RJ Facades

briklok
by RJ Facades

Briklok Ventilated Facade System

Technical brochure

Briklok by RJ Facades

The new briklok™ system from RJ Facades, introduces a strength of backing support wall for brick slips, new to ventilated facades.

The new patented briklok™ system is a unique interlocking design that creates a solid aluminium inner cavity, supporting simple, tested cavity barrier installation. The briklok design creates the possibilities of the off-site fabrication of columns, and corner returns creating improved, reduced site time of the installation of complicated architectural detailing.

The support structure is as critical as the decroative element of the facade. Briklok incorporates a market leading tried and tested EVT II substructure from RJ Facades. Since 2010 RJ Facades has partnered architects, designers and contractors, providing access to structual calculations and support from RJ engineers and designers. We have designed and supplied support systems for all the facade materials used in ventilated facades, partnered with the market leading facade contractors, and worked on award winning projects.

The development of Briklok came from our mission to listen and design facade systems to our customers' need and requirement to support them in the construction of ventilated facade systems. Concepting and designing a brick slip system offering greater integration to other elements of the building, while incorporating the requirement of modern building design.

The The Briklok & EVT II range focuses on lower impact on the environment using more sustainable materials in the design and manufacture of aluminium products and systems. This has been the first range in the UK to move all products to the 44% post consumer recycled content for 6063 T6 aluminium grade.

The system is designed to combine natural brick finishes with modern methods of construction, using a full-enclosed back aluminium support frame, for natural brick slips. Mid and upper profiles are available in two sizes, to account for the variance that occurs in real bricks. Briklok and Briklok XL.

Briklok 'standard' is designed for a brick with dimensions from 62mm to 65mm which cover most UK manufactured bricks.

Briklok 'XL' is designed for a brick with dimensions from 64mm to 67mm to suit engineering and natural clay bricks, where less shrinkage occurs during manufacture.

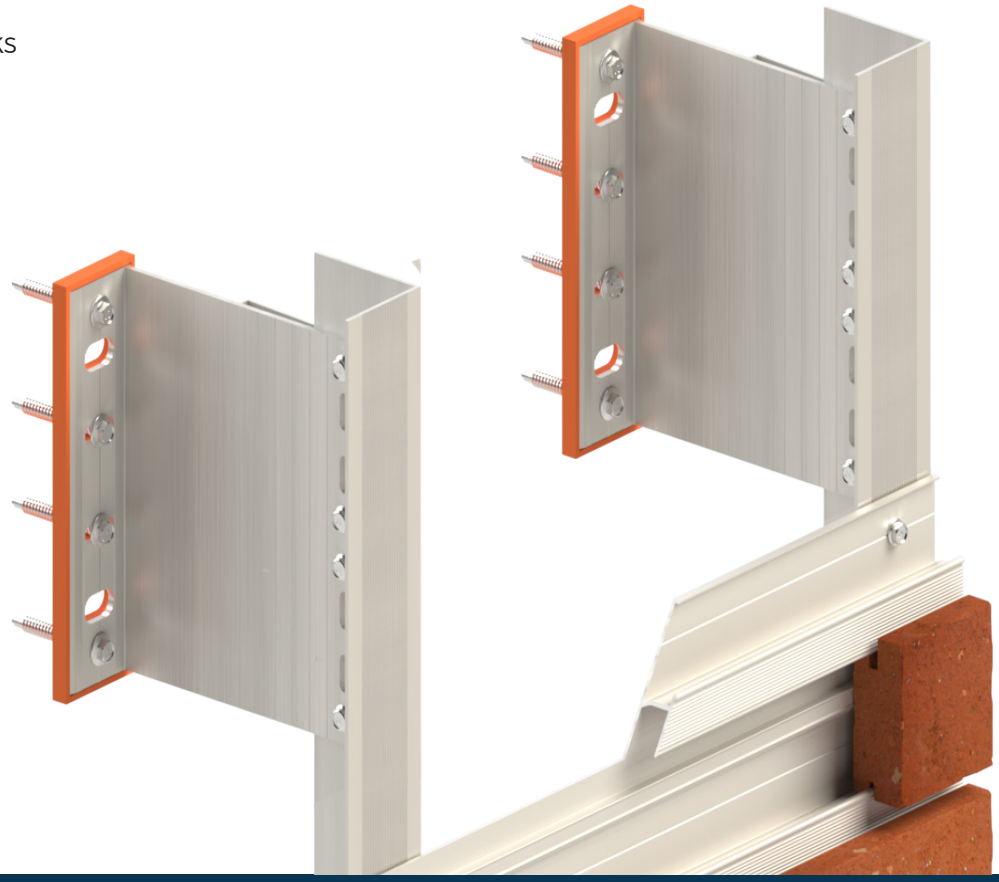
Suitable as a lightweight and cost effective option comparing to the traditional brick build-up. Both systems use vertical T & L profiles combined with BrikLok horizontal profiles to support the brick slips.

Main advantages:

- Fast, easy and secure mounting of Brick slip systems.
- Improved and reduced installation time, with the possibility of off-site fabrication of columns and corner returns.
- Optimization of the substructure by optimal load distribution to vertical supporting pillars.

Cladding Materials

- Natural clay bricks



Briklok General Information

The Briklok Brick Slip Cladding System and RJ Facades support system is a Mechanical Brick-slip system. The brick-slip material is a traditional brick manufactured using standard methods from a non-combustible clay material, that is cut and grooved to produce the brick slip. The brick slips are installed into an continuous interlocking aluminium profile with horizontal and vertical supports to create a protective cladding over building substructures consisting of steel frames systems, concrete, masonry and timber constructions.

The Briklok system enables a real brick-slip to be mechanically supported in a horizonal or vertical position using an interlocking anodised aluminium profiles 6063T6 (figure 1) in accordance with BS EN 755-9 : 2016. The system comprises the three profiles in figure 1, with the addition of a movement joint upper profile to be used with the movement joint brick slip, and a soldier course span profile for vertical running bond designs.

1. Briklok Support Profile
Upper / finishing profile

2. Briklok Support Profile
Middle / repeating profile

3. Briklok Support Profile
Lower / starter profile

Figure 1. Briklok support profiles

The top kerf should have a minimum of 2mm connection to the brick prior to mortar, as tested at CWCT sequence B test. UL report number R4791092526 REV 1.. Typically the Briklok system allows for a minimum of 3mm.

The Briklok system is designed to work with natural real bricks. During the manufacturing process a ‘real’ brick will experience varying levels of shrinkage dependant on the type of clay. In general terms the typical UK brick, Ibstock FC ‘standard’ range will be 63-65mm in height, and the engineering type brick will be 64-67mm.

Design layouts of brick courses are typically 75mm in the UK, to accommodate the tolerance of the bricks the Briklok support system offers a system for the ‘standard’ and the ‘engineered’ brick. The only variation is the upper kerf is 2mm shorter on the XL version to account for the height of the bricks, Figure 2.

The specification of the support system will be made at the design stage of the project subject to the brick selection.

Briklok support profile lower and Briklok MJ support profile are compatible with both the 'standard' and 'XL' support profiles. Briklok support profile lower and Briklok MJ support profile are compatible with both the 'standard' and 'XL' support profiles.

The Briklok support profile is connected to the RJF vertical or horizontal sub structure using self-drilling colour coded Ejot Tek screw JT9-4-4.8 x 19 A4 figure 2. Each Briklok profile to be fixed at the end of each profile, using a staggered / full fixing method as CWCT sequence B tested. Ejot Tek screws achieve relevant ETA approval 10-0200.

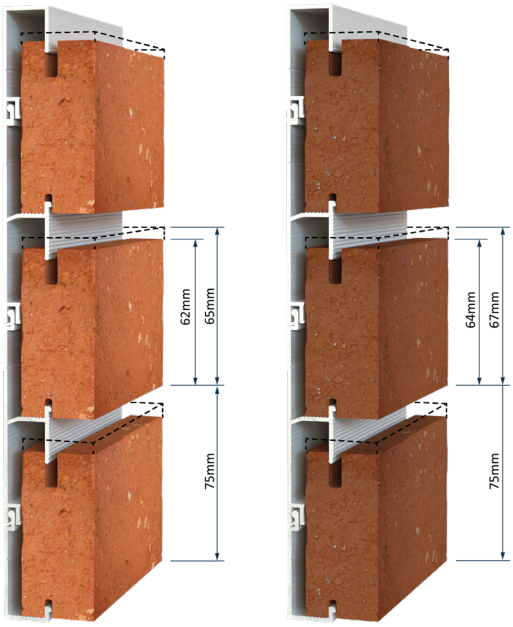


Figure 2. Briklok 'standard' and Briklok 'XL' profile comparison

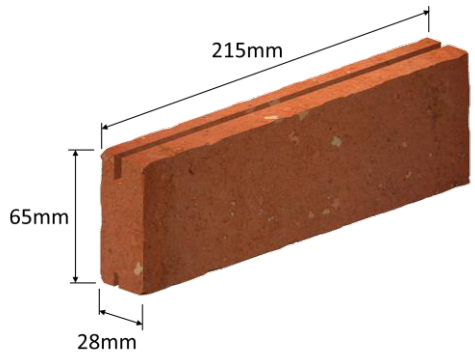
1. JT9-4-4.8 x 19 A4 connection Briklok support profile to RJF support structure

2. Briklok spacer provides a temporary fix to provide a 10mm space between brick slips for soldier course designs

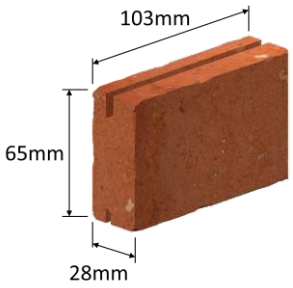
3. Briklok clip provides a temporary fix where required, for brick slips in soldier course and soffit designs

Figure 3. Fixing conection for Briklok support profiles & Briklok spacer and spring clip for soldier course designs

