

TATA STEEL



Trisobuild®

Site assembled roofing and cladding systems



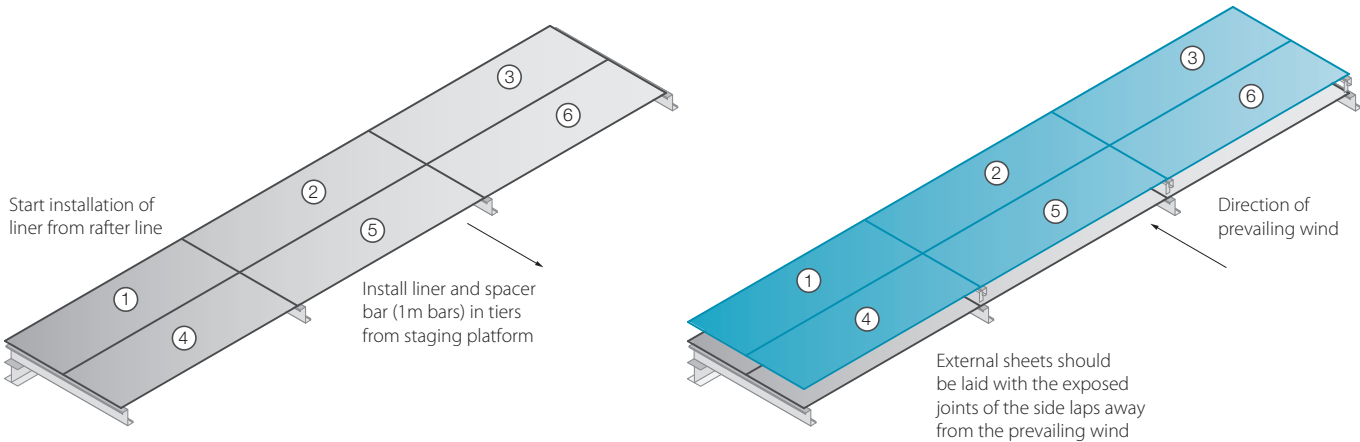
Roof installation

Working on a roof is high-risk work, which requires the closest attention to detail at all times. There should be a job specific method statement in writing, agreed and understood by all parties before the work starts. Rigorous supervision is needed to ensure that the agreed method is followed in practice. Further guidance can be found in the Advisory Committee for Roofwork ‘Orange Book’ ACR[CP]001:2007 Rev.3 ‘Recommended Practice for Work on Profiled Sheeted Roofs’.

The steps given below are instructions for a typical construction and should be used only as a guide. An extended list of construction details is available from Tata Steel, and advice can be given via our Technical Department on any bespoke details that may be required.

Carry out preparation work on internal ridge, eaves and trim flashing etc, and ensure that these are lined and levelled and sealed as specified, before starting to lay liner sheet. When lifting packs onto the roof ensure that these are placed over a rafter line and secured.

The liner sheet can be used to quickly line out part or all of the roof elevation, this operation should always start at a rafter and move into the span of the purlins, with cladding installers working off ‘Youngmans’ boards or similar staging installing one tier at a time as shown below.

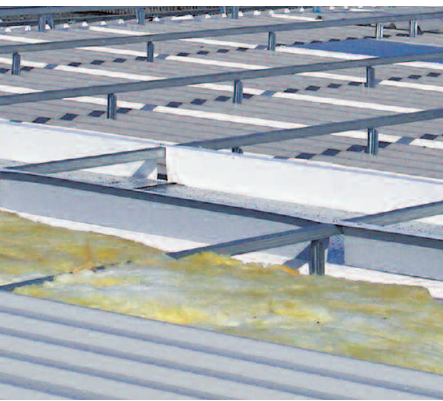


The liners should be fully fixed as per the non-fragility specifications on page 11 and sealed as specified on page 34. The spacer system should also be installed during this sequence, using 1m bars again working off staging and installing a tier at a time.

It is not advised, even when fully fixed, to walk on the LP1000 0.4mm liner, due to the risk of damage. If access is required across the liner (ie, lining the whole roof before returning to install the rest of the system) then the RL32, 0.7mm walkable liner should be used. The other advantage of using this profile is that longer lengths can be used. The insulation and external sheet should be laid in sequence from one edge of the roof using the fully fixed external sheets as a working platform.

When lifting external packs onto the roof ensure that these are placed over a rafter line, and consult the spacer manufacturer for any additional instructions to ensure the stability of the system.

When installing the insulation ensure all edges are close butt jointed to achieve continuity between spacers. The insulation can be installed in more than one layer, if so, the joints in each layer should be offset. The quilt must be cut and tucked under the spacer bar so that there is no air gap under the bar. It is important to keep the insulation dry.



Where possible, the external sheets should be laid with the exposed joints of the side laps away from the prevailing wind unless shown otherwise on drawings. The outer sheets should be laid to the sequence shown in the diagram below, and sealed as specified on page 34. Advice should be obtained from our Technical Department on fastener layout, as this will depend on the calculated wind load for the cladding.

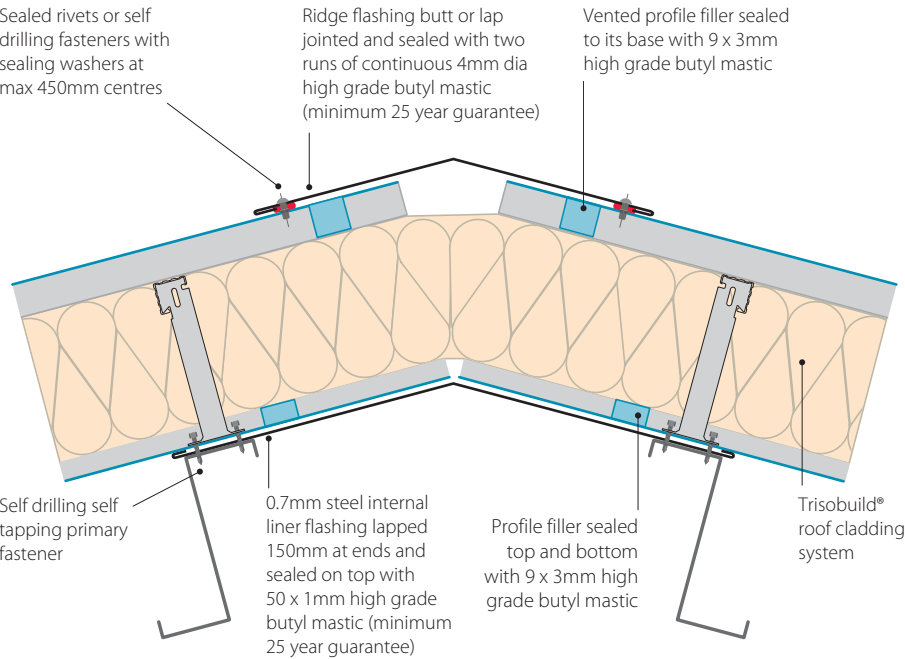
The contractor should ensure that all swarf and debris are removed from the surface of the external sheet as work progresses and should be inspected again after installation is completed.

Construction details – roof

The details within this section are recommendations and have been designed to give practical solutions to minimise thermal bridging and air loss at junctions. For each junction detail, Ψ values (psi) and f values have been calculated in accordance with BS EN ISO 10211.

NB. All support steelwork by others.

Ridge

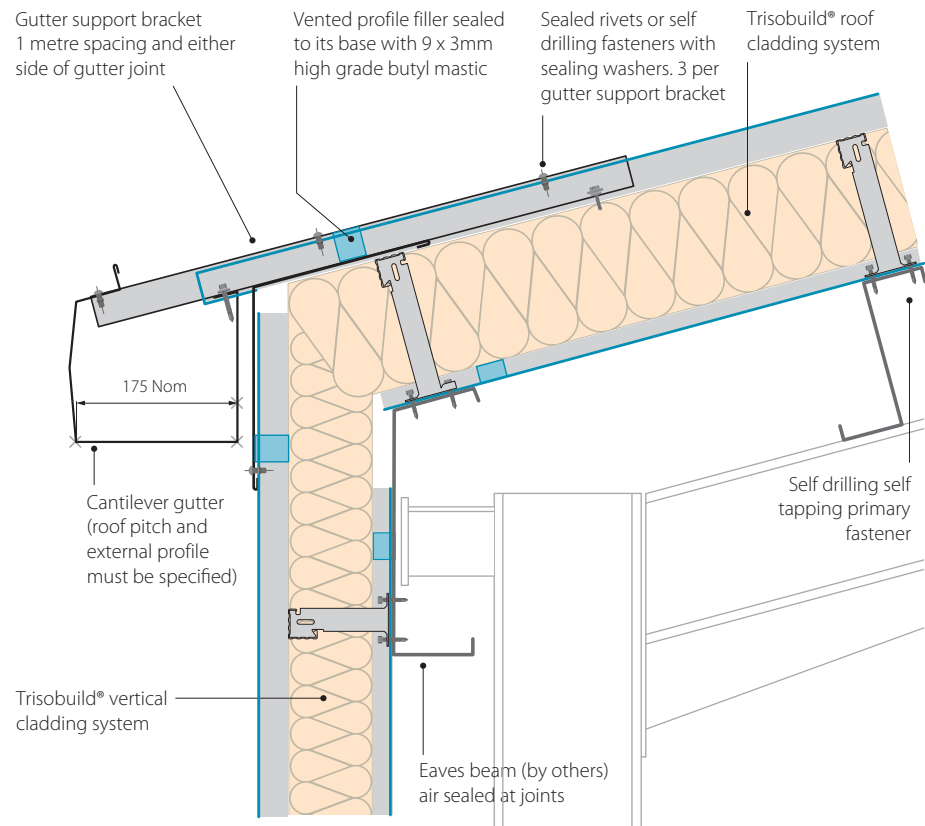


Ridge
Fillers should be positioned back from the edge of the ridge flashing by approximately 80mm to avoid the risk of bird attack.

Psi value (W/mK)	f factor
0.001	0.98

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Eaves



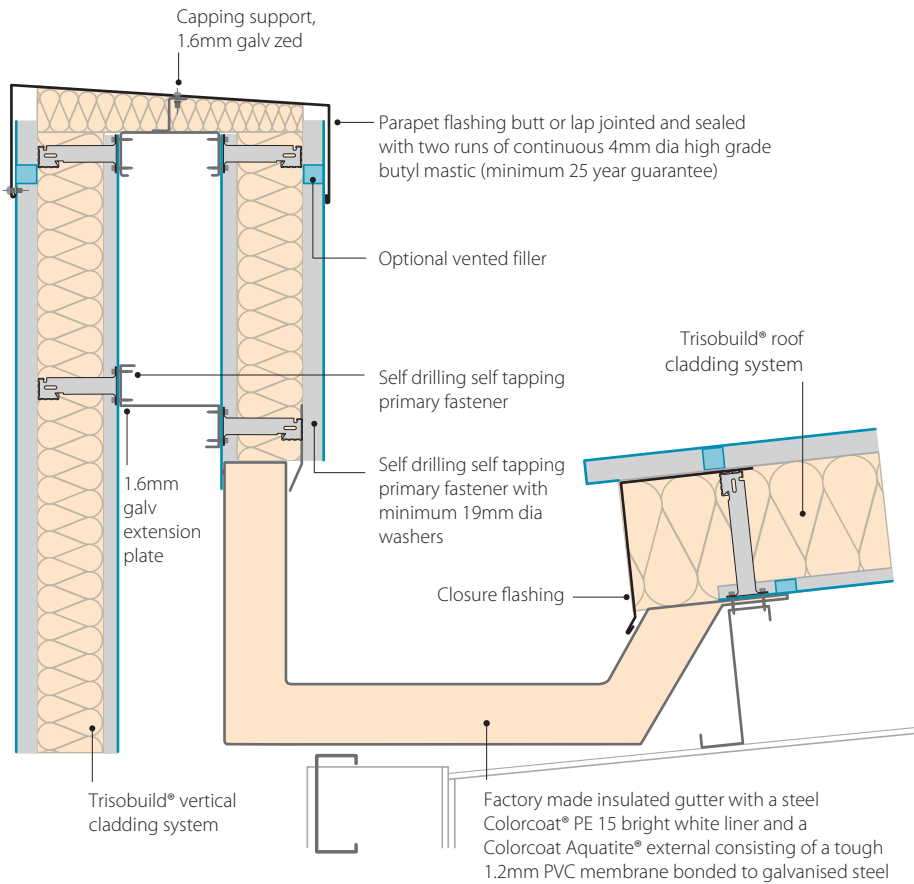
Eaves
The Cantilever Gutter system is manufactured to suit the pitch of the roof and downpipes can be positioned as required. For further information on the Cantilever Gutter system and assistance with rainflow calculations please contact the Technical Department T: +44 (0) 1244 892199 E: technical.envelopeproducts@tatasteeleurope.com

Psi value (W/mK)	f factor
0.021	0.95

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Construction details – roof
continued

