O®
57 ®O® ®O®	58 ®O® ®O®	59 ®O® ®O®	60 ®O® ®O®
61 ®O® ®O®	62 ®O® ®O®	63 ®O® ®O®	64 ®O® ®O®
65 ®O® ®O®	66 ®O® ®O®	67 ®O® ®O®	68 ®O® ®O®
69 ®O® ®O®	70 ®O® ®O®	71 ®O® ®O®	72 ®O® ®O®
73 ®O® ®O®	74 ®O® ®O®	75 ®O® ®O®	76 ®O® ®O®
77 ®O® ®O®	78 ®O® ®O®	79 ®O® ®O®	80 ®O® ®O®
81 ®O® ®O®	82 ®O® ®O®	83 ®O® ®O®	84 ®O® ®O®
85 ®O® ®O®	86 ®O® ®O®	87 ®O® ®O®	88 ®O® ®O®
89 ®O® ®O®	90 ®O® ®O®	91 ®O® ®O®	92 ®O® ®O®
93 ®O® ®O®	94 ®O® ®O®	95 ®O® ®O®	96 ®O® ®O®
97 ®O® ®O®	98 ®O® ®O®	99 ®O® ®O®	100 ®O® ®O®
101 ®O® ®O®	102 ®O® ®O®	103 ®O® ®O®	104 ®O® ®O®
105 ®O® ®O®	106 ®O® ®O®	107 ®O® ®O®	108 ®O® ®O®
109 ®O® ®O®	110 ®O® ®O®	111 ®O® ®O®	112 ®O® ®O®
113 ®O® ®O®	114 ®O® ®O®	115 ®O® ®O®	116 ®O® ®O®
117 ®O® ®O®	118 ®O® ®O®	119 ®O® ®O®	120 ®O® ®O®
121 ®O® ®O®	122 ®O® ®O®	123 ®O® ®O®	124 ®O® ®O®
125 ®O® ®O®	126 ®O® ®O®	127 ®O® ®O®	128 ®O® ®O®
129 ®O® ®O®	130 ®O® ®O®	131 ®O® ®O®	132 ®O® ®O®
133 ®O® ®O®	134 ®O® ®O®	135 ®O® ®O®	136 ®O® ®O®

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12385

Job Ref : 1462
Sheet : 1800 O A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

137 ®O® ®O®	138 ®O® ®O®	139 ®O® ®O®	140 ®O® ®O®
141 ®O® ®O®	142 ®O® ®O®	143 ®O® ®O®	144 ®O® ®O®
145 ®O® ®O®	146 ®O® ®O®	147 ®O® ®O®	148 ®O® ®O®
149 ®O® ®O®	150 ®O® ®O®	151 ®O® ®O®	152 ®O® ®O®
153 ®O® ®O®	154 ®O® ®O®	155 ®O® ®O®	156 ®O® ®O®
157 ®O® ®O®	158 ®O® ®O®	159 ®O® ®O®	160 ®O® ®O®
161 ®O® ®O®	162 ®O® ®O®	163 ®O® ®O®	164 ®O® ®O®
165 ®O® ®O®	166 ®O® ®O®	167 ®O® ®O®	168 ®O® ®O®
169 ®O® ®O®	170 ®O® ®O®	171 ®O® ®O®	172 ®O® ®O®
173 ®O® ®O®	174 ®O® ®O®	175 ®O® ®O®	176 ®O® ®O®
177 ®O® ®O®	178 ®O® ®O®	179 ®O® ®O®	180 ®O® ®O®
181 ®O® ®O®	182 ®O® ®O®	183 ®O® ®O®	184 ®O® ®O®
185 ®O® ®O®	186 ®O® ®O®	187 ®O® ®O®	188 ®O® ®O®
189 ®O® ®O®	190 ®O® ®O®	191 ®O® ®O®	192 ®O® ®O®
193 ®O® ®O®	194 ®O® ®O®	195 ®O® ®O®	196 ®O® ®O®
197 ®O® ®O®	198 ®O® ®O®	199 ®O® ®O®	200 ®O® ®O®
201 ®O® ®O®	202 ®O® ®O®	203 ®OO ®OO	204 ®OO ®OO
205 ®OO ®OO	206 ®OO ®OO	207 ®OO ®OO	208 ®OO ®OO
209 ®OO ®OO	210 ®OO ®OO	211 ®OO ®OO	212 ®OO ®OO
213 ®OO ®OO	214 ®OO ®OO	215 ®OO ®OO	216 ®OO ®OO
217 ®OO ®OO	218 ®OO ®OO	219 ®OO ®OO	220 ®OO ®OO

Nodal Loading and Support Conditions

NODES 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152 and 154
D1 Ls +0000.000 -0000.510 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
D1 Ls +0000.000 -0000.790 +0000.000 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
D1 Ls +0000.000 -0000.740 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
D1 Ls +0000.000 -0000.260 +0000.000 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70,
73-84, 87-98, 101-112 and 115-126
D1 Ls +0000.000 -0000.210 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L3 Ls +0000.000 -0002.115 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L4 Ls +0000.000 -0001.058 +0000.000 +0000.000 +0000.000 +0000.000
NODES 141-154
L5 Ls +0000.000 -0003.173 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-140
L6 Ls +0000.000 -0001.586 +0000.000 +0000.000 +0000.000 +0000.000
NODES 127-154
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W1 Ls +0000.000 +0000.000 -0000.246 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W1 Ls +0000.000 +0000.000 -0000.230 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114
W1 Ls +0000.000 +0000.000 -0000.060 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12-13, 15-16, 18, 20, 23, 26-27, 29-30, 32, 34-42, 45-56, 59-70,
73-84, 87-98, 101-112, 115-126, 128, 130, 132, 134, 136, 138, 140, 142, 144,
146, 148, 150, 152 and 154
W1 Ls +0000.000 +0000.000 -0000.045 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
W2 Ls +0000.000 +0000.000 -0000.180 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
W3 Ls +0000.000 +0000.000 -0000.360 +0000.000 +0000.000 +0000.000
NODES 127, 129, 141 and 143
W4 Ls +0000.000 +0000.000 -0001.452 +0000.000 +0000.000 +0000.000
NODES 131, 133, 135, 137, 139, 145, 147, 149, 151 and 153
W4 Ls +0000.000 +0000.000 -0001.374 +0000.000 +0000.000 +0000.000
NODES 2, 4, 21, 24, 43-44, 57-58, 71-72, 85-86, 99-100 and 113-114

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Job Ref : 1462
Sheet : 1800 O A D /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

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       W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 6, 8, 10, 12, 15, 27, 30, 32, 34-35, 45-49, 59-63, 73-77, 87-91, 101-105
and 115-119
       W4 Ls +0000.000 +0000.000 -0000.448 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
       W5 Ls +0000.000 +0000.000 -0000.900 +0000.000 +0000.000 +0000.000
NODES 2, 4, 6, 8, 10, 12, 15, 21, 24, 27, 30, 32, 34-35, 43-49, 57-63, 71-77,
85-91, 99-105, 113-119, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147,
149, 151 and 153
       W6 Ls +0000.000 +0000.000 -0001.800 +0000.000 +0000.000 +0000.000
NODES 17, 19, 22, 25, 28, 31 and 33
       UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 3, 5, 7, 9, 11 and 14
       UT Rs 1 1 0 0 1 0
NODES 50, 52, 54, 56, 78, 80, 82, 84, 106, 108, 110, 112, 128, 132, 136, 140,
142, 146, 150 and 154
       F1 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 38, 42, 50, 54, 66, 70, 78, 82, 94, 98, 106, 110, 122, 126, 128, 136, 146
and 154
       F3 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2, 4, 6, 8, 10, 12-13, 15-16, 18, 20-21, 23-24, 26-27, 29-30, 32 and
34-154
       UT Springs 0000.000 0000.000 0000.000 0092.200 0000.000 0071.940
```

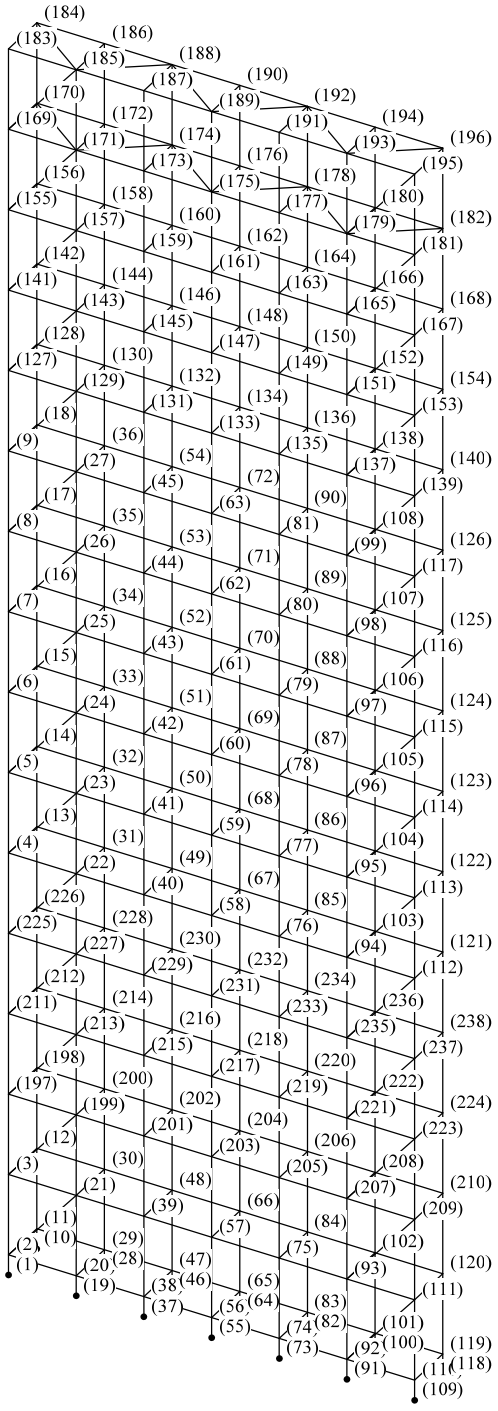
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Frame Geometry - (Full Frame) - 3D Front View

Not to Scale

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MasterFrame Data File
Loading Cases and Load Combination

Load Group Labels

Load Group UT	Unity Load Factor (All Cases)
Load Group W1	Wind Load
Load Group W2	Wind Load
Load Group W3	Wind Load
Load Group W4	Wind Load
Load Group W5	Wind Load
Load Group W6	Wind Load
Load Group F2	Support
Load Group F4	Support

Load Case 001 : B - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 002 : B - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 003 : B - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 004 : E - UW Ppd U

Load Combination	+ 1.00 UT + 1.00 W4 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 005 : E - UW Ppd N

Load Combination	+ 1.00 UT + 1.00 W5 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 006 : E - UW Ppd S

Load Combination	+ 1.00 UT + 1.00 W6 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 007 : B WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 008 : B WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 009 : B WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F2
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 010 : E WW U

Load Combination	+ 1.00 UT + 1.00 W1 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 011 : E WW N

Load Combination	+ 1.00 UT + 1.00 W2 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

Load Case 012 : E WW S

Load Combination	+ 1.00 UT + 1.00 W3 + 1.00 F4
Second Order Analysis	P-Delta Analysis using the Geometric Stiffness Method

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The Nodal Co-ordinates

Node	X (m)	Y (m)	Z (m)	Node	X (m)	Y (m)	Z (m)
1	0.000	0.000	0.000	2	0.000	0.500	0.000
3	0.000	2.500	0.000	4	0.000	10.500	0.000
5	0.000	12.500	0.000	6	0.000	14.500	0.000
7	0.000	16.500	0.000	8	0.000	18.500	0.000
9	0.000	20.500	0.000	10	0.000	0.000	1.300
11	0.000	0.500	1.300	12	0.000	2.500	1.300
13	0.000	10.500	1.300	14	0.000	12.500	1.300
15	0.000	14.500	1.300	16	0.000	16.500	1.300
17	0.000	18.500	1.300	18	0.000	20.500	1.300
19	1.800	0.000	0.000	20	1.800	0.500	0.000
21	1.800	2.500	0.000	22	1.800	10.500	0.000
23	1.800	12.500	0.000	24	1.800	14.500	0.000
25	1.800	16.500	0.000	26	1.800	18.500	0.000
27	1.800	20.500	0.000	28	1.800	0.000	1.300
29	1.800	0.500	1.300	30	1.800	2.500	1.300
31	1.800	10.500	1.300	32	1.800	12.500	1.300
33	1.800	14.500	1.300	34	1.800	16.500	1.300
35	1.800	18.500	1.300	36	1.800	20.500	1.300
37	3.600	0.000	0.000	38	3.600	0.500	0.000
39	3.600	2.500	0.000	40	3.600	10.500	0.000
41	3.600	12.500	0.000	42	3.600	14.500	0.000
43	3.600	16.500	0.000	44	3.600	18.500	0.000
45	3.600	20.500	0.000	46	3.600	0.000	1.300
47	3.600	0.500	1.300	48	3.600	2.500	1.300
49	3.600	10.500	1.300	50	3.600	12.500	1.300
51	3.600	14.500	1.300	52	3.600	16.500	1.300
53	3.600	18.500	1.300	54	3.600	20.500	1.300
55	5.400	0.000	0.000	56	5.400	0.500	0.000
57	5.400	2.500	0.000	58	5.400	10.500	0.000
59	5.400	12.500	0.000	60	5.400	14.500	0.000
61	5.400	16.500	0.000	62	5.400	18.500	0.000
63	5.400	20.500	0.000	64	5.400	0.000	1.300
65	5.400	0.500	1.300	66	5.400	2.500	1.300
67	5.400	10.500	1.300	68	5.400	12.500	1.300
69	5.400	14.500	1.300	70	5.400	16.500	1.300
71	5.400	18.500	1.300	72	5.400	20.500	1.300
73	7.200	0.000	0.000	74	7.200	0.500	0.000
75	7.200	2.500	0.000	76	7.200	10.500	0.000
77	7.200	12.500	0.000	78	7.200	14.500	0.000
79	7.200	16.500	0.000	80	7.200	18.500	0.000
81	7.200	20.500	0.000	82	7.200	0.000	1.300
83	7.200	0.500	1.300	84	7.200	2.500	1.300
85	7.200	10.500	1.300	86	7.200	12.500	1.300
87	7.200	14.500	1.300	88	7.200	16.500	1.300
89	7.200	18.500	1.300	90	7.200	20.500	1.300
91	9.000	0.000	0.000	92	9.000	0.500	0.000
93	9.000	2.500	0.000	94	9.000	10.500	0.000
95	9.000	12.500	0.000	96	9.000	14.500	0.000
97	9.000	16.500	0.000	98	9.000	18.500	0.000
99	9.000	20.500	0.000	100	9.000	0.000	1.300
101	9.000	0.500	1.300	102	9.000	2.500	1.300
103	9.000	10.500	1.300	104	9.000	12.500	1.300
105	9.000	14.500	1.300	106	9.000	16.500	1.300
107	9.000	18.500	1.300	108	9.000	20.500	1.300
109	10.800	0.000	0.000	110	10.800	0.500	0.000
111	10.800	2.500	0.000	112	10.800	10.500	0.000
113	10.800	12.500	0.000	114	10.800	14.500	0.000
115	10.800	16.500	0.000	116	10.800	18.500	0.000
117	10.800	20.500	0.000	118	10.800	0.000	1.300
119	10.800	0.500	1.300	120	10.800	2.500	1.300
121	10.800	10.500	1.300	122	10.800	12.500	1.300
123	10.800	14.500	1.300	124	10.800	16.500	1.300
125	10.800	18.500	1.300	126	10.800	20.500	1.300
127	0.000	22.500	0.000	128	0.000	22.500	1.300
129	1.800	22.500	0.000	130	1.800	22.500	1.300

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12385

Job Ref : 1462
Sheet : 1800 O B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

131	3.600	22.500	0.000	132	3.600	22.500	1.300
133	5.400	22.500	0.000	134	5.400	22.500	1.300
135	7.200	22.500	0.000	136	7.200	22.500	1.300
137	9.000	22.500	0.000	138	9.000	22.500	1.300
139	10.800	22.500	0.000	140	10.800	22.500	1.300
141	0.000	24.500	0.000	142	0.000	24.500	1.300
143	1.800	24.500	0.000	144	1.800	24.500	1.300
145	3.600	24.500	0.000	146	3.600	24.500	1.300
147	5.400	24.500	0.000	148	5.400	24.500	1.300
149	7.200	24.500	0.000	150	7.200	24.500	1.300
151	9.000	24.500	0.000	152	9.000	24.500	1.300
153	10.800	24.500	0.000	154	10.800	24.500	1.300
155	0.000	26.500	0.000	156	0.000	26.500	1.300
157	1.800	26.500	0.000	158	1.800	26.500	1.300
159	3.600	26.500	0.000	160	3.600	26.500	1.300
161	5.400	26.500	0.000	162	5.400	26.500	1.300
163	7.200	26.500	0.000	164	7.200	26.500	1.300
165	9.000	26.500	0.000	166	9.000	26.500	1.300
167	10.800	26.500	0.000	168	10.800	26.500	1.300
169	0.000	28.500	0.000	170	0.000	28.500	1.300
171	1.800	28.500	0.000	172	1.800	28.500	1.300
173	3.600	28.500	0.000	174	3.600	28.500	1.300
175	5.400	28.500	0.000	176	5.400	28.500	1.300
177	7.200	28.500	0.000	178	7.200	28.500	1.300
179	9.000	28.500	0.000	180	9.000	28.500	1.300
181	10.800	28.500	0.000	182	10.800	28.500	1.300
183	0.000	30.500	0.000	184	0.000	30.500	1.300
185	1.800	30.500	0.000	186	1.800	30.500	1.300
187	3.600	30.500	0.000	188	3.600	30.500	1.300
189	5.400	30.500	0.000	190	5.400	30.500	1.300
191	7.200	30.500	0.000	192	7.200	30.500	1.300
193	9.000	30.500	0.000	194	9.000	30.500	1.300
195	10.800	30.500	0.000	196	10.800	30.500	1.300
197	0.000	4.500	0.000	198	0.000	4.500	1.300
199	1.800	4.500	0.000	200	1.800	4.500	1.300
201	3.600	4.500	0.000	202	3.600	4.500	1.300
203	5.400	4.500	0.000	204	5.400	4.500	1.300
205	7.200	4.500	0.000	206	7.200	4.500	1.300
207	9.000	4.500	0.000	208	9.000	4.500	1.300
209	10.800	4.500	0.000	210	10.800	4.500	1.300
211	0.000	6.500	0.000	212	0.000	6.500	1.300
213	1.800	6.500	0.000	214	1.800	6.500	1.300
215	3.600	6.500	0.000	216	3.600	6.500	1.300
217	5.400	6.500	0.000	218	5.400	6.500	1.300
219	7.200	6.500	0.000	220	7.200	6.500	1.300
221	9.000	6.500	0.000	222	9.000	6.500	1.300
223	10.800	6.500	0.000	224	10.800	6.500	1.300
225	0.000	8.500	0.000	226	0.000	8.500	1.300
227	1.800	8.500	0.000	228	1.800	8.500	1.300
229	3.600	8.500	0.000	230	3.600	8.500	1.300
231	5.400	8.500	0.000	232	5.400	8.500	1.300
233	7.200	8.500	0.000	234	7.200	8.500	1.300
235	9.000	8.500	0.000	236	9.000	8.500	1.300
237	10.800	8.500	0.000	238	10.800	8.500	1.300

Member Properties

Members 1-4, 7-10, 13-16, 19-22, 25-40, 43-46, 48-51, 54-57, 60-73, 78-83, 88-93, 98-103, 108-113, 118-123, 128-133, 138-185, 189-192, 195-198, 201-204, 207-210, 213-216, 219-222, 225-228, 231-254, 264-275, 283-294, 302-313, 321-332, 340-421, 427-440, 442-443, 445-446, 448-449, 451-458, 460-461, 463-464, 466-467, 469-474, 476-477, 479-480, 482-483, 485-492, 494-495, 497-498, 500-501, 503-508, 510-511, 513-514, 516-517, 519-526, 528-529, 531-532, 534-535, 537-550 and 552-555

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A 4.53E-4 Ix 11.59E-8 Iy 11.59E-8 J 23.17E-8
E 205.0E6 G 78.85E6

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12385

Job Ref : 1462
Sheet : 1800 O B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

Members 5-6, 11-12, 17-18, 23-24, 41-42, 52-53, 58-59, 74-77, 84-87, 94-97, 104-107, 114-117, 124-127, 134-137, 193-194, 199-200, 205-206, 211-212, 217-218, 223-224, 229-230, 257-263, 276-282, 295-301, 314-320, 333-339, 441, 444, 447, 450, 459, 465, 468, 475, 478, 481, 484, 493, 499, 502, 509, 512, 515, 518, 527, 533 and 536

M ... ... FL OT [] E 210E6 G 80E6
A 6.76E-4 Ix 34.08E-8 Iy 54.05E-8 J 68.16E-8

Members 47, 186-188, 255-256, 422-426, 462, 496, 530, 551 and 556-570

M ... ... 48.3 2.30 [] E 210E6 G 80E6
A 3.32E-4 Ix 8.81E-8 Iy 8.81E-8 J 17.62E-8

Member Loading

Member End Releases

Symbols End 1 torsion-minor-major End 2 torsion-minor-major O Released ® Fixed

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25	®O® ®O®	26	®O® ®O®	27	®O® ®O®	28	®O® ®O®
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33	®O® ®O®	34	®O® ®O®	35	®O® ®O®	36	®O® ®O®
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Sheet : 1800 O B E /
Made by : IH
Date : 08 June 2016 / Ver. 2015.14
Checked : IH
Approved :

295 ®O® ®O®	296 ®O® ®O®	297 ®O® ®O®	298 ®O® ®O®
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Nodal Loading and Support Conditions

NODES 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194 and 196
D1 Ls +0000.000 -0000.510 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