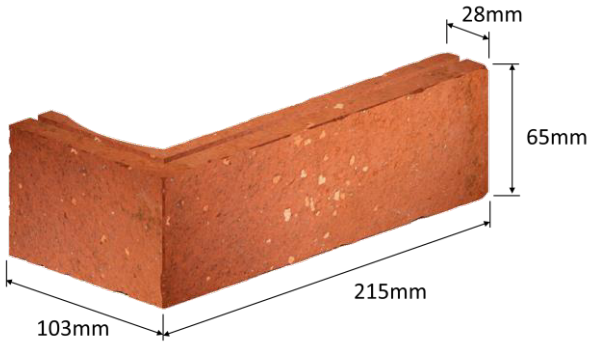
Briklok General Information



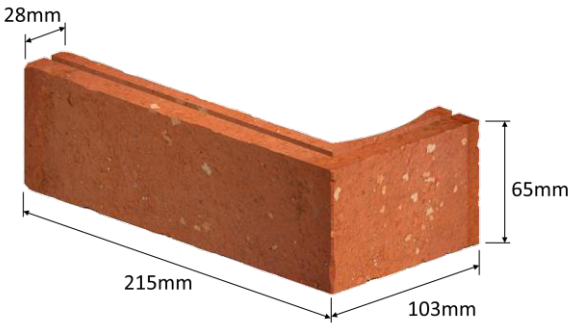
Fasia Brick Slip



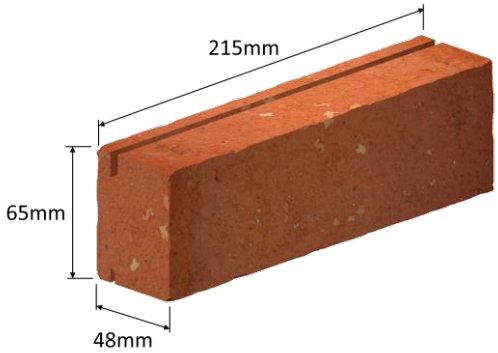
Header Fascia Brick Slip



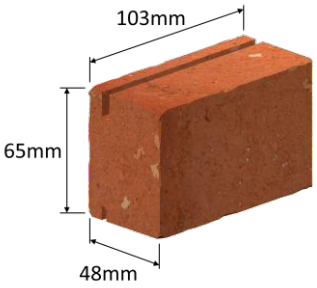
Corner Pistol Brick Slip



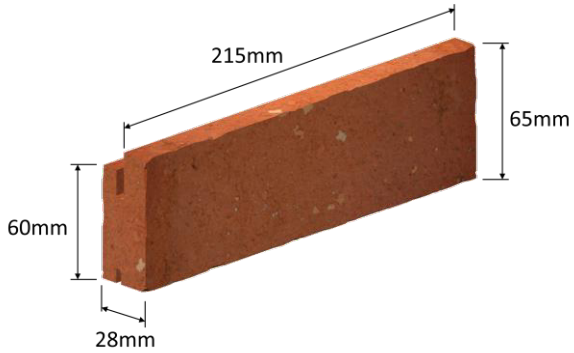
Corner Pistol Brick Slip



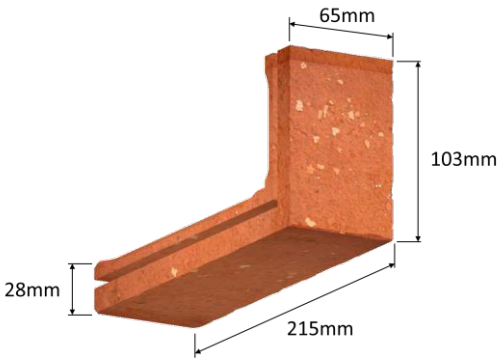
Projecting Fasia Brick Slip



Projecting Header Fascia Brick Slip



Fasia Movement Joint Brick Slip

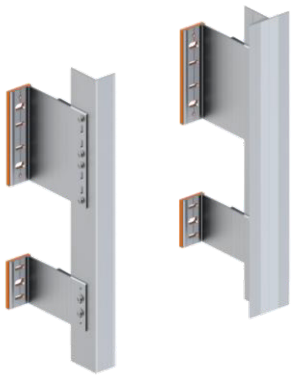


Pistol Soffit / Header Brick Slip

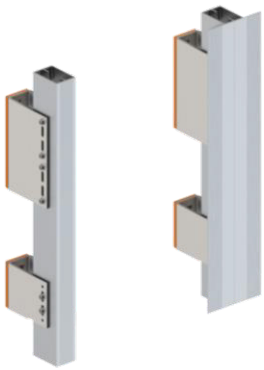
Figure 4. Brick slip profile types

The brick slips used in the Briklok system enable light weight construction are well suited for applications, such as high-rise buildings. Manufactured in UK by Ibstock the brick offers A1 fire rated, F2 Frost rated, CWCT system compatibility tested, manufacturer declaration of performance to BS EN 771-1:2011+A12015. The range has a large range of colours and textures, with standard sizes (figure 3), with bespoke sizes and bespoke profiles available.

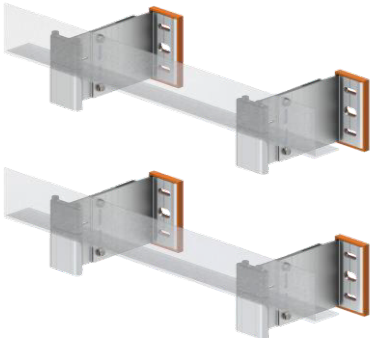
The joints (horizontal and vertical) are pointed using Parex Historic Mortar KL a traditional hydrated lime, sand, GGBS mortar. Consistent in both colour and finish, Parex Historic Mortar KL is pumped deep into the joint, providing a complete fill and a degree of flexibility. Approval certificate BS EN 998-2:2016.The RJ Facade Systems EVT II support structure, UL certified to UKAS accreditation Performance of Rainscreen Cladding Support Systems BSFO, Certificate Number R40530-1 Rev 4, tested at CWCT sequence B test. UL report number R4791092526 REV 1.



1. EVT II L Bracket in Aluminium and stainless with L-profile



2. EVT II U Bracket in Aluminium and stainless with floor span profiles



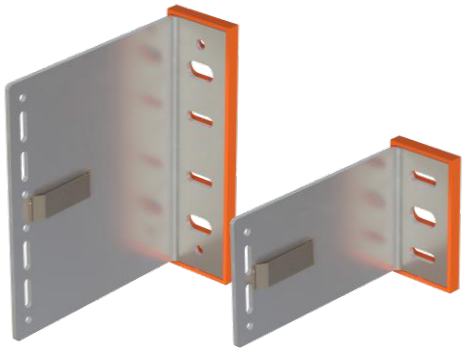
3. EVT II L Bracket in Aluminium and stainless with horizontal adaptor

Figure 5. Typical RJ Facade System - EVT II support structure assemblies for supporting Briklok profiles

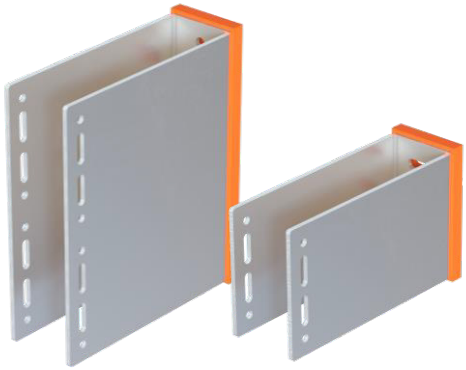
Briklok General Information

The relevant parts for Briklok system include (figure 5) include EVTII Helping Hand Wall Brackets (figure 6), EVT Vertical and Horizontal Rail Types (figure 7), & suitable fixings for aluminium component assembly and aluminium supports to building substrates (figure 8).

1. EVT II - Aluminium FPH & SPH, for Concrete and SFS Standard L Brackets



2. EVT II – 3mm Stainless FPH & SPH, (A2 & A4) for Concrete and SFS Standard L Brackets



3. EVT U-Brackets – 3mm Stainless Steel (A2 & A4) FPH & SPH, slots for Concrete and Steel

3. EVT II Horizontal Adaptor & EVT II - Aluminium 80mm/H L-Bracket

Figure 6. EVT II wall brackets, Certificate Number R40530-1 for full references and technical information

1. EVT L-Profile - 60 x 50 x 2mm for use with EVT II L Brackets

2. EVT floor span profile for use with EVT II U Brackets

3. EVT Z-Profile - 45 x 25 x 30 x 2mm where no adjustment required

4. Structural Tophat for EVT II FPH & SPH L brackets & U-brackets

5. Structural C-Profile for EVT II FPH & SPH L brackets & U-brackets

Figure 7. EVT system profiles, Certificate Number R40530-1 for full references and technical information

1. JT9-4-4.8 x 19 A4

For fixing Briklok Support Profile to aluminium vertical or horizontal support profile. A4 for all corrosive environments

2. JT3-3-6.3x50 F13 A2 (Blue)

For fixing wall brackets to SFS 1.2 - 3.0mm. A2 for standard UK environmental conditions

3. JT6-3-6.3x50 F13 A4

For fixing wall brackets to SFS 1.2 - 3.0mm. A4 version for high corrosive environmental

4. JT3-3-6.3 x 38 F13 A2

For fixing wall brackets to structural aluminium C Profiles and Tophats. A2 for standard UK environmental conditions

5. JC6 KB 8 x 80/15 SW13

For fixing brackets to concrete & block - cracked and non-cracked concrete.

6. SDF-KB 10H x 80-E

For fixing brackets to blockwork, brick, concrete & perforated brickwork.

Figure 8. Briklok & EVT II System ETA fixings for steel, concrete & masonry, full list in Certificate Number R40530-1

Design Guidance

To demonstrate compliance with the appropriate sections of the NHBC Standard requirements section 6.9 and the scheme document. At least the following requirements were evaluated in the review and were found to show evidence that complies. Below are design details as tested in CWCT Sequence B, UL report number R4791092526.

Behaviour in relation to fire
The components of the Briklok system are non combustible and, therefore, are classified as Class A1 in accordance with national Building Regulations and not subject to any restriction on building height or ant other restrictions relating to systems with a lower fire rating. Suitable cavity barriers must be incorporated in the cavity behind the system.

Briklok aluminium support profiles, EVT II aluminium and stainless steel brackets and support structure, stainless steel fixings are Class A1 'No contribution to fire' provided for in decision 94/611/EC implementing Article 20 of Council Directive 89/106/EEC on construction products.

Ibstock Bricks and similar manufactured natural bricks are class A1 'No contribution to fire'

Sika Parex Historic Mortar is class A1 'No contribution to fire'.

EVT II brackets feature polypropylene copolymer insulation pads with a flame-retardant additive, as they are considered to be present in relatively small quantities, considered unlikely to affect the overall fire performance of the cladding.

The Briklok interlocking rail system provides a continuous aluminium backing surface facing into the rainscreen cavity. This provides a solid and continuous surface allowing vertical cavity barriers to achieve the required compression. The Briklok system has been tested to TDG-019 in conjunction with cavity barrier system FSi Silverliner OSCB1 Horizontal Ventilated Cavity Barriers rated EI120, achieved a combined rating of EI120 unaffecting the performance of the barrier.

Loads and movements
The Briklok system has been designed to adequately transfer its own weight and any imposed loads from wind and maintenance activities back to the building substructure. A suitably qualified engineer should calculate the Imposed loads acting on the system according to BS EN 1991-1:2002 and BS EN 1991-1-4:2005+A1. National Annex's should be complied with when present.

Consideration should be given to higher wind pressure coefficients caused by inset stories, parapets and free standing walls. Combinations of imposed loads should be determined according to BS EN 1990:2002+A1:2005. Limits states for the components should be calculated according to BS EN 1999-1-1:2007+A1:2009 Design of aluminium structures. Mid-span deflections of the aluminium profiles should not

exceed L/250 and L/150 for cantilevers where L is the span. Movement and deflection of the building should be considered when designing the system. The system provides adequate provision for thermal movement according to CWCT standard for systemised building enveloped.

Durability
The product provides satisfactory durability (subject to routine inspection and maintenance). The system has been designed to avoid the need for disproportionate work when repairing or replacing individual components. Brikworx Ltd declare that based on the design calculations according to EN 1999.1.1.2007 and the durability rating above they expect the design life of the façade system to be in excess of 35 years when used in normal exposure conditions. The brick slips specified perform to F2 durability as part of EN771-1 assessments to the range.

Interfaces
The Briklok Cladding System has suitable interfaces and resists the penetration of water and wind and has designed to be weather resistant. A CWCT Section 9 hose test was successfully conducted on a window interface installed in the system. Brikworx drawings provide details on how to fit/install and ensure that the window detail doesn't compromise the system erecting or build. The cladding system wall cavity will be fully drained and vented in accordance with NHBC Chapter 6.9 requirements for a minimum 38mm clear cavity width. The recommended width of the air gap, necessary for the existence of convection, is between 40 and 80 mm. This air gap protects the building from overheating during the summer and cooling down during the winter.

