

Technical Data Sheet

BALUSTRADE FIXING POINT

For balustrades on flat cold roofs or vertical elevations

The Balustrade Fixing Point (BFP) allows a direct connection to the structure whilst maintaining integrity of the envelope waterproofing. It can be supplied with different flange materials to integrate with SBS (CSBS) and APP modified bitumen waterproofing membranes or with PVC (CPVC) single-ply membranes on flat cold roofs.

Key features

- Provides a direct connection to the building structure.
- Patented seal technology.
- Compatible with all roofing membranes and finishes.
- Low profile and suitable for use in any plane.
- Fully weatherproof, all fixings are below the membrane envelope.
- Factory fitted flashing flange.
- Reduces roof loads by avoiding requirement for ballast.
- M10 threaded connection (supplied with 4no. M10 bolts).

BFP for flat cold roof constructions

The BFP CPVC and CSBS is designed for use on cold, flat roofs or vertical elevations where fixed directly to the structure behind the waterproofing membrane, to provide a connection point for balustrade supports and also for any application where resistance to a turning moment is required.

The BFP for cold roofs comprises a 225 x 375mm fixing plate with two anchor points each with 2no. M10 x 20 blind threaded connection points. The fixing plate has 8no. holes through which the plate is bolted to the structure. Fixings for fixing plate not included.

To weather the fixing plate the BFP is factory fitted with an appropriate flange material to enable it to be weathered or sealed to the main roof area.

A mounting or weld plate can be supplied in mild steel or stainless steel for connecting the balustrade to the fitting.

Materials

304 stainless steel anchor point – machine finish

Mild steel fixing plate – polyester powder coat finish

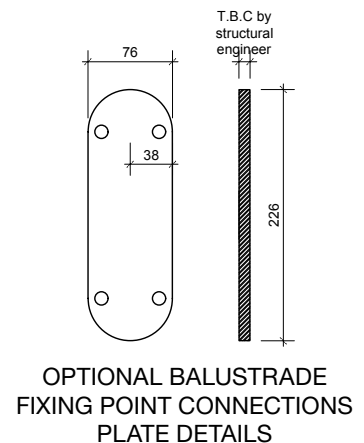
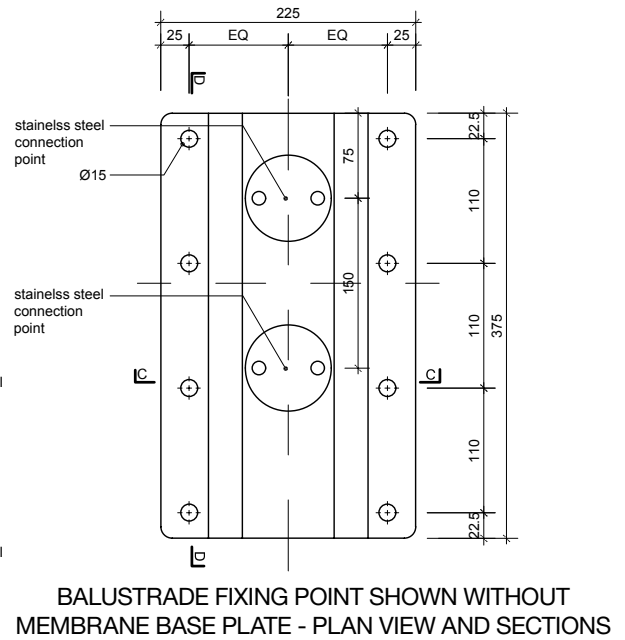
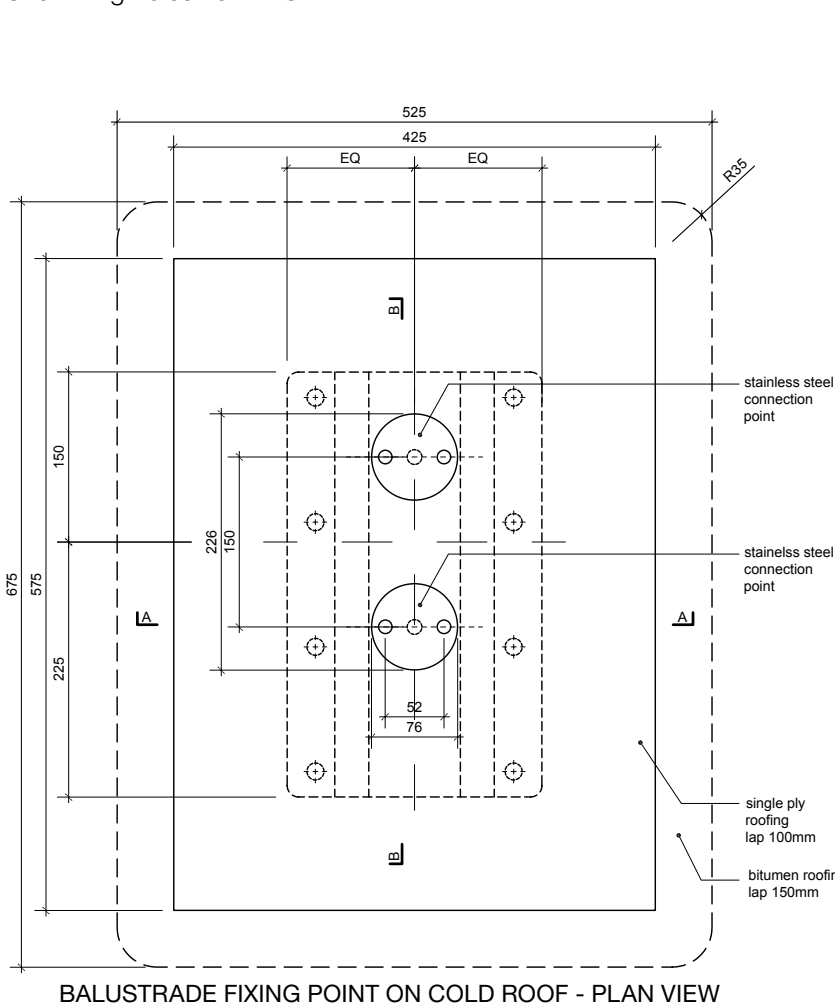
Weathering flange – material to match main roof waterproofing system