D1 Ls +0000.000 -0000.790 +0000.000 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
D1 Ls +0000.000 -0000.740 +0000.000 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
D1 Ls +0000.000 -0000.260 +0000.000 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108, 110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 198, 200-210, 212, 214-224, 226 and 228-238
D1 Ls +0000.000 -0000.210 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L3 Ls +0000.000 -0002.115 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L4 Ls +0000.000 -0001.058 +0000.000 +0000.000 +0000.000 +0000.000
NODES 183-196
L5 Ls +0000.000 -0003.173 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-182
L6 Ls +0000.000 -0001.586 +0000.000 +0000.000 +0000.000 +0000.000
NODES 169-196
N1 Ls +0000.000 +0000.000 -0000.150 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W1 Ls +0000.000 +0000.000 -0000.246 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W1 Ls +0000.000 +0000.000 -0000.230 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227

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Job Ref : 1462
Sheet : 1800 O B E /
Made by : IH
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Checked : IH
Approved :

W1 Ls +0000.000 +0000.000 -0000.060 +0000.000 +0000.000 +0000.000
NODES 11-18, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108, 110-117, 119-126, 128, 130-140, 142, 144-154, 156, 158-168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200-210, 212, 214-224, 226 and 228-238
W1 Ls +0000.000 +0000.000 -0000.045 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235 and 237
W2 Ls +0000.000 +0000.000 -0000.180 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235 and 237
W3 Ls +0000.000 +0000.000 -0000.360 +0000.000 +0000.000 +0000.000
NODES 169, 171, 183 and 185
W4 Ls +0000.000 +0000.000 -0001.452 +0000.000 +0000.000 +0000.000
NODES 173, 175, 177, 179, 181, 187, 189, 191, 193 and 195
W4 Ls +0000.000 +0000.000 -0001.374 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 127, 129, 141, 143, 155, 157, 197, 199, 211, 213, 225 and 227
W4 Ls +0000.000 +0000.000 -0000.526 +0000.000 +0000.000 +0000.000
NODES 38-45, 56-63, 74-81, 92-99, 110-117, 131, 133, 135, 137, 139, 145, 147, 149, 151, 153, 159, 161, 163, 165, 167, 201, 203, 205, 207, 209, 215, 217, 219, 221, 223, 229, 231, 233, 235 and 237
W4 Ls +0000.000 +0000.000 -0000.448 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235 and 237
W5 Ls +0000.000 +0000.000 -0000.900 +0000.000 +0000.000 +0000.000
NODES 2-9, 20-27, 38-45, 56-63, 74-81, 92-99, 110-117, 127, 129, 131, 133, 135, 137, 139, 141, 143, 145, 147, 149, 151, 153, 155, 157, 159, 161, 163, 165, 167, 169, 171, 173, 175, 177, 179, 181, 183, 185, 187, 189, 191, 193, 195, 197, 199, 201, 203, 205, 207, 209, 211, 213, 215, 217, 219, 221, 223, 225, 227, 229, 231, 233, 235 and 237
W6 Ls +0000.000 +0000.000 -0001.800 +0000.000 +0000.000 +0000.000
NODES 10, 28, 46, 64, 82, 100 and 118
UT Rs 1 1 1 0 1 0 (Pinned with Y Moment Restraint)
NODES 1, 19, 37, 55, 73, 91 and 109
UT Rs 1 1 0 0 1 0
NODES 15, 30-31, 35, 51, 66-67, 71, 87, 102-103, 107, 123, 128, 132, 136, 140, 158, 162, 166, 184, 188, 192, 196, 212, 216, 220 and 224
F2 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 15, 32, 36, 48-49, 53, 70, 87, 104, 108, 120-121, 125, 128, 136, 148, 160, 168, 172, 180, 184, 192, 200, 208, 212, 220 and 232
F4 Rs 1 0 1 0 0 0 (Horizontally Restraint)
NODES 2-9, 11-18, 20-27, 29-36, 38-45, 47-54, 56-63, 65-72, 74-81, 83-90, 92-99, 101-108, 110-117 and 119-238
UT Springs 0000.000 0000.000 0000.000 0092.200 0000.000 0071.940

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1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width			Axial Gravity Loads - LC3												
Bay: 1.8		Component	Comp.	3-5-0s			3-5-1s			3-5-2s			3-5-3s		
No of Boards 5		weight Kg	Wind Area												
Element				Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6
Ledger and Guardrail	2.50m int	9.7													
	2.50m ext	9.7													
	1.80m Int	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7
	1.80m Ext	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7
Omega Trans'	1.3m (5bd)	9.8	0.074		9.8	9.8		9.8	9.8		9.8	9.8		9.8	9.8
Toe Boards	2.5m	13.75													
	1.8m	9.9	0.405	0.405	9.9	9.9	0.405	9.9	9.9	0.405	9.9	9.9	0.405	9.9	9.9
	1.3m	7.15	0.293												
Omega Int Board Bracket (Hop up)	1bd	2.7							2.7						
	2bd	9										9			
	3bd	9.8													9.8
	Infill Bd 2.50m	12													
	Infill Bd 1.80m	9							9			9			9
Facade Bracing	2.5x2.0m	11.5													
	1.8x2.00m	9.8	0.130	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8
Steel Batts	2.5m	13				13			13			13			13
	1.8m	9.1				9.1			9.1			9.1			9.1
Total weight per bay Int Standard, kg					23.50	46.25		23.50	67.05		23.50	82.45		23.50	92.35
Total weight per bay Ext Standard, kg					28.40	75.05		28.40	79.95		28.40	79.95		28.40	79.95
Total load per bay Int Standard, kN					0.23	0.45		0.23	0.66		0.23	0.81		0.23	0.91
Total load per bay Ext Standard, kN					0.28	0.74		0.28	0.78		0.28	0.78		0.28	0.78
Out of Service factor					0.25			0.25			0.25			0.25	
Imposed load Intensity kN/m2					2			2			2			2	
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.23	2.48		0.23	3.49		0.23	4.45		0.23	5.36
Main Deck, Fully Loaded, Ext std, kN /lift					0.28	2.76		0.28	2.81		0.28	2.81		0.28	2.81
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						2.48			2.99			3.44			3.84
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						1.47			2.08			2.63			3.13
2nd lift Part Loaded, Ext Std, kN/lift						1.75			1.80			1.80			1.80
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						1.47			1.97			2.43			2.83
Wind Area Unsheeted															
Wind Area Debris Netting m^2					0.90			0.90	0.90		0.90	0.90		0.90	0.90
Wind Area Sheeted m^2					1.80	1.80		1.80	1.80		1.80	1.80		1.80	1.80
Wind Load In Service (kN)															

1800 Bay Omega Transom

Fully Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		3.94	4.51		5.57	4.61		7.09	4.61		8.49	4.61			
3		4.18	4.79		5.80	4.88		7.32	4.88		8.72	4.88			
4		4.41	5.07		6.03	5.16		7.55	5.16		8.96	5.16			
5		4.64	5.35		6.26	5.44		7.78	5.44		9.19	5.44			
6		4.87	5.62		6.49	5.72		8.01	5.72		9.42	5.72			
7		5.10	5.90		6.72	6.00		8.24	6.00		9.65	6.00			
8		5.33	6.18		6.95	6.28		8.47	6.28		9.88	6.28			
9		5.56	6.46		7.18	6.56		8.70	6.56		10.11	6.56			
10		5.79	6.74		7.41	6.83		8.93	6.83		10.34	6.83			
11		6.02	7.02		7.64	7.11		9.16	7.11		10.57	7.11			
12		6.25	7.30		7.87	7.39		9.39	7.39		10.80	7.39			
13		6.48	7.57		8.10	7.67		9.62	7.67		11.03	7.67			
14		6.71	7.85		8.33	7.95		9.85	7.95		11.26	7.95			
15		6.94	8.13		8.56	8.23		10.08	8.23		11.49	8.23			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		1.41	1.98		2.02	2.07		2.53	2.07		2.93	2.07			
3		1.64	2.26		2.25	2.35		2.76	2.35		3.16	2.35			
4		1.87	2.54		2.49	2.63		2.99	2.63		3.39	2.63			
5		2.11	2.81		2.72	2.91		3.22	2.91		3.62	2.91			
6		2.34	3.09		2.95	3.19		3.45	3.19		3.85	3.19			
7		2.57	3.37		3.18	3.47		3.68	3.47		4.08	3.47			
8		2.80	3.65		3.41	3.75		3.91	3.75		4.31	3.75			
9		3.03	3.93		3.64	4.03		4.14	4.03		4.54	4.03			
10		3.26	4.21		3.87	4.30		4.37	4.30		4.77	4.30			
11		3.49	4.49		4.10	4.58		4.60	4.58		5.00	4.58			
12		3.72	4.76		4.33	4.86		4.83	4.86		5.23	4.86			
13		3.95	5.04		4.56	5.14		5.06	5.14		5.46	5.14			
14		4.18	5.32		4.79	5.42		5.30	5.42		5.69	5.42			
15		4.41	5.60		5.02	5.70		5.53	5.70		5.92	5.70			
Partially Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		3.94	4.51		4.96	4.61		5.87	4.61		6.67	4.61			
3		4.18	4.79		5.19	4.88		6.10	4.88		6.90	4.88			
4		4.41	5.07		5.42	5.16		6.33	5.16		7.13	5.16			
5		4.64	5.35		5.65	5.44		6.56	5.44		7.36	5.44			
6		4.87	5.62		5.88	5.72		6.79	5.72		7.59	5.72			
7		5.10	5.90		6.11	6.00		7.02	6.00		7.82	6.00			
8		5.33	6.18		6.34	6.28		7.25	6.28		8.06	6.28			
9		5.56	6.46		6.57	6.56		7.48	6.56		8.29	6.56			
10		5.79	6.74		6.80	6.83		7.71	6.83		8.52	6.83			
11		6.02	7.02		7.04	7.11		7.94	7.11		8.75	7.11			
12		6.25	7.30		7.27	7.39		8.18	7.39		8.98	7.39			
13		6.48	7.57		7.50	7.67		8.41	7.67		9.21	7.67			
14		6.71	7.85		7.73	7.95		8.64	7.95		9.44	7.95			
15		6.94	8.13		7.96	8.23		8.87	8.23		9.67	8.23			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		1.41	1.98		1.90	2.07		2.28	2.07		2.55	2.07			
3		1.64	2.26		2.13	2.35		2.51	2.35		2.78	2.35			
4		1.87	2.54		2.36	2.63		2.74	2.63		3.01	2.63			
5		2.11	2.81		2.59	2.91		2.97	2.91		3.24	2.91			
6		2.34	3.09		2.82	3.19		3.20	3.19		3.47	3.19			
7		2.57	3.37		3.05	3.47		3.43	3.47		3.70	3.47			
8		2.80	3.65		3.28	3.75		3.66	3.75		3.93	3.75			
9		3.03	3.93		3.51	4.03		3.89	4.03		4.16	4.03			
10		3.26	4.21		3.74	4.30		4.12	4.30		4.39	4.30			
11		3.49	4.49		3.97	4.58		4.35	4.58		4.62	4.58			
12		3.72	4.76		4.20	4.86		4.58	4.86		4.85	4.86			
13		3.95	5.04		4.43	5.14		4.81	5.14		5.08	5.14			
14		4.18	5.32		4.66	5.42		5.04	5.42		5.31	5.42			
15		4.41	5.60		4.89	5.70		5.27	5.70		5.54	5.70			

1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width				Axial Gravity Loads - LC4												
Bay: 1.8		Component	Comp.	4-5-0s			4-5-1s			4-5-2s			4-5-3s			
No of Boards 5		weight Kg	Wind Area													
Element				Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	Wind Area	Unbattened tube	Battened tube	
Standard	2m	11.6	0.100	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	0.100	11.6	11.6	
Ledger and Guardrail	2.50m int	9.7														
	2.50m ext	9.7														
	1.80m Int	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7	
	1.80m Ext	7	0.087	0.087	7	7	0.087	7	7	0.087	7	7	0.087	7	7	
Omega Trans'	1.3m (5bd)	9.8	0.074		9.8	9.8		9.8	9.8		9.8	9.8		9.8	9.8	
Toe Boards	2.5m	13.75														
	1.8m	9.9	0.405	0.405	9.9	9.9	0.405	9.9	9.9	0.405	9.9	9.9	0.405	9.9	9.9	
	1.3m	7.15	0.293													
Omega Int Board Bracket (Hop up)	1bd	2.7							2.7							
	2bd	9										9				
	3bd	9.8													9.8	
	Infill Bd 2.50m	12														
	Infill Bd 1.80m	9							9			9			9	
Facade Bracing	2.5x2.0m	11.5														
	1.8x2.00m	9.8	0.130	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	0.130	9.8	9.8	
Steel Batts	2.5m	13				13			13			13			13	
	1.8m	9.1				9.1			9.1			9.1			9.1	
Total weight per bay Int Standard, kg					23.50	46.25		23.50	67.05		23.50	82.45		23.50	92.35	
Total weight per bay Ext Standard, kg					28.40	75.05		28.40	79.95		28.40	79.95		28.40	79.95	
Total load per bay Int Standard, kN					0.23	0.45		0.23	0.66		0.23	0.81		0.23	0.91	
Total load per bay Ext Standard, kN					0.28	0.74		0.28	0.78		0.28	0.78		0.28	0.78	
Out of Service factor					0.25			0.25			0.25			0.25		
Imposed load Intensity kN/m2					3			3			3			3		
Main Deck, Fully loaded, Hop Up & Int Std, kN /lift					0.23	3.49		0.23	4.91		0.23	6.28		0.23	7.59	
Main Deck, Fully Loaded, Ext std, kN /lift					0.28	3.77		0.28	3.82		0.28	3.82		0.28	3.82	
Main Deck Full, Lightly Loaded Hop Up, Int Std, kN/lift						3.49			4.00			4.52			4.85	
2nd lift Part Loaded, Hop Up & Int Std , kN/lift						1.97			2.78			3.54			4.25	
2nd lift Part Loaded, Ext Std, kN/lift						2.25			2.30			2.30			2.30	
2nd lift Part Loaded, Lightly Loaded Hop Up, Int Std kN/lift						1.97			2.48			2.94			3.34	
Wind Area Unsheeted																
Wind Area Debris Netting m^2					0.90	0.90		0.90	0.90		0.90	0.90		0.90	0.90	
Wind Area Sheeted m^2					1.80	1.80		1.80	1.80		1.80	1.80		1.80	1.80	
Wind Load In Service (kN)																

1800 Bay Omega Transom

Fully Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		5.46	6.03		7.69	6.12		9.82	6.12		11.84	6.12			
3		5.69	6.31		7.92	6.40		10.05	6.40		12.07	6.40			
4		5.92	6.59		8.16	6.68		10.28	6.68		12.30	6.68			
5		6.16	6.86		8.39	6.96		10.51	6.96		12.53	6.96			
6		6.39	7.14		8.62	7.24		10.74	7.24		12.76	7.24			
7		6.62	7.42		8.85	7.52		10.97	7.52		12.99	7.52			
8		6.85	7.70		9.08	7.80		11.20	7.80		13.22	7.80			
9		7.08	7.98		9.31	8.08		11.43	8.08		13.45	8.08			
10		7.31	8.26		9.54	8.35		11.66	8.35		13.68	8.35			
11		7.54	8.54		9.77	8.63		11.89	8.63		13.91	8.63			
12		7.77	8.81		10.00	8.91		12.12	8.91		14.14	8.91			
13		8.00	9.09		10.23	9.19		12.35	9.19		14.37	9.19			
14		8.23	9.37		10.46	9.47		12.59	9.47		14.60	9.47			
15		8.46	9.65		10.69	9.75		12.82	9.75		14.83	9.75			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		1.67	2.23		2.38	2.33		2.98	2.33		3.48	2.33			
3		1.90	2.51		2.61	2.61		3.22	2.61		3.71	2.61			
4		2.13	2.79		2.84	2.89		3.45	2.89		3.94	2.89			
5		2.36	3.07		3.07	3.16		3.68	3.16		4.17	3.16			
6		2.59	3.35		3.30	3.44		3.91	3.44		4.40	3.44			
7		2.82	3.62		3.53	3.72		4.14	3.72		4.64	3.72			
8		3.05	3.90		3.76	4.00		4.37	4.00		4.87	4.00			
9		3.28	4.18		3.99	4.28		4.60	4.28		5.10	4.28			
10		3.51	4.46		4.22	4.56		4.83	4.56		5.33	4.56			
11		3.74	4.74		4.45	4.84		5.06	4.84		5.56	4.84			
12		3.97	5.02		4.68	5.11		5.29	5.11		5.79	5.11			
13		4.20	5.30		4.91	5.39		5.52	5.39		6.02	5.39			
14		4.43	5.58		5.15	5.67		5.75	5.67		6.25	5.67			
15		4.66	5.85		5.38	5.95		5.98	5.95		6.48	5.95			
Partially Loaded Internal Boards		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
IN SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		5.46	6.03		6.48	6.12		7.46	6.12		8.19	6.12			
3		5.69	6.31		6.71	6.40		7.69	6.40		8.42	6.40			
4		5.92	6.59		6.94	6.68		7.92	6.68		8.65	6.68			
5		6.16	6.86		7.17	6.96		8.15	6.96		8.88	6.96			
6		6.39	7.14		7.40	7.24		8.38	7.24		9.11	7.24			
7		6.62	7.42		7.63	7.52		8.61	7.52		9.34	7.52			
8		6.85	7.70		7.86	7.80		8.84	7.80		9.57	7.80			
9		7.08	7.98		8.09	8.08		9.07	8.08		9.80	8.08			
10		7.31	8.26		8.32	8.35		9.30	8.35		10.03	8.35			
11		7.54	8.54		8.55	8.63		9.53	8.63		10.27	8.63			
12		7.77	8.81		8.78	8.91		9.76	8.91		10.50	8.91			
13		8.00	9.09		9.02	9.19		9.99	9.19		10.73	9.19			
14		8.23	9.37		9.25	9.47		10.22	9.47		10.96	9.47			
15		8.46	9.65		9.48	9.75		10.45	9.75		11.19	9.75			
		Battened Tube			Battened Tube			Battened Tube			Battened Tube				
OUT OF SERVICE															
Lifts		Internal	External		Internal	External		Internal	External		Internal	External			
2		1.67	2.23		2.15	2.33		2.55	2.33		2.80	2.33			
3		1.90	2.51		2.38	2.61		2.78	2.61		3.03	2.61			
4		2.13	2.79		2.61	2.89		3.01	2.89		3.26	2.89			
5		2.36	3.07		2.84	3.16		3.24	3.16		3.49	3.16			
6		2.59	3.35		3.07	3.44		3.47	3.44		3.72	3.44			
7		2.82	3.62		3.30	3.72		3.70	3.72		3.95	3.72			
8		3.05	3.90		3.53	4.00		3.93	4.00		4.18	4.00			
9		3.28	4.18		3.76	4.28		4.16	4.28		4.41	4.28			
10		3.51	4.46		4.00	4.56		4.39	4.56		4.64	4.56			
11		3.74	4.74		4.23	4.84		4.62	4.84		4.87	4.84			
12		3.97	5.02		4.46	5.11		4.85	5.11		5.10	5.11			
13		4.20	5.30		4.69	5.39		5.08	5.39		5.33	5.39			
14		4.43	5.58		4.92	5.67		5.31	5.67		5.57	5.67			
15		4.66	5.85		5.15	5.95		5.54	5.95		5.80	5.95			

1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width						Frame Analysis Outputs					