Insulation
Insulation is to be supplied by others; Brikworx Ltd. can supply further details on the appropriate location of insulation via drawings.

Damp proofing and vapour control
The Briklok Cladding System, including damp proofing materials and airtight membrane are designed to adequately resist the passage of water into a building and allows water vapour to pass outwards. CWCT Test Report No: R4791092526 Rev 1.Cavity trays can be fitted at the base of the system and above any openings if required.

Electrical continuity and earth bonding
The Briklok Cladding System operation and maintenance guide specifies electrical continuity and earth bonding is to be managed by separate contactors onsite during installation. The rainscreen cladding system design should comply with BS 7671 'Requirements for Electrical Installations, formerly IEE Wiring Regulations' and BS 6651 'Code of Practice for Protection of Structures against Lightning'.

Maintenance and Installation
Suitable installation guidance is supplied by Brikworx ltd. for the Briklok cladding system. The system design allows for appropriate access arrangements for the purposes of cleaning, inspection, maintenance and repair. Should there be a requirement where a brick slip or brick slips require replacing this can be carried out in an isolated area rather than stripping full elevations to replace.

Design Guidance

Support and Fixings
The Briklok Cladding System is securely fixed with suitably durable specified fixings to ensure adequate in-service performance. The Briklok cladding system can be installed to SFS, steel, masonry and timber substrates. The designer of the backing wall should ensure that it has been designed according to the relevant national standards including National Annex where applicable. The backing structure should be confirmed as suitable of taking the loads imposed by the system. Suitable fixings are used throughout the system with an European Technical Assessment – where possible. When a fixing has to be used that doesn't have an applicable European Technical Assessment the performance of the fixing should be determined by on site pull out testing. This should be carried out by suitably trained personnel. The majority of fixings and ancillary items are made from A2 and A4 Stainless Steel. Fixings should be installed by suitably trained personnel.

Ventilation screens
Any ventilation openings are protected from the entry of birds and animals, Brikworx have confirmed that a suitable anti-vermin mesh can be supplied ensure compliance when required (gaps/openings over 10mm).

Handling and storage
An onsite assessment of the manufacturer and supply chain confirmed that materials, products and systems are protected and stored in a satisfactory manner to prevent loss, damage, distortion, uneven weathering and any degradation. The safe handling of and storage of material is detailed further in the product installation guidance.

Weather resistance
The Briklok Cladding System has been designed to resist the passage of water to inside the building. A CWCT Sequence B test has been carried out on this system by a UKAS accredited laboratory – see section 7 tests 5 and 6 for further details. All external seals and joins are made from Parex Mortar or equal to/approved to prevent water ingress.

Thermal bridging and condensation
The Briklok Cladding System and the insulation used has been designed/considered so that thermal bridging is considered and managed. Thermostop elements serve as thermal spacers between supporting walls and structure. The use of these elements in positively impacts reduced heat losses.

Drainage and ventilation
The cladding system has air barriers and vapour barriers drawings can be provided by Brikworx Ltd. The vapour permeability of the enclosing walls and the thermal insulation let the construction moisture evaporate. Weep holes at located at the bottom of cavity 215 x 10mm. The brickslips and rails provide an airtight barrier at the front of the ventilated rainscreen.

Opening doors and lights
Openable windows are installed so that they fit neatly and have minimal gaps to ensure effective weatherproofing of the system is maintained, detailed drawings created by Brikworx are available on request. This detail has been tested to CWCT requirements.

ETAG
A typical brick slip i.e. Leicester Red has a DoP stating that no dangerous substances are used in their manufacture or material composition. The brickslip have been assessed to EN 771-1. The brickslip manufacturer and supplier have confirmed the following performance: Compressive Strength (N/mm^2): 20, Active Soluble Salts: S2, Water Absorption (% weight): 19, Durability / Freeze Thaw: F2, Gross Dry Density (Sound Insulation) (Kg/m^3): 1530 Equivalent Thermal Conductivity “K” value 5% Exposed:0.8, Initial Rate of Absorption (Suction Rate) ($Kg/m^2/min$): 2.6. Many types of brick slip can be used with he system and their properties may vary slightly.

Allowable deflection

- **Allowable deflection of substructure**
  According to the requirements of the CWCT Standard for systemized building envelopes, at both positive and negative applications of the peak test pressure, the maximum deflection of the substructure generally should not exceed:

Allowable deflection of some cladding materials

- **Allowable deflection of brittle materials (e.g. plasterboard):**
  1/360 of the extent of the board, or 10 mm whichever is the lesser;

- **Allowable deflection of natural stone units:**
  1/360 of their length measured along the stone edge, or 3 mm, whichever is the lesser (smaller) deflections may be appropriate depending on the size of stone and method of fixing;

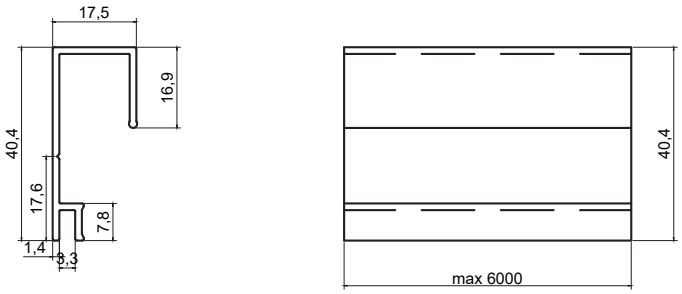
- **Allowable deflection of rainscreen panel:**
  At both positive and negative applications of the peak test pressure, the maximum deflection shall not exceed:
  - 1/90 of the span measured between the points of attachement of the panel for aluminium, glass and steel, or
  - 1/360 of the span measured between the points of attachment, or 3 mm whichever is the lesser, for stone and similar brittle materials, or
  - More restrictive limits set by the panel manufacturer.

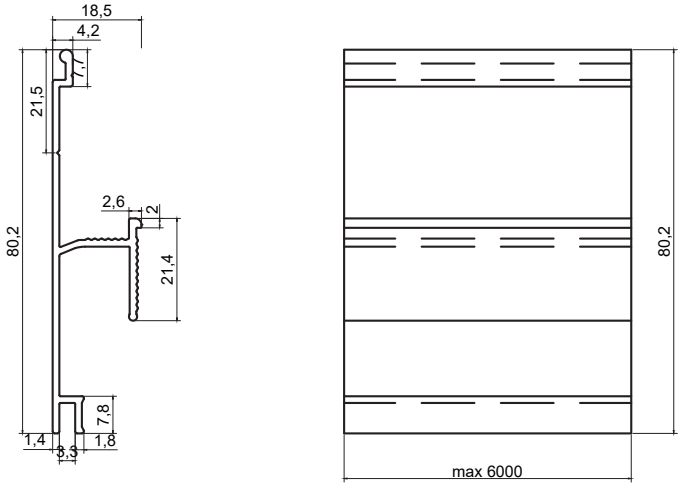
Greater deflections may also be allowable.

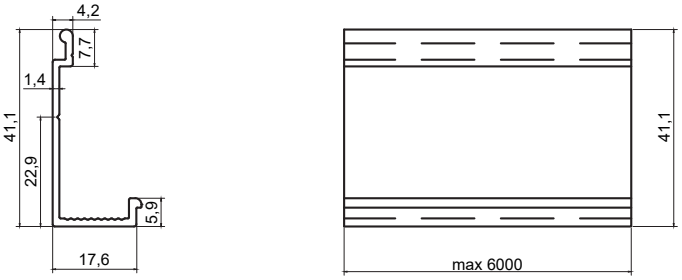
N.B! The deflection limits should be agreed with the material supplier.

System Components

Briklok Brick Slip Profiles, Aluminium



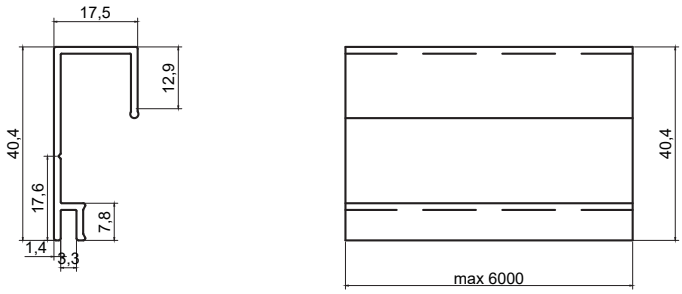


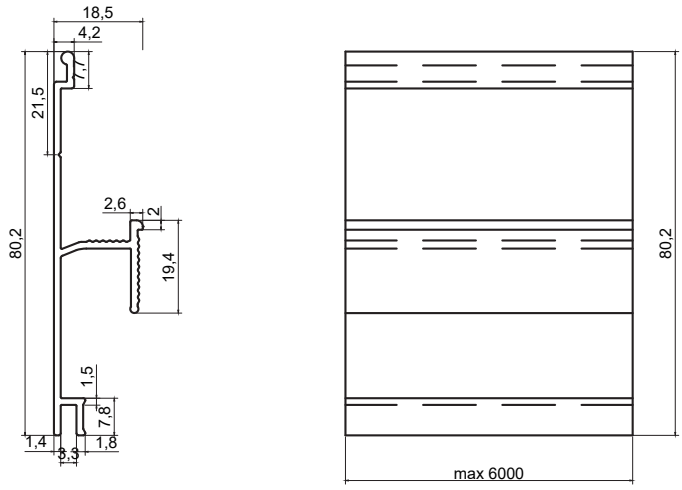


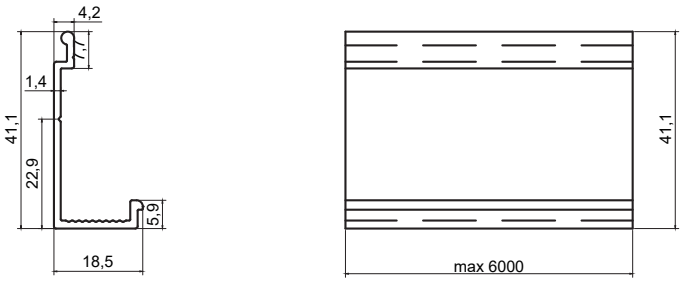
Item	Material
Briklok Profile	Aluminum - EN AW 6063 T6 Anodised

All measurements in mm*

Briklok XL Brick Slip Profiles, Aluminium



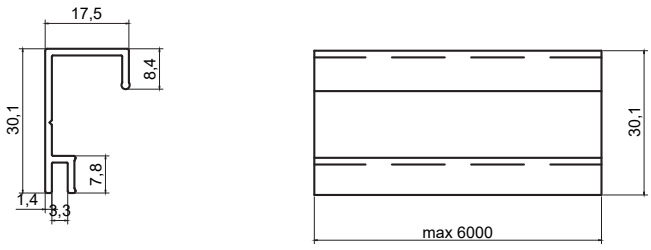




Item	Material
Briklok Profile	Aluminum - EN AW 6063 T6 Anodised

All measurements in mm*

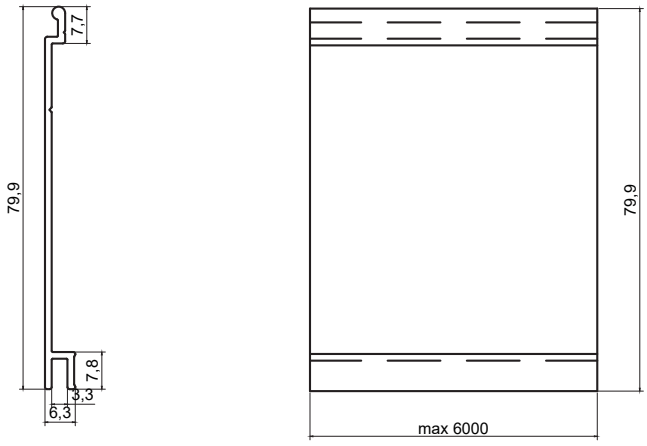
Movement Joint Brick Slip Profile, Aluminium