Balustrade connection plate - mild steel or stainless steel



Dimensions

- OA height 49mm
- 2no. fixing points M10 x 20 (M10 bolts included)
- Distance between fixing points 52mm
- Distance between anchors 150mm
- Fixing plate 225mm x 375mm x 6mm
- 8no. fixing holes 15mm Ø



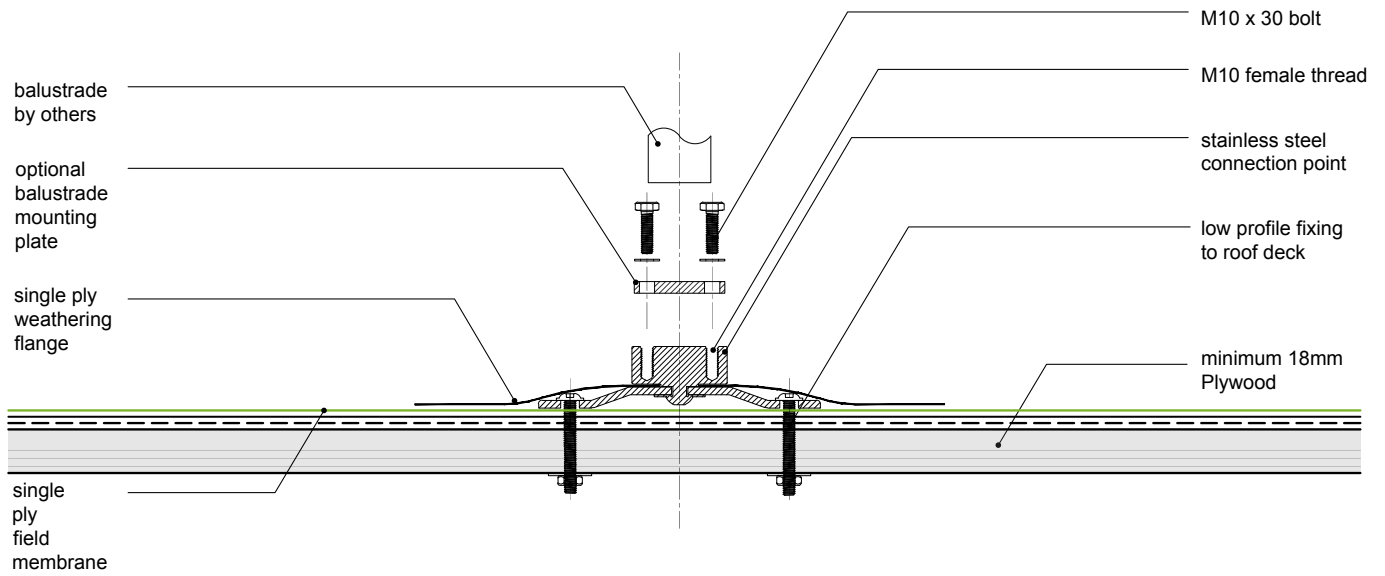
Flange sizes:

- 425mm x 575mm PVC
- 525mm x 675mm SBS and APP modified bitumen

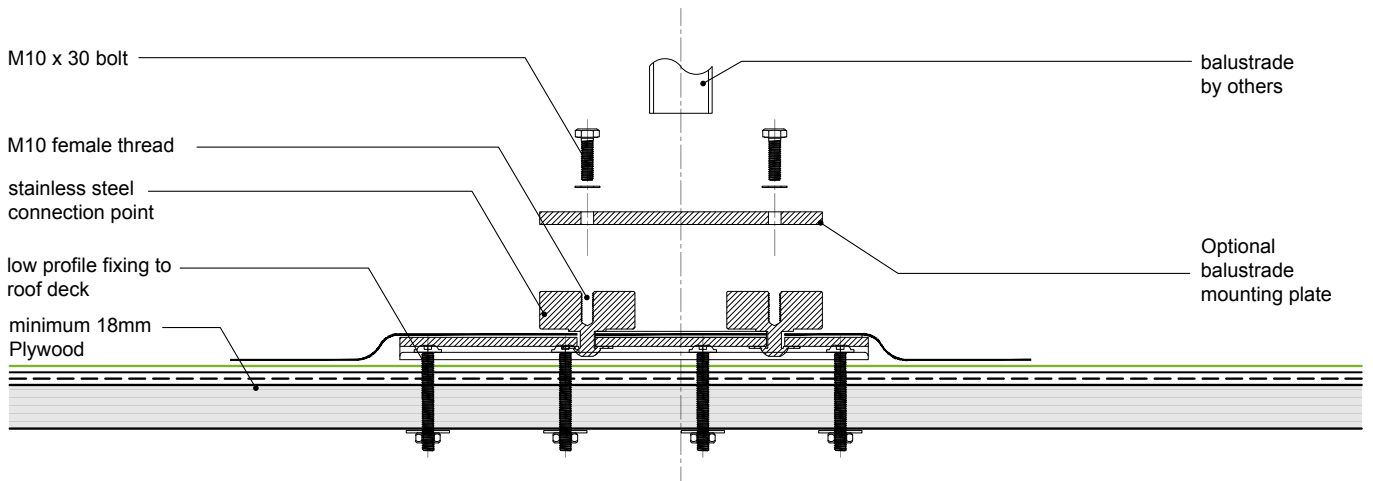
Fixing options:

The BFP should be bolted with 8no. M10 threaded fixings to the structure. Only low profile bolts such as socket button flange bolts or CN Cap Nuts should be used in the fixing plate to avoid damage to the roofing membrane fitted with the BFP. Once fixed in position, the weathering flange should be sealed to the roof field membrane.