Tie Arrangement A 9 Lift (18m) Frame											
		In Service								Out of Service	
Axial Cap	12.36	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.2							1.02	
Debris			0.35							1.75	
Sheeted			0.69							3.57	

Tie Arrangement B 15 Lift (30m) Frame											
		In Service								Out of Service	
Axial Cap	14.17	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.08							0.39	
Debris			0.13							0.67	
Sheeted			0.27							1.34	

Tie Arrangement D 9 Lift (18m) Frame											
		In Service								Out of Service	
Axial Cap	12.36	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.2							1.02	
Debris			0.35							1.75	
Sheeted			0.69							3.56	

Tie Arrangement E											
		In Service								Out of Service	
Axial Cap	13.92	All Cases								All Cases	
Mmt Cap	1.78	Axial	Mmt	Defln	Status	Axial	Mmt	Defln	Status	Mmt Coeff	Defln Coeff
Unsheeted			0.08							0.4	
Debris			0.14							0.68	
Sheeted			0.28							1.37	

			Fully Loa
1.8m Bay x 1.3m (5)			In Ser
	Resid'	3-5-0	3-5-1
		SWH	SWH
unclad	10.97	15	15
debris	9.93	15	15
sheeting	7.57	12	10
unclad	13.53	15	15
debris	13.14	15	15
sheeting	12.02	15	15
unclad	10.97	15	15
debris	9.93	15	15
sheeting	7.57	12	10
unclad	13.29	15	15
debris	12.83	15	15
sheeting	11.73	15	15

ıded Inside Boards					
vice Maximum Safe Working Height					
3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
SWH	SWH	SWH	SWH	SWH	SWH
15	12	15	15	6	0
14	8	15	11	2	0
4	0	7	0	0	0
15	15	15	15	15	8
15	15	15	15	15	7
15	15	15	15	11	2
15	12	15	15	6	0
14	8	15	11	2	0
4	0	7	0	0	0
15	15	15	15	15	8
15	15	15	15	15	6
15	15	15	15	10	0

Partially Loaded Inside Boards								
1.8m Bay x 1.3m (5)								
	3-5-0	3-5-1	3-5-2	3-5-3	4-5-0	4-5-1	4-5-2	4-5-3
	SWH	SWH	SWH	SWH	SWH	SWH	SWH	SWH
unclad	15	15	15	15	15	15	15	14
debris	15	15	15	15	15	15	12	8
sheeting	12	12	8	5	7	6	2	0
unclad	15	15	15	15	15	15	15	15
debris	15	15	15	15	15	15	15	15
sheeting	15	15	15	15	15	15	15	15
unclad	15	15	15	15	15	15	15	14
debris	15	15	15	15	15	15	12	8
sheeting	12	12	8	5	7	6	2	0
unclad	15	15	15	15	15	15	15	15
debris	15	15	15	15	15	15	15	15
sheeting	15	15	15	15	15	15	15	15

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Unclad. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
3-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
3-5-1s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	24	30	24	30	22	30	22	30	24	30	24	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	6	30	6	30	10	30	10	30
3-5-2s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	24	30	24	30	24	30	24	30
	24	30	30	30	30	30	30	30	30	24	30	24	30	24	30	24	30
	28	22	30	22	30	24	30	24	30	20	30	20	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
3-5-3s	40	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	8	30	8	30	10	30	10	30	8	30	8	30	10	30	10	30
4-5-0s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	24	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
	28	22	30	22	30	22	30	22	30	22	30	22	30	22	30	22	30
	32	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
4-5-1s	40	4	30	4	30	6	30	6	30	4	30	4	30	6	30	6	30
	20	30	30	30	30	30	30	30	30	12	30	12	30	12	30	12	30
	24	30	30	30	30	30	30	30	30	12	30	12	30	12	30	12	30
	28	22	30	22	30	22	30	22	30	12	30	12	30	12	30	12	30
	32	12	30	12	30	14	30	14	30	10	30	10	30	12	30	12	30
	36	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
4-5-2s	40	4	30	4	30	6	30	6	30	0	30	0	30	6	30	6	30
	20	28	30	28	30	28	30	28	30	0	16	0	16	0	16	0	16
	24	28	30	28	30	28	30	28	30	0	16	0	16	0	16	0	16
	28	20	30	20	30	22	30	22	30	0	16	0	16	0	16	0	16
	32	12	30	12	30	14	30	14	30	0	16	0	16	0	16	0	16
	36	6	30	6	30	8	30	8	30	0	16	0	16	0	16	0	16
4-5-3s	40	4	30	4	30	6	30	6	30	0	16	0	16	0	16	0	16

1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Debris Netting. 30m max. Height in terms of metres

Designatoin		LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
	S	A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-0s	40	0	14	0	12	0	16	0	16	0	14	0	12	0	16	0	16
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	10	30	10	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	22	4	24	4	22	0	22	0	22	4	24	4	22
3-5-1s	40	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	20	28	30	28	30	28	30	28	30	28	30	28	30	28	30	28	30
	24	14	30	14	30	16	30	16	30	12	30	12	30	16	30	16	30
	28	6	30	6	30	10	30	10	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	4	30	4	30
	36	0	22	0	22	4	24	4	22	0	22	0	20	0	24	0	22
3-5-2s	40	0	14	0	12	0	16	0	14	0	12	0	12	0	16	0	14
	20	28	30	28	30	28	30	28	30	16	30	16	30	16	30	16	30
	24	12	30	12	30	16	30	16	30	12	30	12	30	14	30	14	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	4	30	4	30	0	30	0	30	4	30	4	30
	36	0	22	0	20	0	24	0	22	0	20	0	18	0	22	0	20
3-5-3s	40	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	20	26	30	26	30	26	30	26	30	26	30	26	30	26	30	26	30
	24	14	30	14	30	16	30	16	30	14	30	14	30	16	30	16	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	22	0	20	4	22	4	22	0	22	0	20	4	22	4	22
4-5-0s	40	0	12	0	12	0	16	0	14	0	12	0	12	0	16	0	14
	20	26	30	26	30	26	30	26	30	22	30	22	30	22	30	22	30
	24	12	30	12	30	14	30	14	30	12	30	12	30	14	30	14	30
	28	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	32	0	30	0	30	6	30	6	30	0	30	0	30	6	30	6	30
	36	0	20	0	20	0	22	0	22	0	20	0	20	0	22	0	22
4-5-1s	40	0	12	0	12	0	14	0	14	0	12	0	12	0	14	0	14
	20	24	30	24	30	24	30	24	30	4	30	4	30	4	30	4	30
	24	12	30	12	30	14	30	14	30	4	30	4	30	4	30	4	30
	28	6	30	6	30	8	30	8	30	4	30	4	30	4	30	4	30
	32	0	30	0	30	4	30	4	30	0	30	0	30	4	30	4	30
	36	0	20	0	20	0	22	0	22	0	20	0	18	0	22	0	20
4-5-2s	40	0	12	0	12	0	14	0	14	0	12	0	10	0	14	0	14
	20	16	30	16	30	16	30	16	30	0	14	0	12	0	14	0	12
	24	12	30	12	30	14	30	14	30	0	14	0	12	0	14	0	12
	28	6	30	6	30	8	30	8	30	0	14	0	12	0	14	0	12
	32	0	30	0	30	4	30	4	30	0	14	0	12	0	14	0	12
	36	0	20	0	20	0	22	0	22	0	14	0	12	0	14	0	12
4-5-3s	40	0	12	0	12	0	14	0	14	0	10	0	10	0	12	0	12

1.8m Bay x 1.3m (5) Width
Part Boarded, Unbraced, Sheeted. 30m max. Height in terms of metres

Designatoin	S	LIGHTLY LOADED INSIDE BOARDS (TG20:08)								FULLY LOADED INSIDE BOARDS (BS EN 12811)							
		COUNTRY				TOWN				COUNTRY				TOWN			
		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift		Ties at alternate lifts		Ties at every lift	
		A	B	D	E	A	B	D	E	A	B	D	E	A	B	D	E
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	28	0	26	4	28	4	26	0	28	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
3-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	26	0	26	4	28	4	26	0	26	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	14	0	16	0	16
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
3-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	6	30	6	30	8	30	8	30
	24	0	26	0	26	0	28	4	26	0	26	0	26	4	28	4	26
	28	0	14	0	14	0	16	0	16	0	14	0	12	0	16	0	14
	32	0	8	0	6	0	10	0	10	0	6	0	6	0	10	0	8
	36	0	4	0	4	0	6	0	6	0	4	0	0	0	6	0	6
3-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	26	4	28	4	26	0	26	0	24	0	26	0	26
	28	0	14	0	12	0	16	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	0	0	0	0	6	0	4
3-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	24	4	26	4	26	0	26	0	24	4	26	4	26
	28	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	32	0	8	0	6	0	10	0	10	0	8	0	6	0	10	0	10
	36	0	4	0	4	0	6	0	6	0	4	0	4	0	6	0	6
4-5-0s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	6	30	6	30	8	30	8	30	0	30	0	30	0	30	0	30
	24	0	26	0	24	4	26	4	26	0	26	0	24	0	26	0	26
	28	0	14	0	12	0	16	0	14	0	14	0	12	0	16	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	10	0	8
	36	0	4	0	0	0	6	0	6	0	4	0	0	0	6	0	6
4-5-1s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	4	30	4	30	4	30	4	30	0	22	0	20	0	22	0	20
	24	0	26	0	24	4	26	4	26	0	22	0	20	0	22	0	20
	28	0	14	0	12	0	16	0	14	0	12	0	12	0	14	0	14
	32	0	6	0	6	0	10	0	8	0	6	0	6	0	8	0	8
	36	0	4	0	0	0	6	0	6	0	0	0	0	0	6	0	4
4-5-2s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	4	0	4
	20	0	30	0	30	0	30	0	30	0	4	0	0	0	4	0	0
	24	0	26	0	24	0	26	0	26	0	4	0	0	0	4	0	0
	28	0	12	0	12	0	14	0	14	0	4	0	0	0	4	0	0
	32	0	6	0	6	0	8	0	8	0	4	0	0	0	4	0	0
	36	0	0	0	0	0	6	0	6	0	0	0	0	0	4	0	0
4-5-3s	40	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	0

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.57	12.36
B	1.34	14.17
D	3.56	12.36
E	1.37	13.92

(Country, Sheeted, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.194	1.371	1.485	1.598	1.687	1.777	1.837	1.868	1.900	1.933	1.967	2.001	2.035	2.068
24	1.719	1.975	2.138	2.301	2.430	2.558	2.645	2.690	2.735	2.784	2.833	2.881	2.930	2.979
28	2.340	2.688	2.910	3.132	3.307	3.482	3.600	3.662	3.723	3.789	3.856	3.922	3.988	4.054
32	3.057	3.511	3.801	4.091	4.319	4.548	4.702	4.783	4.863	4.949	5.036	5.122	5.209	5.295
36	3.869	4.443	4.810	5.178	5.467	5.756	5.951	6.053	6.155	6.264	6.373	6.483	6.592	6.702
40	4.776	5.485	5.939	6.392	6.749	7.106	7.347	7.473	7.598	7.733	7.868	8.004	8.139	8.274

Tie Pattern B Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.448	0.515	0.557	0.600	0.633	0.667	0.689	0.701	0.713	0.726	0.738	0.751	0.764	0.776
24	0.645	0.741	0.802	0.864	0.912	0.960	0.993	1.010	1.027	1.045	1.063	1.081	1.100	1.118
28	0.878	1.009	1.092	1.176	1.241	1.307	1.351	1.374	1.397	1.422	1.447	1.472	1.497	1.522
32	1.147	1.318	1.427	1.536	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.923	1.955	1.988
36	1.452	1.668	1.806	1.943	2.052	2.161	2.234	2.272	2.310	2.351	2.392	2.433	2.474	2.515
40	1.793	2.059	2.229	2.399	2.533	2.667	2.758	2.805	2.852	2.903	2.953	3.004	3.055	3.106

Tie Pattern D Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.191	1.367	1.481	1.594	1.683	1.772	1.832	1.863	1.894	1.928	1.962	1.995	2.029	2.063
24	1.715	1.969	2.132	2.295	2.423	2.551	2.638	2.683	2.728	2.776	2.825	2.873	2.922	2.970
28	2.334	2.680	2.902	3.123	3.298	3.472	3.590	3.651	3.713	3.779	3.845	3.911	3.977	4.043
32	3.048	3.501	3.790	4.080	4.307	4.535	4.689	4.769	4.849	4.935	5.022	5.108	5.194	5.280
36	3.858	4.431	4.797	5.163	5.452	5.740	5.935	6.036	6.137	6.246	6.356	6.465	6.574	6.683
40	4.763	5.470	5.922	6.374	6.730	7.086	7.327	7.452	7.577	7.712	7.846	7.981	8.116	8.251

Tie Pattern E Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.458	0.526	0.570	0.613	0.648	0.682	0.705	0.717	0.729	0.742	0.755	0.768	0.781	0.794
24	0.660	0.758	0.820	0.883	0.932	0.982	1.015	1.032	1.050	1.068	1.087	1.106	1.124	1.143
28	0.898	1.031	1.117	1.202	1.269	1.336	1.382	1.405	1.429	1.454	1.480	1.505	1.530	1.556
32	1.173	1.347	1.459	1.570	1.658	1.745	1.805	1.835	1.866	1.899	1.933	1.966	1.999	2.032
36	1.485	1.705	1.846	1.987	2.098	2.209	2.284	2.323	2.362	2.404	2.446	2.488	2.530	2.572
40	1.833	2.105	2.279	2.453	2.590	2.727	2.820	2.868	2.916	2.968	3.020	3.071	3.123	3.175

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.906	1.111	1.258	1.405	1.521	1.637	1.716	1.760	1.803	1.853	1.902	1.951	2.001	2.050
24	1.305	1.600	1.811	2.023	2.190	2.357	2.471	2.534	2.596	2.668	2.739	2.810	2.881	2.952
28	1.776	2.177	2.466	2.754	2.981	3.208	3.364	3.449	3.534	3.631	3.728	3.825	3.922	4.019
32	2.320	2.844	3.220	3.597	3.893	4.190	4.394	4.505	4.616	4.742	4.869	4.996	5.122	5.249
36	2.937	3.599	4.076	4.552	4.928	5.303	5.561	5.701	5.842	6.002	6.162	6.323	6.483	6.643
40	3.625	4.443	5.032	5.620	6.083	6.547	6.865	7.039	7.212	7.410	7.608	7.806	8.004	8.201

Tie Pattern B Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.677	0.695	0.714	0.732	0.751	0.770
24	0.490	0.600	0.680	0.759	0.822	0.885	0.928	0.951	0.975	1.001	1.028	1.055	1.081	1.108
28	0.667	0.817	0.925	1.034	1.119	1.204	1.263	1.295	1.327	1.363	1.399	1.436	1.472	1.508
32	0.871	1.067	1.209	1.350	1.461	1.573	1.649	1.691	1.733	1.780	1.828	1.875	1.923	1.970
36	1.102	1.351	1.530	1.709	1.850	1.990	2.087	2.140	2.193	2.253	2.313	2.373	2.433	2.493
40	1.361	1.668	1.889	2.110	2.283	2.457	2.577	2.642	2.707	2.781	2.856	2.930	3.004	3.078

Tie Pattern D Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.904	1.108	1.254	1.401	1.517	1.632	1.711	1.755	1.798	1.847	1.897	1.946	1.995	2.045
24	1.302	1.595	1.806	2.018	2.184	2.350	2.464	2.527	2.589	2.660	2.731	2.802	2.873	2.944
28	1.772	2.171	2.459	2.746	2.973	3.199	3.354	3.439	3.524	3.621	3.717	3.814	3.911	4.007
32	2.314	2.836	3.211	3.587	3.883	4.178	4.381	4.492	4.603	4.729	4.855	4.982	5.108	5.234
36	2.928	3.589	4.064	4.540	4.914	5.288	5.545	5.685	5.826	5.985	6.145	6.305	6.465	6.624
40	3.615	4.431	5.018	5.605	6.066	6.528	6.846	7.019	7.192	7.389	7.587	7.784	7.981	8.178

Tie Pattern E Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.348	0.426	0.483	0.539	0.584	0.628	0.659	0.675	0.692	0.711	0.730	0.749	0.768	0.787
24	0.501	0.614	0.695	0.776	0.840	0.904	0.948	0.972	0.996	1.024	1.051	1.078	1.106	1.133
28	0.682	0.835	0.946	1.057	1.144	1.231	1.291	1.324	1.356	1.393	1.431	1.468	1.505	1.542
32	0.890	1.091	1.236	1.380	1.494	1.608	1.686	1.729	1.771	1.820	1.869	1.917	1.966	2.014
36	1.127	1.381	1.564	1.747	1.891	2.035	2.134	2.188	2.242	2.303	2.365	2.426	2.488	2.549
40	1.391	1.705	1.931	2.157	2.335	2.512	2.634	2.701	2.768	2.844	2.920	2.995	3.071	3.147

1800 Bay Omega Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	3	2
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	7	6
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	3	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	2	0
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	3	2
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0	0
28	-3.845	-6.251	-7.790	-9.326	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0	0
32	-8.806	-11.948	-13.958	-15.966	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	13	12
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	6	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	0	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0	0

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	14	13
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	8	7
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	5	4
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	7	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	4	4
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	3	3
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.682	-7.203	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	2	2

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.75	12.36
B	0.67	14.17
D	1.75	12.36
E	0.68	13.92

(Country, Debris, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.483	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.483	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern E Max Mmt coefficient= 0.68

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.227	0.261	0.283	0.304	0.321	0.338	0.350	0.356	0.362	0.368	0.375	0.381	0.388	0.394
24	0.328	0.376	0.407	0.438	0.463	0.487	0.504	0.512	0.521	0.530	0.540	0.549	0.558	0.567
28	0.446	0.512	0.554	0.597	0.630	0.663	0.686	0.697	0.709	0.722	0.734	0.747	0.760	0.772
32	0.582	0.669	0.724	0.779	0.823	0.866	0.896	0.911	0.926	0.943	0.959	0.976	0.992	1.009
36	0.737	0.846	0.916	0.986	1.041	1.096	1.134	1.153	1.172	1.193	1.214	1.235	1.256	1.277