Item	Material
Briklok Profile	Aluminum - EN AW 6063 T6 Anodised

All measurem ents in mm*

Soldier Spacer Brick Slip Profile, Aluminium



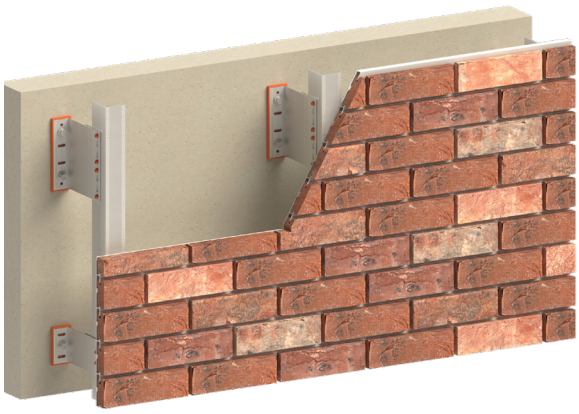
Item	Material
Briklok Profile	Aluminum - EN AW 6063 T6 Anodised

All measurements in mm*

Typical System Details

Stretcher Bond

The below sequence is for the installation of the briklok system in a stretcher bond pattern. Using an EVT II vertical subframe.

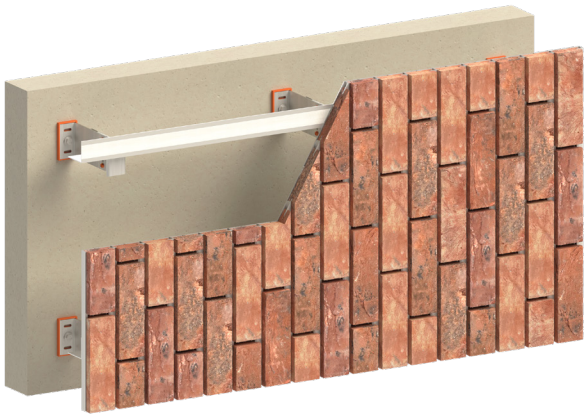


- This detail use standard brick slips
- Make sure brick is fitted in correct orientation, with larger 5mm wide groove on the top, and the smaller 3mm groove on the bed.

- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line.

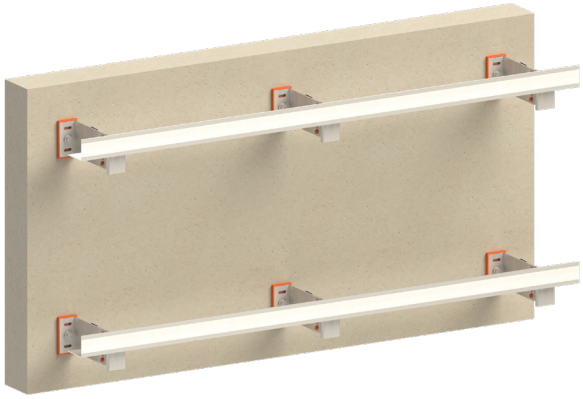
- Line and fix lower briklok profile onto the vertical 60 x 50 x 2mm L-Profiles
- Using the installation sequence at the beginning of this section install the rest of the briklok profiles, and install brick slips as per required pattern.
- Max Briklok profile cantilever 150mm.
- Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

Soldier Stretcher Bond - Horizontal Subframe

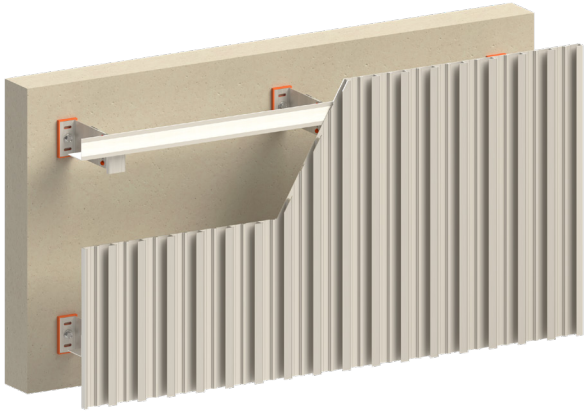


- This detail use standard brick slips
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.
- Briklok spacers will be required in order to give the 10mm perp joint. Fit one on top of each brick.

  This detail can also be used to fit a soldier stack bond pattern back to a horizontal subframe



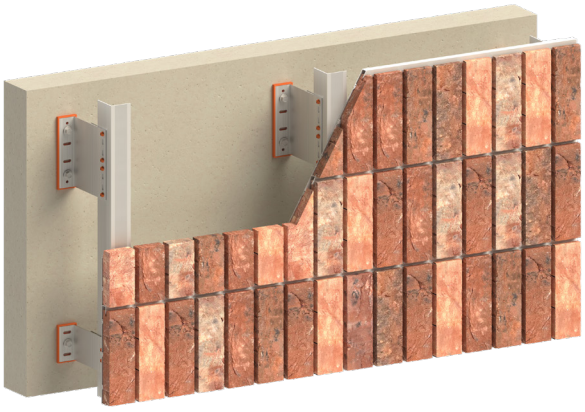
- Install horizontal subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line



- Line and fix lower briklok profile onto the horizontal 60 x 50 x 2mm L-Profiles
- Using the installation sequence at the begining of the section, install the rest of the briklok profiles, and install brick slips as per required pattern.

  At the base/head of this detail, an L-Profile will need to be installed for the first row of soldier slips.
- Max Briklok profile cantilever 150mm.
- Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

Soldier Stack Bond - Vertical Subframe

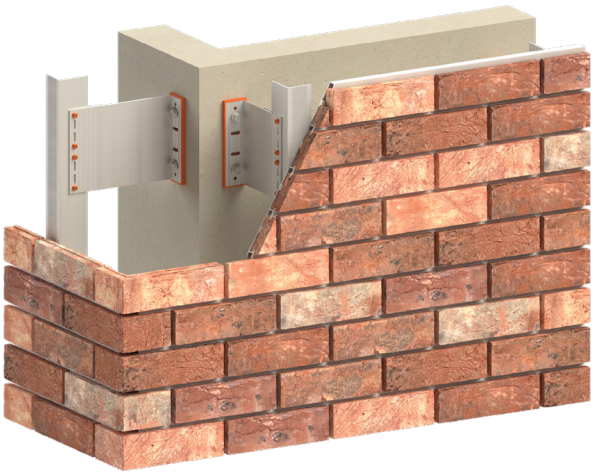


- This detail uses Soldier Course bricks, with grooves on the short ends.
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.
- Soldier spring spacers will be required in order to give the 10mm perp joint. Fit one on top of each brick.

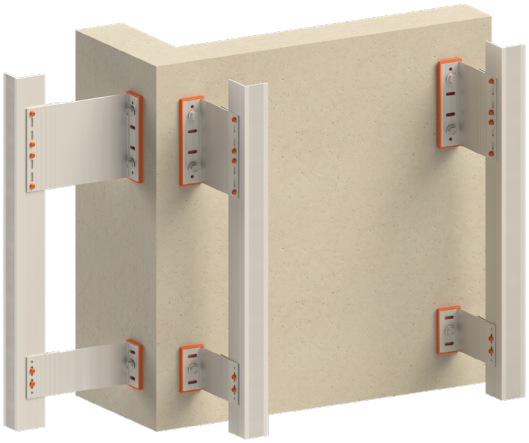
- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line

- Line and fix lower briklok profile onto the horizontal 60 x 50 x 2mm L-Profiles
- This detail requires the use of the Soldier Spacer Profile. There are two of these fitted between Mid profiles in order to enclose the back of the system. The gauging tool can still be used to space the mid profiles.
- Max Briklok profile cantilever 150mm.
- Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

External Corner



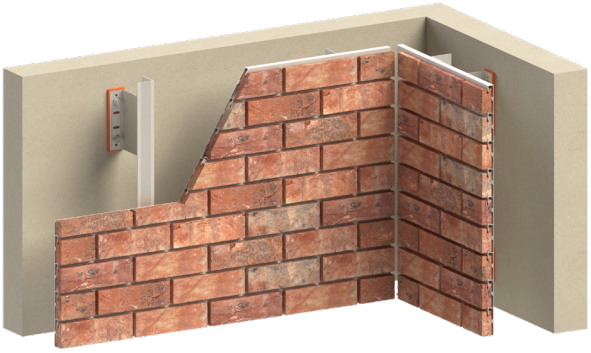
- This detail uses standard brick slips and corner brick slips
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.



- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line

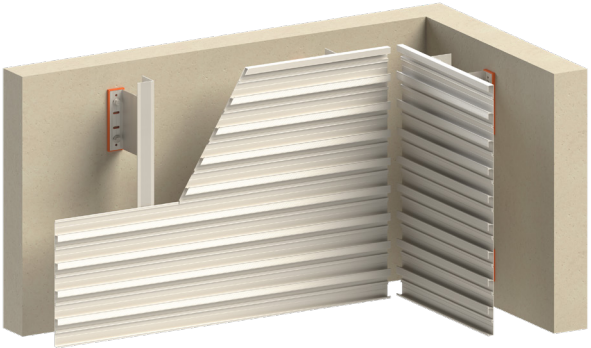
- Line and fix lower briklok profile onto the vertical 60 x 50 x 2mm L-Profiles
  l Using the installation sequence at the beginning of this section install the rest of the briklok profiles, and install brick slips as per required pattern.
- Briklok profiles to end 6mm before the corner. If cantilever is above 150mm, then a 42 x 42 x 2.5mm support angle needs to be fixed in place.
- Max Briklok profile cantilever 150mm.
  - Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

Internal Corner



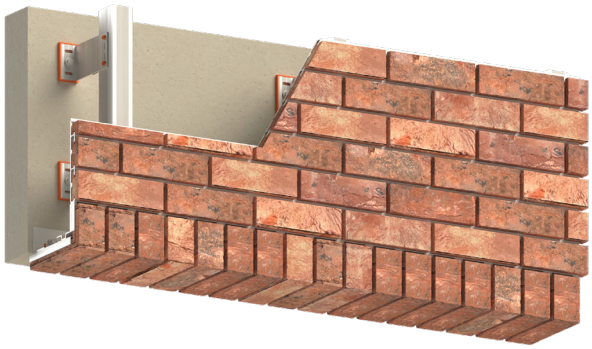
- This detail uses standard brick slips
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.

- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line

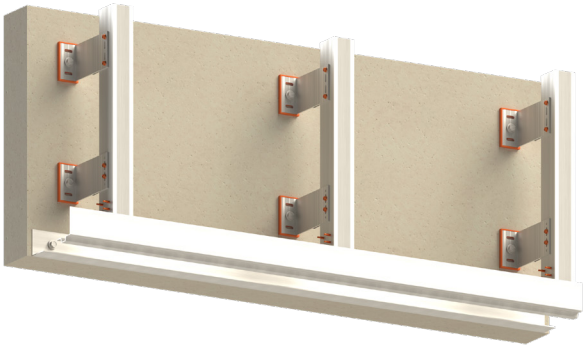


- Line and fix lower briklok profile onto the vertical 60 x 50 x 2mm L-Profiles
- Using the installation sequence at the beginning of this section install the rest of the briklok profiles, and install brick slips as per required pattern.
- Briklok profiles to butt joint in the internal corner and allow for brick slips to be fit into both sides of the corner and then mortared.
- Max Briklok profile cantilever 150mm.
  - Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

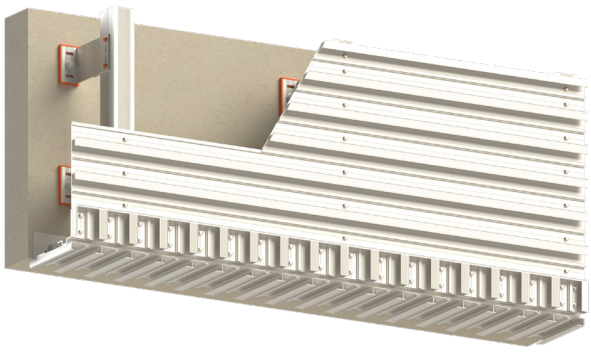
Window header



- This detail uses standard brick slips, and corner brick slips
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.
- Briklok clip may be required to hold the corner bricks in alignment prior to pointing

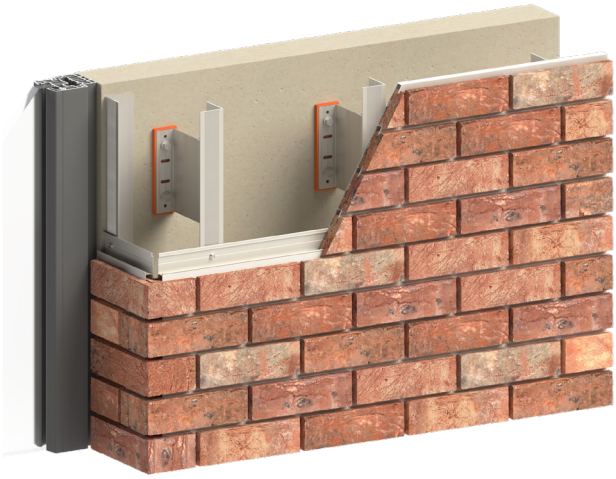


- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be fitted behind the bracket fixing line
- At the bottom of the 60 x 50 x 2mm vertical profiles, install 1no soffit return bracket per pofile.
- Fix Soffit Return Profile to the underside of the soffit return brackets

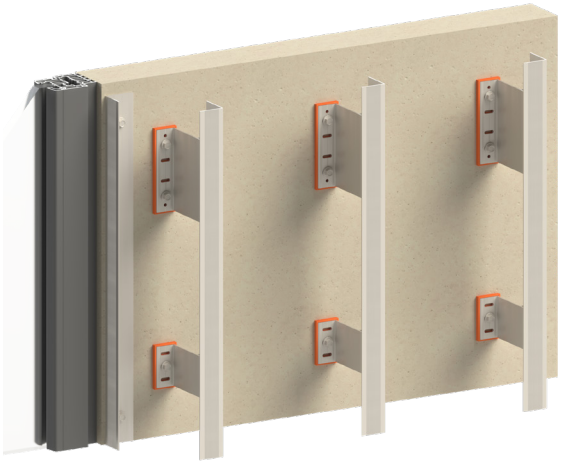


- Line and fix lower briklok profile onto the vertical 60 x 50 x 2mm L-Profiles
- Using the installation sequence at the beginning of this section install the rest of the briklok profiles, and install brick slips as per required pattern.
- Briklok profiles to end 6mm before the corner.
- Max Briklok profile cantilever 150mm.
- Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

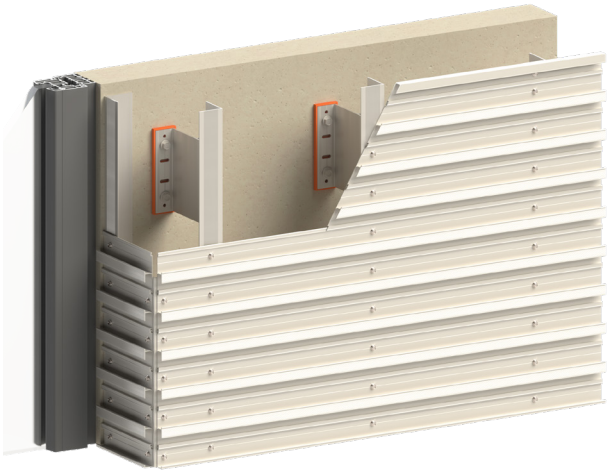
Window Jamb



- This detail uses standard brick slips, and corner brick slips
- Make sure brick is fitted in correct orientation, the larger 5mm wide groove being on the top of the brick, and the smaller 3mm groove on the bed.



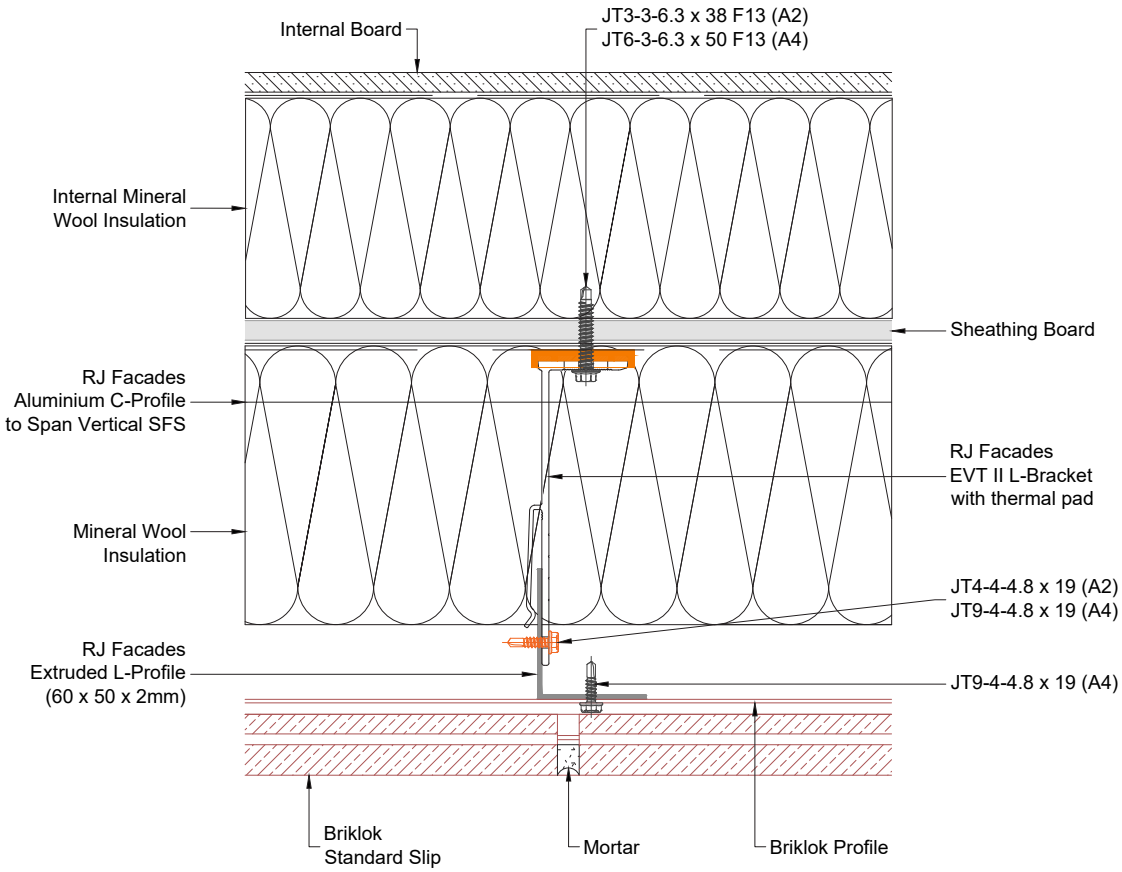
- Install vertical subframe as per RJ subframe calculation summary.
- Do not exceed maximum centres, or cantilevers.
- Follow fixing guidance within calculation and manufacturer's recommendation.
- Minimum of 20mm of profile to be



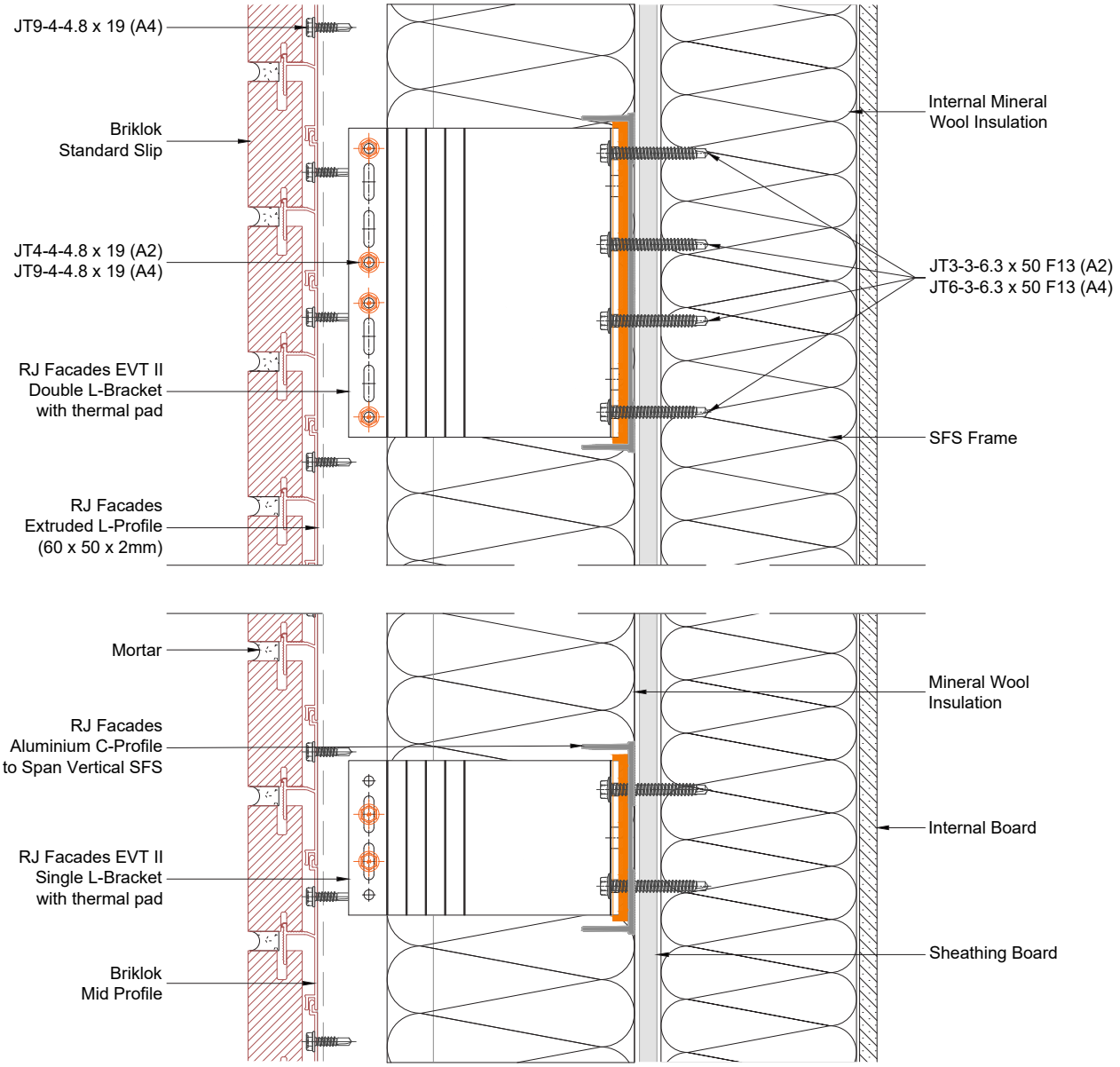
- Line and fix lower briklok profile onto the vertical 60 x 50 x 2mm L-Profiles
- Using the installation sequence at the beginning of this section install the rest of the briklok profiles, and install brick slips as per required pattern.
- Briklok profiles to end 6mm before the corner. If cantilever is above 150mm, then a 42 x 42 x 2.5mm support angle needs to be fixed in place.
- Max Briklok profile cantilever 150mm.
  - Briklok profiles fixed to subframe profiles using JT9-4-4.8x19 at every vertical profile connection.

