
Barracuda
Brick Slip System
JAMES TAYLOR
SOLUTIONS OUTSIDE THE BOX

WHAT IS BARRACUDA

The Barracuda brick slip system, for the first time, provides a brick slip solution that accommodates with ease, all brick types.

Where 65mm is the mean height dimension Barracuda can accommodate brick heights that vary from 58mm to 70mm, incorporating simple cut brick slips that are not reliant on special extruded shapes or cut grooves in every slip.

Barracuda achieves this with a unique patented design that uses lightweight, precision rolled, stainless steel sections which incorporate individual inward facing sprung teeth that grip the brick slip.

These sprung teeth are at differing lengths with the longest teeth gripping the smallest slips and the shorter teeth the largest.

Because the teeth are inward facing, the brick slips can be readily inserted between the Barracuda rails, but once fully inserted the brick slips are securely held in place. Smaller teeth in the underside of each rail provide the necessary grip to the top of each brick slip.

The injection of mortar into the joints between brick slips, locks both the sprung teeth and the brick slips in place.

WHY BARRACUDA

6 years ago, we recognised that the use of lightweight and fast track brick slip systems were progressively gaining momentum in the market, replacing traditional masonry with rainscreen cladding technology.

Lighter, quicker, not reliant on the ever-increasing shortage of quality bricklayers and capable of being installed from mast climbers or similar access provision rather than scaffolding.

It was however evident that the brick slip systems that existed at that time, which have changed very little in the interim period, were, in our view, either too restrictive in the brick types that could be used and/or were simply not good enough in terms of performance and safety.

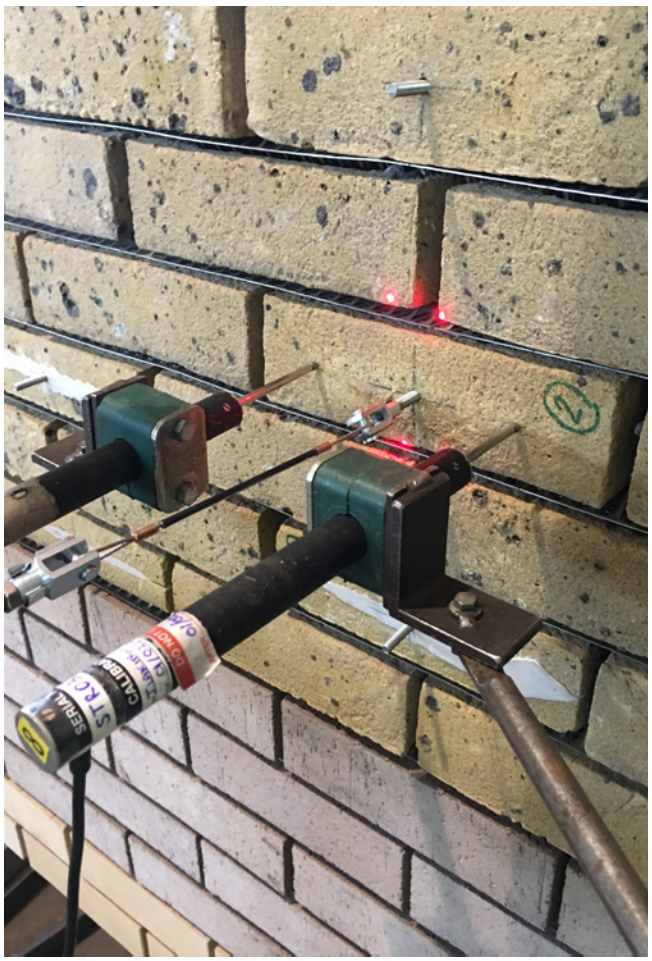
So, the space and place in the market for something radically different, more flexible and better was the aspiration, and Barracuda meets these challenges.

LEVELS THE TOP OF THE BRICKS

The Barracuda system's sprung stainless-steel teeth force every brick slip upwards hence aligning the top of the brick slips. This is what bricklayers do when laying traditional brickwork.