40	0.910	1.045	1.131	1.218	1.286	1.354	1.400	1.423	1.447	1.473	1.499	1.524	1.550	1.576

1.8m Bay x 1.3m (5) Width

(Town, Debris, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern E Max Mmt coefficient= 0.68

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.173	0.212	0.240	0.268	0.290	0.312	0.327	0.335	0.343	0.353	0.362	0.372	0.381	0.391
24	0.249	0.305	0.345	0.385	0.417	0.449	0.471	0.483	0.495	0.508	0.522	0.535	0.549	0.562
28	0.338	0.415	0.470	0.525	0.568	0.611	0.641	0.657	0.673	0.692	0.710	0.729	0.747	0.765
32	0.442	0.542	0.613	0.685	0.742	0.798	0.837	0.858	0.879	0.903	0.927	0.952	0.976	1.000
36	0.559	0.686	0.776	0.867	0.939	1.010	1.059	1.086	1.113	1.143	1.174	1.204	1.235	1.265
40	0.691	0.846	0.958	1.071	1.159	1.247	1.308	1.341	1.374	1.411	1.449	1.487	1.524	1.562

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	11	10
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	6	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	10	10
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6	6

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Debris, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	12	11
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	7	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	11	11
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7	7

1800 Bay Omega Transom

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.02	12.36
B	0.39	14.17
D	1.02	12.36
E	0.4	13.92

(Country, Unclad, 3P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern E Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.134	0.154	0.166	0.179	0.189	0.199	0.206	0.209	0.213	0.217	0.220	0.224	0.228	0.232
24	0.193	0.221	0.240	0.258	0.272	0.287	0.296	0.301	0.306	0.312	0.317	0.323	0.328	0.334
28	0.262	0.301	0.326	0.351	0.371	0.390	0.403	0.410	0.417	0.425	0.432	0.439	0.447	0.454
32	0.342	0.393	0.426	0.458	0.484	0.510	0.527	0.536	0.545	0.555	0.564	0.574	0.584	0.593
36	0.433	0.498	0.539	0.580	0.613	0.645	0.667	0.678	0.690	0.702	0.714	0.726	0.739	0.751
40	0.535	0.615	0.665	0.716	0.756	0.796	0.823	0.837	0.851	0.866	0.882	0.897	0.912	0.927

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 3P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern B Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099015	0.121348	0.137422	0.153496	0.166145	0.178793	0.187489	0.192232	0.1969756	0.202378	0.2077796	0.213182	0.2185836	0.2239856
24	0.142581	0.17474	0.197887	0.221034	0.239248	0.257462	0.269984	0.276815	0.2836449	0.291424	0.2992027	0.306982	0.3147604	0.3225393
28	0.194069	0.237841	0.269347	0.300852	0.325643	0.350435	0.367479	0.376775	0.3860722	0.39666	0.4072481	0.417836	0.4284239	0.4390119
32	0.253478	0.31065	0.3518	0.39295	0.42533	0.457711	0.479972	0.492115	0.5042576	0.518087	0.5319158	0.545745	0.5595741	0.5734032
36	0.320808	0.393166	0.445247	0.497327	0.538309	0.57929	0.607465	0.622833	0.638201	0.655703	0.673206	0.690708	0.708211	0.7257135
40	0.396059	0.48539	0.549687	0.613984	0.664579	0.715173	0.749957	0.76893	0.7879024	0.80951	0.8311185	0.852727	0.8743345	0.8959426

Tie Pattern D Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern E Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.102	0.124	0.141	0.157	0.170	0.183	0.192	0.197	0.202	0.208	0.213	0.219	0.224	0.230
24	0.146	0.179	0.203	0.227	0.245	0.264	0.277	0.284	0.291	0.299	0.307	0.315	0.323	0.331
28	0.199	0.244	0.276	0.309	0.334	0.359	0.377	0.386	0.396	0.407	0.418	0.429	0.439	0.450
32	0.260	0.319	0.361	0.403	0.436	0.469	0.492	0.505	0.517	0.531	0.546	0.560	0.574	0.588
36	0.329	0.403	0.457	0.510	0.552	0.594	0.623	0.639	0.655	0.673	0.690	0.708	0.726	0.744
40	0.406	0.498	0.564	0.630	0.682	0.734	0.769	0.789	0.808	0.830	0.852	0.875	0.897	0.919

1800 Bay Omega Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15	15

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 3P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.57	12.36
B	1.34	14.17
D	3.56	12.36
E	1.37	13.92

(Country, Sheeted, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 3.57

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.194	1.371	1.485	1.598	1.687	1.777	1.837	1.868	1.900	1.933	1.967	2.001	2.035	2.068
24	1.719	1.975	2.138	2.301	2.430	2.558	2.645	2.690	2.735	2.784	2.833	2.881	2.930	2.979
28	2.340	2.688	2.910	3.132	3.307	3.482	3.600	3.662	3.723	3.789	3.856	3.922	3.988	4.054
32	3.057	3.511	3.801	4.091	4.319	4.548	4.702	4.783	4.863	4.949	5.036	5.122	5.209	5.295
36	3.869	4.443	4.810	5.178	5.467	5.756	5.951	6.053	6.155	6.264	6.373	6.483	6.592	6.702
40	4.776	5.485	5.939	6.392	6.749	7.106	7.347	7.473	7.598	7.733	7.868	8.004	8.139	8.274

Tie Pattern B Max Mmt coefficient= 1.34

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.448	0.515	0.557	0.600	0.633	0.667	0.689	0.701	0.713	0.726	0.738	0.751	0.764	0.776
24	0.645	0.741	0.802	0.864	0.912	0.960	0.993	1.010	1.027	1.045	1.063	1.081	1.100	1.118
28	0.878	1.009	1.092	1.176	1.241	1.307	1.351	1.374	1.397	1.422	1.447	1.472	1.497	1.522
32	1.147	1.318	1.427	1.536	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.923	1.955	1.988
36	1.452	1.668	1.806	1.943	2.052	2.161	2.234	2.272	2.310	2.351	2.392	2.433	2.474	2.515
40	1.793	2.059	2.229	2.399	2.533	2.667	2.758	2.805	2.852	2.903	2.953	3.004	3.055	3.106

Tie Pattern D Max Mmt coefficient= 3.56

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.191	1.367	1.481	1.594	1.683	1.772	1.832	1.863	1.894	1.928	1.962	1.995	2.029	2.063
24	1.715	1.969	2.132	2.295	2.423	2.551	2.638	2.683	2.728	2.776	2.825	2.873	2.922	2.970
28	2.334	2.680	2.902	3.123	3.298	3.472	3.590	3.651	3.713	3.779	3.845	3.911	3.977	4.043
32	3.048	3.501	3.790	4.080	4.307	4.535	4.689	4.769	4.849	4.935	5.022	5.108	5.194	5.280
36	3.858	4.431	4.797	5.163	5.452	5.740	5.935	6.036	6.137	6.246	6.356	6.465	6.574	6.683
40	4.763	5.470	5.922	6.374	6.730	7.086	7.327	7.452	7.577	7.712	7.846	7.981	8.116	8.251

Tie Pattern E Max Mmt coefficient= 1.37

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.458	0.526	0.570	0.613	0.648	0.682	0.705	0.717	0.729	0.742	0.755	0.768	0.781	0.794
24	0.660	0.758	0.820	0.883	0.932	0.982	1.015	1.032	1.050	1.068	1.087	1.106	1.124	1.143
28	0.898	1.031	1.117	1.202	1.269	1.336	1.382	1.405	1.429	1.454	1.480	1.505	1.530	1.556
32	1.173	1.347	1.459	1.570	1.658	1.745	1.805	1.835	1.866	1.899	1.933	1.966	1.999	2.032
36	1.485	1.705	1.846	1.987	2.098	2.209	2.284	2.323	2.362	2.404	2.446	2.488	2.530	2.572
40	1.833	2.105	2.279	2.453	2.590	2.727	2.820	2.868	2.916	2.968	3.020	3.071	3.123	3.175

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 3.57

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.906	1.111	1.258	1.405	1.521	1.637	1.716	1.760	1.803	1.853	1.902	1.951	2.001	2.050
24	1.305	1.600	1.811	2.023	2.190	2.357	2.471	2.534	2.596	2.668	2.739	2.810	2.881	2.952
28	1.776	2.177	2.466	2.754	2.981	3.208	3.364	3.449	3.534	3.631	3.728	3.825	3.922	4.019
32	2.320	2.844	3.220	3.597	3.893	4.190	4.394	4.505	4.616	4.742	4.869	4.996	5.122	5.249
36	2.937	3.599	4.076	4.552	4.928	5.303	5.561	5.701	5.842	6.002	6.162	6.323	6.483	6.643
40	3.625	4.443	5.032	5.620	6.083	6.547	6.865	7.039	7.212	7.410	7.608	7.806	8.004	8.201

Tie Pattern B Max Mmt coefficient= 1.34

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.677	0.695	0.714	0.732	0.751	0.770
24	0.490	0.600	0.680	0.759	0.822	0.885	0.928	0.951	0.975	1.001	1.028	1.055	1.081	1.108
28	0.667	0.817	0.925	1.034	1.119	1.204	1.263	1.295	1.327	1.363	1.399	1.436	1.472	1.508
32	0.871	1.067	1.209	1.350	1.461	1.573	1.649	1.691	1.733	1.780	1.828	1.875	1.923	1.970
36	1.102	1.351	1.530	1.709	1.850	1.990	2.087	2.140	2.193	2.253	2.313	2.373	2.433	2.493
40	1.361	1.668	1.889	2.110	2.283	2.457	2.577	2.642	2.707	2.781	2.856	2.930	3.004	3.078

Tie Pattern D Max Mmt coefficient= 3.56

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.904	1.108	1.254	1.401	1.517	1.632	1.711	1.755	1.798	1.847	1.897	1.946	1.995	2.045
24	1.302	1.595	1.806	2.018	2.184	2.350	2.464	2.527	2.589	2.660	2.731	2.802	2.873	2.944
28	1.772	2.171	2.459	2.746	2.973	3.199	3.354	3.439	3.524	3.621	3.717	3.814	3.911	4.007
32	2.314	2.836	3.211	3.587	3.883	4.178	4.381	4.492	4.603	4.729	4.855	4.982	5.108	5.234
36	2.928	3.589	4.064	4.540	4.914	5.288	5.545	5.685	5.826	5.985	6.145	6.305	6.465	6.624
40	3.615	4.431	5.018	5.605	6.066	6.528	6.846	7.019	7.192	7.389	7.587	7.784	7.981	8.178

Tie Pattern E Max Mmt coefficient= 1.37

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.348	0.426	0.483	0.539	0.584	0.628	0.659	0.675	0.692	0.711	0.730	0.749	0.768	0.787
24	0.501	0.614	0.695	0.776	0.840	0.904	0.948	0.972	0.996	1.024	1.051	1.078	1.106	1.133
28	0.682	0.835	0.946	1.057	1.144	1.231	1.291	1.324	1.356	1.393	1.431	1.468	1.505	1.542
32	0.890	1.091	1.236	1.380	1.494	1.608	1.686	1.729	1.771	1.820	1.869	1.917	1.966	2.014
36	1.127	1.381	1.564	1.747	1.891	2.035	2.134	2.188	2.242	2.303	2.365	2.426	2.488	2.549
40	1.391	1.705	1.931	2.157	2.335	2.512	2.634	2.701	2.768	2.844	2.920	2.995	3.071	3.147

1800 Bay Omega Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	3	3
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	7	7
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	4	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	2	2
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	3	3
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0	0
28	-3.845	-6.251	-7.790	-9.326	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0	0
32	-8.806	-11.948	-13.958	-15.966	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	13	12
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	7	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	2	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0	0

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	0	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	14	13
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	8	8
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	5	5
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	8	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	5	4
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	3	3
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.682	-7.203	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	2	2

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.75	12.36
B	0.67	14.17
D	1.75	12.36
E	0.68	13.92

(Country, Debris, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.483	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.483	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern E Max Mmt coefficient= 0.68

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.227	0.261	0.283	0.304	0.321	0.338	0.350	0.356	0.362	0.368	0.375	0.381	0.388	0.394
24	0.328	0.376	0.407	0.438	0.463	0.487	0.504	0.512	0.521	0.530	0.540	0.549	0.558	0.567
28	0.446	0.512	0.554	0.597	0.630	0.663	0.686	0.697	0.709	0.722	0.734	0.747	0.760	0.772
32	0.582	0.669	0.724	0.779	0.823	0.866	0.896	0.911	0.926	0.943	0.959	0.976	0.992	1.009
36	0.737	0.846	0.916	0.986	1.041	1.096	1.134	1.153	1.172	1.193	1.214	1.235	1.256	1.277
40	0.910	1.045	1.131	1.218	1.286	1.354	1.400	1.423	1.447	1.473	1.499	1.524	1.550	1.576

1.8m Bay x 1.3m (5) Width

(Town, Debris, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern B Max Mmt coefficient= 0.67

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D Max Mmt coefficient= 1.75

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern E Max Mmt coefficient= 0.68

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.173	0.212	0.240	0.268	0.290	0.312	0.327	0.335	0.343	0.353	0.362	0.372	0.381	0.391
24	0.249	0.305	0.345	0.385	0.417	0.449	0.471	0.483	0.495	0.508	0.522	0.535	0.549	0.562
28	0.338	0.415	0.470	0.525	0.568	0.611	0.641	0.657	0.673	0.692	0.710	0.729	0.747	0.765
32	0.442	0.542	0.613	0.685	0.742	0.798	0.837	0.858	0.879	0.903	0.927	0.952	0.976	1.000
36	0.559	0.686	0.776	0.867	0.939	1.010	1.059	1.086	1.113	1.143	1.174	1.204	1.235	1.265
40	0.691	0.846	0.958	1.071	1.159	1.247	1.308	1.341	1.374	1.411	1.449	1.487	1.524	1.562

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	11	10
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	7	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	11	10
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6	6

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Debris, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	5	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	3	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	2	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	12	11
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	8	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	5	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	3	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	2	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	11	11
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7	7

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.02	12.36
B	0.39	14.17
D	1.02	12.36
E	0.4	13.92

(Country, Unclad, 2P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A Max Mmt coefficient= 1.02

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern B Max Mmt coefficient= 0.39

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D Max Mmt coefficient= 1.02

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern E Max Mmt coefficient= 0.4

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.134	0.154	0.166	0.179	0.189	0.199	0.206	0.209	0.213	0.217	0.220	0.224	0.228	0.232
24	0.193	0.221	0.240	0.258	0.272	0.287	0.296	0.301	0.306	0.312	0.317	0.323	0.328	0.334
28	0.262	0.301	0.326	0.351	0.371	0.390	0.403	0.410	0.417	0.425	0.432	0.439	0.447	0.454
32	0.342	0.393	0.426	0.458	0.484	0.510	0.527	0.536	0.545	0.555	0.564	0.574	0.584	0.593
36	0.433	0.498	0.539	0.580	0.613	0.645	0.667	0.678	0.690	0.702	0.714	0.726	0.739	0.751
40	0.535	0.615	0.665	0.716	0.756	0.796	0.823	0.837	0.851	0.866	0.882	0.897	0.912	0.927

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 2P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A Max Mmt coefficient= 1.02

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern B Max Mmt coefficient= 0.39

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D Max Mmt coefficient= 1.02

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern E Max Mmt coefficient= 0.4

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.102	0.124	0.141	0.157	0.170	0.183	0.192	0.197	0.202	0.208	0.213	0.219	0.224	0.230
24	0.146	0.179	0.203	0.227	0.245	0.264	0.277	0.284	0.291	0.299	0.307	0.315	0.323	0.331
28	0.199	0.244	0.276	0.309	0.334	0.359	0.377	0.386	0.396	0.407	0.418	0.429	0.439	0.450
32	0.260	0.319	0.361	0.403	0.436	0.469	0.492	0.505	0.517	0.531	0.546	0.560	0.574	0.588
36	0.329	0.403	0.457	0.510	0.552	0.594	0.623	0.639	0.655	0.673	0.690	0.708	0.726	0.744
40	0.406	0.498	0.564	0.630	0.682	0.734	0.769	0.789	0.808	0.830	0.852	0.875	0.897	0.919