Typical Technical Details

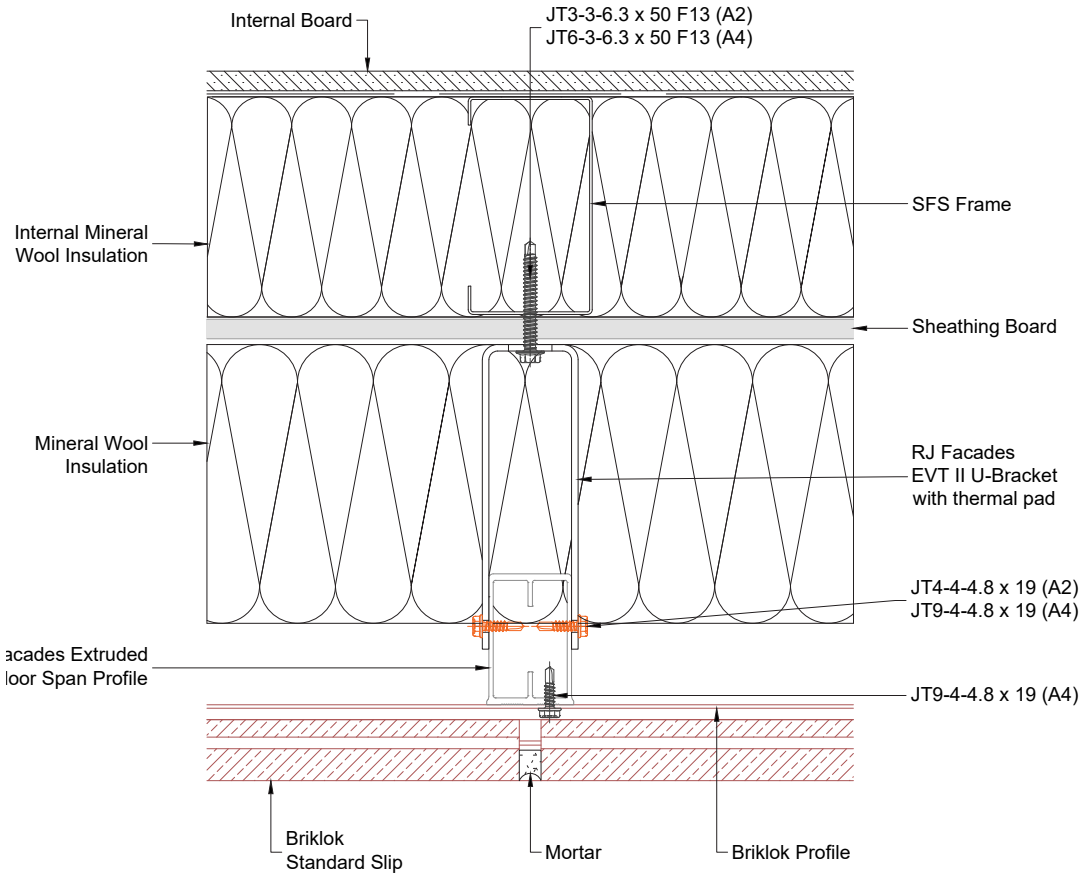
Briklok Brick Slip - Vertical Joint



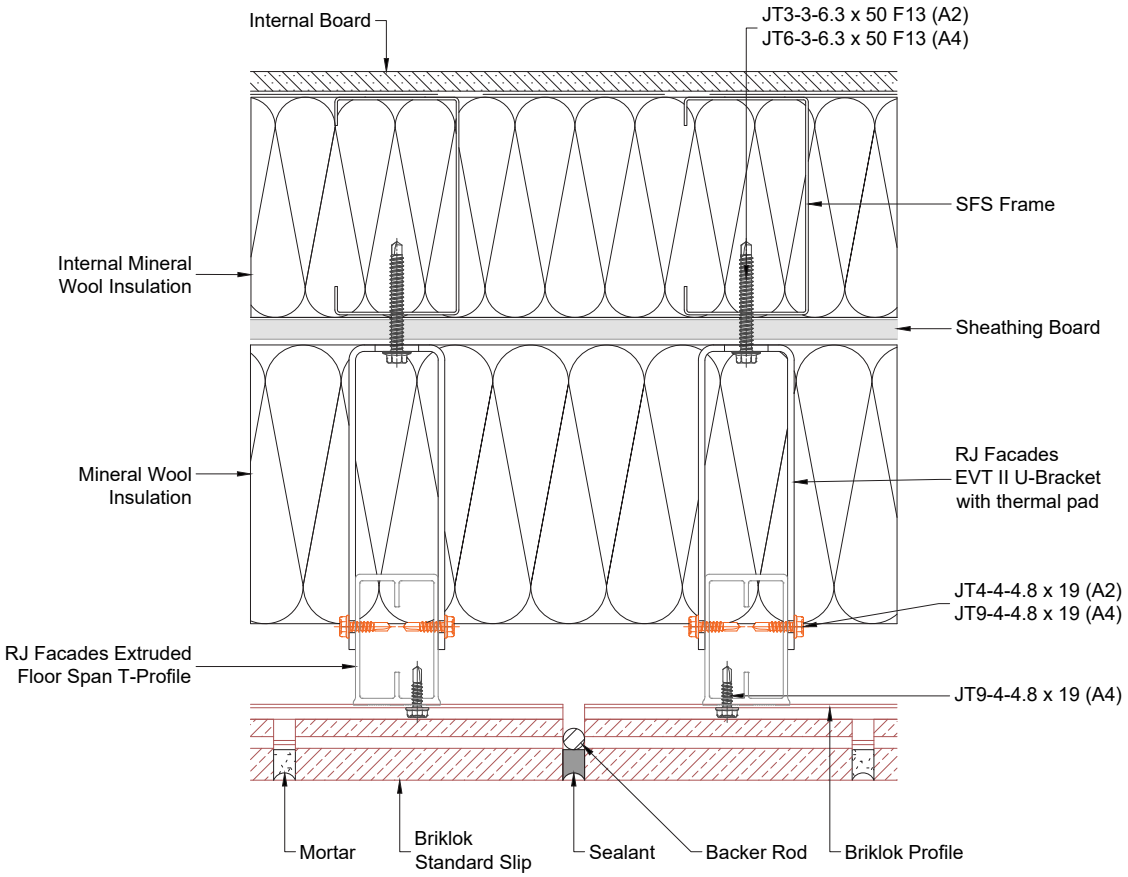
Briklok Brick Slip - Horizontal Joint



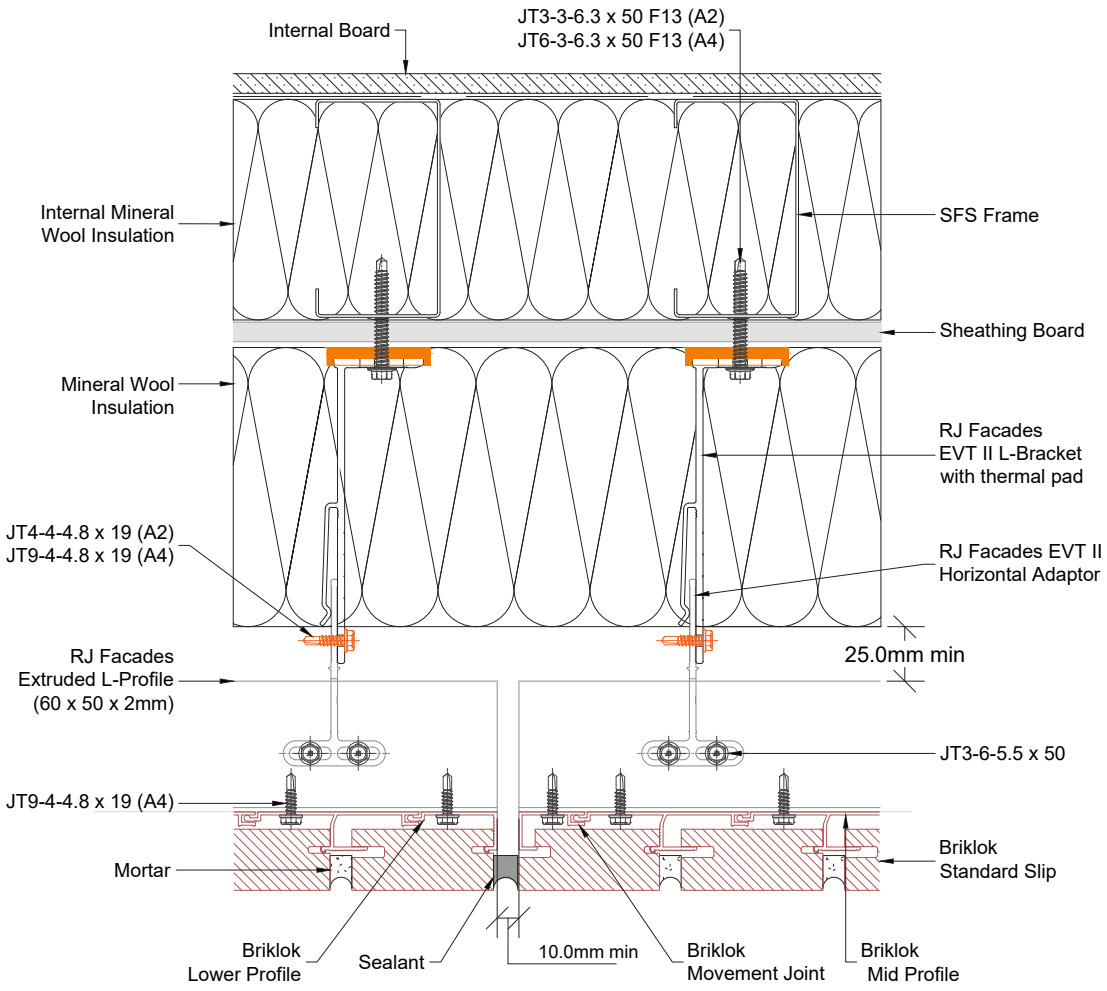
Briklok Brick Slip - Floor Span Vertical Joint