If, as in many other brick slip systems, the brick slips sit down in a groove on a rail or nest into a rail, it's the bottom of the brick that is being aligned.

In our market research, prior to our development of the Barracuda system, this aesthetic alignment of the top not the bottom of the brick came number one as the reason why both architects and their clients would not consider the use of a brick slip system. "It just doesn't look like real brickwork" was the recurring comment.



SAFE WHEN UNPOINTED

Brick slip systems exist potentially for days or weeks un-pointed.

The facades are subject to wind loads and the risk of hard and soft body impacts.

Barracuda has been tested, un-pointed, up to the equivalent of 245mph wind speeds.

Similarly un-pointed the full CWCT hard and soft body impact tests were carried out for "Safety". The result for 500J soft body was "Negligible Risk" and for 10J hard body "Low Risk".

If any system has not been tested un-pointed and achieved these test results, it is not safe to be used with any degree of certainty.

Pointed the Barracuda system achieves "Negligible Risk " at 500J soft body and 10J hard body for "Safety" and Class 1 for "Serviceability".

BRICK SLIP RETENTION

No flexibility exists in rail positioning as (for 65mm bricks) the 75mm module height needs to be maintained to coordinate with floor-to-floor heights and above and below openings.

A millimetre or two out with rail positioning and / or brick slips being at the extremes of acceptable tolerances and the resultant potential for no or insufficient engagement needs to be factored into the risk profile.

For all brick slip systems, a desk top study should be carried out to determine if e.g. a rail is 1mm / 2mm out in one direction and the rail above or below is 1mm / 2mm out in the opposite direction (very easy to imagine this under normal site conditions) and the brick slips are at the extremes of tolerance how much engagement exists.

We have carried out this study on other brick slip systems.

The Barracuda system's capability to include bricks from 58mm to 70mm solves this issue.

ANY BRICK & ANY TOLERANCE

Any brick slip system that is reliant on a particular brick manufacturer's specially extruded brick slip shape to work, limits the choice to only very accurately, typically extruded bricks, of a finite number of colours and textures.

Brick slip systems, that rely on grooves cut into the top and bottom of each slip that then sit down (aligning the bottom of the bricks) into horizontal rails, with upturned and downturned flanges, rely entirely on the brick slips being within tolerance, which similarly restricts choice.

The Barracuda system incorporates all brick types that are frost resistant, accommodating (for a 65mm brick) bricks that can vary in height from 58mm to 70mm. (For a 65mm brick face height bricks outside these -7mm and +5mm tolerances cannot be accommodated).

Although this would never occur in reality, Barracuda performs effectively (and has been tested in this condition) if a brick slip at 58mm occurred adjacent to a brick slip at 70mm.

Barracuda is equally flexible in accommodating perforated wire cut, solid and frogged brick types.

Stock and handmade bricks are particularly suited to the Barracuda system, as are brick types that are artisan and misshapen in nature.

MORTAR DEPTH

There is a good reason why brick slips used in the Barracuda system are 40mm thick and not thinner than this.

An equally important dynamic is not to interrupt the mortar depth approx. halfway back with the upstand / down stand of a horizontal rail.

The teeth within the Barracuda system lock the mortar into place.

Where for example, only approx. 12/15mm mortar depth exists, simply backed up by an aluminium or coated steel rail, the mortar is only likely to last so long, and in our view, not long enough.