Parapet

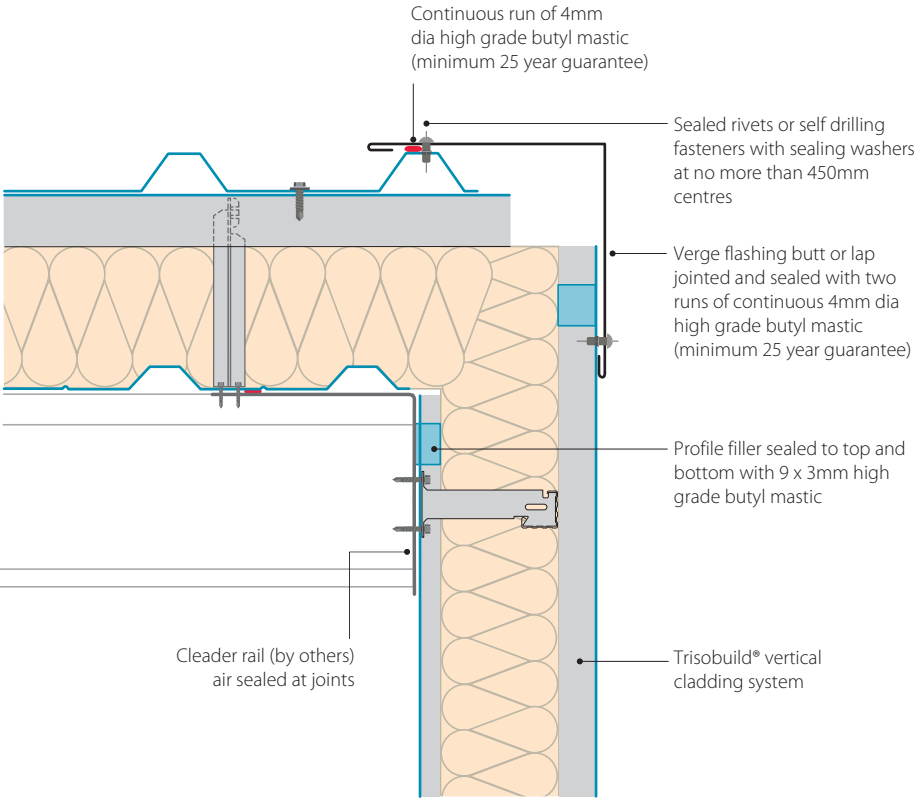


Parapet
The parapet height should be a minimum of 950mm from roof level to be considered as sufficient edge protection as recommended by the HSE.

Psi value (W/mK)	f factor
1.365	0.615

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Verge start

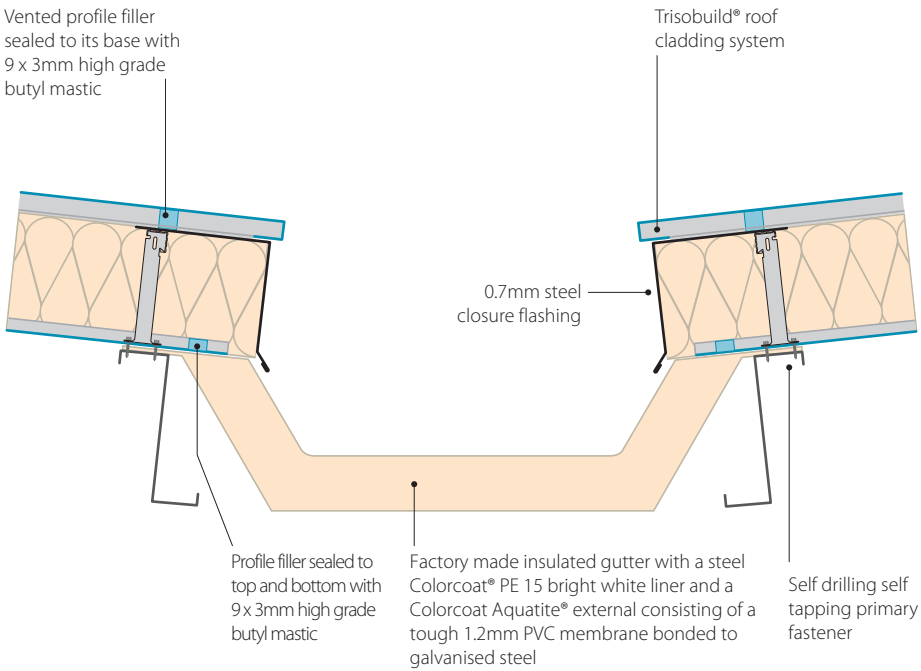


Verge start
It is recommended that single skin flashing has a maximum unsupported leg length of 200mm to maintain the strength for a flat appearance.

Psi value (W/mK)	f factor
0.013	0.96

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Valley gutter

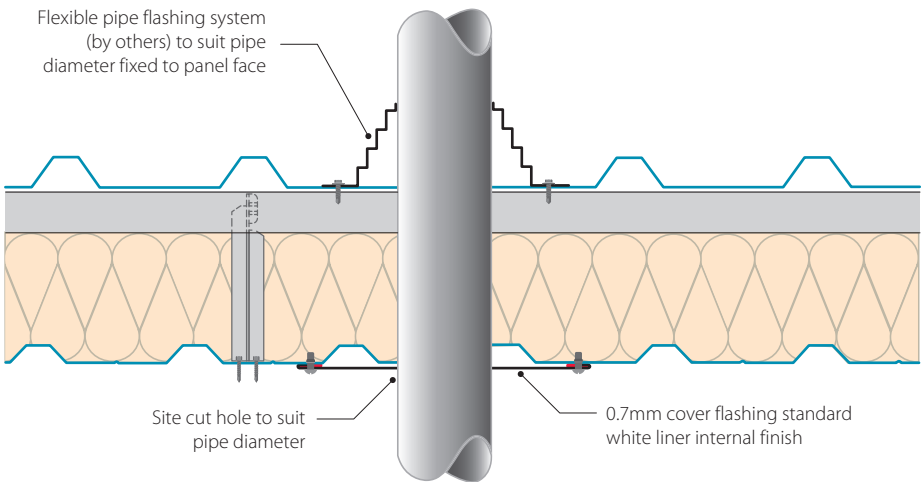


Valley gutter
Ensure a full design is carried out in accordance with BS EN 12056-3:2000 and all manufacturers' recommendations are followed to ensure correct detailing at this important junction.

Psi value (W/mK)	f factor
0.736	0.559

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Standard pipe seal (Dektite)



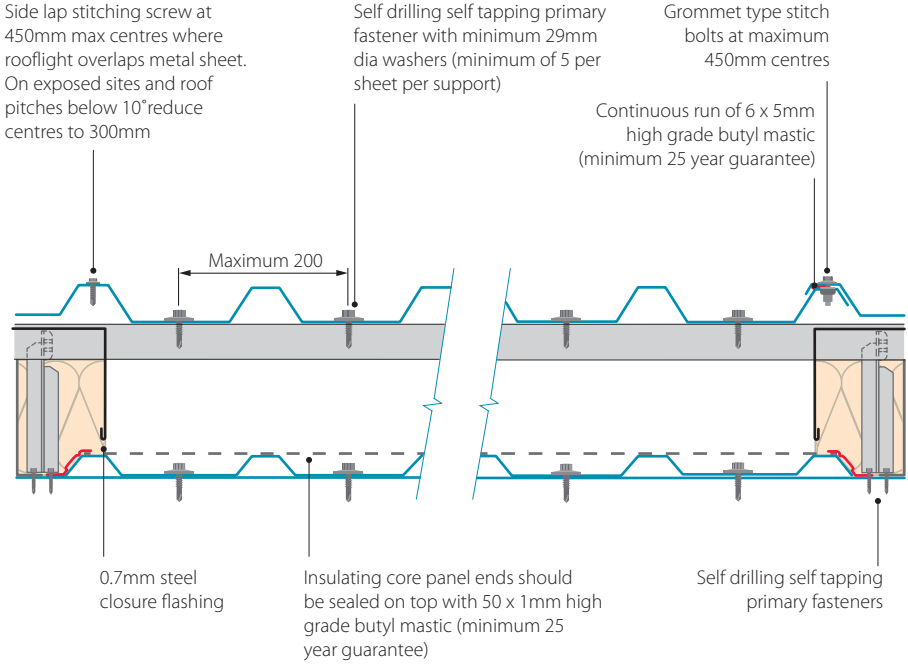
Standard pipe seal and hot pipe seal (Dektite)
The Pipe flashings are available in various specifications to facilitate different opening sizes and temperature ranges. Further details on these specifications and for order placement please contact our Platinum® Plus system guarantee approved suppliers, who are:

SFS intec (T: +44 (0) 113 2085 500) or EJOT UK Limited (T: +44 (0) 1977 687040).

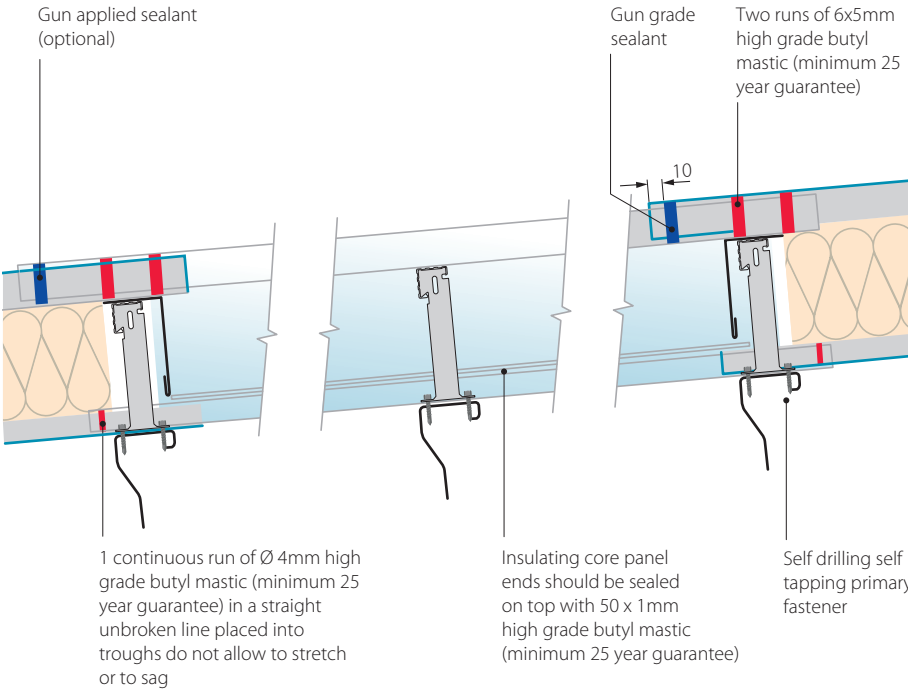
Openings encompassing more than one rib of the external profile will require a formed soaker flashing to avoid water entrapment. Holes more than one third of the cover width will also need additional steelwork to provide support.

Construction details – roof continued

Roof light side lap



Roof light end lap



Roof light side lap

In order to achieve a 2.2W/m²K, U-value and comply with the current building regulations for heated buildings a minimum of a triple skin roof light construction should be specified. These triple skin constructions from our approved suppliers (see below for details) provide U-values between 1.9 and 0.9W/m²K.

The roof light liner should be side lapped over the adjacent metal liners on both sides and the side lap joints sealed as shown.

The internal core layer can be laid in place after the liner has been fixed and sealed, and positioned so that it is in contact with the overlapping profile crowns and simply secured with the 50mm film backed butyl tape along each side lap.

Roof light end lap

Liner end laps should be located directly above a purlin and be a minimum of 100mm. The edges of any sheet in the joint should be minimum of 50mm from the fixing line.

The butyl seals at the end lap position are to be positioned in straight unbroken lines and placed into troughs without allowing the sealant to stretch or sag.

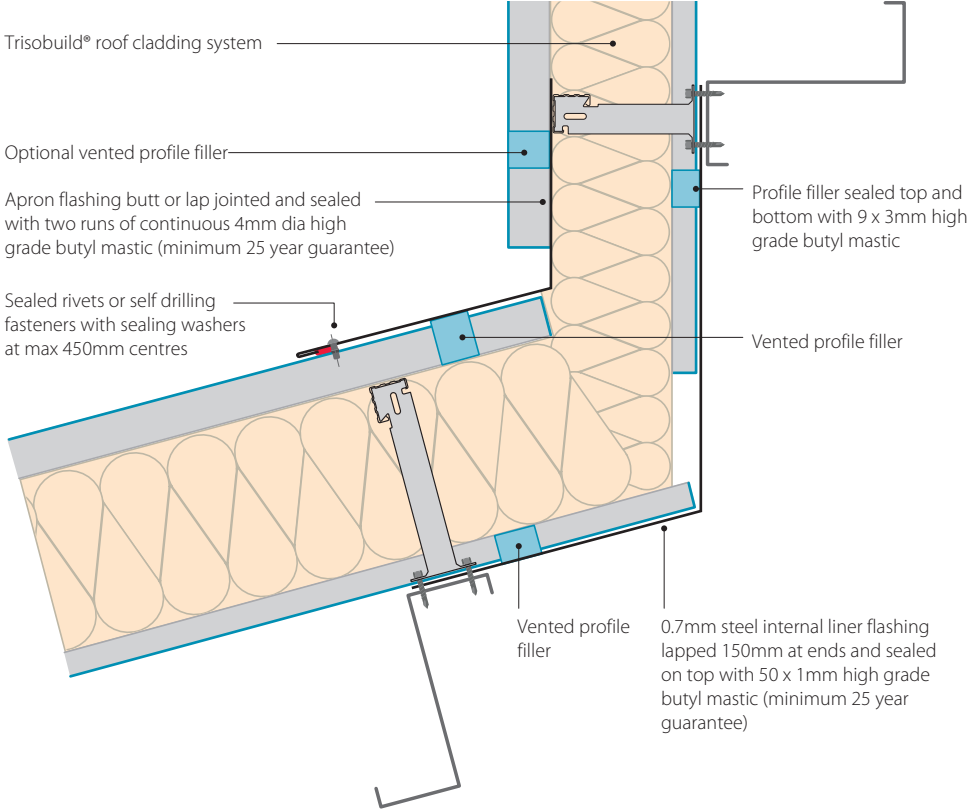
Please refer to manufacturer's information for further details on durability, fragility and fire performance.