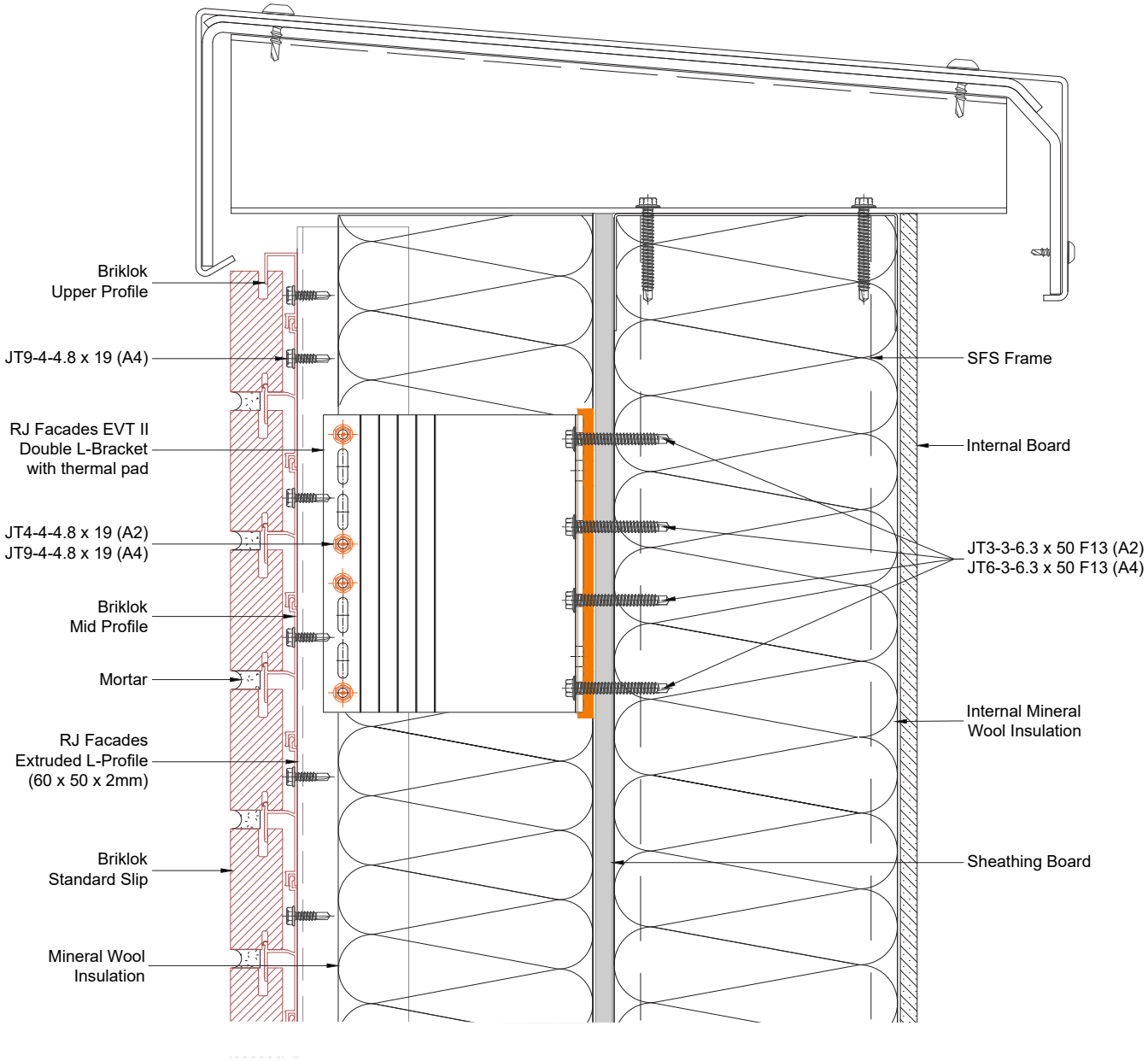
Briklok Brick Slip - Floor Span Vertical Movement Joint