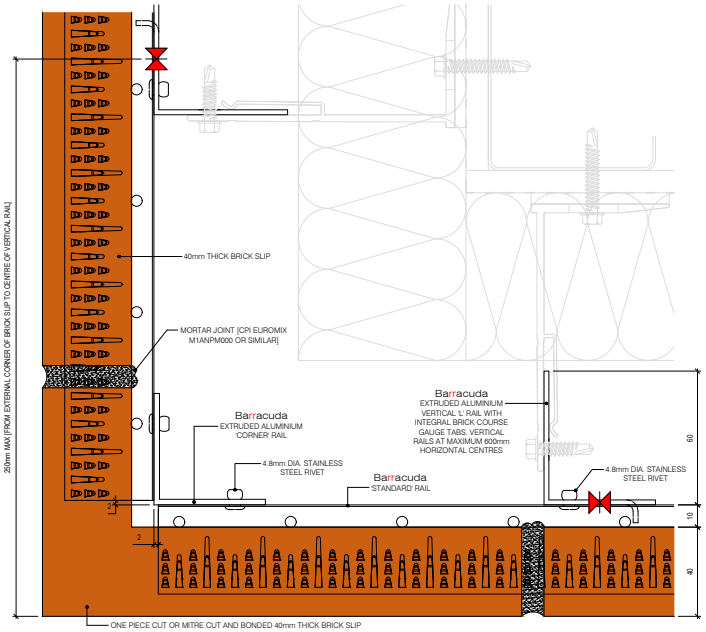
Facades expand and contract and are subject to freeze thaw as well as general building movement.

Will a 12mm x 15mm sliver of mortar stand up to this over the lifetime of the building.

ONE PIECE CORNER BRICK

In this day and age it's simply, in our opinion, unacceptable to require corner / return / reveal bricks to be cut and bonded.

The Barracuda system uses one piece corner bricks.



TESTING

The Barracuda system is, in our opinion, the most comprehensively tested brick slip system in the market.

Independent testing is the cornerstone and foundation of decision making and no compromise should be accepted.

Listed below are the independent tests undertaken.

The test results are provided alongside CWCT and other applicable Standards.

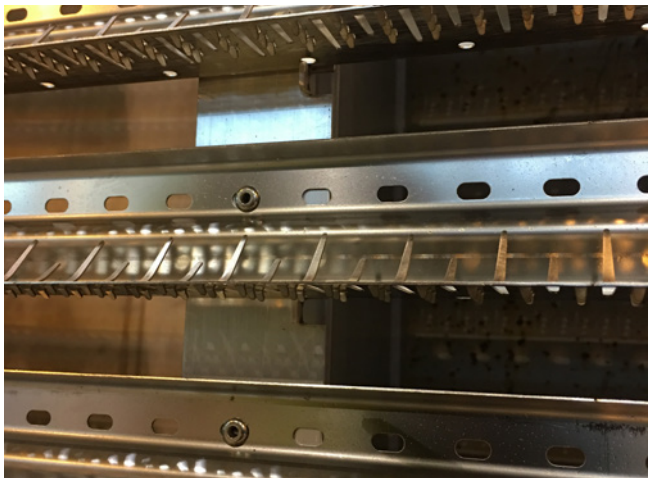
TEST RESULTS

IMPACT PERFORMANCE MORTARED	HARD BODY	SAFETY	10J	NEGLIGIBLE RISK	CWCT TN75 & TN76 - 2005
	HARD BODY	SERVICEABILITY	10J	CLASS I	CWCT TN75 & TN76 - 2005
	SOFT BODY	SAFETY	500J	NEGLIGIBLE RISK	CWCT TN75 & TN76 - 2005
	SOFT BODY	SERVICEABILITY	120J	CLASS 1	CWCT TN75 & TN76 - 2005
IMPACT PERFORMANCE UNMORTARED	HARD BODY	SAFETY	10J	LOW RISK	CWCT TN75 & TN76 - 2005
	SOFT BODY	SAFETY	500J	NEGLIGIBLE RISK	CWCT TN75 & TN76 - 2005
IMPACT PERFORMANCE MORTARED AFTER LONG TERM DURABILITY TESTING (60 YEARS)	HARD BODY	SAFETY	10J	NEGLIGIBLE RISK	CWCT TN75 & TN76 - 2005
	HARD BODY	SERVICEABILITY	10J	CLASS 1	CWCT TN75 & TN76 - 2005
	SOFT BODY	SAFETY	500J	NEGLIGIBLE RISK	CWCT TN75 & TN76 - 2005
	SOFT BODY	SERVICEABILITY	120J	CLASS 1	CWCT TN75 & TN76 - 2005
WATERTIGHTNESS	STATIC PRESSURE		600 PASCALS	PASS	CWCT Standard Test Methods for Building Envelopes: 2005 & BS EN 12154 - 2000
	DYNAMIC PRESSURE		600 PASCALS	PASS	CWCT Standard Test Methods for Building Envelopes: 2005 & BS EN 12154 - 2000
WIND RESISTANCE	SAFETY		± 3600 PASCALS	PASS	CWCT Standard Test Methods for Building Envelopes: 2005 & BS EN 13116 - 2001
	SERVICEABILITY		± 2400 PASCALS	PASS	CWCT Standard Test Methods for Building Envelopes: 2005 & BS EN 13116 - 2001
REACTION TO FIRE			A1	PASS	BS EN 13501-1- 2018
LONG TERM DURABILITY 60 YEARS				PASS	EAD 090062-00-0404 & DD CEN/TS 772-22:2006