Brett Martin Daylight Systems Limited
T: +44 (0) 24 7660 2022
E: daylight@brettmartin.com
www.brettmartin.com

Filon Products Limited
T: +44 (0) 1543 687 300
E: sales@filon.co.uk
www.filon.co.uk

Hambleside Danelaw
T: +44 (0) 1327 701 900
E: sales@hambleside-danelaw.co.uk
www.hamblesidedanelaw.co.uk

Roof to wall junction



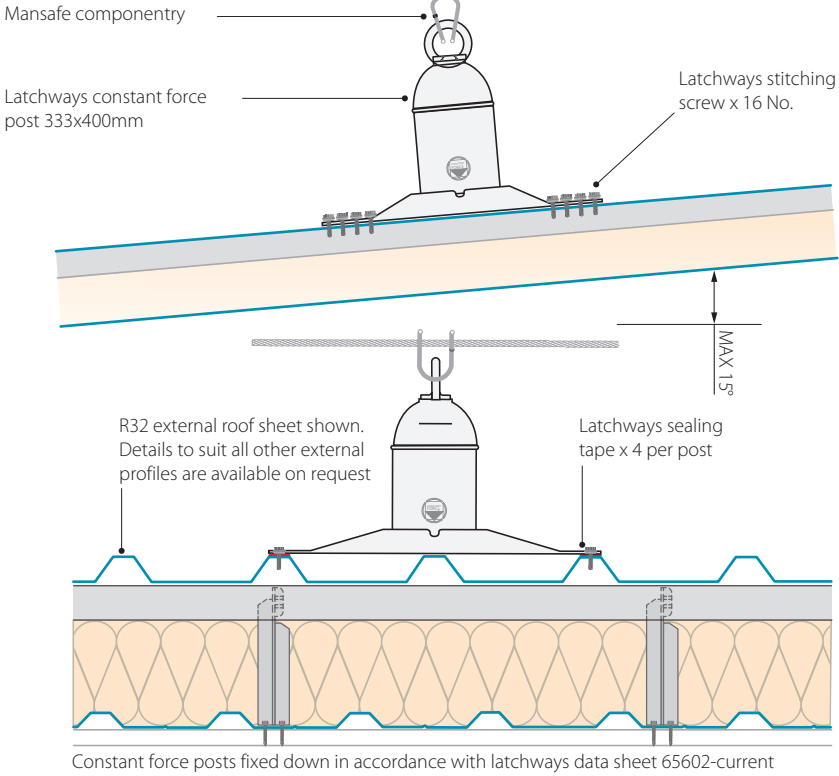
Roof to wall junction

Ensure that the insulation runs continuously between the roof and wall junction to avoid cold bridging so that the low psi and f values shown in the box above are achieved.

Psi value (W/mK)	f factor
0.019	0.975

Stated calculation results are dependant on components being as shown. Computer modelled in accordance with EN ISO 10211.

Roof safety system



Roof safety system

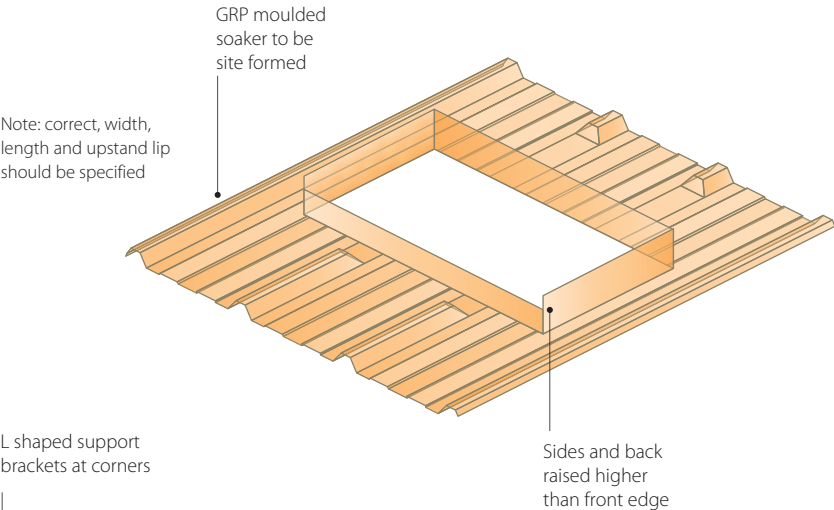
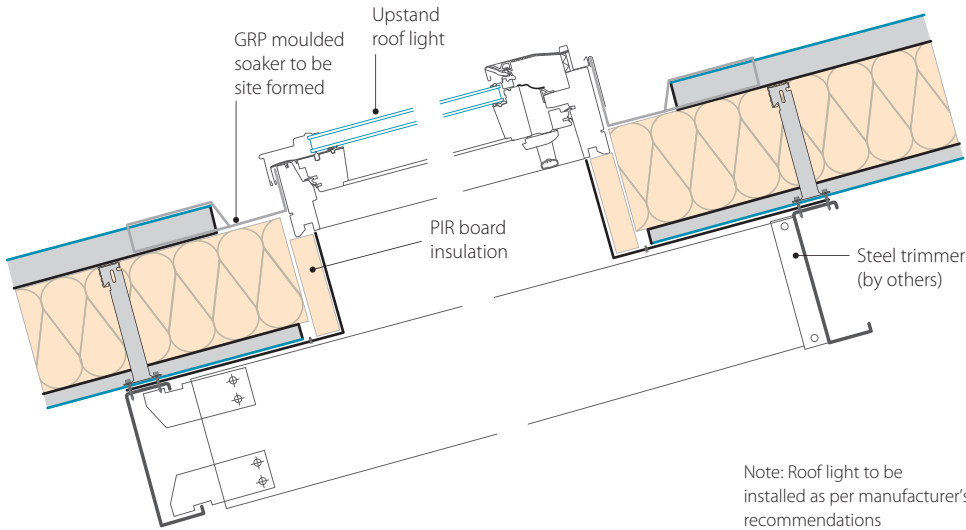
The detail shown indicates a MSA Latchways system, with the Soter system also available from QBM. These systems will require specialist roof layout design and installation, together with a maintenance and inspection program. Therefore Tata Steel recommend that this specialist advice be obtained from one of two companies below.

MSA Latchways
T: +44 (0) 1380 732700
E: hayley.potter@latchways.com
www.latchways.com

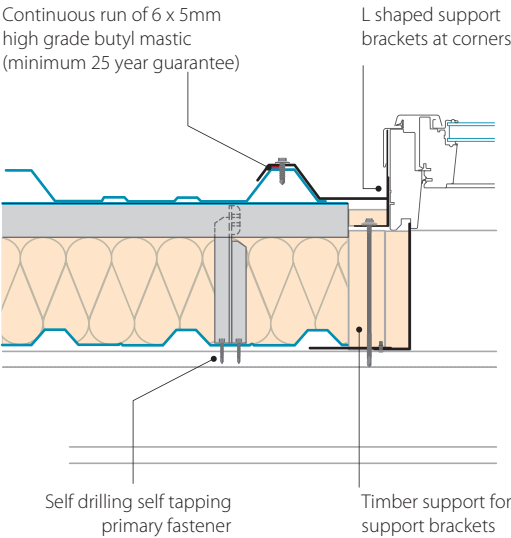
SFS
(Soter™ II Horizontal Lifeline system)
T: +44 (0) 113 2085 500
E: fallprotection@sfs.biz
www.sfsintec.co.uk

Construction details – roof
continued

Upstand roof light



All support steelwork by others



Recommended companies for GRP moulding
M R Site Services
Unit 6, Worcester Trading Estate
Blackpole, Worcester
Worcestershire, WR3 8HR
T: +44 (0) 1905 755055
F: +44 (0) 1905 755053

Jones and Woolman
Unit 6, Hayes Trading Estate
Hingley Road, Halesowen
West Midlands, B63 2RR
T: +44 (0) 1922 712111
F: +44 (0) 1922 712539

Fasteners, sealants and fillers

Fastener selection table (15mm washers throughout)

Application	PMJ-tec	EJOT UK	SFS intec
Primary fixing for external profile to spacer bar	SH LS S19 5.5 x 28 PP + colour	CF19-JT3-3-5.5 x 25 + colour	SX3/9-L12-S19-6.0x29 + colour
Primary fixing for internal liner profile to cold rolled purlins	SH LS S16 5.5 x 25	JT3-3-5.5 x 25 S16	SX3/9-S16-6.0x29
Primary fixing for internal liner profile to hot rolled purlins	SH HS S16 5.5 x 40	JT3-12-5.5 x 40 S16	SX14/12-S16-5.5x40
Primary fixing for spacer bracket to cold rolled purlins	SH LS S16 5.5 x 28	JT3-3-5.5 x 35 S16	SX3/9-S16-6.0x29
Primary fixing for spacer bracket to hot rolled purlins	SH HS S16 5.5 x 40	JT3-12-5.5 x 40 S16	SX14/12-S16-5.5x40
External stitching screw for side-lap and/or metal flashing to external weathering profile	SH ST S16 5.5 x 22 PP + colour	CF15-JT3-2-5.5 x 25 + colour	SL2-S-L12-S16-6.3x28 + colour
External rivet for side-lap and/or metal flashing to external weathering profile	RIV 0619 PP + colour	ALV 4.8 x 15 aluminium rivet (state colour required)	Polygrip-ASO-D-48100 + colour

When fixing to timber, fastener pullout values may limit the ability of the roof to resist wind uplift loads. If in doubt, consult the Technical Department.
All fasteners can be sourced from SFS intec (T: +44 (0) 113 2085 500), PMJ-tec (T: +44 (0) 1451 822777), or EJOT UK Limited (T: +44 (0) 1977 687040).

Sealants and fillers

The end laps of the external weathering profile of the Trisobuild® systems require two rows of 6x5mm high grade butyl mastic (minimum 25 year guarantee) this generally comes in rolls of 9.6m with 30 rolls per box. Position sealant in straight, unbroken lines, following the profile, taking care to avoid any stretch. Ensure the continuity and the effectiveness of the seal, especially at corners of sheets. The two lines of strip sealant must be placed between the sheets before fixing: one row nominally 10mm from both the sheet ends at the top and bottom of the lap.

The side laps of the external weathering profile should also be sealed with a 6 x 5mm high grade butyl mastic (minimum 25 year guarantee), placed between sheets on the weather side of the under lap crown.

For external weathering black EPDM, MP or Superseal vented profile fillers should be located between the external profile and the cover flashing (ie, ridge and hip positions) to provide continuity of weather seal and to prevent access by insects and small birds. These shaped fillers should be sealed to their base with a run of gun-applied solvent-release sealant.

The liner profile should have both the side and end laps sealed. The end laps sealed with a 4mm diameter high grade butyl mastic (minimum 25 year guarantee).

The side lap sealed with a 50 x 1mm high grade butyl mastic (minimum 25 year guarantee) positioned on top of joint.

For liner profile ends at ridges and hips, white EPDM, MP or Superseal small-flute-profile fillers should be located between the profile's internal profile and the internal cover flashing to provide continuity of air seal. These fillers should also be sealed top and bottom on a run of gun-applied solvent-release sealant.

All sealants can be sourced from either:
Premier Sealants (White strip),
T: +44 (0) 1724 864100
EJOT UK Limited (Blue Strip).
T: +44 (0) 1977 687040
SFS intec Ltd, (Pink Strip).
T: +44 (0) 113 208 5500
Brett Martin (Green strip),
T: +44 (0) 24 7660 2022

All fillers can be sourced from either:
Premier Sealants, T: +44 (0) 1724 864100
EJOT UK Limited, T: +44 (0) 1977 687040
Brett Martin, T: +44 (0) 24 7660 2022

Typical fastener layouts

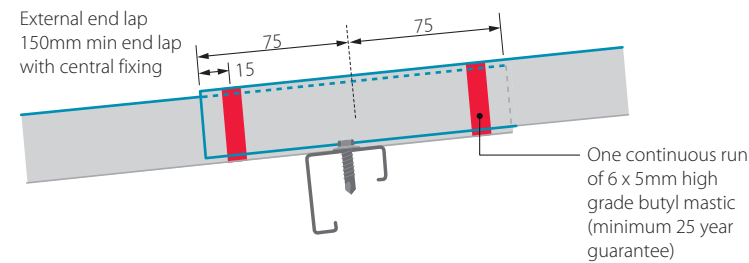
The table opposite shows typical fastener layouts for roof profiles. More fasteners may need to be included to resist negative wind load forces. It is recommended that you speak to our Technical Department to discuss the specific loading and support structure on your project to ensure that sufficient restraint is being provided.