1800 Bay Omega Transom

LC3&4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15	15

LC3&4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 2P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	LC3	LC4
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15	15

1.8m Bay x 1.3m (5) Width

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.57	12.36
B	1.34	14.17
D	3.56	12.36
E	1.37	13.92

Residual Moments

LC3	1.78
LC4	1.78

(Country, Sheeted, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.194	1.371	1.485	1.598	1.687	1.777	1.837	1.868	1.900	1.933	1.967	2.001	2.035	2.068
24	1.719	1.975	2.138	2.301	2.430	2.558	2.645	2.690	2.735	2.784	2.833	2.881	2.930	2.979
28	2.340	2.688	2.910	3.132	3.307	3.482	3.600	3.662	3.723	3.789	3.856	3.922	3.988	4.054
32	3.057	3.511	3.801	4.091	4.319	4.548	4.702	4.783	4.863	4.949	5.036	5.122	5.209	5.295
36	3.869	4.443	4.810	5.178	5.467	5.756	5.951	6.053	6.155	6.264	6.373	6.483	6.592	6.702
40	4.776	5.485	5.939	6.392	6.749	7.106	7.347	7.475	7.598	7.735	7.868	8.004	8.139	8.274

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.448	0.515	0.557	0.600	0.633	0.667	0.689	0.701	0.713	0.726	0.738	0.751	0.764	0.776
24	0.645	0.741	0.802	0.864	0.912	0.960	0.993	1.010	1.027	1.045	1.063	1.081	1.100	1.118
28	0.878	1.009	1.092	1.176	1.241	1.307	1.351	1.374	1.397	1.422	1.447	1.472	1.497	1.522
32	1.147	1.318	1.427	1.536	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.923	1.955	1.988
36	1.452	1.668	1.806	1.943	2.052	2.161	2.234	2.272	2.310	2.351	2.392	2.433	2.474	2.515
40	1.793	2.059	2.229	2.399	2.533	2.667	2.758	2.805	2.852	2.903	2.953	3.004	3.055	3.106

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.191	1.367	1.481	1.594	1.683	1.772	1.832	1.863	1.894	1.928	1.962	1.995	2.029	2.063
24	1.715	1.969	2.132	2.295	2.423	2.551	2.638	2.683	2.728	2.776	2.825	2.873	2.922	2.970
28	2.334	2.680	2.902	3.123	3.298	3.472	3.590	3.651	3.713	3.779	3.845	3.911	3.977	4.043
32	3.048	3.501	3.790	4.080	4.307	4.535	4.689	4.769	4.849	4.935	5.022	5.108	5.194	5.280
36	3.858	4.431	4.797	5.163	5.452	5.740	5.935	6.036	6.137	6.246	6.356	6.465	6.574	6.683
40	4.763	5.470	5.922	6.374	6.730	7.086	7.327	7.452	7.577	7.712	7.846	7.981	8.116	8.251

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.458	0.526	0.570	0.613	0.648	0.682	0.705	0.717	0.729	0.742	0.755	0.768	0.781	0.794
24	0.660	0.758	0.820	0.883	0.932	0.982	1.015	1.032	1.050	1.068	1.087	1.106	1.124	1.143
28	0.898	1.031	1.117	1.202	1.269	1.336	1.382	1.405	1.429	1.454	1.480	1.505	1.530	1.556
32	1.173	1.347	1.459	1.570	1.658	1.745	1.805	1.835	1.866	1.899	1.933	1.966	1.999	2.032
36	1.485	1.705	1.846	1.987	2.098	2.209	2.284	2.323	2.362	2.404	2.446	2.488	2.530	2.572
40	1.833	2.105	2.279	2.453	2.590	2.727	2.820	2.868	2.916	2.968	3.020	3.071	3.123	3.175

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.906	1.111	1.258	1.405	1.521	1.637	1.714	1.760	1.803	1.853	1.902	1.951	2.001	2.050
24	1.305	1.600	1.811	2.023	2.190	2.357	2.471	2.534	2.596	2.668	2.739	2.810	2.881	2.952
28	1.776	2.177	2.466	2.754	2.981	3.208	3.364	3.449	3.534	3.631	3.728	3.825	3.922	4.019
32	2.320	2.844	3.220	3.597	3.893	4.190	4.394	4.505	4.616	4.742	4.869	4.996	5.122	5.249
36	2.937	3.599	4.076	4.552	4.928	5.303	5.561	5.701	5.842	6.002	6.162	6.323	6.483	6.643
40	3.625	4.443	5.032	5.620	6.083	6.547	6.865	7.039	7.212	7.410	7.608	7.806	8.004	8.201

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.677	0.695	0.714	0.732	0.751	0.770
24	0.490	0.600	0.680	0.759	0.822	0.885	0.928	0.951	0.975	1.001	1.028	1.055	1.081	1.108
28	0.667	0.817	0.925	1.034	1.119	1.204	1.263	1.295	1.327	1.363	1.399	1.436	1.472	1.508
32	0.871	1.067	1.209	1.350	1.461	1.573	1.649	1.691	1.733	1.780	1.828	1.875	1.923	1.970
36	1.102	1.351	1.530	1.709	1.850	1.990	2.087	2.140	2.193	2.253	2.313	2.373	2.433	2.493
40	1.361	1.668	1.889	2.110	2.283	2.457	2.577	2.642	2.707	2.781	2.856	2.930	3.004	3.078

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.904	1.108	1.254	1.401	1.517	1.632	1.711	1.755	1.798	1.847	1.897	1.946	1.995	2.045
24	1.302	1.595	1.806	2.018	2.184	2.350	2.464	2.527	2.589	2.660	2.731	2.802	2.873	2.944
28	1.772	2.171	2.459	2.746	2.973	3.199	3.354	3.439	3.524	3.621	3.717	3.814	3.911	4.007
32	2.314	2.836	3.211	3.587	3.883	4.178	4.381	4.492	4.603	4.729	4.855	4.982	5.108	5.234
36	2.928	3.589	4.064	4.540	4.914	5.288	5.545	5.685	5.826	5.985	6.145	6.305	6.465	6.624
40	3.615	4.431	5.018	5.605	6.066	6.528	6.846	7.019	7.192	7.389	7.587	7.784	7.981	8.178

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.348	0.426	0.483	0.539	0.584	0.628	0.659	0.675	0.692	0.711	0.730	0.749	0.768	0.787
24	0.501	0.614	0.695	0.776	0.840	0.904	0.948	0.972	0.996	1.024	1.051	1.078	1.106	1.133
28	0.682	0.835	0.946	1.057	1.144	1.231	1.291	1.324	1.356	1.393	1.431	1.468	1.505	1.542
32	0.890	1.091	1.236	1.380	1.494	1.608	1.686	1.729	1.771	1.820	1.869	1.917	1.966	2.014
36	1.127	1.381	1.564	1.747	1.891	2.035	2.134	2.188	2.242	2.303	2.365	2.426	2.488	2.549
40	1.391	1.705	1.931	2.157	2.335	2.512	2.634	2.701	2.768	2.844	2.920	2.995	3.071	3.147

LC3 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	2
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	6
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	0
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	2
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	12
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.286	-9.694	-10.099	-10.504	-10.910	0

LC3 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.257	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0
															0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	13
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	7
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	4
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	4
36	5.107	3.119	1.689	0.258	-0.860	-1.978	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	2
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.687	-7.203	-7.720	-8.318	-8.912	-9.505	-10.099	-10.692	2

LC4 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	2
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	11
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	5
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	2
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	0
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	2
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	11
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	5
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.935	-1.195	-1.456	-1.717	-1.977	2
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0

LC4 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	3
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	0
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	12
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	6
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	4
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	2
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	3
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	0
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	11
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	6
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	4
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	2
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.682	-7.203	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	0

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.75	12.36
B	0.67	14.17
D	1.75	12.36
E	0.68	13.92

(Country, Debris, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.785	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.785	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.227	0.261	0.283	0.304	0.321	0.338	0.350	0.356	0.362	0.368	0.375	0.381	0.388	0.394
24	0.328	0.376	0.407	0.438	0.463	0.487	0.504	0.512	0.521	0.530	0.540	0.549	0.558	0.567
28	0.446	0.512	0.554	0.597	0.630	0.663	0.686	0.697	0.709	0.722	0.734	0.747	0.760	0.772
32	0.582	0.669	0.724	0.779	0.823	0.866	0.896	0.911	0.926	0.943	0.959	0.976	0.992	1.009
36	0.737	0.846	0.916	0.986	1.041	1.096	1.134	1.153	1.172	1.193	1.214	1.235	1.256	1.277
40	0.910	1.045	1.131	1.218	1.286	1.354	1.400	1.423	1.447	1.473	1.499	1.524	1.550	1.576

1.8m Bay x 1.3m (5) Width

(Town, Debris, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.283	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.173	0.212	0.240	0.268	0.290	0.312	0.327	0.335	0.343	0.353	0.362	0.372	0.381	0.391
24	0.249	0.305	0.345	0.385	0.417	0.449	0.471	0.483	0.495	0.508	0.522	0.535	0.549	0.562
28	0.338	0.415	0.470	0.525	0.568	0.611	0.641	0.657	0.673	0.692	0.710	0.729	0.747	0.765
32	0.442	0.542	0.613	0.685	0.742	0.798	0.837	0.858	0.879	0.903	0.927	0.952	0.976	1.000
36	0.559	0.686	0.776	0.867	0.939	1.010	1.059	1.086	1.113	1.143	1.174	1.204	1.235	1.265
40	0.691	0.846	0.958	1.071	1.159	1.247	1.308	1.341	1.374	1.411	1.449	1.487	1.524	1.562

LC3 1.8m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.143	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	10
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	6

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.053	4.904	4.752	4.589	4.426	4.263	4.100	3.937	9
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6

LC3 1.8m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0
															0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	11
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	7

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	10
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7

LC4 1.8m Bay x 1.3m (5) Width (Country, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	11
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	5
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	2
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	14
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	9
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	5

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	11
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	5
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	2
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	13
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	8
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	5

LC4 1.8m Bay x 1.3m (5) Width (Town, Debris, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	12
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	6
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.148	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	14
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	10
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	12
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	6
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	14
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	9
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	6

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.02	12.36
B	0.39	14.17
D	1.02	12.36
E	0.4	13.92

(Country, Unclad, 3F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.134	0.154	0.166	0.179	0.189	0.199	0.206	0.209	0.213	0.217	0.220	0.224	0.228	0.232
24	0.193	0.221	0.240	0.258	0.272	0.287	0.296	0.301	0.306	0.312	0.317	0.323	0.328	0.334
28	0.262	0.301	0.326	0.351	0.371	0.390	0.403	0.410	0.417	0.425	0.432	0.439	0.447	0.454
32	0.342	0.393	0.426	0.458	0.484	0.510	0.527	0.536	0.545	0.555	0.564	0.574	0.584	0.593
36	0.433	0.498	0.539	0.580	0.613	0.645	0.667	0.678	0.690	0.702	0.714	0.726	0.739	0.751
40	0.535	0.615	0.665	0.714	0.756	0.796	0.823	0.837	0.851	0.866	0.882	0.897	0.912	0.927

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 3F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ar}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S	1	1	1	1	1	1	1	1	1	1	1	1	1	1
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.102	0.124	0.141	0.157	0.170	0.183	0.192	0.197	0.202	0.208	0.213	0.219	0.224	0.230
24	0.146	0.179	0.203	0.227	0.245	0.264	0.277	0.284	0.291	0.299	0.307	0.315	0.323	0.331
28	0.199	0.244	0.276	0.309	0.334	0.359	0.377	0.386	0.396	0.407	0.418	0.429	0.439	0.450
32	0.260	0.319	0.361	0.403	0.436	0.469	0.492	0.505	0.517	0.531	0.546	0.560	0.574	0.588
36	0.329	0.403	0.457	0.510	0.552	0.594	0.623	0.639	0.655	0.673	0.690	0.708	0.726	0.744
40	0.406	0.498	0.564	0.630	0.682	0.734	0.769	0.789	0.808	0.830	0.852	0.875	0.897	0.919

LC3 1.8m Bay x 1.3m (5) Width (Country, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15

LC3 1.8m Bay x 1.3m (5) Width (Town, Unclad, 3F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.908	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	14
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	8
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	2
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	14
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	8
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	2
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15
36	10.520	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 3F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	10
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	2

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	10
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	2

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.975	9.875	9.765	9.654	9.543	9.432	9.321	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.57	12.36
B	1.34	14.17
D	3.56	12.36
E	1.37	13.92

(Country, Sheeted, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.194	1.371	1.485	1.598	1.687	1.777	1.837	1.868	1.900	1.933	1.967	2.001	2.035	2.068
24	1.719	1.975	2.138	2.301	2.430	2.558	2.645	2.690	2.735	2.784	2.833	2.881	2.930	2.979
28	2.340	2.688	2.910	3.132	3.307	3.482	3.600	3.662	3.723	3.789	3.856	3.922	3.988	4.054
32	3.057	3.511	3.801	4.091	4.319	4.548	4.702	4.783	4.863	4.949	5.036	5.122	5.209	5.295
36	3.869	4.443	4.810	5.178	5.467	5.756	5.951	6.053	6.155	6.264	6.373	6.483	6.592	6.702
40	4.776	5.485	5.939	6.392	6.749	7.106	7.347	7.475	7.598	7.735	7.868	8.004	8.139	8.274

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.448	0.515	0.557	0.600	0.633	0.667	0.689	0.701	0.713	0.726	0.738	0.751	0.764	0.776
24	0.645	0.741	0.802	0.864	0.912	0.960	0.993	1.010	1.027	1.045	1.063	1.081	1.100	1.118
28	0.878	1.009	1.092	1.176	1.241	1.307	1.351	1.374	1.397	1.422	1.447	1.472	1.497	1.522
32	1.147	1.318	1.427	1.536	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.923	1.955	1.988
36	1.452	1.668	1.806	1.943	2.052	2.161	2.234	2.272	2.310	2.351	2.392	2.433	2.474	2.515
40	1.793	2.059	2.229	2.399	2.533	2.667	2.758	2.805	2.852	2.903	2.953	3.004	3.055	3.106

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	1.191	1.367	1.481	1.594	1.683	1.772	1.832	1.863	1.894	1.928	1.962	1.995	2.029	2.063