STAINLESS STEEL, COATED STEEL OR ALUMINIUM

Stainless steel is the Barracuda rail material of choice. We were unwilling to consider anything other than stainless steel, due to its exceptional performance characteristics, and its excellent environmental credentials, when compared to coated steel or aluminium.

Stainless steel is widely recognised as being four to six times more environmentally friendly than aluminium and if steel is coated, this secondary process, inevitably adds to the carbon footprint.



DESIGN LIFE WARRANTY

The comprehensive testing carried out, and in particular the Long-Term Durability testing, has allowed us to provide a Design Life Warranty.

Anything short of this isn't long enough. This was one of the most important undertakings that we mapped out when we started our Barracuda journey.

COST

Cost means nothing if everything else cannot be achieved in terms of performance, testing and flexibility.

However, cost really matters, and our focus has similarly been to make Barracuda affordable.

Below are a few of the key cost drivers that make Barracuda cost effective.

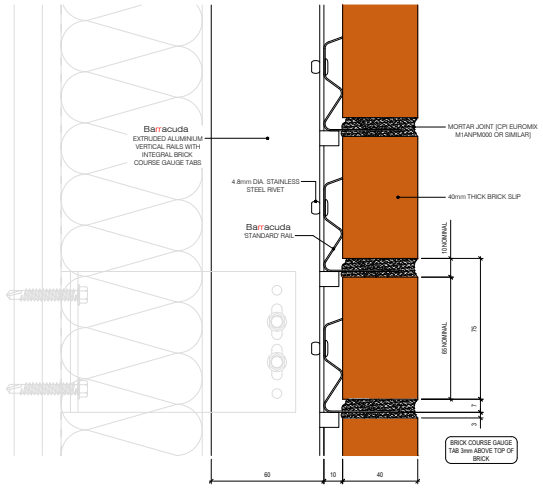
1) Standard brick slips are just single cut, at 40mm thick, with no groove cutting necessary top or bottom.
2) When bricks are used with 2no potential usable stretcher faces (typically stock brick and handmade brick types) the brick cost is approx. halved. This not only provides a financial saving but also halves the environmental impact. In times of brick shortages there are clear benefits.
3) The Barracuda system incorporates the use of, and has been tested, using a standard cement based CPI mortar rather than more expensive specialist mortars.
4) No additional cut and bonding costs for corner bricks.