T: +44 (0) 1244 892199
E: technical.envelopeproducts@
tatasteeleurope.com

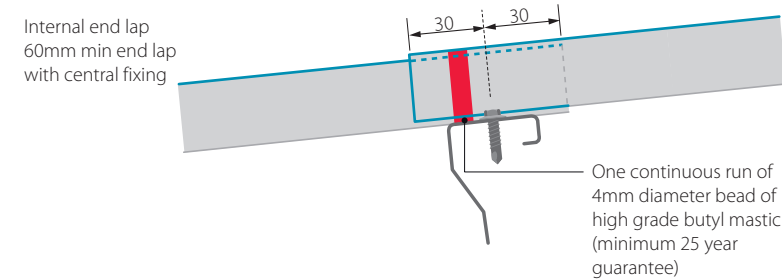
Profile	Main fixings (sheet ends)	Main fixings (intermediate)	Side lap fixing
13½/3	Every third trough	Every third trough	450mm centres (1½ laps)
R32	Every other trough (5 No.)	Every other trough (3 No.)	450mm centres
R35	Every other trough (6 No.)	Every other trough (4 No.)	450mm centres
R46	Every trough	Every trough	450mm centres

Fasteners, sealants and fillers

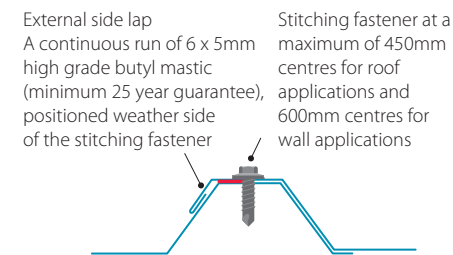
External End Lap



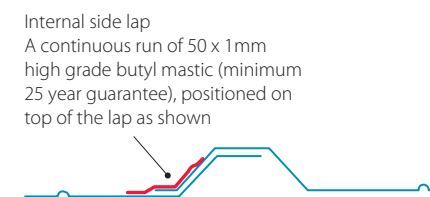
Internal End Lap



External Side Lap



Internal Side Lap



Vertical wall installation

The steps given below are instructions for a typical construction and should be used only as a guide. Specific technical details, method statements and site-specific risk assessments should be produced and applied for each building. An extended list of construction details is available from Tata Steel, and advice can be given via our Technical Department on any bespoke details that may be required.

Firstly checks should be carried out to make sure that all rails are adequately supported and level along their full length, before commencing installation work. If this is satisfactory, carry out preparation work on cill trims and internal corner flashing etc. and ensure these are lined, levelled and sealed as specified.

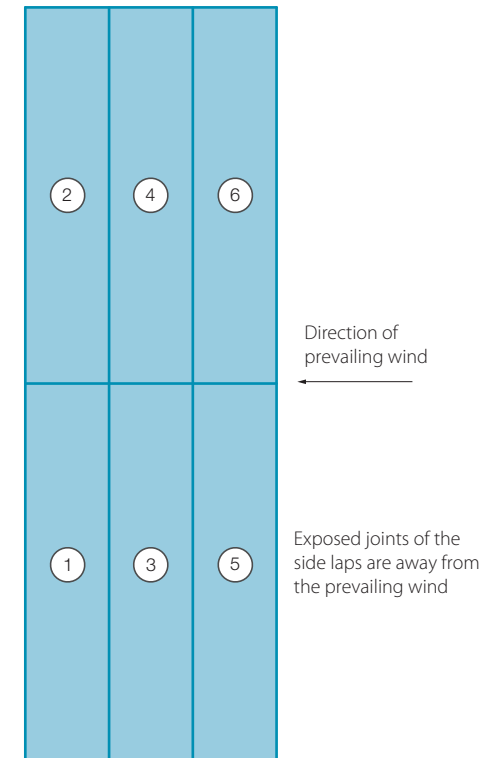
Install the liner sheets in tiers over part or all of the elevation, ensuring alignment and cover is maintained. Seal liner laps as shown on page 46.

Lie out the Instaloc® Plus spacer system on the floor using 3m or 3.6m bars and ensure brackets are positioned at specified centres and adjacent to liner troughs. Install the Instaloc® Plus spacer system along the rail line ensuring level is maintained.

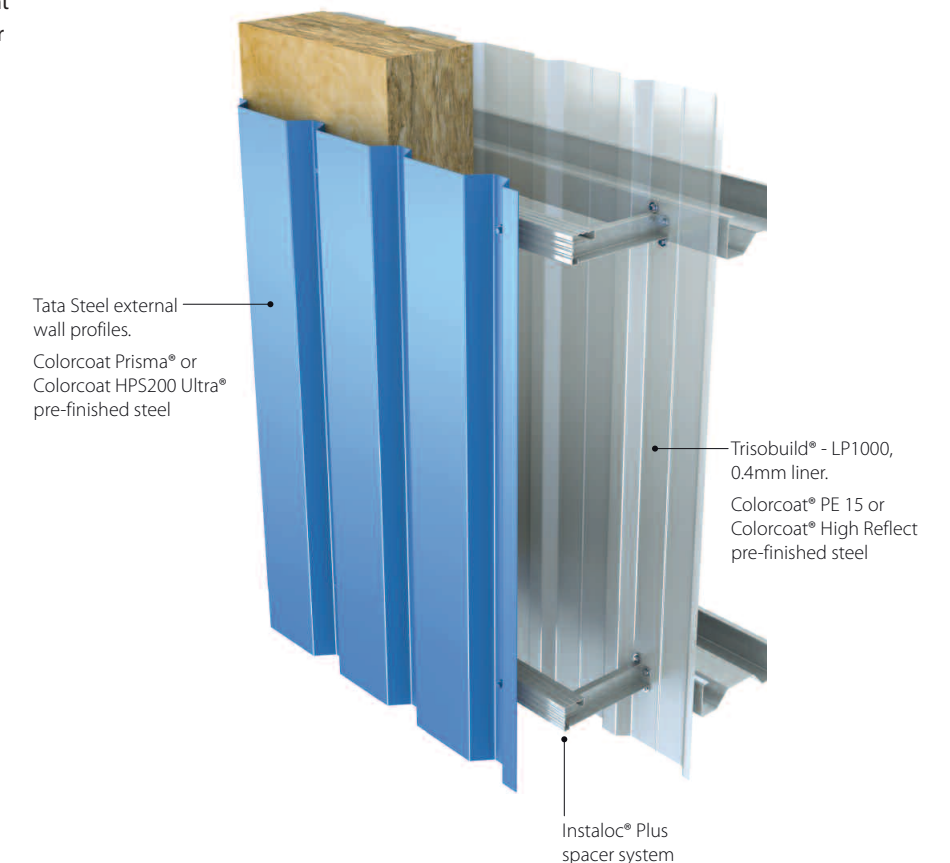
The insulation and external sheet should be laid in sequence from one corner of the building elevation so that wherever possible the exposed joints of the side laps are away from the prevailing wind. The sheeting should be installed in the sequence shown below.

Before installing the insulation, 'stick pins' should be positioned to the liner face at mid span, and then the insulation should be draped from the eaves and tucked behind the horizontal spacer system and over the 'stick pins' so that it is held in place. Each tier of insulation should be compressed tightly with the previously one to make certain there are no gaps. If there are two layers of insulation; the joints in each layer should be offset.

The end and side laps of the external sheet should be sealed as specified on page 46. Advice should be obtained from our Technical Department on fastener frequency, as this will depend on the calculated wind load for the cladding.



Trisobuild® VW vertical wall system



Help with specification creation:

For information and help on creating your Platinum® Plus tailored specification please contact:

T: +44 (0) 1244 892199

E: technical.envelopeproducts@tatasteeleurope.com

www.tatasteelconstruction.com/speccreator

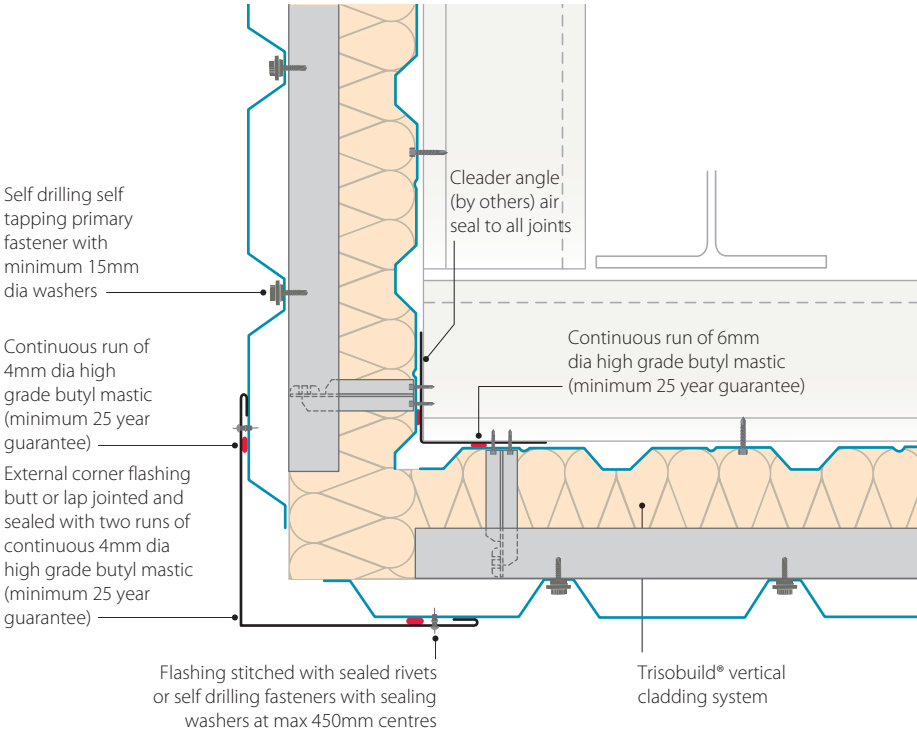
Construction details – wall

Vertical details

The details within this section are recommendations and have been designed to give practical solutions to minimise thermal bridging and air loss at junctions. For each relevant junction detail, Ψ values (psi) and f values have been calculated in accordance with BS EN ISO 10211.

All support steelwork by others.

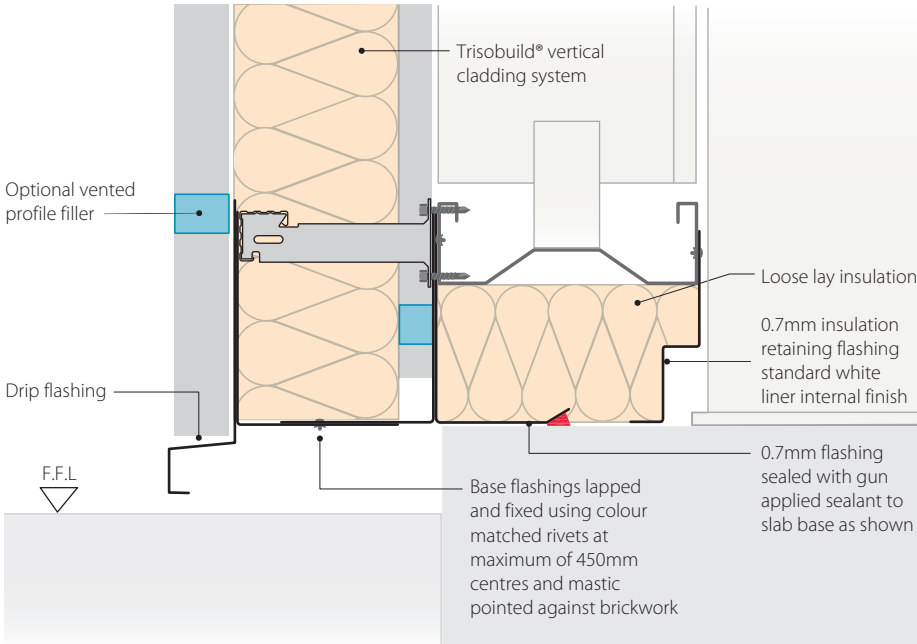
External corner



External corner
Ensure that cleader angle is jointed and sealed so that the seal to the liner sheet maintains the air tightness of the detail along its length. Also give attention to the sealing arrangement at the top and bottom of the corner to ensure the continuity of the air tightness around these junctions.