24	1.715	1.969	2.132	2.295	2.423	2.551	2.638	2.683	2.728	2.776	2.825	2.873	2.922	2.970
28	2.334	2.680	2.902	3.123	3.298	3.472	3.590	3.651	3.713	3.779	3.845	3.911	3.977	4.043
32	3.048	3.501	3.790	4.080	4.307	4.535	4.689	4.769	4.849	4.935	5.022	5.108	5.194	5.280
36	3.858	4.431	4.797	5.163	5.452	5.740	5.935	6.036	6.137	6.246	6.356	6.465	6.574	6.683
40	4.763	5.470	5.922	6.374	6.730	7.086	7.327	7.452	7.577	7.712	7.846	7.981	8.116	8.251

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.458	0.526	0.570	0.613	0.648	0.682	0.705	0.717	0.729	0.742	0.755	0.768	0.781	0.794
24	0.660	0.758	0.820	0.883	0.932	0.982	1.015	1.032	1.050	1.068	1.087	1.106	1.124	1.143
28	0.898	1.031	1.117	1.202	1.269	1.336	1.382	1.405	1.429	1.454	1.480	1.505	1.530	1.556
32	1.173	1.347	1.459	1.570	1.658	1.745	1.805	1.835	1.866	1.899	1.933	1.966	1.999	2.032
36	1.485	1.705	1.846	1.987	2.098	2.209	2.284	2.323	2.362	2.404	2.446	2.488	2.530	2.572
40	1.833	2.105	2.279	2.453	2.590	2.727	2.820	2.868	2.916	2.968	3.020	3.071	3.123	3.175

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{ez}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.906	1.111	1.258	1.405	1.521	1.637	1.714	1.760	1.803	1.853	1.902	1.951	2.001	2.050
24	1.305	1.600	1.811	2.023	2.190	2.357	2.471	2.534	2.596	2.668	2.739	2.810	2.881	2.952
28	1.776	2.177	2.466	2.754	2.981	3.208	3.364	3.449	3.534	3.631	3.728	3.825	3.922	4.019
32	2.320	2.844	3.220	3.597	3.893	4.190	4.394	4.505	4.616	4.742	4.869	4.996	5.122	5.249
36	2.937	3.599	4.076	4.552	4.928	5.303	5.561	5.701	5.842	6.002	6.162	6.323	6.483	6.643
40	3.625	4.443	5.032	5.620	6.083	6.547	6.865	7.039	7.212	7.410	7.608	7.806	8.004	8.201

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.677	0.695	0.714	0.732	0.751	0.770
24	0.490	0.600	0.680	0.759	0.822	0.885	0.928	0.951	0.975	1.001	1.028	1.055	1.081	1.108
28	0.667	0.817	0.925	1.034	1.119	1.204	1.263	1.295	1.327	1.363	1.399	1.436	1.472	1.508
32	0.871	1.067	1.209	1.350	1.461	1.573	1.649	1.691	1.733	1.780	1.828	1.875	1.923	1.970
36	1.102	1.351	1.530	1.709	1.850	1.990	2.087	2.140	2.193	2.253	2.313	2.373	2.433	2.493
40	1.361	1.668	1.889	2.110	2.283	2.457	2.577	2.642	2.707	2.781	2.856	2.930	3.004	3.078

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.904	1.108	1.254	1.401	1.517	1.632	1.711	1.755	1.798	1.847	1.897	1.946	1.995	2.045
24	1.302	1.595	1.806	2.018	2.184	2.350	2.464	2.527	2.589	2.660	2.731	2.802	2.873	2.944
28	1.772	2.171	2.459	2.746	2.973	3.199	3.354	3.439	3.524	3.621	3.717	3.814	3.911	4.007
32	2.314	2.836	3.211	3.587	3.883	4.178	4.381	4.492	4.603	4.729	4.855	4.982	5.108	5.234
36	2.928	3.589	4.064	4.540	4.914	5.288	5.545	5.685	5.826	5.985	6.145	6.305	6.465	6.624
40	3.615	4.431	5.018	5.605	6.066	6.528	6.846	7.019	7.192	7.389	7.587	7.784	7.981	8.178

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.348	0.426	0.483	0.539	0.584	0.628	0.659	0.675	0.692	0.711	0.730	0.749	0.768	0.787
24	0.501	0.614	0.695	0.776	0.840	0.904	0.948	0.972	0.996	1.024	1.051	1.078	1.106	1.133
28	0.682	0.835	0.946	1.057	1.144	1.231	1.291	1.324	1.356	1.393	1.431	1.468	1.505	1.542
32	0.890	1.091	1.236	1.380	1.494	1.608	1.686	1.729	1.771	1.820	1.869	1.917	1.966	2.014
36	1.127	1.381	1.564	1.747	1.891	2.035	2.134	2.188	2.242	2.303	2.365	2.426	2.488	2.549
40	1.391	1.705	1.931	2.157	2.335	2.512	2.634	2.701	2.768	2.844	2.920	2.995	3.071	3.147

LC3 1.8m Bay x 1.3m (5) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	3
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	7
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	2
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	3
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	13
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.286	-9.694	-10.099	-10.504	-10.910	0
															0

LC3 1.8m Bay x 1.3m (5) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	14
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	8
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	5
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	4
36	5.107	3.119	1.689	0.258	-0.860	-1.978	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	3
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.687	-7.203	-7.720	-8.318	-8.912	-9.505	-10.099	-10.693	2

LC4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	2
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	6
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	0
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	2
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.567	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	12
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.935	-1.193	-1.452	-1.712	-1.971	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0

LC4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	13
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	7
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	4
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	12
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	4
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	2
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.682	-7.203	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	2

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.75	12.36
B	0.67	14.17
D	1.75	12.36
E	0.68	13.92

(Country, Debris, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.763	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.916	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.763	1.795	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.663	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.227	0.261	0.283	0.304	0.321	0.338	0.350	0.356	0.362	0.368	0.375	0.381	0.388	0.394
24	0.328	0.376	0.407	0.438	0.463	0.487	0.504	0.512	0.521	0.530	0.540	0.549	0.558	0.567
28	0.446	0.512	0.554	0.597	0.630	0.663	0.686	0.697	0.709	0.722	0.734	0.747	0.760	0.772
32	0.582	0.669	0.724	0.779	0.823	0.866	0.896	0.911	0.926	0.943	0.959	0.976	0.992	1.009
36	0.737	0.846	0.916	0.986	1.041	1.096	1.134	1.153	1.172	1.193	1.214	1.235	1.256	1.277
40	0.910	1.045	1.131	1.218	1.286	1.354	1.400	1.423	1.447	1.473	1.499	1.524	1.550	1.576

1.8m Bay x 1.3m (5) Width

(Town, Debris, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.074	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.283	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.942	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.632	3.729	3.826	3.923	4.020

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.173	0.212	0.240	0.268	0.290	0.312	0.327	0.335	0.343	0.353	0.362	0.372	0.381	0.391
24	0.249	0.305	0.345	0.385	0.417	0.449	0.471	0.483	0.495	0.508	0.522	0.535	0.549	0.562
28	0.338	0.415	0.470	0.525	0.568	0.611	0.641	0.657	0.673	0.692	0.710	0.729	0.747	0.765
32	0.442	0.542	0.613	0.685	0.742	0.798	0.837	0.858	0.879	0.903	0.927	0.952	0.976	1.000
36	0.559	0.686	0.776	0.867	0.939	1.010	1.059	1.086	1.113	1.143	1.174	1.204	1.235	1.265
40	0.691	0.846	0.958	1.071	1.159	1.247	1.308	1.341	1.374	1.411	1.449	1.487	1.524	1.562

LC3 1.8m Bay x 1.3m (S) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.143	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	11
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.053	4.904	4.752	4.589	4.426	4.263	4.100	3.937	10
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6

LC3 1.8m Bay x 1.3m (S) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	12
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	8

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	11
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7

LC4 1.8m Bay x 1.3m (S) Width (Country, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	2
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	10
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	2
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	9
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	5

LC4 1.8m Bay x 1.3m (S) Width (Town, Debris, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.148	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	11
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	2
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.616	-9.161	-9.707	-10.252	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	10
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.02	12.36
B	0.39	14.17
D	1.02	12.36
E	0.4	13.92

(Country, Unclad, 2F)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.134	0.154	0.166	0.179	0.189	0.199	0.206	0.209	0.213	0.217	0.220	0.224	0.228	0.232
24	0.193	0.221	0.240	0.258	0.272	0.287	0.296	0.301	0.306	0.312	0.317	0.323	0.328	0.334
28	0.262	0.301	0.326	0.351	0.371	0.390	0.403	0.410	0.417	0.425	0.432	0.439	0.447	0.454
32	0.342	0.393	0.426	0.458	0.484	0.510	0.527	0.536	0.545	0.555	0.564	0.574	0.584	0.593
36	0.433	0.498	0.539	0.580	0.613	0.645	0.667	0.678	0.690	0.702	0.714	0.726	0.739	0.751
40	0.535	0.615	0.665	0.716	0.756	0.796	0.823	0.837	0.851	0.866	0.882	0.897	0.912	0.927

1.8m Bay x 1.3m (5) Width

(Town, Unclad, 2F)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.386	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.673	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.102	0.124	0.141	0.157	0.170	0.183	0.192	0.197	0.202	0.208	0.213	0.219	0.224	0.230
24	0.146	0.179	0.203	0.227	0.245	0.264	0.277	0.284	0.291	0.299	0.307	0.315	0.323	0.331
28	0.199	0.244	0.276	0.309	0.334	0.359	0.377	0.386	0.396	0.407	0.418	0.429	0.439	0.450
32	0.260	0.319	0.361	0.403	0.436	0.469	0.492	0.505	0.517	0.531	0.546	0.560	0.574	0.588
36	0.329	0.403	0.457	0.510	0.552	0.594	0.623	0.639	0.655	0.673	0.690	0.708	0.726	0.744
40	0.406	0.498	0.564	0.630	0.682	0.734	0.769	0.789	0.808	0.830	0.852	0.875	0.897	0.919

LC3 1.8m Bay x 1.3m (5) Width (Country, Unclad, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15

LC3 1.8m Bay x 1.3m (5) Width (Town, Unclad, 2F)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.908	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	10
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	5
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 2F)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	6
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	4
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.975	9.875	9.765	9.654	9.543	9.432	9.321	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	3.57	12.36
B	1.34	14.17
D	3.56	12.36
E	1.37	13.92

(Country, Sheeted, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.204	3.242	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.565	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.194	1.371	1.485	1.598	1.687	1.777	1.837	1.868	1.900	1.933	1.967	2.001	2.035	2.068
24	1.719	1.975	2.138	2.301	2.430	2.558	2.643	2.690	2.735	2.784	2.833	2.881	2.930	2.979
28	2.340	2.688	2.910	3.132	3.307	3.482	3.600	3.662	3.723	3.789	3.856	3.922	3.988	4.054
32	3.057	3.511	3.801	4.091	4.319	4.548	4.702	4.783	4.863	4.949	5.036	5.122	5.209	5.295
36	3.869	4.443	4.810	5.178	5.467	5.756	5.951	6.053	6.155	6.264	6.373	6.483	6.592	6.702
40	4.776	5.485	5.939	6.392	6.749	7.106	7.347	7.473	7.598	7.733	7.868	8.004	8.139	8.274

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.448	0.515	0.557	0.600	0.633	0.667	0.689	0.701	0.713	0.724	0.738	0.751	0.764	0.776
24	0.645	0.741	0.802	0.864	0.912	0.960	0.993	1.010	1.027	1.045	1.063	1.081	1.100	1.118
28	0.878	1.009	1.092	1.176	1.241	1.307	1.351	1.374	1.397	1.422	1.447	1.472	1.497	1.522
32	1.147	1.318	1.427	1.536	1.621	1.707	1.765	1.795	1.825	1.858	1.890	1.923	1.955	1.988
36	1.452	1.668	1.806	1.945	2.052	2.161	2.234	2.272	2.310	2.351	2.392	2.433	2.474	2.515
40	1.793	2.059	2.229	2.399	2.533	2.667	2.758	2.805	2.852	2.903	2.953	3.004	3.055	3.106

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	1.191	1.367	1.481	1.594	1.683	1.772	1.832	1.863	1.894	1.928	1.962	1.995	2.029	2.063
24	1.715	1.969	2.132	2.295	2.423	2.551	2.638	2.683	2.728	2.776	2.825	2.873	2.922	2.970
28	2.334	2.680	2.902	3.123	3.298	3.472	3.593	3.651	3.713	3.779	3.845	3.911	3.977	4.043
32	3.048	3.501	3.790	4.080	4.307	4.535	4.689	4.769	4.849	4.935	5.022	5.108	5.194	5.280
36	3.858	4.431	4.797	5.163	5.452	5.740	5.935	6.036	6.137	6.246	6.356	6.465	6.574	6.683
40	4.763	5.470	5.922	6.374	6.730	7.086	7.327	7.452	7.577	7.712	7.846	7.981	8.116	8.251

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.458	0.526	0.570	0.613	0.648	0.682	0.703	0.717	0.729	0.742	0.753	0.768	0.781	0.794
24	0.660	0.758	0.820	0.883	0.932	0.982	1.013	1.032	1.050	1.068	1.087	1.106	1.124	1.143
28	0.898	1.031	1.117	1.202	1.269	1.336	1.382	1.405	1.429	1.454	1.480	1.505	1.530	1.556
32	1.173	1.347	1.459	1.570	1.658	1.745	1.805	1.835	1.866	1.899	1.933	1.966	1.999	2.032
36	1.483	1.705	1.846	1.987	2.098	2.209	2.284	2.323	2.362	2.404	2.446	2.488	2.530	2.572
40	1.833	2.105	2.279	2.453	2.590	2.727	2.825	2.868	2.916	2.968	3.023	3.071	3.123	3.175

1.8m Bay x 1.3m (5) Width

(Town, Sheeted, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{se}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.240	2.297

Tie Pattern A — Max Mmt coefficient= 3.57

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.906	1.111	1.258	1.405	1.521	1.637	1.716	1.760	1.803	1.853	1.902	1.951	2.001	2.050
24	1.305	1.603	1.811	2.023	2.193	2.357	2.471	2.534	2.596	2.668	2.739	2.810	2.881	2.952
28	1.776	2.177	2.466	2.754	2.981	3.208	3.364	3.449	3.534	3.631	3.728	3.825	3.922	4.019
32	2.320	2.844	3.220	3.597	3.893	4.190	4.394	4.505	4.616	4.742	4.869	4.996	5.122	5.249
36	2.937	3.599	4.076	4.552	4.928	5.303	5.561	5.701	5.842	6.002	6.162	6.323	6.483	6.643
40	3.625	4.443	5.032	5.620	6.083	6.547	6.865	7.039	7.212	7.410	7.608	7.806	8.004	8.201

Tie Pattern B — Max Mmt coefficient= 1.34

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.340	0.417	0.472	0.527	0.571	0.614	0.644	0.660	0.677	0.695	0.714	0.732	0.751	0.770
24	0.490	0.600	0.680	0.759	0.822	0.885	0.928	0.951	0.975	1.001	1.028	1.055	1.081	1.108
28	0.667	0.817	0.925	1.034	1.119	1.204	1.263	1.295	1.327	1.363	1.399	1.436	1.472	1.508
32	0.871	1.067	1.209	1.350	1.461	1.573	1.649	1.691	1.733	1.780	1.828	1.875	1.923	1.970
36	1.102	1.351	1.530	1.709	1.850	1.990	2.087	2.140	2.193	2.253	2.313	2.373	2.433	2.493
40	1.361	1.668	1.889	2.110	2.283	2.457	2.577	2.642	2.707	2.781	2.856	2.930	3.004	3.078

Tie Pattern D — Max Mmt coefficient= 3.56

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.904	1.108	1.254	1.401	1.517	1.632	1.711	1.755	1.798	1.847	1.897	1.946	1.995	2.045
24	1.302	1.595	1.806	2.018	2.184	2.350	2.464	2.527	2.589	2.660	2.731	2.802	2.873	2.944
28	1.772	2.171	2.459	2.746	2.973	3.199	3.354	3.439	3.524	3.621	3.717	3.814	3.911	4.007
32	2.314	2.836	3.211	3.587	3.883	4.178	4.381	4.492	4.603	4.729	4.855	4.982	5.108	5.234
36	2.928	3.589	4.064	4.540	4.914	5.288	5.545	5.685	5.826	5.985	6.145	6.305	6.465	6.624
40	3.615	4.431	5.018	5.605	6.066	6.528	6.846	7.019	7.192	7.389	7.587	7.784	7.981	8.178

