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Project: B11302
Client: VR Access Solutions Ltd
Reference: Steel Ladder Beam

Moment and Shear Capacity

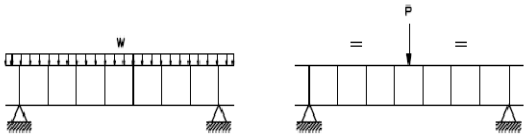
Restraints to	Top Chord (m, c/c) Permissible	1.00	1.50	2.00	
Moment Capacity (kN.m)	Permissible Shear Capacity	7.11*	7.11*	6.50	
(kN)	Ultimate Shear Capacity (kN)	35.85	35.85	35.85	
		59.16	59.16	59.16	

Safe Working Loads

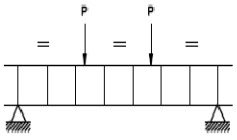
	Span (m)	4.88m	6.1m		
Top Chord Bracing c/c	1.0m				
Uniformly Distributed Load (kN/m)		*2.58*	*1.55*		
Single Point Load Mid Span (kN)		*7.3*	*5.40*		
Two Point Loads at Third Points (kN)		*4.7*	*3.50*		
Three Point Loads at Quarter Points (kN)		*3.3*	*2.40*		
Top Chord Bracing c/c	1.5m	*2.58*	*1.55*		
Uniformly Distributed Load (kN/m)		*7.3*	*5.40*		
Single Point Load Mid Span (kN)		*4.7*	*3.50*		
Two Point Loads at Third Points (kN)		*3.3*	*2.40*		
Three Point Loads at Quarter Points (kN)					
Top Chord Bracing c/c	2.0m				
Uniformly Distributed Load (kN/m)		2.49	*1.55*		
Single Point Load Mid Span (kN)		5.4	4.30		
Two Point Loads at Third Points (kN)		4.2	3.20		
Three Point Loads at Quarter Points (kN)		2.9	2.30		

Load Position Diagrams

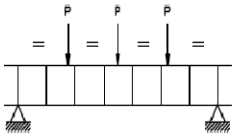
UDL 1 Point Load Mid Span



2 Point Loads at 1/3 Points



3 Point Loads at 1/4 Points



1) Safe Working Loads are to be used in conjuction with unfactored applied loads
2) Figure in itallics indicate beam capacity is limited by deflection criteria
3) Capacities are calculated on the basis of simple supports at each end
4) Design is in accordance with BSEN 1993-1-1 and BS EN12811-1
5) Beams should be supported at node points and not at ends of cantilever tube sections
* Denotes moment derived from loads which are limited by deflection criteria. May be improved for smaller spans.