Psi value (W/mK)	f factor
0.016	0.96
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

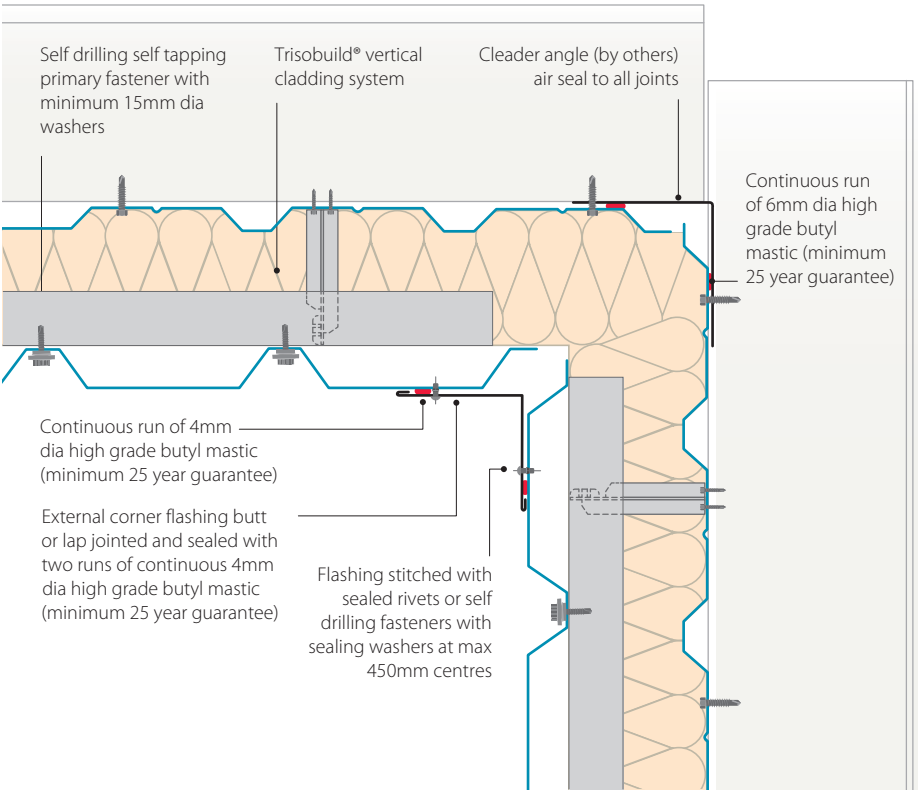
Drip detail base



Drip detail base
Loose laid mineral fibre quilt insulation is used below bottom cladding rail to reduce cold bridging at slab base.

Psi value (W/mK)	f factor
0.198	0.81
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

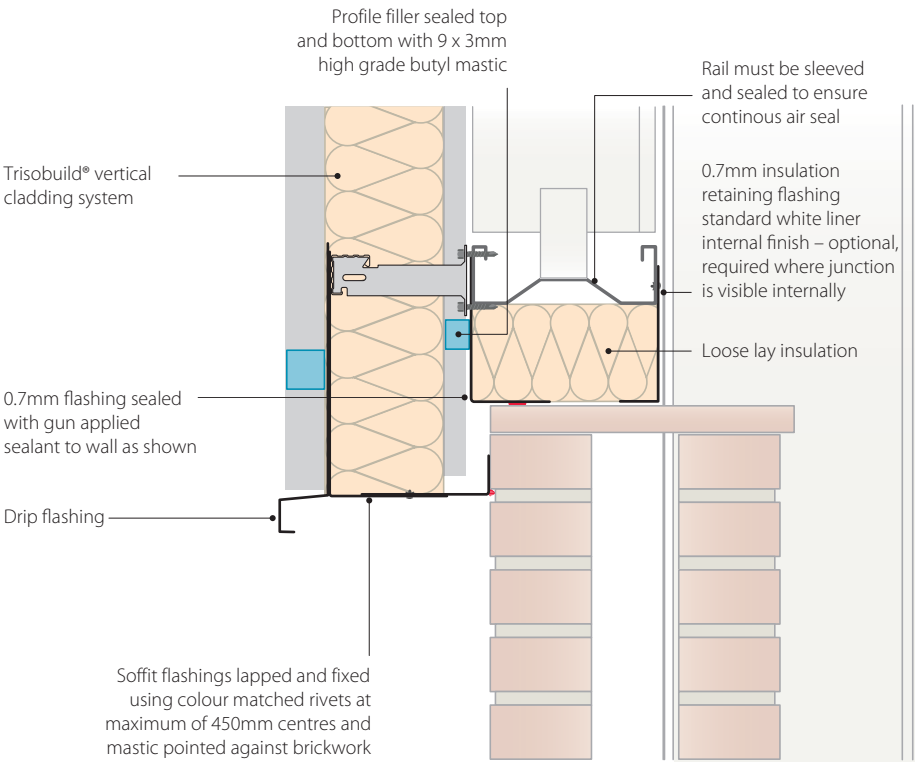
Internal corner



Internal corner
Ensure that the insulation runs continuously around insulation runs continuously around the corner junction to avoid cold bridging so that the low psi and f values shown in the box above and below are achieved.

Psi value (W/mK)	f factor
0.010	0.94
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Drip detail dado wall



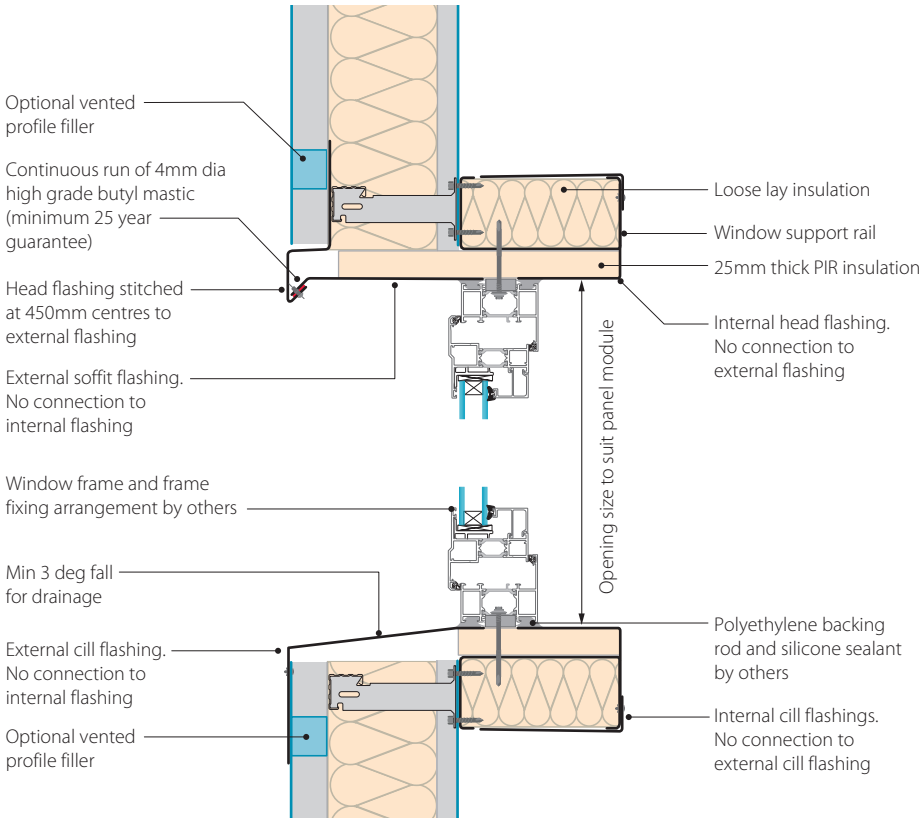
Drip detail dado wall
Loose laid mineral fibre quilt insulation is used below bottom cladding rail to reduce cold bridging at the top of the dado wall.

Psi value (W/mK)	f factor
0.42	0.75
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Construction details – wall

Vertical details continued

Window head/sill

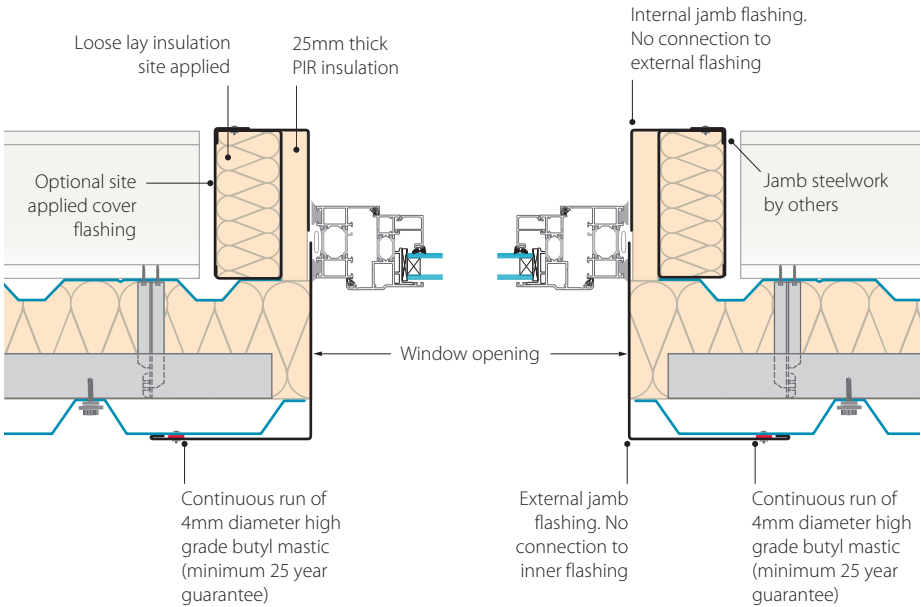


Window head/sill
This window flashing detail has been designed so that it can accommodate any proprietary window. The window should be installed as per manufacturer's recommendations.

Window head	
Psi value (W/mK)	f factor
0.070	0.96
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Window sill	
Psi value (W/mK)	f factor
0.030	0.96
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

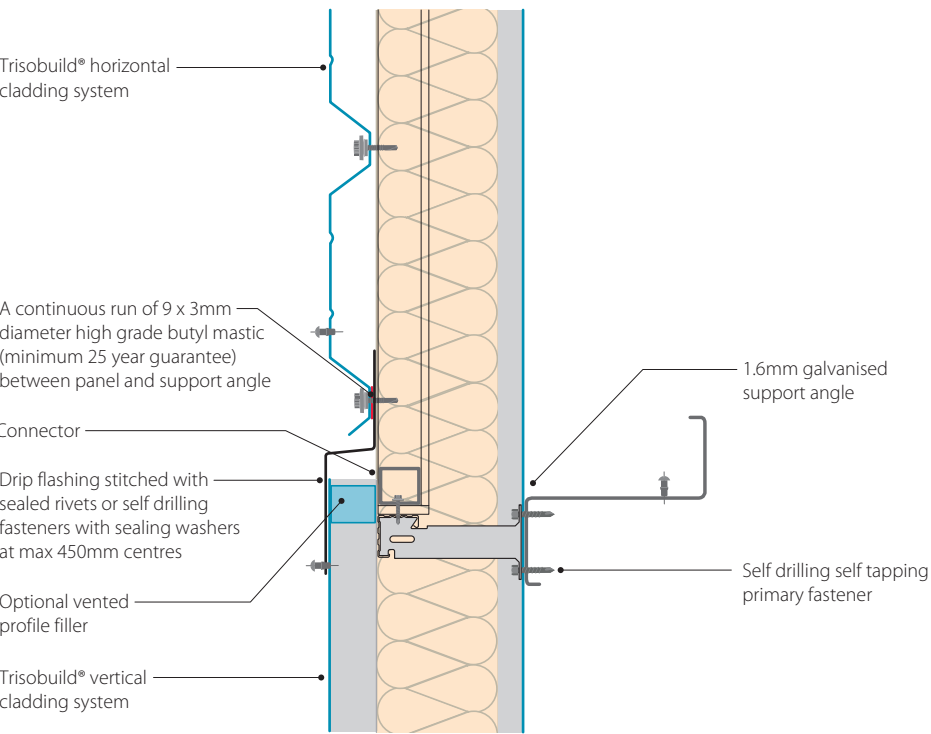
Window jamb



Window jamb
Trimming steelwork around the opening is required to support the window independent to the panels.