Tie Pattern E — Max Mmt coefficient= 1.37

Height, m S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.348	0.426	0.483	0.539	0.584	0.628	0.659	0.675	0.692	0.711	0.730	0.749	0.768	0.787
24	0.501	0.614	0.695	0.776	0.840	0.904	0.948	0.972	0.996	1.024	1.051	1.078	1.105	1.133
28	0.682	0.835	0.946	1.057	1.144	1.231	1.291	1.324	1.356	1.393	1.431	1.468	1.505	1.542
32	0.890	1.091	1.236	1.380	1.494	1.608	1.686	1.729	1.771	1.820	1.869	1.917	1.966	2.014
36	1.127	1.381	1.564	1.747	1.891	2.035	2.134	2.188	2.242	2.303	2.363	2.424	2.484	2.549
40	1.391	1.705	1.931	2.157	2.335	2.512	2.634	2.701	2.768	2.844	2.920	2.995	3.071	3.147

LC3 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.395	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	3	3
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.002	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0	0
36	-14.505	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	14	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	7	7
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	4	4
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	2	2
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	3	3
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	13	13
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	7	7
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.536	-5.864	-6.192	2	2
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.408	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0	0

LC3 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.654	-33.768	0	0
40	-12.815	-18.493	-22.580	-26.666	-29.882	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	14	14
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	8	8
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	5	5
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.443	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.853	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0	0
40	-12.744	-18.406	-22.482	-26.557	-29.764	-32.971	-35.176	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	8	8
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	5	5
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	3	3
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.680	-7.203	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	2	2

LC4 1.8m Bay x 1.3m (S) Width (Country, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	4.069	2.838	2.051	1.263	0.644	0.024	-0.393	-0.613	-0.830	-1.065	-1.299	-1.534	-1.768	-2.003	3	3
24	0.421	-1.352	-2.485	-3.619	-4.511	-5.404	-6.007	-6.320	-6.634	-6.972	-7.309	-7.647	-7.985	-8.322	0	0
28	-3.890	-6.303	-7.846	-9.389	-10.604	-11.819	-12.639	-13.066	-13.493	-13.953	-14.412	-14.872	-15.331	-15.791	0	0
32	-8.865	-12.017	-14.032	-16.047	-17.634	-19.220	-20.292	-20.850	-21.407	-22.007	-22.608	-23.208	-23.808	-24.409	0	0
36	-14.503	-18.492	-21.042	-23.593	-25.601	-27.609	-28.966	-29.671	-30.376	-31.136	-31.896	-32.656	-33.416	-34.175	0	0
40	-20.804	-25.728	-28.877	-32.026	-34.505	-36.984	-38.659	-39.530	-40.401	-41.339	-42.277	-43.215	-44.153	-45.091	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.602	10.072	9.734	9.395	9.128	8.862	8.681	8.588	8.494	8.393	8.292	8.191	8.090	7.989	15	15
24	9.032	8.270	7.782	7.294	6.910	6.526	6.266	6.131	5.997	5.851	5.706	5.561	5.415	5.270	13	13
28	7.177	6.139	5.475	4.811	4.288	3.766	3.412	3.229	3.045	2.847	2.650	2.452	2.254	2.056	7	7
32	5.037	3.680	2.813	1.946	1.263	0.580	0.119	-0.121	-0.361	-0.619	-0.877	-1.136	-1.394	-1.652	4	3
36	2.610	0.894	-0.204	-1.301	-2.165	-3.029	-3.613	-3.917	-4.220	-4.547	-4.874	-5.201	-5.528	-5.855	2	2
40	-0.101	-2.220	-3.575	-4.930	-5.997	-7.064	-7.784	-8.159	-8.534	-8.938	-9.341	-9.745	-10.148	-10.552	0	0

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	4.092	2.865	2.080	1.295	0.677	0.059	-0.359	-0.576	-0.793	-1.027	-1.261	-1.495	-1.729	-1.963	3	3
24	0.454	-1.313	-2.444	-3.574	-4.464	-5.354	-5.955	-6.268	-6.581	-6.918	-7.254	-7.591	-7.928	-8.264	0	0
28	-3.845	-6.251	-7.790	-9.328	-10.540	-11.751	-12.569	-12.995	-13.421	-13.879	-14.337	-14.795	-15.254	-15.712	0	0
32	-8.806	-11.948	-13.958	-15.968	-17.550	-19.132	-20.201	-20.757	-21.313	-21.911	-22.510	-23.108	-23.707	-24.306	0	0
36	-14.428	-18.405	-20.949	-23.492	-25.495	-27.497	-28.850	-29.553	-30.257	-31.014	-31.772	-32.530	-33.287	-34.045	0	0
40	-20.711	-25.622	-28.762	-31.902	-34.374	-36.846	-38.516	-39.385	-40.253	-41.189	-42.124	-43.059	-43.995	-44.930	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.337	9.805	9.464	9.124	8.856	8.589	8.408	8.313	8.219	8.118	8.017	7.915	7.814	7.713	15	15
24	8.760	7.994	7.504	7.014	6.628	6.243	5.982	5.847	5.711	5.565	5.419	5.273	5.127	4.981	12	12
28	6.897	5.854	5.187	4.520	3.995	3.470	3.116	2.931	2.747	2.548	2.349	2.151	1.952	1.753	6	6
32	4.747	3.385	2.514	1.643	0.957	0.271	-0.192	-0.433	-0.674	-0.933	-1.193	-1.452	-1.712	-1.971	3	3
36	2.310	0.586	-0.516	-1.618	-2.486	-3.354	-3.940	-4.245	-4.550	-4.879	-5.207	-5.535	-5.864	-6.192	2	0
40	-0.413	-2.541	-3.902	-5.263	-6.335	-7.406	-8.130	-8.506	-8.883	-9.288	-9.694	-10.099	-10.504	-10.910	0	0

LC4 1.8m Bay x 1.3m (S) Width (Town, Sheeted, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	6.066	4.647	3.625	2.603	1.799	0.995	0.443	0.141	-0.160	-0.504	-0.847	-1.190	-1.534	-1.877	4	4
24	3.297	1.253	-0.218	-1.690	-2.847	-4.005	-4.801	-5.235	-5.669	-6.164	-6.658	-7.153	-7.647	-8.141	2	2
28	0.024	-2.758	-4.760	-6.763	-8.339	-9.915	-10.998	-11.589	-12.180	-12.853	-13.526	-14.199	-14.872	-15.545	0	0
32	-3.752	-7.386	-10.001	-12.617	-14.675	-16.733	-18.148	-18.920	-19.692	-20.571	-21.450	-22.329	-23.208	-24.087	0	0
36	-8.031	-12.631	-15.941	-19.251	-21.856	-24.461	-26.252	-27.229	-28.206	-29.318	-30.431	-31.543	-32.656	-33.768	0	0
40	-12.815	-18.491	-22.580	-26.666	-29.885	-33.098	-35.309	-36.515	-37.721	-39.095	-40.468	-41.842	-43.215	-44.588	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	11.462	10.851	10.411	9.972	9.626	9.280	9.042	8.912	8.782	8.635	8.487	8.339	8.191	8.044	15	15
24	10.270	9.390	8.757	8.124	7.626	7.128	6.785	6.599	6.412	6.199	5.986	5.773	5.561	5.348	13	13
28	8.862	7.665	6.803	5.941	5.263	4.585	4.119	3.864	3.610	3.321	3.031	2.741	2.452	2.162	8	8
32	7.237	5.673	4.548	3.422	2.536	1.651	1.042	0.710	0.378	-0.001	-0.379	-0.757	-1.136	-1.514	5	5
36	5.395	3.416	1.992	0.567	-0.554	-1.675	-2.445	-2.866	-3.286	-3.765	-4.244	-4.722	-5.201	-5.680	3	3
40	3.337	0.894	-0.865	-2.624	-4.008	-5.391	-6.343	-6.862	-7.381	-7.972	-8.563	-9.154	-9.745	-10.336	2	2

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	6.084	4.668	3.650	2.631	1.829	1.027	0.476	0.175	-0.125	-0.468	-0.810	-1.152	-1.495	-1.837	4	4
24	3.323	1.284	-0.183	-1.650	-2.805	-3.959	-4.753	-5.186	-5.619	-6.112	-6.605	-7.098	-7.591	-8.084	2	2
28	0.059	-2.715	-4.712	-6.709	-8.281	-9.852	-10.932	-11.522	-12.111	-12.782	-13.453	-14.124	-14.795	-15.467	0	0
32	-3.707	-7.330	-9.939	-12.547	-14.599	-16.652	-18.063	-18.833	-19.602	-20.479	-21.355	-22.232	-23.108	-23.985	0	0
36	-7.974	-12.561	-15.862	-19.163	-21.760	-24.358	-26.144	-27.118	-28.092	-29.202	-30.311	-31.420	-32.530	-33.639	0	0
40	-12.744	-18.406	-22.462	-26.557	-29.764	-32.971	-35.178	-36.378	-37.581	-38.951	-40.320	-41.690	-43.059	-44.429	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	11.200	10.586	10.145	9.703	9.356	9.008	8.769	8.639	8.509	8.360	8.212	8.064	7.915	7.767	15	15
24	10.003	9.120	8.484	7.848	7.348	6.847	6.503	6.316	6.128	5.914	5.701	5.487	5.273	5.060	13	13
28	8.589	7.386	6.521	5.655	4.974	4.293	3.825	3.570	3.314	3.023	2.732	2.442	2.151	1.860	7	7
32	6.957	5.386	4.256	3.125	2.236	1.346	0.735	0.401	0.068	-0.312	-0.692	-1.072	-1.452	-1.832	5	4
36	5.107	3.119	1.689	0.258	-0.868	-1.994	-2.768	-3.190	-3.612	-4.093	-4.574	-5.054	-5.535	-6.016	3	3
40	3.040	0.586	-1.180	-2.947	-4.337	-5.727	-6.682	-7.205	-7.725	-8.318	-8.912	-9.505	-10.099	-10.692	2	2

1.8m Bay x 1.3m (5) Width

Residual Moments		Tie Pattern	Moment Coefficients	Strut Capacity
		A	1.75	12.36
		B	0.67	14.17
LC3	1.78	D	1.75	12.36
LC4	1.78	E	0.68	13.92

(Country, Debris, 0&1, F&P)

q_p values - In Country (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{end} C_{pe}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.099	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.416	0.448	0.473	0.498	0.515	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.914	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.793	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.665	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.224	0.257	0.279	0.300	0.317	0.333	0.345	0.351	0.357	0.363	0.369	0.376	0.382	0.388
24	0.323	0.371	0.401	0.432	0.456	0.480	0.496	0.505	0.513	0.522	0.532	0.541	0.550	0.559
28	0.439	0.504	0.546	0.588	0.621	0.653	0.676	0.687	0.699	0.711	0.724	0.736	0.748	0.761
32	0.574	0.659	0.713	0.768	0.811	0.854	0.883	0.898	0.913	0.929	0.945	0.961	0.978	0.994
36	0.726	0.834	0.903	0.972	1.026	1.080	1.117	1.136	1.155	1.176	1.196	1.217	1.237	1.258
40	0.896	1.029	1.115	1.200	1.267	1.334	1.379	1.402	1.426	1.451	1.477	1.502	1.527	1.553

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.585	0.672	0.728	0.783	0.827	0.871	0.900	0.914	0.931	0.948	0.964	0.981	0.997	1.014
24	0.843	0.968	1.048	1.128	1.191	1.254	1.297	1.319	1.341	1.365	1.389	1.412	1.436	1.460
28	1.147	1.318	1.426	1.535	1.621	1.707	1.765	1.793	1.825	1.858	1.890	1.922	1.955	1.987
32	1.498	1.721	1.863	2.005	2.117	2.229	2.305	2.344	2.384	2.426	2.469	2.511	2.553	2.596
36	1.896	2.178	2.358	2.538	2.680	2.822	2.917	2.967	3.017	3.071	3.124	3.178	3.232	3.285
40	2.341	2.689	2.911	3.133	3.308	3.485	3.602	3.665	3.725	3.791	3.857	3.923	3.990	4.056

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.227	0.261	0.283	0.304	0.321	0.338	0.350	0.356	0.362	0.368	0.375	0.381	0.388	0.394
24	0.328	0.376	0.407	0.438	0.463	0.487	0.504	0.512	0.521	0.530	0.540	0.549	0.558	0.567
28	0.446	0.512	0.554	0.597	0.630	0.663	0.686	0.697	0.709	0.722	0.734	0.747	0.760	0.772
32	0.582	0.669	0.724	0.779	0.823	0.866	0.896	0.911	0.926	0.943	0.959	0.976	0.992	1.009
36	0.737	0.846	0.916	0.986	1.041	1.096	1.134	1.153	1.173	1.193	1.214	1.235	1.256	1.277
40	0.910	1.045	1.131	1.218	1.286	1.354	1.400	1.423	1.447	1.473	1.499	1.524	1.550	1.576

1.8m Bay x 1.3m (5) Width

(Town, Debris, 0&1, F&P)

q_p values - In Town (kN/m^2) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{end} C_{pe}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.075	3.154	3.234	3.318	3.4
20	0.254	0.311	0.352	0.394	0.426	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.613	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.825	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.816	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.021	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.940	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.630	3.729	3.824	3.923	4.020

Tie Pattern B — Max Mmt coefficient= 0.67

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.170	0.208	0.236	0.264	0.285	0.307	0.322	0.330	0.338	0.348	0.357	0.366	0.376	0.385
24	0.245	0.300	0.340	0.380	0.411	0.442	0.464	0.476	0.487	0.501	0.514	0.527	0.541	0.554
28	0.333	0.409	0.463	0.517	0.559	0.602	0.631	0.647	0.663	0.681	0.700	0.718	0.736	0.754
32	0.435	0.534	0.604	0.675	0.731	0.786	0.825	0.845	0.866	0.890	0.914	0.938	0.961	0.985
36	0.551	0.675	0.765	0.854	0.925	0.995	1.044	1.070	1.096	1.126	1.157	1.187	1.217	1.247
40	0.680	0.834	0.944	1.055	1.142	1.229	1.288	1.321	1.354	1.391	1.428	1.465	1.502	1.539

Tie Pattern D — Max Mmt coefficient= 1.75

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.444	0.545	0.617	0.689	0.746	0.802	0.841	0.863	0.884	0.908	0.932	0.957	0.981	1.005
24	0.640	0.784	0.888	0.992	1.074	1.155	1.211	1.242	1.273	1.308	1.343	1.377	1.412	1.447
28	0.871	1.067	1.209	1.350	1.461	1.572	1.649	1.691	1.732	1.780	1.827	1.875	1.922	1.970
32	1.137	1.394	1.579	1.763	1.909	2.054	2.154	2.208	2.263	2.325	2.387	2.449	2.511	2.573
36	1.440	1.764	1.998	2.232	2.415	2.599	2.726	2.795	2.864	2.940	3.021	3.099	3.178	3.256
40	1.777	2.178	2.467	2.755	2.982	3.209	3.365	3.450	3.535	3.630	3.729	3.824	3.923	4.020

Tie Pattern E — Max Mmt coefficient= 0.68

Height, m	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S														
20	0.173	0.212	0.240	0.268	0.290	0.312	0.327	0.335	0.343	0.353	0.362824213	0.371701297	0.381120181	0.390539063
24	0.249	0.305	0.345	0.385	0.417	0.449	0.471	0.483	0.495	0.508	0.521686675	0.535249867	0.548813059	0.562376251
28	0.338	0.415	0.470	0.525	0.568	0.611	0.641	0.657	0.673	0.692	0.71007353	0.728534542	0.746995553	0.765456564
32	0.442	0.542	0.613	0.685	0.742	0.798	0.837	0.858	0.879	0.903	0.927442979	0.95155532	0.975667661	0.999780002
36	0.559	0.686	0.776	0.867	0.939	1.010	1.059	1.086	1.113	1.143	1.17379502	1.204312202	1.234829383	1.265346565
40	0.691	0.846	0.958	1.071	1.159	1.247	1.308	1.341	1.374	1.411	1.449129654	1.486805187	1.52448072	1.562156253

LC3 1.8m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	14
24	6.508	5.639	5.085	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	7
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.245	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15	15
24	11.601	11.220	10.974	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	11	11
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	7	7

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	14	14
24	6.508	5.639	5.085	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	7
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.565	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.808	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.245	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.141	11.872	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	11	11
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6	6

LC3 1.8m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	14
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	8
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	5	5
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	3	3
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.044	-7.522	-8.071	-8.619	-9.168	-9.717	-10.252	2	2
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.843	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	12	12
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	8	8

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	14	14
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	8
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	5	5
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.973	-3.352	-3.783	-4.214	-4.644	-5.075	-5.506	3	3
36	2.364	0.110	-1.513	-3.136	-4.413	-5.690	-6.567	-7.044	-7.522	-8.071	-8.619	-9.168	-9.717	-10.252	2	2
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.843	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15	15