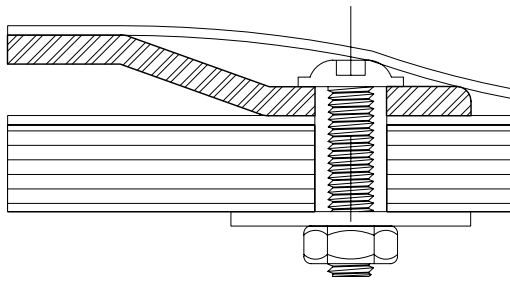
Cold/Inverted Roof



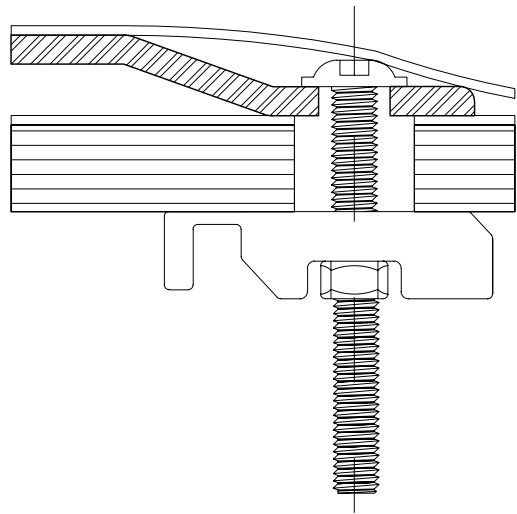
BALUSTRADE FIXING POINT ON COLD ROOF - SECTION A-A



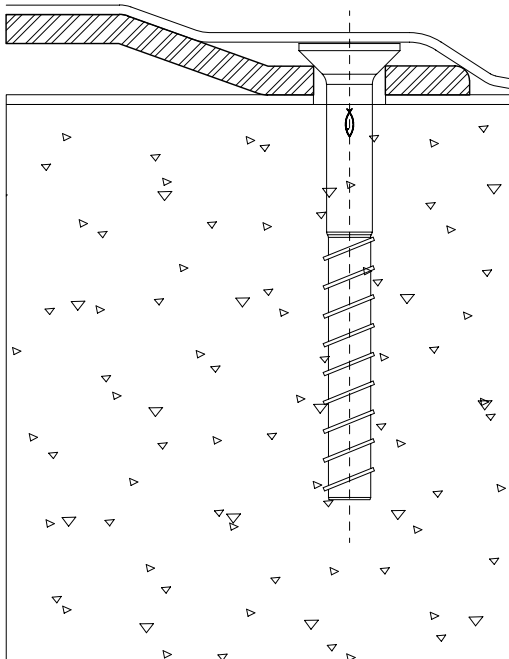
BALUSTRADE FIXING POINT ON COLD ROOF - SECTION B-B



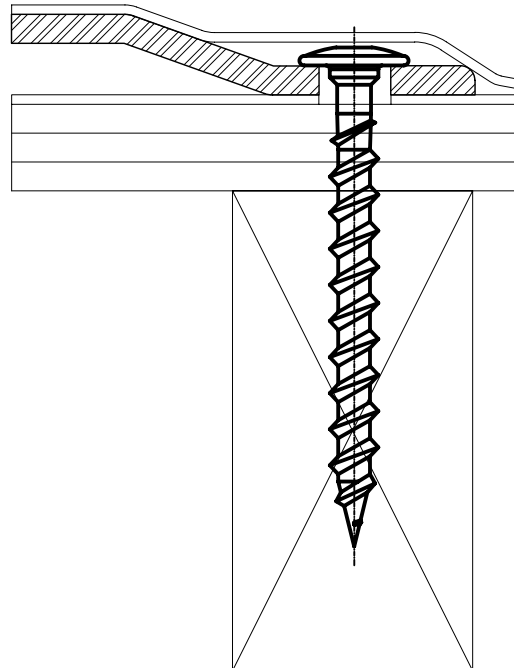
FIXING DETAIL 1
LOW PROFILE M10 BOLT WITH
SQUARE PLATE WASHER AND
NUT TO UNDERSIDE OF ROOF
DECK
SCALE 1:2