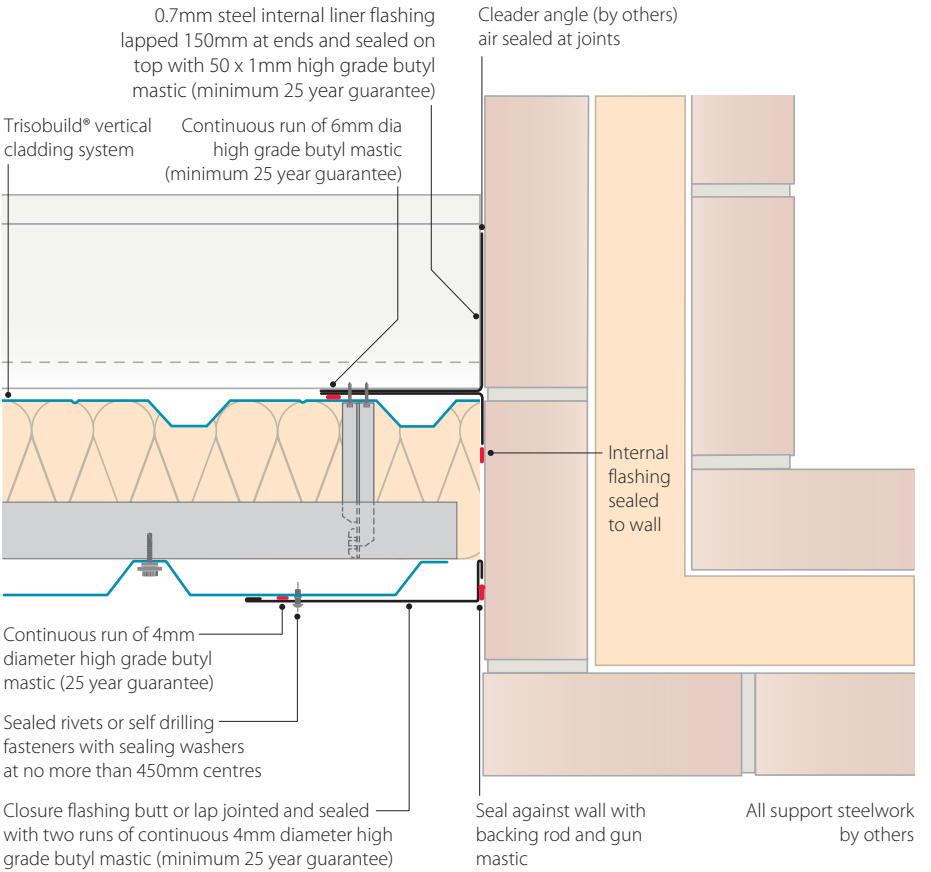
Psi value (W/mK)	f factor
0.030	0.96
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Vertical to horizontal break



Vertical to horizontal break
Horizontal and vertical profiles can be installed adjacent to each other creating interesting architectural features, while the drip flashing detail still maintains thermal performance and an efficient weather seal.

Brick wall abutment



Brick wall abutment
Masonry fasteners to be stainless steel to maintain the durability of the system.

Psi value (W/mK)	f factor
0.010	0.94
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Horizontal wall installation

The following guidance assumes a regular horizontal cladding rail arrangement with a vertical liner and vertical Platinum® Plus approved spacer system . The steps given below are instructions for a typical construction and should be used only as a guide. Specific technical details, method statements and site-specific risk assessments should be produced and applied for each building. An extended list of construction details is available from Tata Steel, and advice can be given via our Technical Department on any bespoke details that may be required.

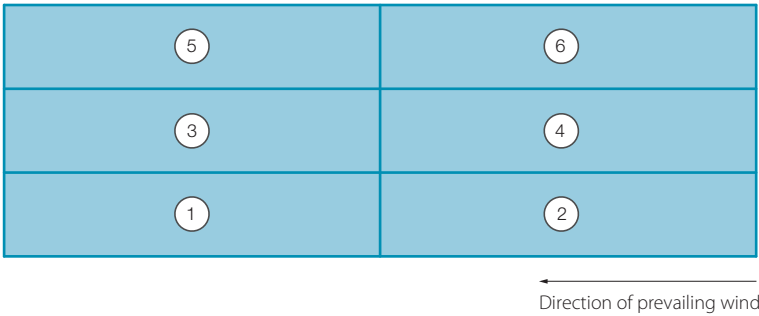
Firstly checks should be carried out to make sure that the base rail is adequately supported and level along its full length and that the flanges of all rails are within the specified vertical datum tolerance. If satisfactory carry out preparation work on cill trims and internal corner flashing etc. and ensure these are lined, levelled and sealed as specified.

Install vertical liner in tiers over part or all of the elevation, ensuring alignment and cover is maintained. Seal liner laps as shown on page 46.

Install and align the vertical HW Instaloc® system by positioning the spacer brackets at secondary rail positions and running over the brackets and securing using fasteners either side of the rail. Ensure that the spacing and fastener frequency is to the specification and has been checked for design loadings.

The insulation and external sheet should be laid in sequence from the base of the elevation to the eaves in rows the full length

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www.tatasteelconstruction.com/speccreator



of the elevation. This sequence will ensure the correct lapping arrangement and maintain profile alignment. When 3 metres off floor level it may be more efficient to continue in tiers with a platform lift, if this is preferred, make sure subsequent tiers are aligned and top corner of the sheet is lapped correctly with previous tier (ie as if you were cladding in rows).

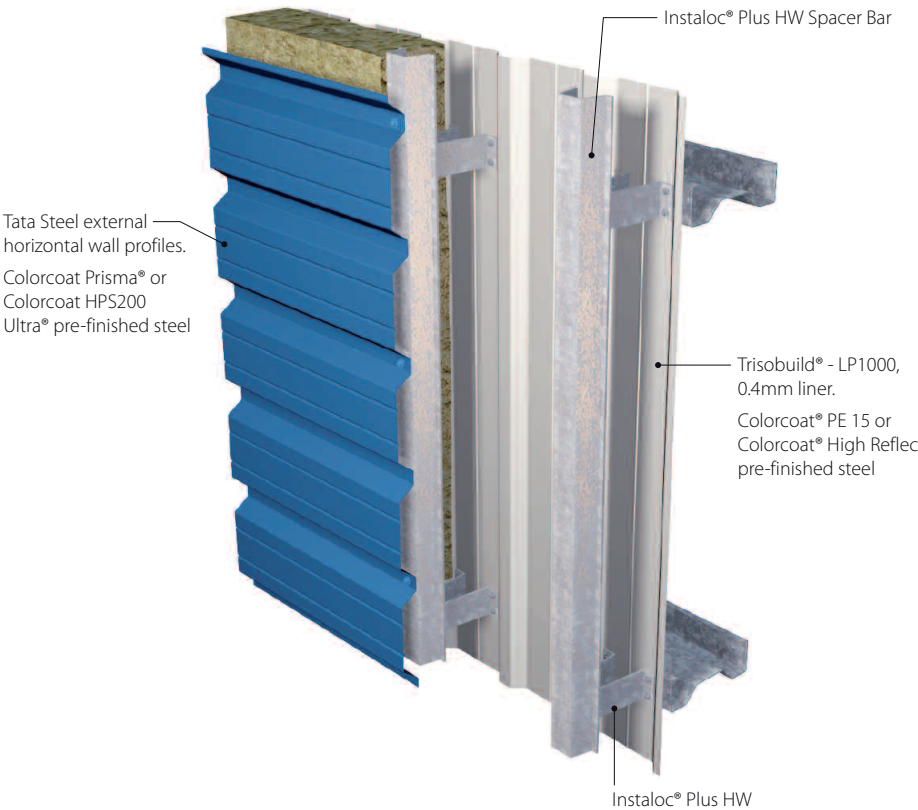
Before installing the insulation, ‘stick pins’ should be positioned to the liner face at mid span between vertical rails, and then the insulation should be run horizontally and tucked behind the vertical spacer system and over the ‘stick pins’ so that it is held in place.

Each row of insulation should be compressed tightly with the previously row to make certain there are no gaps. If there are two layers of insulation; the joints in each layer should be offset.

The end and side laps of the external sheet should be sealed as specified on page 46. Advice should be obtained from our Technical Department on fastener frequency, as this will depend on the calculated wind load for the cladding.

The contractor should ensure that any swarf or debris that have fallen onto the ledges of the profile ribs are removed on final inspection.

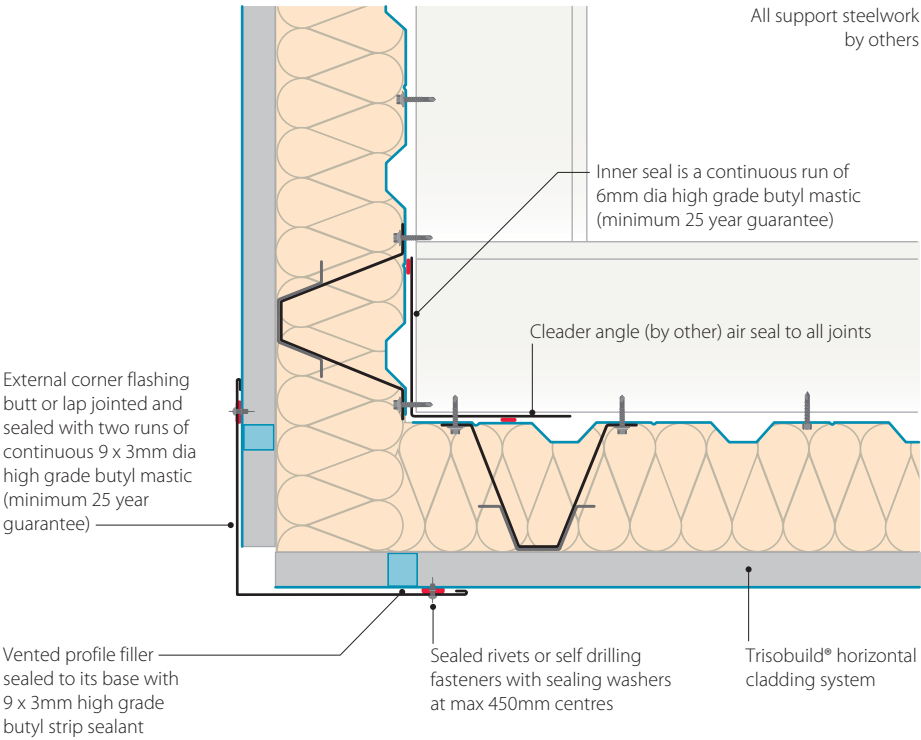
Trisobuild® HW horizontal wall system



Construction details – wall

Horizontal details

External corner

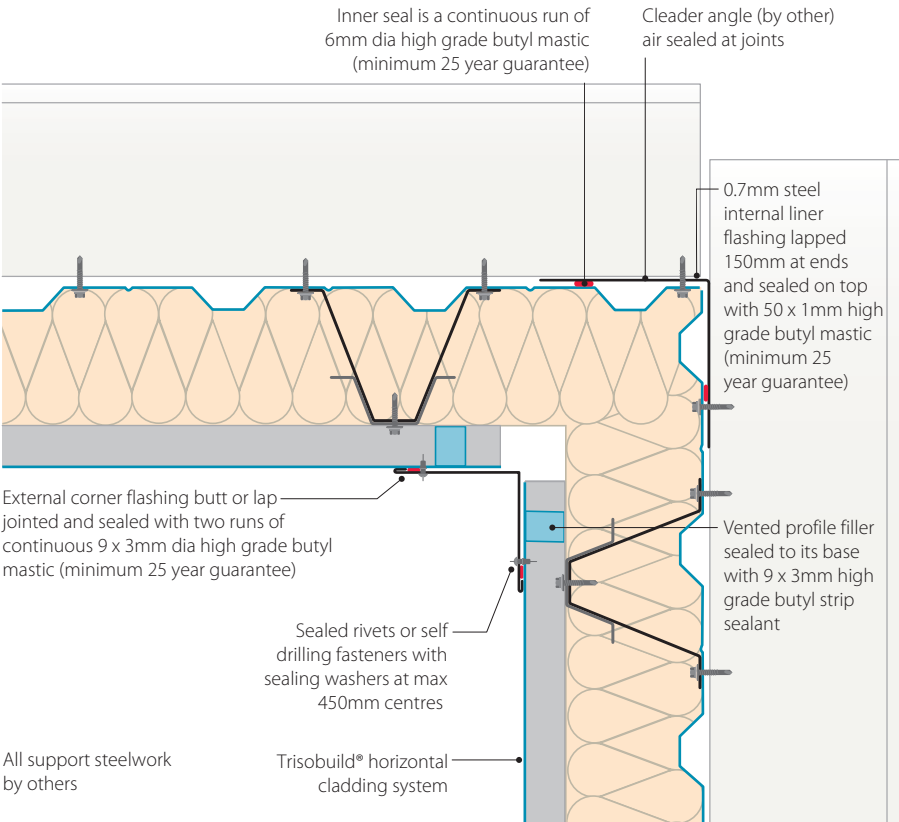


External corner
Ensure that cleader angle is jointed and sealed so that the seal to the liner sheet maintains the air tightness of the detail along its length. Also give attention to the sealing arrangement at the top and bottom of the corner to ensure the continuity of the air tightness around these junctions.

Psi value (W/mK)	f factor
0.016	0.96

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Internal corner



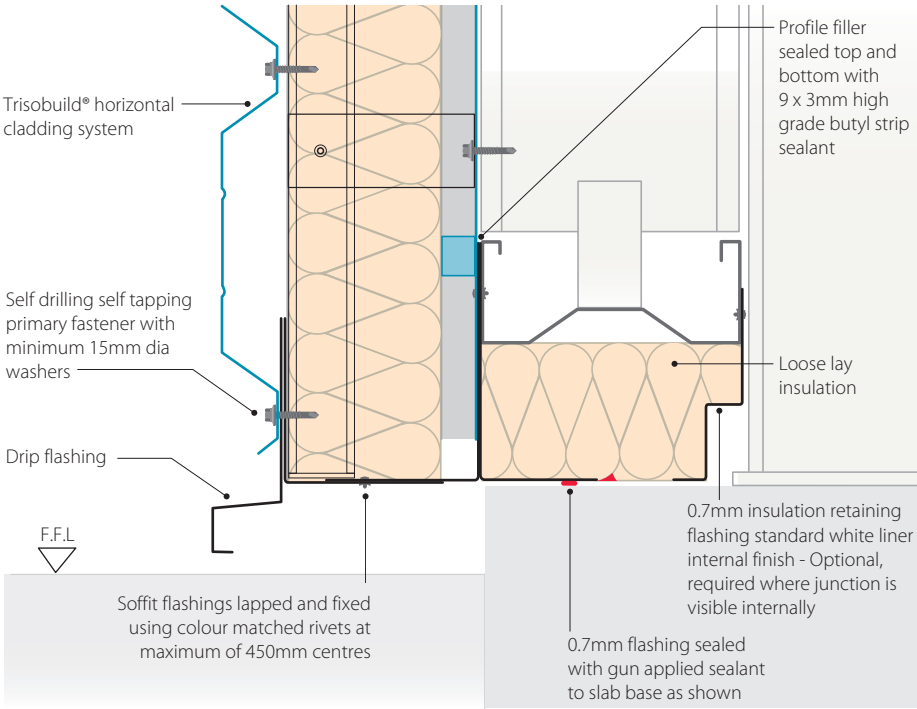
Internal corner
In addition and also related to the above detail, ensure that the insulation runs continuously around the corner junction to avoid cold bridging so that the low psi and f values shown in the box above and below are achieved.