BRICK SLIP SYSTEM TECHNICAL & PERFORMANCE CHECK LIST

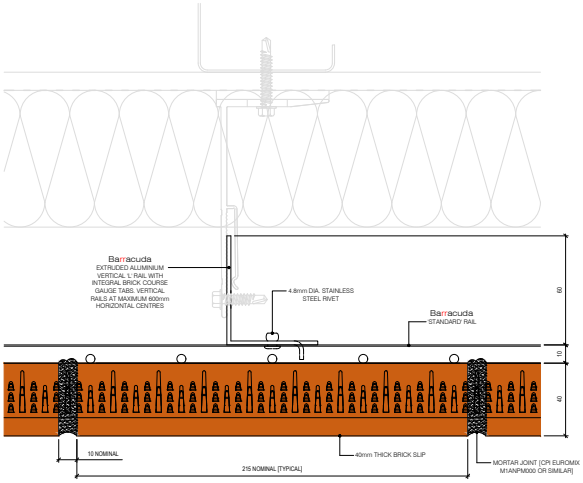
DOES THE SYSTEM LEVEL THE TOP OF THE BRICKS	✓
HAS THE SYSTEM BEEN TESTED UN-MORTARED FOR IMPACT SAFETY PERFORMANCE	✓
HAS THE SYSTEM BEEN TESTED UN-MORTARED TO RESIST THE VERY HIGHEST WIND SPEEDS LIKELY TO BE ENCOUNTERED	245MPH
CAN YOU USE THE BRICK OF YOUR CHOICE	✓
WHAT MORTAR DEPTH DOES THE SYSTEM ALLOW	40MM
ARE THE SYSTEM RAILS STAINLESS STEEL	✓
IS THE SYSTEM A1 FIRE RATED	✓
HAS THE SYSTEM BEEN TESTED FOR LONG TERM DURABILITY UP TO 60 YEARS	✓
IS A DESIGN LIFE WARRANTY PROVIDED	✓
HAS A DESKTOP STUDY BEEN CARRIED OUT TO DETERMINE, THAT WITH THE MAXIMUM BRICK TOLERANCES AND SITE INSTALLATION TOLERANCES, THERE IS SUFFICIENT ENGAGEMENT AND RETENTION OF THE BRICK SLIPS	✓
CAN A ONE PIECE CORNER BRICK BE PROVIDED	✓

The Barracuda Brick Slip System achieves all the above and more.

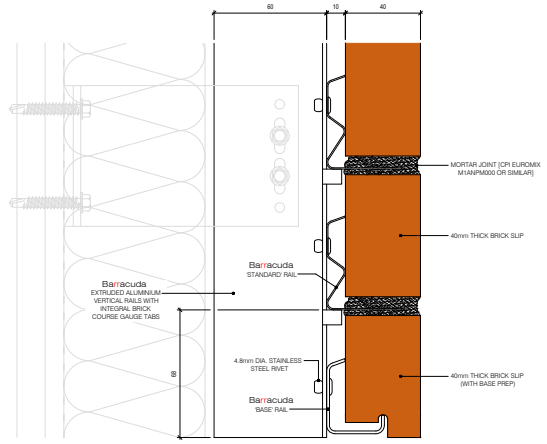
SYSTEM DETAILS



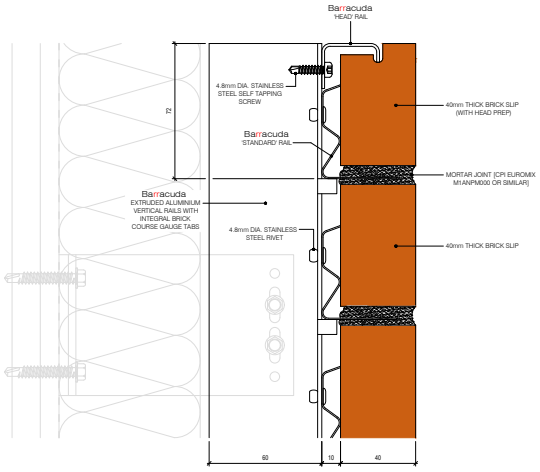
VERTICAL SECTION [MID-PANEL]



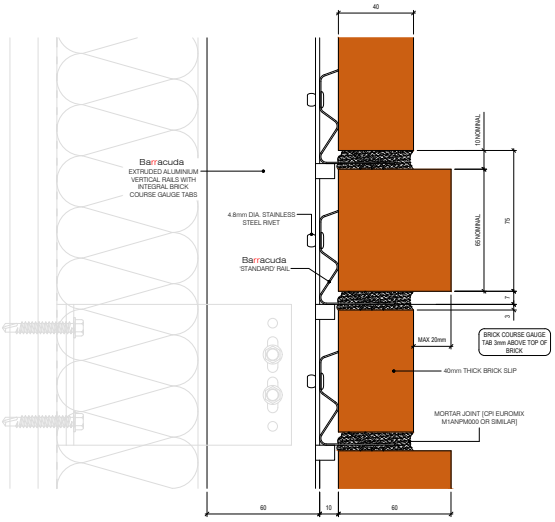
PLAN [MID-PANEL]