FIXING DETAIL 2
LOW PROFILE M10 BOLT WITH
TOGGLE TO SUIT INSTALLATION
WITHOUT ACCESS TO UNDERSIDE
OF ROOF DECK
SCALE 1:2

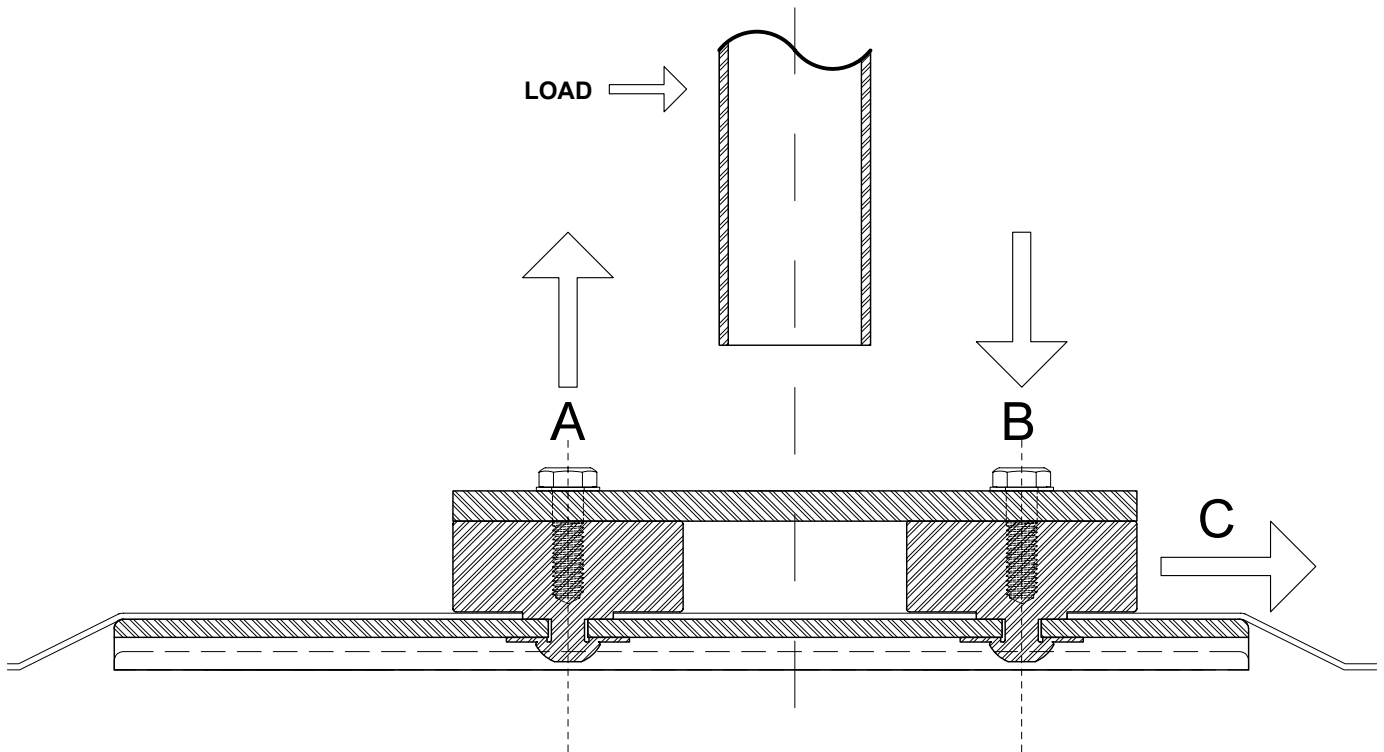


FIXING DETAIL 3
CSK CONCRETE
FIXING SCREW
SCALE 1:2



FIXING DETAIL 4
M10 COACH SCREW
TIMBER FIXING
SCALE 1:2.5

Load Ratings for Cold Roofs



The following values assume that the supporting structure is of adequate stability to support the design values that will be imposed on the BFP CPVC / CSBS. All designs and calculations should take into account the supporting substrate and balustrade construction and should be compliant with current regulation requirements.

The BFP should always be positioned so that the two fixing points are perpendicular to the line of the balustrade.

Maximum serviceable limit state (SLS) axial loads to the BFP

At 'A'	25kN (SLS)
At 'B'	25kN (SLS)
At 'C'	2.5kN (SLS)

Typical load values on plywood roof deck

Based on in-house test rig results with 18mm and 25mm plywood on 50 x 150 joists at 400mm ccs. A 1100mm high balustrade support had force applied until 25mm deflection was reached due to plywood deformation. This test produced transferred forces as follows:

18mm plywood

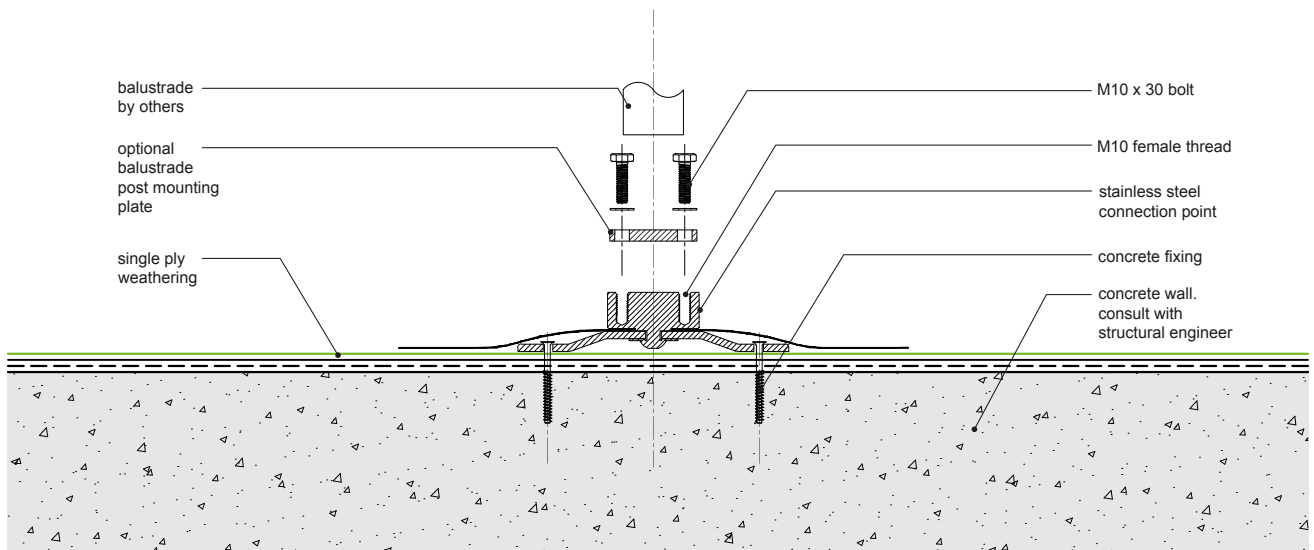
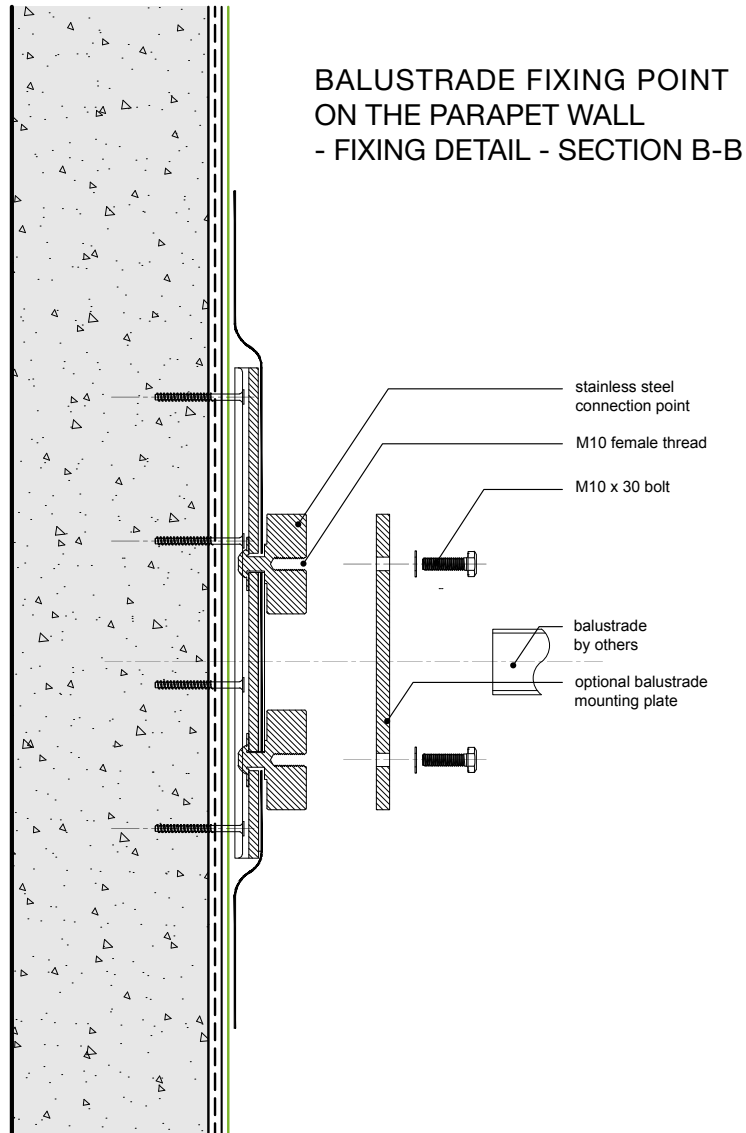
At 'A'	8.23kN (SLS)
At 'B'	7.23kN (SLS)