Psi value (W/mK)	f factor
0.002	0.975

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Construction details – wall
Horizontal details continued

Slab base drip



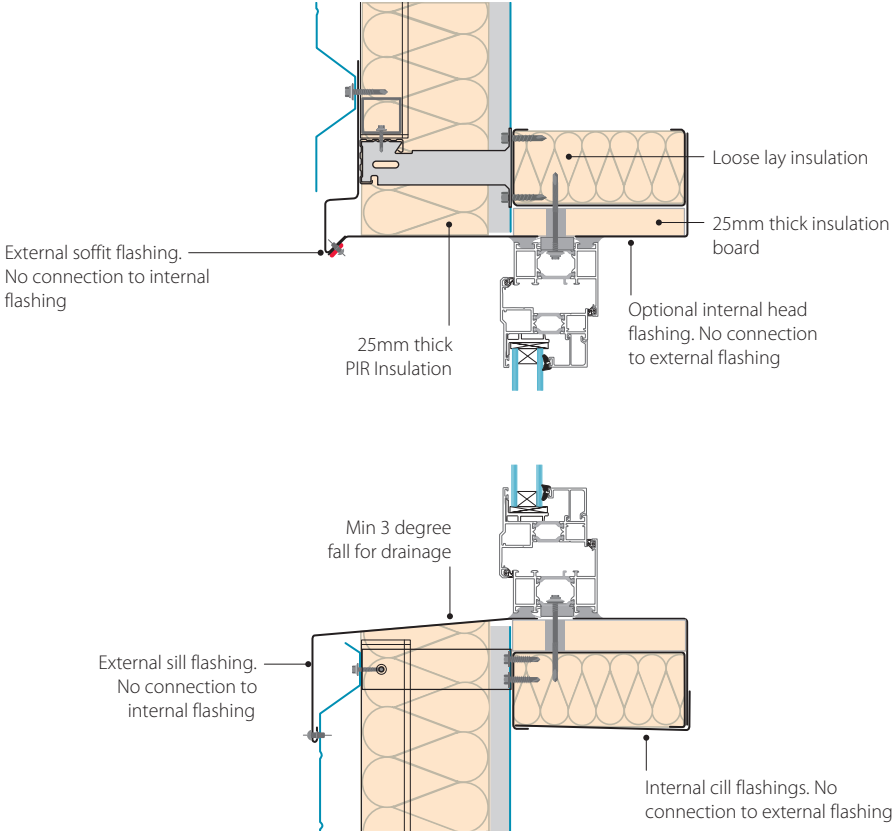
Slab base drip

Loose laid mineral fibre quilt insulation is used below bottom cladding rail to reduce cold bridging at slab base.

Psi value (W/mK)	f factor
0.210	0.95

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Window/door head



Window/door head

This window flashing detail has been designed so that it can accommodate any proprietary window. The window should be installed as per manufacturer's recommendations.

Psi value (W/mK)	f factor
0.070	0.580

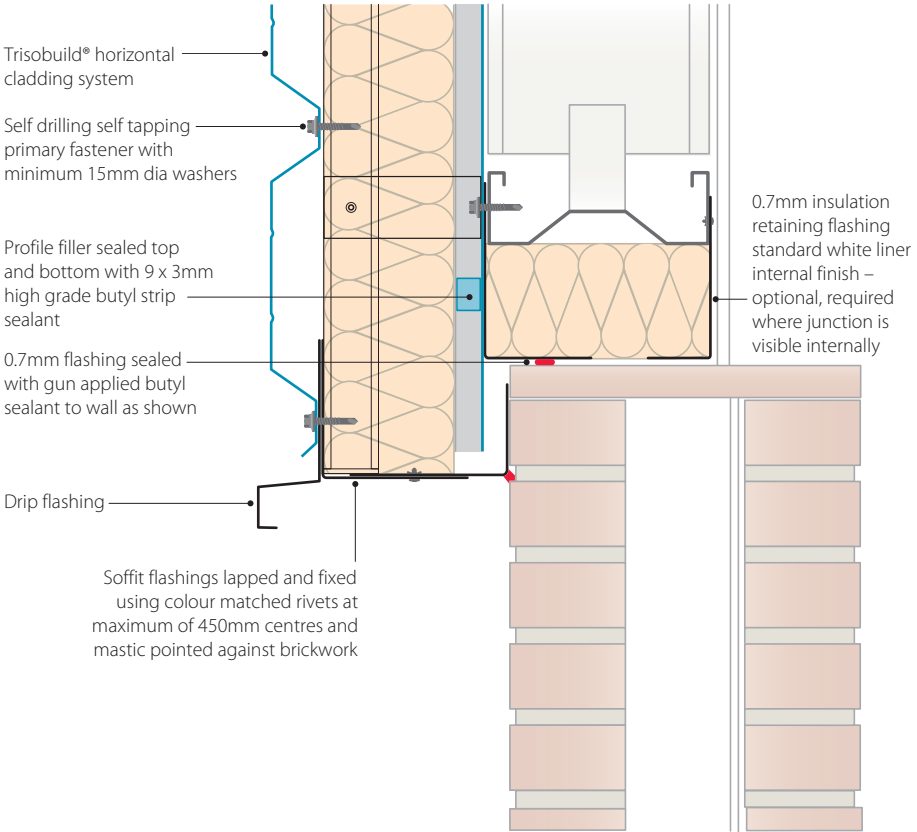
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Window sill

Psi value (W/mK)	f factor
0.580	0.960

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Dado wall drip



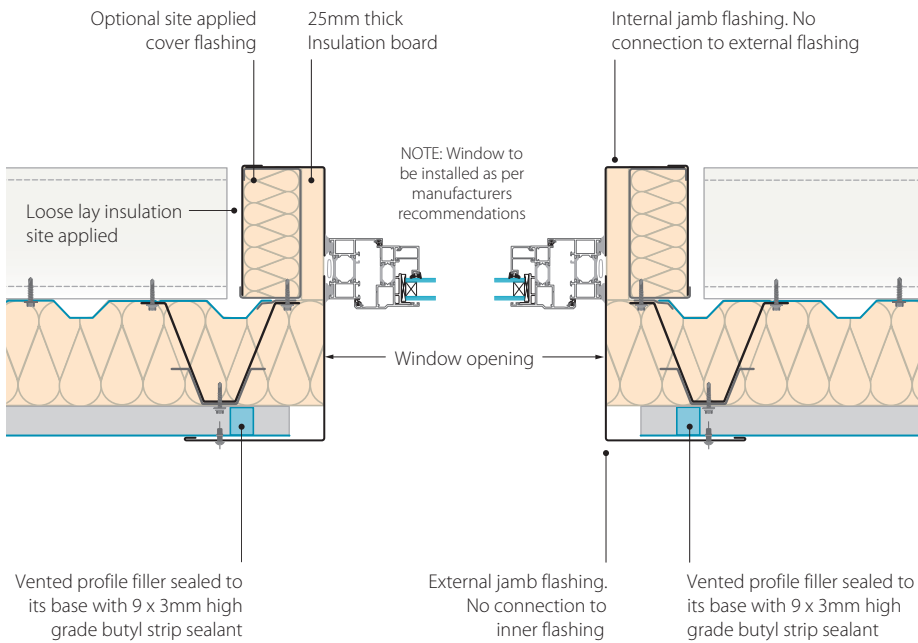
Dado wall drip

Loose laid mineral fibre quilt insulation is used below bottom cladding rail to reduce cold bridging at the top of the dado wall.

Psi value (W/mK)	f factor
0.210	0.95

Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.

Window/door jamb

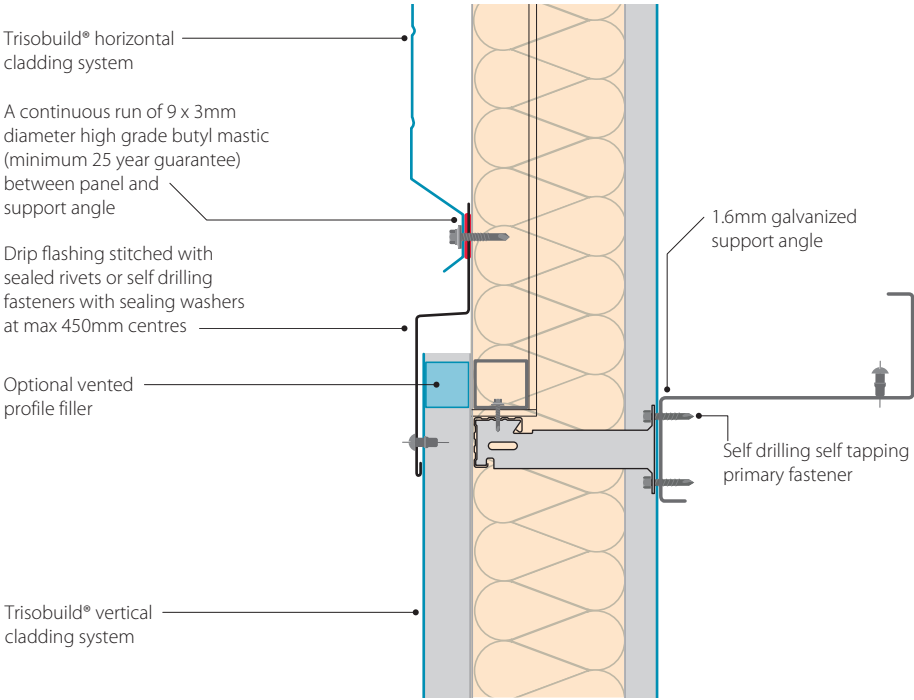


Window/door jamb

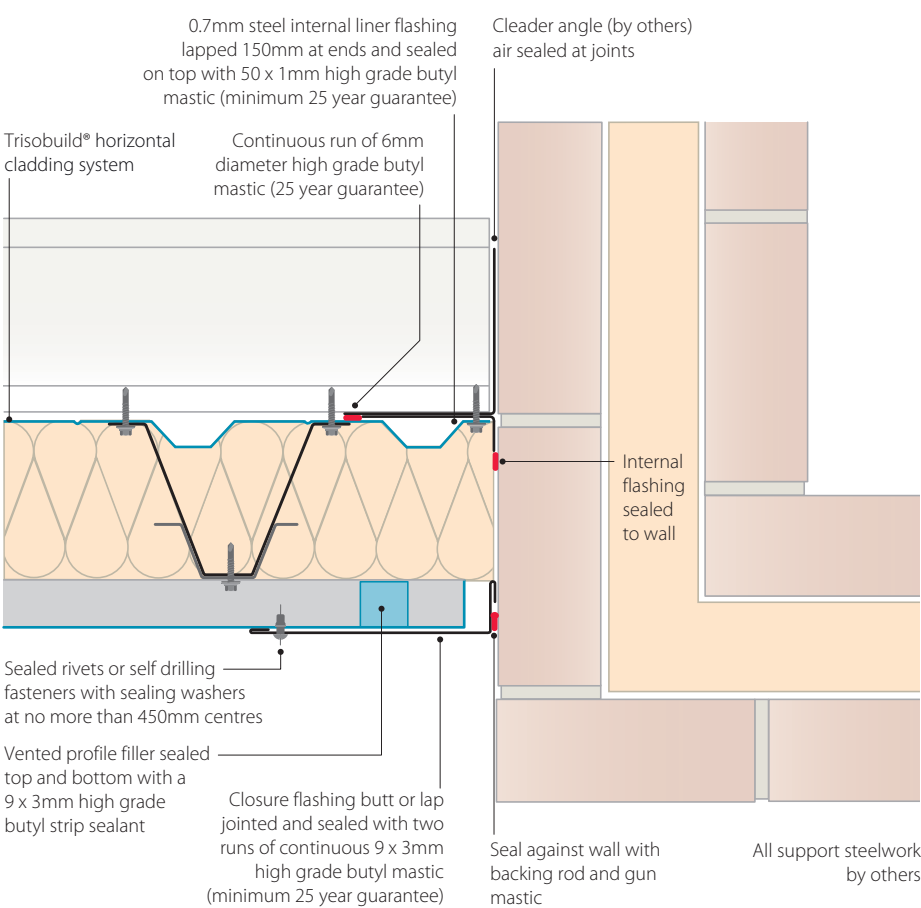
Trimming steelwork around the opening is required to support the window or door independent to the panels.