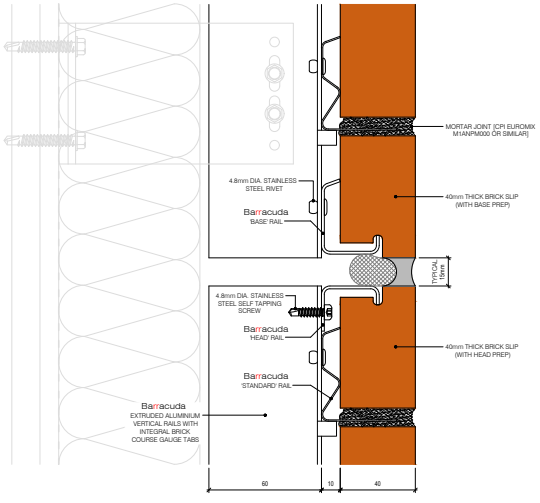
VERTICAL SECTION – BOTTOM EDGE OF PANEL [BASE DETAIL]



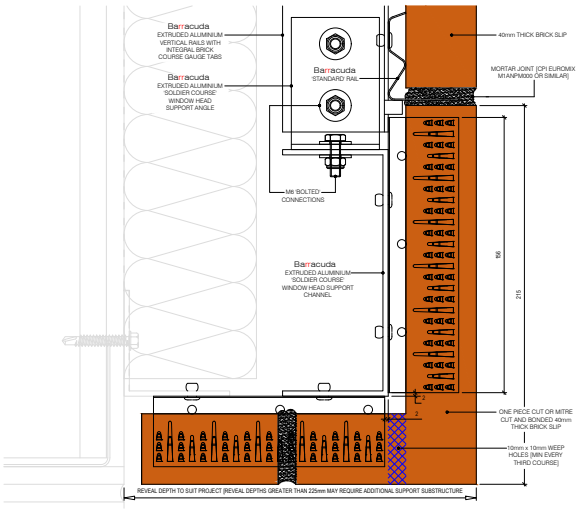
VERTICAL SECTION – TOP EDGE OF PANEL [HEAD DETAIL]



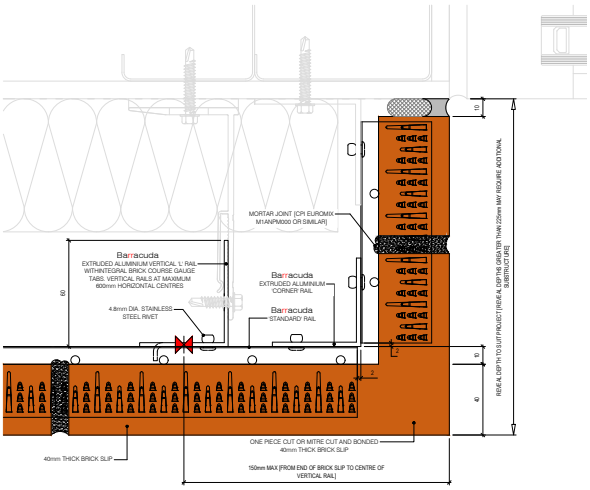
VERTICAL SECTION [INDIVIDUAL OR ALTERNATING COURSES OF PROJECTING BRICK SLIPS]



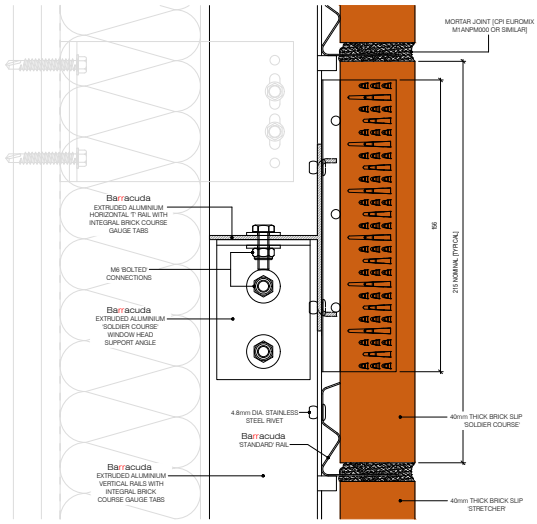
VERTICAL SECTION – HORIZONTAL MOVEMENT JOINT/ JUNCTION BETWEEN BRICK SLIP PANELS