25mm plywood

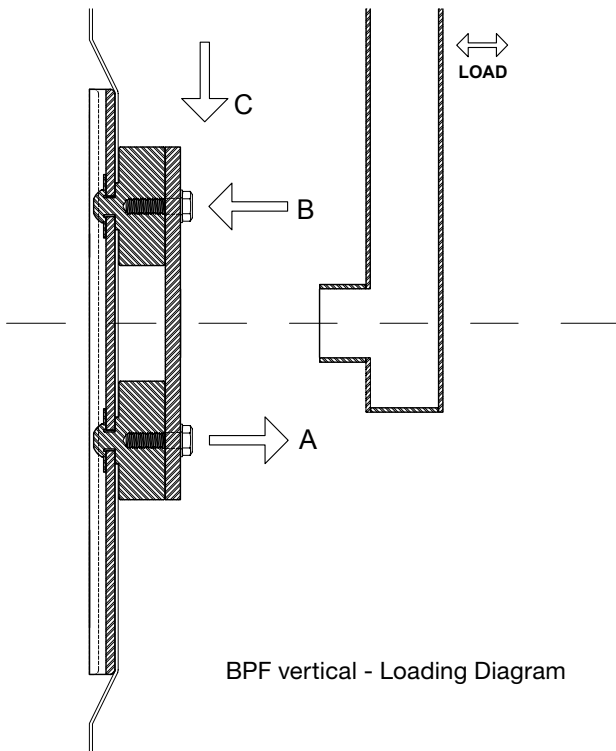
At 'A'	11.20kN (SLS)
At 'B'	10.20kN (SLS)

It is essential that the use of the BFP in any design is approved by a competent structural engineer.

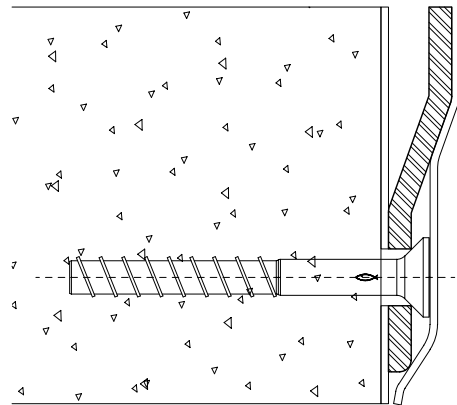
Balustrade Fixing Point (BFP CPVC / CSBS) for Vertical Surfaces



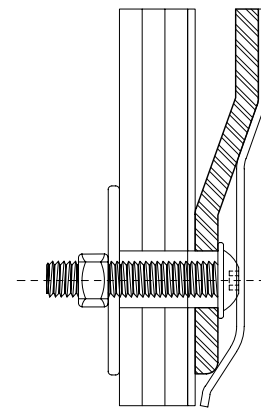
BALUSTRADE FIXING POINT ON PARAPET WALL - FIXING DETAIL - SECTION E-E



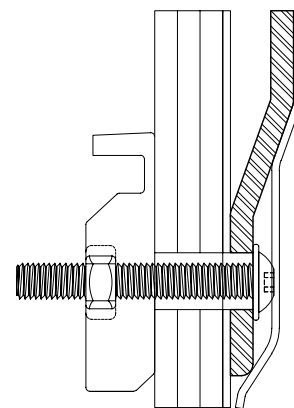
BPF vertical - Loading Diagram



FIXING DETAIL 1
CSK CONCRETE FIXING SCREW
SCALE 1:2



FIXING DETAIL 2
SB BOLT & SQ PLATE
WASHER THROUGH PLY
SCALE 1:2



FIXING DETAIL 3
TOGGLE THROUGH PLY
SCALE 1:2

Load Ratings for Vertical Elevation

The following values assume that the supporting structure is of adequate stability to support the design values that will be imposed on the BFP. All designs and calculations should take into consideration the supporting substrate and balustrade construction to be compliant with current regulation requirements.

The BFP should always be positioned so that the two fixing points are perpendicular to the line of the balustrade.

Maximum serviceable limit state (SLS) axial loads to the BFP

At 'A'	25kN (SLS)
At 'B'	25kN (SLS)
At 'C'	2.5kN (SLS)

It is essential that the use of the BFP in any design is approved by a competent structural engineer.

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