Construction details – wall
Horizontal details continued

Horizontal to vertical break



Brick wall abutment



Horizontal to vertical break
Horizontal and vertical profiles can be installed adjacent to each other creating interesting architectural features, while the drip flashing detail still maintains thermal performance and an efficient weather seal.

Psi value (W/mK)	f factor
1.103	0.579
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Brick wall abutment
Masonry fasteners to be stainless steel to maintain the durability of the system.

Psi value (W/mK)	f factor
0.010	0.940
Stated calculation results are dependent on components being as shown. Computer modelled in accordance with EN ISO 10211.	

Fasteners, sealants and fillers

Fastener selection table (15mm washers throughout)

Application	PMJ-tec	EJOT UK	SFS intec
Primary fixing for external profile to spacer bar	SH LS S16 5.5 x 28 PP + colour	CF15-JT3-3-5.5 x 25 + colour	SX3/9-L12-S16-6.0x29 + colour
Primary fixing for internal liner profile to cold rolled purlins	SH LS S16 5.5 x 25	JT3-3-5.5 x 25 S16	SX3/9-S16-6.0x29
Primary fixing for internal liner profile to hot rolled purlins	SH HS S16 5.5 x 40	JT3-12-5.5 x 40 S16	SX14/12-S16-5.5x40
Primary fixing for spacer bracket to cold rolled purlins	SH LS S16 5.5 x 28	JT3-3-5.5 x 35 S16	SX3/9-S16-6.0x29
Primary fixing for spacer bracket to hot rolled purlins	SH HS S16 5.5 x 40	JT3-12-5.5 x 40 S16	SX14/12-S16-5.5x40
External stitching screw for side-lap and/or metal flashing to external weathering profile	SH ST S16 5.5 x 22 PP+ colour	CF15-JT3-2-5.5 x 25 + colour	SL2-S-L12-S16-6.3x28 + colour
External rivet for side-lap and/or metal flashing to external weathering profile	RIV 0619 PP + colour	ALV 4.8 x 15 aluminium rivet (state colour required)	Polygrip-ASO-D-48100 + colour

When fixing to timber, fastener pullout values may limit the ability of the roof to resist wind uplift loads. If in doubt, consult the Technical Department.
All fasteners can be sourced from SFS intec (T: +44 (0) 113 2085 500), PMJ-tec (T: +44 (0) 1451 822777), or EJOT UK Limited (T: +44 (0) 1977 687040).

Sealants and fillers

Vertical external profile

The end laps of the external weathering profile of the vertical Trisobuild® systems do not require sealant.

The side laps of the vertical external weathering profile also do not require sealant, but should be stitched at a maximum of 500mm centres.

Horizontal profile

The end laps of the external weathering profile of the horizontal Trisobuild® systems require two runs of gun-applied solvent-release sealant. Ensure the continuity and the effectiveness of the seal. The two lines of sealant must be placed between the sheets before fixing: one row 10mm from both the sheet ends at the top and bottom of the lap (ensure space is left for compression).

The side laps of the horizontal external weathering profile do not require sealant, but should be stitched at a maximum of 600mm centres.

For external weathering black EPDM, MP or Superseal vented profile fillers should be located between the external profile and the cover flashing to provide continuity of weather seal and to prevent access by insects and small birds. These shaped fillers should be sealed at their base with a run of 9 x 3mm high grade butyl strip sealant.

The liner profile should have both the side and end laps sealed. The end laps sealed with a 4mm diameter high grade butyl mastic (minimum 25 year guarantee). The side lap sealed with a 50 x 1mm high grade butyl mastic (minimum 25 year guarantee) positioned on top of joint.

For liner profile ends at eaves base of wall, white EPDM, MP or Superseal profile fillers should be located between the profile's internal profile and the internal cover flashing to provide continuity of air seal. These fillers should also be sealed top and bottom on a run of 9 x 3mm high grade butyl strip sealant.

All sealants can be sourced from either Premier Sealants (White strip), T: +44 (0) 1724 864100
EJOT UK Limited (Blue Strip). T: +44 (0) 1977 687040
SFS intec Ltd (Pink Strip). T: +44 (0) 113 208 5500.

All fillers can be sourced from either: Premier Sealants, T: +44 (0) 1724 864100
EJOT UK Limited, T: +44 (0) 1977 687040
Brett Martin, T: +44 (0) 24 7660 2022

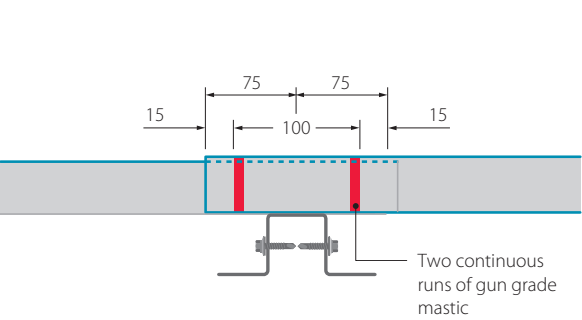
Typical fastener layouts

More fasteners may need to be included to resist negative wind load forces. It is recommended that you speak to our Technical Department to discuss the specific loading and support structure on your project to ensure that sufficient restraint is being provided.

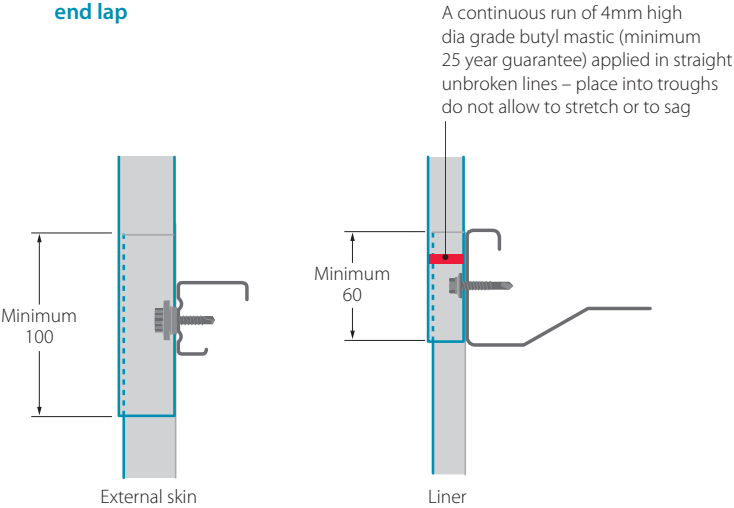
T: +44 (0) 1244 892199
E: technical.envelopeproducts@tatasteeleurope.com

Fasteners, sealants and fillers

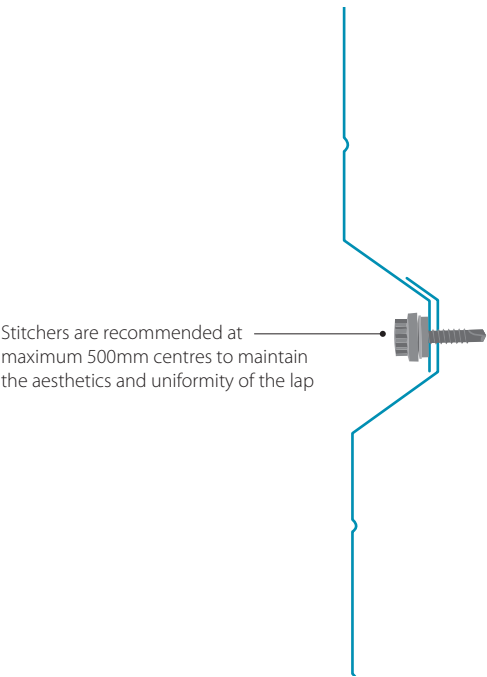
Horizontal external profile end lap



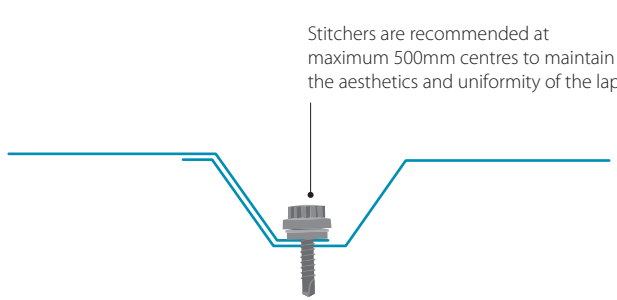
Vertical external profile and liner end lap



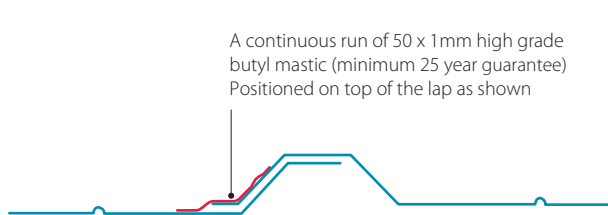
Horizontal external profile side lap



Vertical external profile side lap



Internal profile side lap (same for both orientations)



Performance benefits



Thermal performance

The Trisobuild® systems comply with the Building Regulations (Approved Document Part L2 – England, Wales & Technical Handbook 6 – Scotland). All quoted system U-values and construction ‘psi’ and f values have been computer modelled in accordance with EN ISO 10211 by trained and experienced technical engineers.



Fire safety

Our Trisobuild® fire wall (FW) systems are unique in offering specifications that will provide fire insulation resistance ratings of 15, 30, 60 and 120 minutes, together with 4 hours fire integrity resistance for all systems. The systems can be specified as vertical or horizontal, they can achieve their declared performance with standard installation methods and do not require internal stitching.

The external and internal surfaces of the Trisobuild® systems can be specified to meet the requirements within the Approved Document B (fire safety) Vol 2.

Trisobuild® systems have also achieved insurance based validation via the LPCB and is approved to standard LPS1181:1 to both levels EXT-A and EXT-B.



Acoustic performance

Trisobuild® systems can offer a wide variety of sound reduction and sound absorption solutions, using variations in liner and insulation specification. Many assemblies have been tested through independent acoustic laboratories some of which are shown on pages 14-17.

Tata Steel has further test data and the ability to offer predicted performance ratings.

Therefore if the needs of your project are not met within the systems shown in this brochure please provide details of your requirements to the Technical Department and our engineers will work with you to develop a solution to achieve the performance levels necessary.



Water penetration

All roof systems are capable of being laid at a 4 degree roof pitch (with the exception of the 13.5/3 profile which is limited to 10 degrees) when sealed to the recommendations within this brochure.



Air-tightness

The envelope cladding system and its junction details must be air-tight so that the air permeability of the building does not exceed 10m³/h/m² at an applied pressure of 50Pa, in accordance with the Building Regulations for England and Wales (Part L2) and Scotland (Technical Handbook Section 6 Energy).

The liner sheet generates the air-tightness within the Trisobuild® systems. High grade butyl mastic is used to seal the overlap joint between adjacent sheets and metal flashings and sealed fillers are used at end positions. For more information see pages 34 and 46. In laboratory tests, all liner panel junctions have shown air leakage of <0.30m³/h/m².

A practical expectation for a finished building, with effective sealing at all junctions would be 3-5m³/h/m². However enhanced detailing practises on large shed buildings can realise air leakage performance figures of less than 3m³/h/m².



Environmental credentials

As the first steel manufacturer to become an approved Environmental Product Declaration (EPD) programme operator, Tata Steel now have the ability to create product specific EPDs that comply with EN 15804 and ISO 14025 standards. Being able to supply product specific Type III externally verified EPDs, along with BES 6001 responsible sourcing certification, enables us to help our construction supply chains to accrue points, under building certification schemes such as LEED and BREEAM, on their building projects. In addition the level of transparency and reporting afforded by the operatorship allows optimum resource decisions to be made and demonstrates the sustainability of steel and our steel building products.

Trisobuild® systems are produced within the UK by Tata Steel's steel production, strip processing, galvanising, coating and profiling facilities. In addition the system's carbon footprint is further minimised by the manufacturing process being situated adjacent to the Colorcoat® pre-finished steel production facility.

All steel elements are truly recyclable, without any loss of quality. The insulation can be separated easily and if kept ‘clean’ can be recycled. In all cases, the positive value of the steel scrap more than offsets other disposal costs.



Hereford and Worcester Fire and Rescue Service, Kidderminster
Client: Hereford & Worcester Fire and Rescue Service
Main contractor: McPhillips (Wellington) Limited
Cladding contractor: Kynaston Contract Services Limited
Tata Steel products: Trisobuild® Pyramid 50/882 and Trisobuild® Pyramid 50/1000
Colorcoat® product: Colorcoat Prisma®



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Tata Steel UK Limited

Tata Steel

Shotton Works

Deeside

Flintshire

CH5 2NH

T: +44 (0) 1244 892199

E: technical.envelopeproducts@tatasteeleurope.com

W: www.tatasteeleurope.com

Tata Steel UK Limited is registered in England under number 2280000 with registered office at 18 Grosvenor Place, London, SW1X 7HS.

UK 1221