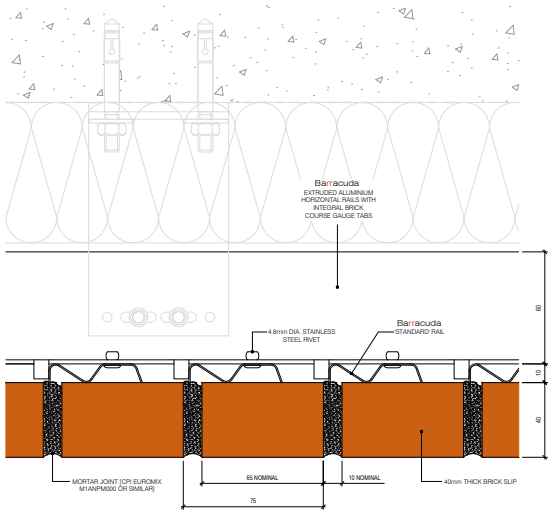
VERTICAL SECTION – WINDOW HEAD
[BRICK-ON-END SOLDIER COURSE]



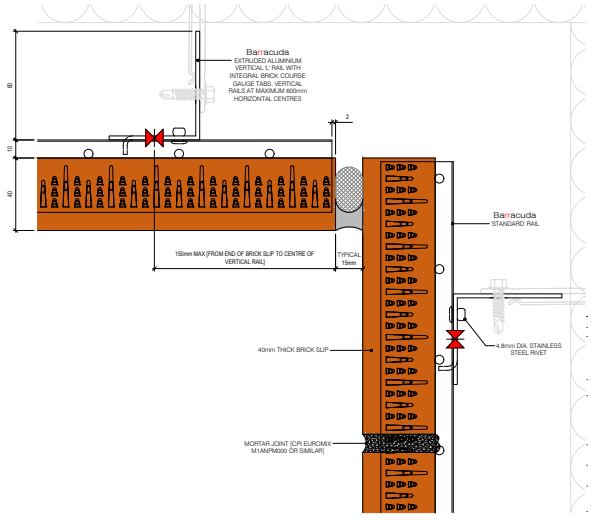
PLAN - WINDOW JAMB [BRICK REVEAL]



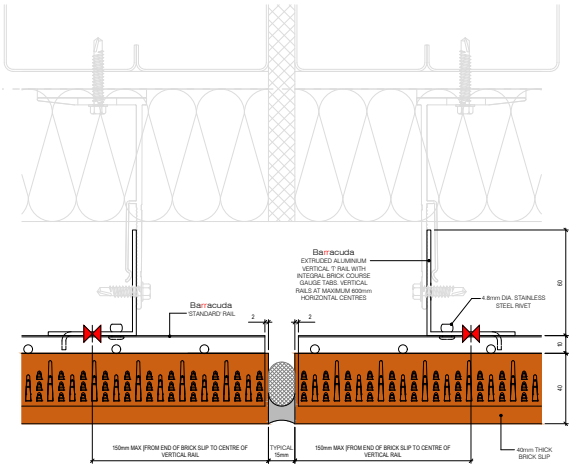
VERTICAL SECTION [SINGLE SOLDIER COURSE]



VERTICAL SECTION [SOFFIT]



PLAN [INTERNAL 90 DEGREE CORNER]



PLAN – VERTICAL MOVEMENT JOINT/JUNCTION
BETWEEN BRICK SLIP PANELS

JAMES & TAYLOR LTD, 62 Barwell Business Park, Leatherhead Road, Chessington, Surrey, KT9 2NY
T: +44 (0) 20 8942 3688 E: info@jamesandtaylor.co.uk W: www.jamesandtaylor.co.uk