24	11.974	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	11	11
40	8.520	7.305	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	8	7

LC4 1.8m Bay x 1.3m (S) Width (Country, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.562	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.838	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.386	12.121	11.952	11.782	11.649	11.516	11.426	11.379	11.332	11.282	11.231	11.181	11.130	11.080	15	15
24	11.601	11.220	10.976	10.732	10.540	10.348	10.218	10.151	10.083	10.011	9.938	9.865	9.793	9.720	15	15
28	10.674	10.154	9.822	9.490	9.229	8.968	8.791	8.699	8.608	8.509	8.410	8.311	8.212	8.113	15	15
32	9.603	8.925	8.492	8.058	7.717	7.375	7.145	7.025	6.905	6.776	6.646	6.517	6.388	6.259	15	15
36	8.390	7.532	6.983	6.434	6.002	5.570	5.278	5.127	4.975	4.811	4.648	4.484	4.321	4.158	11	10
40	7.034	5.975	5.297	4.620	4.087	3.553	3.193	3.005	2.818	2.616	2.414	2.213	2.011	1.809	6	6

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	8.296	7.692	7.306	6.920	6.617	6.313	6.108	6.001	5.894	5.779	5.664	5.549	5.434	5.319	13	13
24	6.508	5.639	5.083	4.527	4.090	3.652	3.357	3.203	3.049	2.884	2.718	2.553	2.387	2.222	7	6
28	4.394	3.211	2.455	1.699	1.103	0.508	0.105	-0.104	-0.313	-0.538	-0.764	-0.989	-1.214	-1.440	3	3
32	1.956	0.411	-0.577	-1.562	-2.343	-3.121	-3.646	-3.919	-4.193	-4.487	-4.781	-5.075	-5.370	-5.664	0	0
36	-0.838	-2.763	-4.014	-5.264	-6.248	-7.233	-7.898	-8.243	-8.589	-8.962	-9.334	-9.707	-10.079	-10.451	0	0
40	-3.897	-6.311	-7.854	-9.398	-10.613	-11.828	-12.649	-13.076	-13.503	-13.963	-14.423	-14.883	-15.342	-15.802	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.141	11.877	11.708	11.540	11.407	11.274	11.184	11.137	11.090	11.040	10.990	10.940	10.889	10.839	15	15
24	11.359	10.979	10.735	10.492	10.301	10.109	9.980	9.913	9.845	9.773	9.701	9.628	9.556	9.483	15	15
28	10.434	9.916	9.585	9.254	8.994	8.733	8.557	8.466	8.374	8.276	8.177	8.078	7.980	7.881	15	15
32	9.367	8.691	8.258	7.826	7.486	7.145	6.916	6.796	6.676	6.548	6.419	6.290	6.161	6.033	15	15
36	8.157	7.302	6.755	6.207	5.777	5.346	5.055	4.904	4.752	4.589	4.426	4.263	4.100	3.937	10	10
40	6.806	5.749	5.074	4.398	3.867	3.335	2.976	2.789	2.602	2.401	2.199	1.998	1.797	1.596	6	6

LC4 1.8m Bay x 1.3m (S) Width (Town, Debris, 0&1, F&P)

Tie Pattern A Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.972	-3.352	-3.780	-4.214	-4.644	-5.075	-5.506	3	3
36	2.364	0.110	-1.533	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.618	-9.161	-9.707	-10.252	2	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern B Residual Axial Capacity Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.816	12.510	12.291	12.071	11.898	11.725	11.606	11.541	11.476	11.402	11.328	11.255	11.181	11.107	15	15
24	12.220	11.780	11.464	11.147	10.898	10.649	10.478	10.384	10.291	10.184	10.078	9.972	9.865	9.759	15	15
28	11.516	10.917	10.486	10.056	9.716	9.377	9.144	9.017	8.890	8.745	8.600	8.456	8.311	8.166	15	15
32	10.703	9.922	9.359	8.796	8.353	7.910	7.606	7.440	7.274	7.085	6.896	6.706	6.517	6.328	15	15
36	9.783	8.793	8.081	7.369	6.808	6.248	5.862	5.652	5.442	5.203	4.963	4.724	4.484	4.245	11	11
40	8.753	7.532	6.652	5.773	5.081	4.389	3.914	3.654	3.395	3.099	2.804	2.508	2.213	1.917	8	7

Tie Pattern D Residual Axial Capacity Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.275	8.579	8.078	7.577	7.183	6.789	6.518	6.370	6.223	6.054	5.886	5.718	5.549	5.381	13	13
24	7.917	6.915	6.194	5.473	4.905	4.338	3.948	3.735	3.522	3.280	3.037	2.795	2.553	2.310	8	7
28	6.313	4.949	3.968	2.986	2.214	1.441	0.910	0.620	0.331	0.001	-0.329	-0.659	-0.989	-1.319	4	4
32	4.462	2.681	1.399	0.116	-0.893	-1.901	-2.595	-2.972	-3.352	-3.780	-4.214	-4.644	-5.075	-5.506	3	3
36	2.364	0.110	-1.533	-3.136	-4.413	-5.690	-6.567	-7.046	-7.525	-8.071	-8.618	-9.161	-9.707	-10.252	2	0
40	0.020	-2.764	-4.767	-6.771	-8.347	-9.923	-11.007	-11.598	-12.190	-12.863	-13.536	-14.209	-14.883	-15.556	0	0

Tie Pattern E Residual Axial Capacity Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.570	12.265	12.046	11.827	11.655	11.482	11.364	11.299	11.234	11.161	11.087	11.013	10.940	10.866	15	15
24	11.976	11.537	11.222	10.906	10.658	10.409	10.239	10.146	10.052	9.946	9.840	9.734	9.628	9.522	15	15
28	11.274	10.677	10.247	9.818	9.480	9.142	8.909	8.783	8.656	8.511	8.367	8.223	8.078	7.934	15	15
32	10.464	9.684	9.123	8.562	8.121	7.679	7.375	7.210	7.044	6.856	6.667	6.479	6.290	6.101	15	15
36	9.546	8.559	7.849	7.139	6.580	6.021	5.637	5.428	5.218	4.979	4.741	4.502	4.263	4.025	11	11
40	8.520	7.302	6.425	5.548	4.858	4.168	3.694	3.435	3.177	2.882	2.587	2.293	1.998	1.704	7	7

1.8m Bay x 1.3m (5) Width

Residual Moments	
LC3	1.78
LC4	1.78

Tie Pattern	Moment Coefficients	Strut Capacity
A	1.02	12.36
B	0.39	14.17
D	1.02	12.36
E	0.4	13.92

(Country, Uncload, 0&1, F&P)

q_p values - In Country (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.98	2.274	2.462	2.65	2.798	2.946	3.046	3.098	3.15	3.206	3.262	3.318	3.374	3.43
20	0.334	0.384	0.418	0.448	0.473	0.498	0.513	0.523	0.532	0.542	0.551	0.560	0.570	0.579
24	0.482	0.553	0.599	0.645	0.681	0.717	0.741	0.754	0.766	0.780	0.793	0.807	0.821	0.834
28	0.656	0.753	0.815	0.877	0.926	0.975	1.008	1.026	1.043	1.061	1.080	1.099	1.117	1.136
32	0.856	0.983	1.065	1.146	1.210	1.274	1.317	1.340	1.362	1.386	1.411	1.435	1.459	1.483
36	1.084	1.245	1.347	1.450	1.531	1.612	1.667	1.696	1.724	1.755	1.785	1.816	1.847	1.877
40	1.338	1.536	1.664	1.791	1.891	1.991	2.058	2.093	2.128	2.166	2.204	2.242	2.280	2.318

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.130	0.150	0.162	0.175	0.184	0.194	0.201	0.204	0.208	0.211	0.215	0.219	0.222	0.226
24	0.188	0.216	0.234	0.251	0.265	0.279	0.289	0.294	0.299	0.304	0.309	0.315	0.320	0.325
28	0.256	0.294	0.318	0.342	0.361	0.380	0.393	0.400	0.407	0.414	0.421	0.428	0.436	0.443
32	0.334	0.384	0.415	0.447	0.472	0.497	0.514	0.522	0.531	0.541	0.550	0.560	0.569	0.578
36	0.423	0.485	0.526	0.566	0.597	0.629	0.650	0.661	0.672	0.684	0.696	0.708	0.720	0.732
40	0.522	0.599	0.649	0.698	0.737	0.776	0.803	0.816	0.830	0.845	0.860	0.874	0.889	0.904

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.341	0.392	0.424	0.457	0.482	0.508	0.525	0.534	0.543	0.552	0.562	0.572	0.581	0.591
24	0.491	0.564	0.611	0.657	0.694	0.731	0.756	0.769	0.782	0.795	0.809	0.823	0.837	0.851
28	0.669	0.768	0.831	0.895	0.945	0.995	1.029	1.046	1.064	1.083	1.102	1.120	1.139	1.158
32	0.873	1.003	1.086	1.169	1.234	1.299	1.344	1.366	1.389	1.414	1.439	1.464	1.488	1.513
36	1.105	1.269	1.374	1.479	1.562	1.645	1.700	1.729	1.758	1.790	1.821	1.852	1.884	1.915
40	1.365	1.567	1.697	1.826	1.928	2.030	2.099	2.135	2.171	2.210	2.248	2.287	2.325	2.364

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.134	0.154	0.166	0.179	0.189	0.199	0.206	0.209	0.213	0.217	0.220	0.224	0.228	0.232
24	0.193	0.221	0.240	0.258	0.272	0.287	0.298	0.301	0.306	0.312	0.317	0.323	0.328	0.334
28	0.262	0.301	0.326	0.351	0.371	0.390	0.403	0.410	0.417	0.425	0.432	0.439	0.447	0.454
32	0.342	0.393	0.426	0.458	0.484	0.510	0.527	0.536	0.545	0.555	0.564	0.574	0.584	0.593
36	0.433	0.498	0.539	0.580	0.613	0.645	0.667	0.678	0.690	0.702	0.714	0.726	0.739	0.751
40	0.535	0.615	0.665	0.716	0.756	0.796	0.823	0.837	0.851	0.866	0.882	0.897	0.912	0.927

1.8m Bay x 1.3m (5) Width

(Town, Uncload, 0&1, F&P)

q_p values - In Town (kN/m²) (TG20:13)

H (m)	4	6	8	10	12	14	16	18	20	22	24	26	28	30
S_{wind} C_{eq}	1.503	1.842	2.086	2.33	2.522	2.714	2.846	2.918	2.99	3.072	3.154	3.236	3.318	3.4
20	0.254	0.311	0.352	0.394	0.428	0.458	0.481	0.493	0.505	0.519	0.533	0.547	0.560	0.574
24	0.366	0.448	0.507	0.567	0.615	0.660	0.692	0.710	0.727	0.747	0.767	0.787	0.807	0.827
28	0.498	0.610	0.691	0.771	0.835	0.899	0.942	0.966	0.990	1.017	1.044	1.071	1.099	1.126
32	0.650	0.797	0.902	1.008	1.091	1.174	1.231	1.262	1.293	1.328	1.364	1.399	1.435	1.470
36	0.823	1.008	1.142	1.275	1.380	1.485	1.558	1.597	1.636	1.681	1.726	1.771	1.815	1.861
40	1.016	1.245	1.409	1.574	1.704	1.834	1.923	1.972	2.020	2.076	2.131	2.186	2.242	2.297

Tie Pattern A — Max Mmt coefficient= 1.02

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern B — Max Mmt coefficient= 0.39

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.099	0.121	0.137	0.153	0.166	0.179	0.187	0.192	0.197	0.202	0.208	0.213	0.219	0.224
24	0.143	0.175	0.198	0.221	0.239	0.257	0.270	0.277	0.284	0.291	0.299	0.307	0.315	0.323
28	0.194	0.238	0.269	0.301	0.326	0.350	0.367	0.377	0.384	0.397	0.407	0.418	0.428	0.439
32	0.253	0.311	0.352	0.393	0.425	0.458	0.480	0.492	0.504	0.518	0.532	0.546	0.560	0.573
36	0.321	0.393	0.445	0.497	0.538	0.579	0.607	0.623	0.638	0.656	0.675	0.691	0.708	0.726
40	0.396	0.485	0.550	0.614	0.665	0.715	0.750	0.769	0.788	0.810	0.831	0.853	0.874	0.896

Tie Pattern D — Max Mmt coefficient= 1.02

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.259	0.317	0.359	0.401	0.435	0.468	0.490	0.503	0.515	0.529	0.543	0.558	0.572	0.586
24	0.373	0.457	0.518	0.578	0.626	0.673	0.706	0.724	0.742	0.762	0.783	0.803	0.823	0.844
28	0.508	0.622	0.704	0.787	0.852	0.917	0.961	0.985	1.010	1.037	1.065	1.093	1.120	1.148
32	0.663	0.812	0.920	1.028	1.112	1.197	1.255	1.287	1.319	1.355	1.391	1.427	1.464	1.500
36	0.839	1.028	1.164	1.301	1.408	1.515	1.589	1.629	1.669	1.715	1.761	1.806	1.852	1.898
40	1.036	1.269	1.438	1.606	1.738	1.870	1.961	2.011	2.061	2.117	2.174	2.230	2.287	2.343

Tie Pattern E — Max Mmt coefficient= 0.4

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30
20	0.102	0.124	0.141	0.157	0.170	0.183	0.192	0.197	0.202	0.208	0.213	0.219	0.224	0.230
24	0.146	0.179	0.203	0.227	0.245	0.264	0.277	0.284	0.291	0.299	0.307	0.315	0.323	0.331
28	0.199	0.244	0.276	0.309	0.334	0.359	0.377	0.386	0.396	0.407	0.418	0.429	0.439	0.450
32	0.260	0.319	0.361	0.403	0.436	0.469	0.492	0.505	0.517	0.531	0.546	0.560	0.574	0.588
36	0.329	0.403	0.457	0.510	0.552	0.594	0.623	0.639	0.655	0.673	0.690	0.708	0.726	0.744
40	0.406	0.498	0.564	0.630	0.682	0.734	0.769	0.789	0.808	0.830	0.852	0.875	0.897	0.919

LC3 1.8m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	4
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	4
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15	15
28	11.869	11.565	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15	15
36	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15	15

LC3 1.8m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	12
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	12	12
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15	15

1800 Bay Omega Transom

LC4 1.8m Bay x 1.3m (S) Width (Country, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
36	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	13.132	12.977	12.879	12.780	12.703	12.625	12.573	12.545	12.518	12.489	12.459	12.430	12.401	12.371	15	15
24	12.675	12.453	12.311	12.169	12.057	11.945	11.870	11.830	11.791	11.749	11.707	11.664	11.622	11.580	15	15
28	12.135	11.833	11.639	11.446	11.294	11.142	11.039	10.986	10.932	10.875	10.817	10.759	10.702	10.644	15	15
32	11.512	11.117	10.865	10.612	10.414	10.215	10.081	10.011	9.941	9.866	9.791	9.715	9.640	9.565	15	15
36	10.806	10.306	9.987	9.667	9.416	9.164	8.994	8.906	8.818	8.722	8.627	8.532	8.437	8.342	15	15
40	10.016	9.400	9.005	8.611	8.301	7.990	7.780	7.671	7.562	7.445	7.327	7.210	7.092	6.975	15	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	9.991	9.639	9.414	9.190	9.012	8.835	8.716	8.654	8.591	8.524	8.457	8.390	8.323	8.256	15	15
24	8.949	8.442	8.118	7.795	7.540	7.285	7.112	7.023	6.933	6.837	6.740	6.644	6.547	6.451	15	15
28	7.717	7.028	6.587	6.146	5.799	5.452	5.217	5.095	4.973	4.842	4.711	4.579	4.448	4.317	11	11
32	6.296	5.395	4.819	4.244	3.790	3.337	3.031	2.872	2.712	2.541	2.369	2.198	2.026	1.855	6	6
34	4.685	3.545	2.816	2.088	1.514	0.940	0.553	0.351	0.150	-0.068	-0.285	-0.502	-0.719	-0.936	4	3
40	2.885	1.478	0.578	-0.322	-1.030	-1.738	-2.217	-2.466	-2.715	-2.983	-3.251	-3.519	-3.787	-4.055	2	2

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	12.874	12.718	12.619	12.520	12.442	12.363	12.311	12.283	12.256	12.226	12.196	12.167	12.137	12.108	15	15
24	12.413	12.190	12.047	11.904	11.791	11.678	11.602	11.563	11.523	11.481	11.438	11.395	11.353	11.310	15	15
28	11.869	11.545	11.370	11.176	11.022	10.869	10.765	10.712	10.658	10.600	10.542	10.484	10.426	10.368	15	15
32	11.242	10.844	10.590	10.335	10.135	9.935	9.800	9.729	9.659	9.583	9.508	9.432	9.356	9.280	15	15
34	10.530	10.027	9.705	9.383	9.130	8.876	8.705	8.616	8.527	8.431	8.335	8.240	8.144	8.048	15	15
40	9.735	9.114	8.716	8.319	8.006	7.693	7.482	7.372	7.262	7.144	7.026	6.907	6.789	6.670	15	15

LC4 1.8m Bay x 1.3m (S) Width (Town, Unclad, 0&1, F&P)

Tie Pattern A — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30	+0	+1
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern B — Residual Axial Capacity — Strut Capacity= 14.17 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	13.382	13.204	13.076	12.948	12.847	12.747	12.677	12.640	12.602	12.559	12.516	12.473	12.430	12.387	15	15
24	13.035	12.779	12.595	12.410	12.265	12.120	12.021	11.966	11.912	11.850	11.788	11.726	11.664	11.602	15	15
28	12.625	12.277	12.026	11.775	11.578	11.380	11.245	11.171	11.097	11.012	10.928	10.844	10.759	10.675	15	15
32	12.152	11.697	11.369	11.042	10.784	10.526	10.349	10.252	10.156	10.046	9.936	9.826	9.715	9.605	15	15
36	11.616	11.040	10.626	10.211	9.885	9.558	9.334	9.212	9.089	8.950	8.811	8.671	8.532	8.393	15	15
40	11.017	10.306	9.794	9.282	8.880	8.477	8.200	8.049	7.898	7.726	7.554	7.382	7.210	7.038	15	15

Tie Pattern D — Residual Axial Capacity — Strut Capacity= 12.36 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	10.562	10.156	9.864	9.572	9.343	9.113	8.955	8.869	8.783	8.685	8.587	8.488	8.390	8.292	15	15
24	9.771	9.187	8.766	8.346	8.015	7.684	7.457	7.333	7.209	7.068	6.926	6.785	6.644	6.502	15	15
28	8.836	8.041	7.468	6.896	6.446	5.996	5.686	5.517	5.349	5.156	4.964	4.772	4.579	4.387	11	11
32	7.757	6.718	5.971	5.224	4.636	4.048	3.643	3.423	3.202	2.951	2.700	2.449	2.198	1.947	7	7
36	6.534	5.220	4.274	3.328	2.584	1.840	1.328	1.049	0.770	0.452	0.134	-0.184	-0.502	-0.820	5	5
40	5.167	3.545	2.377	1.210	0.291	-0.628	-1.260	-1.604	-1.949	-2.341	-2.734	-3.126	-3.519	-3.911	3	3

Tie Pattern E — Residual Axial Capacity — Strut Capacity= 13.92 kN

Height, m / S	4	6	8	10	12	14	16	18	20	22	24	26	28	30		
20	13.126	12.947	12.818	12.689	12.587	12.486	12.416	12.378	12.340	12.297	12.253	12.210	12.167	12.123	15	15
24	12.776	12.518	12.333	12.147	12.001	11.855	11.755	11.700	11.645	11.583	11.520	11.458	11.395	11.333	15	15
28	12.363	12.012	11.760	11.507	11.308	11.109	10.973	10.898	10.823	10.738	10.654	10.569	10.484	10.399	15	15
32	11.887	11.428	11.098	10.768	10.509	10.249	10.070	9.973	9.875	9.765	9.654	9.543	9.432	9.321	15	15
36	11.347	10.767	10.349	9.931	9.602	9.274	9.048	8.924	8.801	8.661	8.520	8.380	8.240	8.099	15	15
40	10.743	10.027	9.511	8.995	8.590	8.184	7.905	7.753	7.600	7.427	7.254	7.080	6.907	6.734	15	15