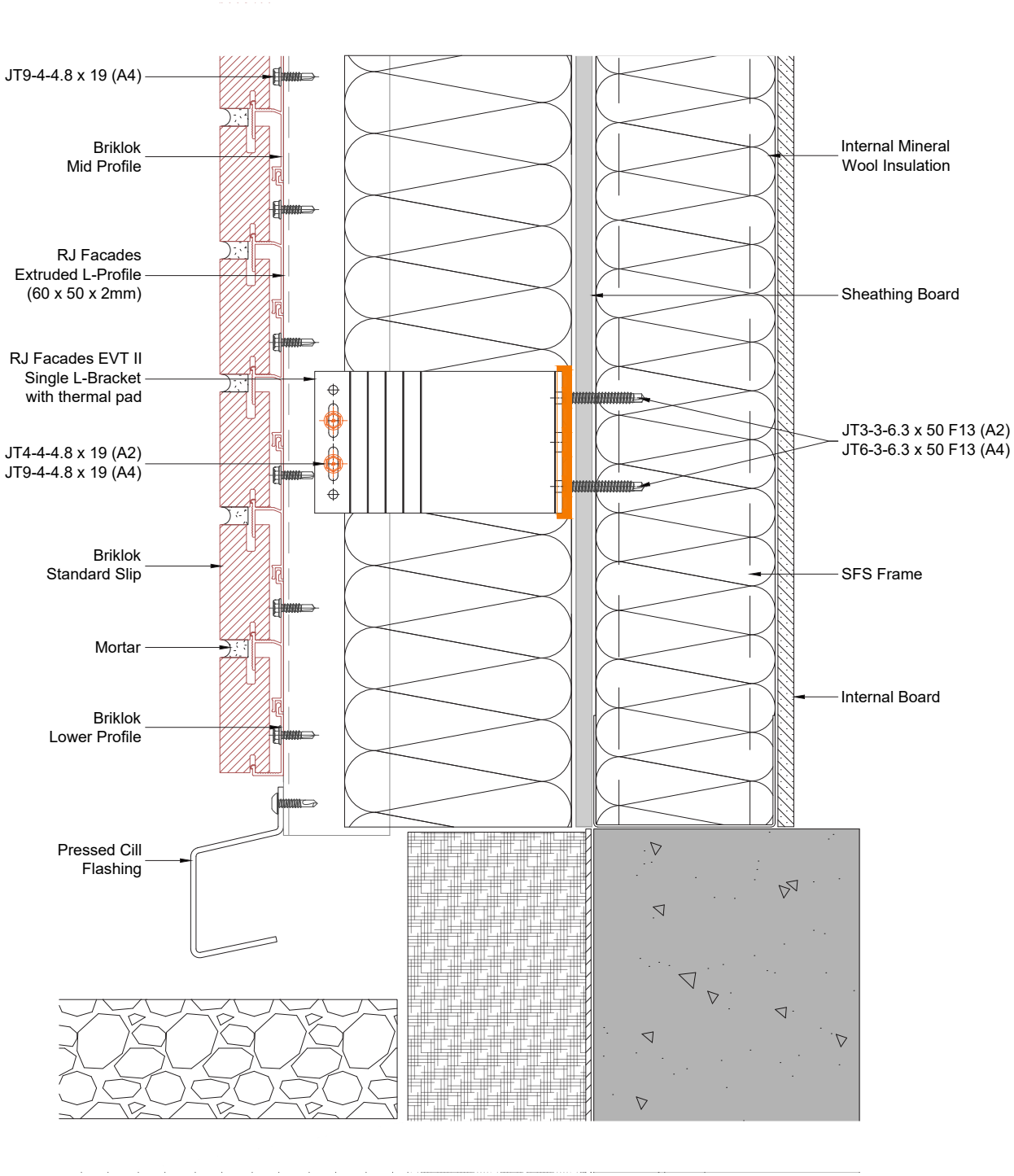
Briklok Brick Slip - Horizontal Adaptor



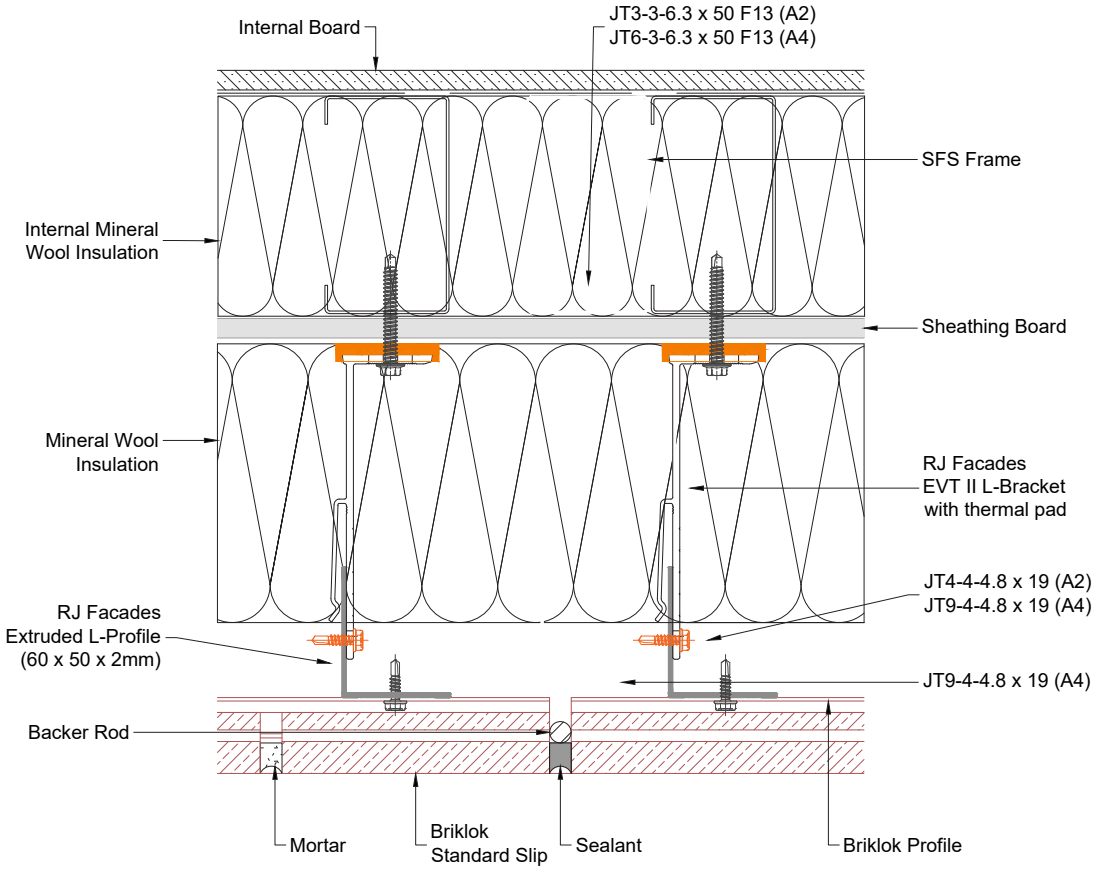
Briklok Brick Slip - Coping Detail



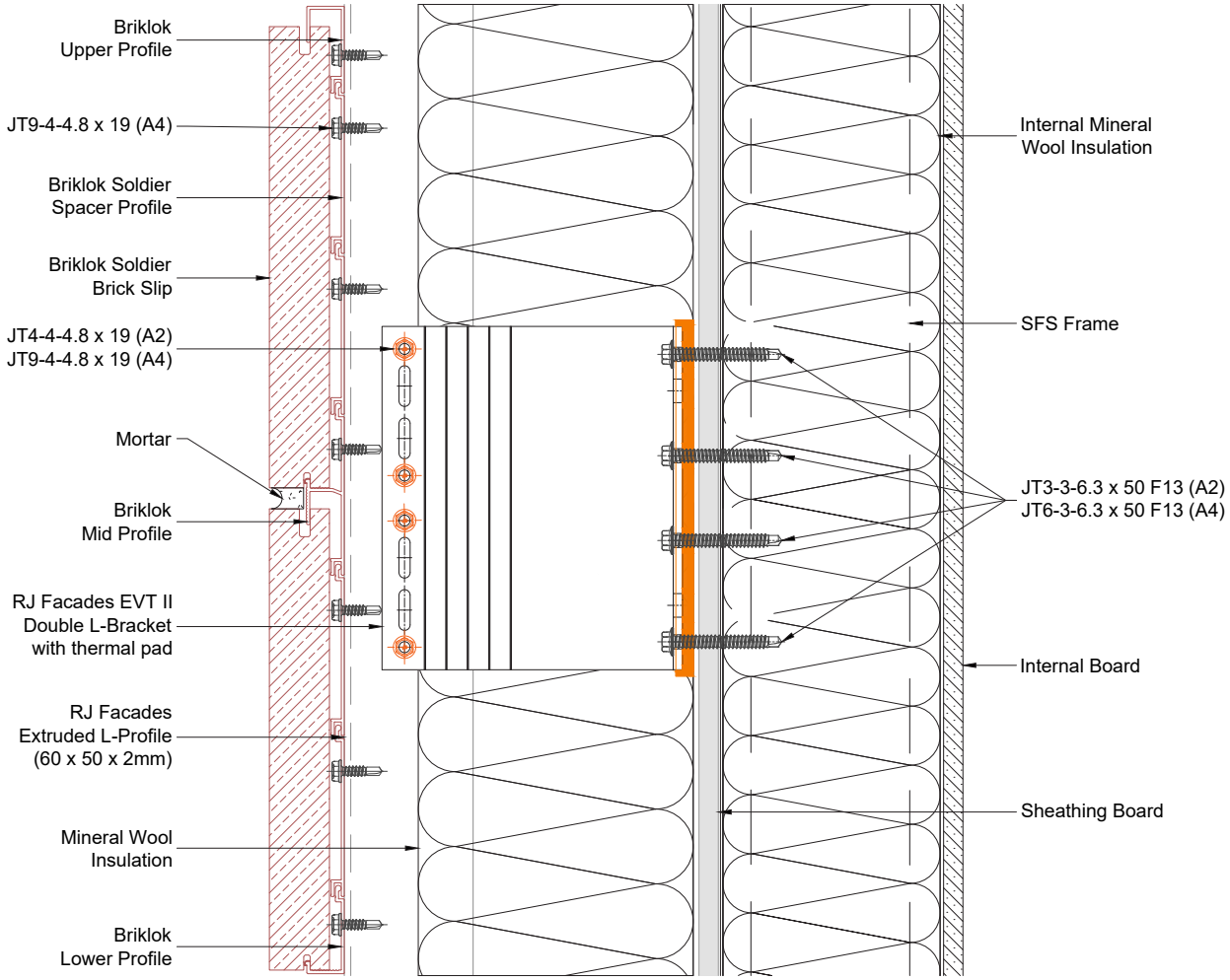
Briklok Brick Slip - Base Detail



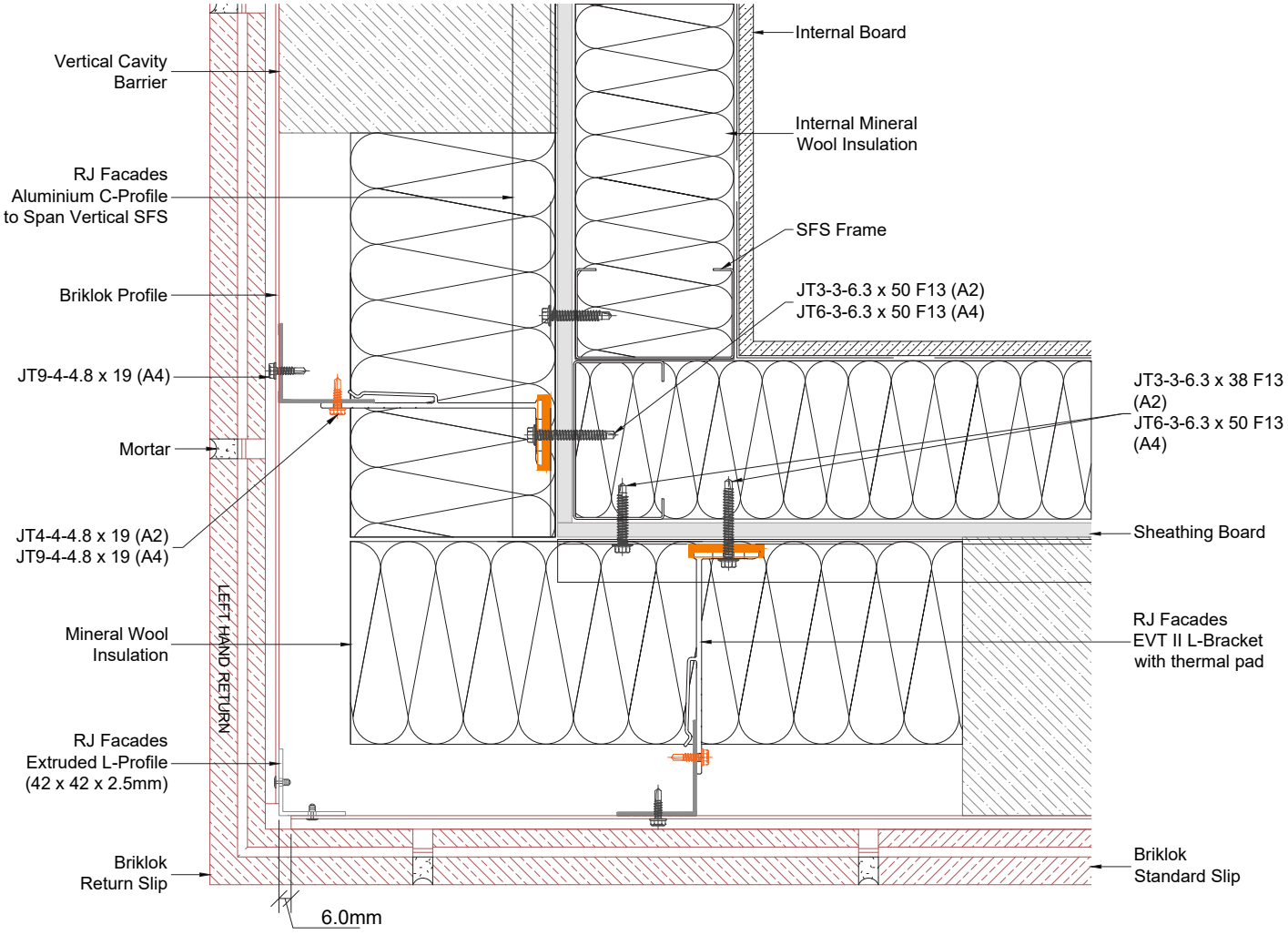
Briklok Brick Slip - Vertical Movement Joint



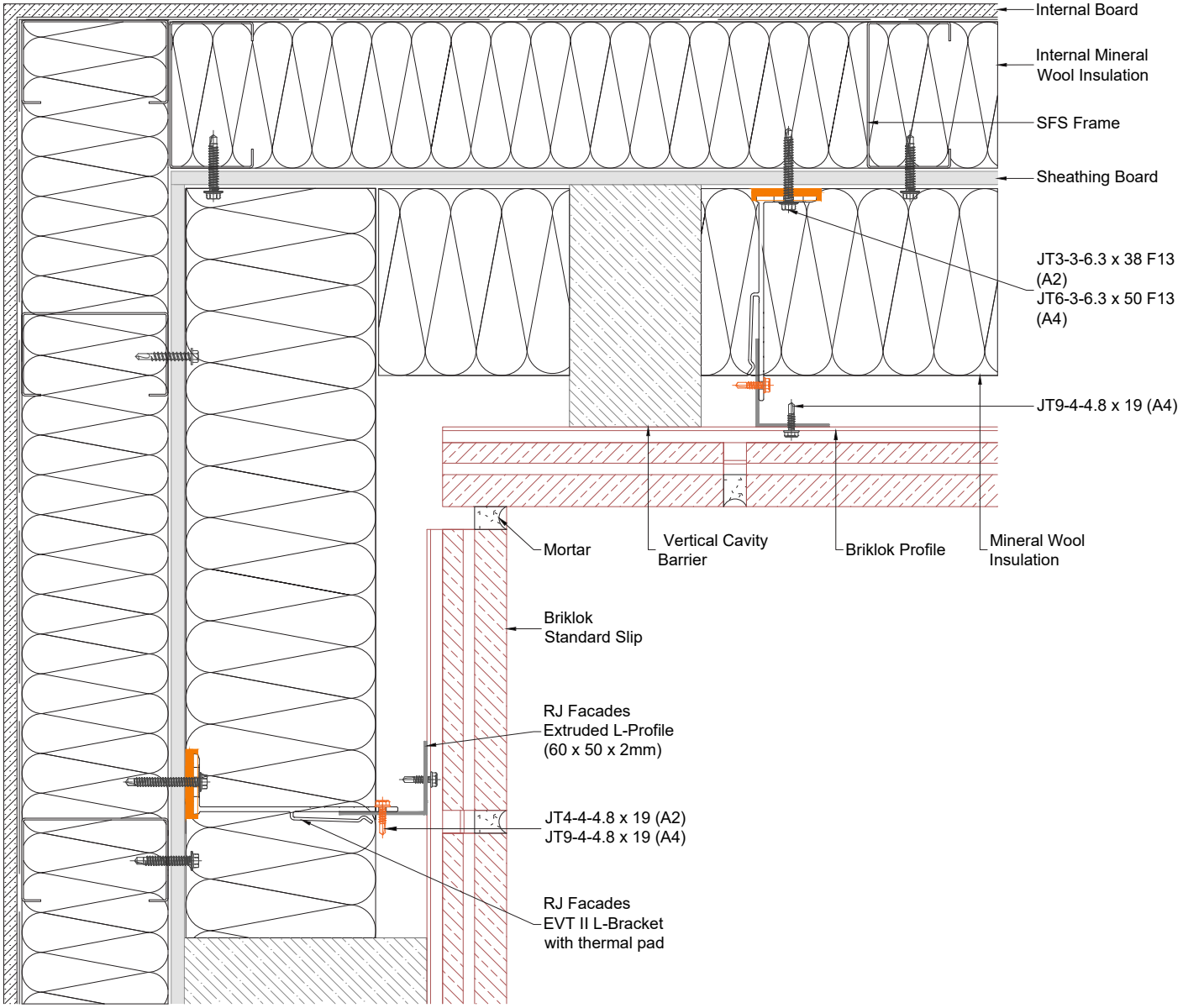
Briklok Brick Slip - Soldier Spacer



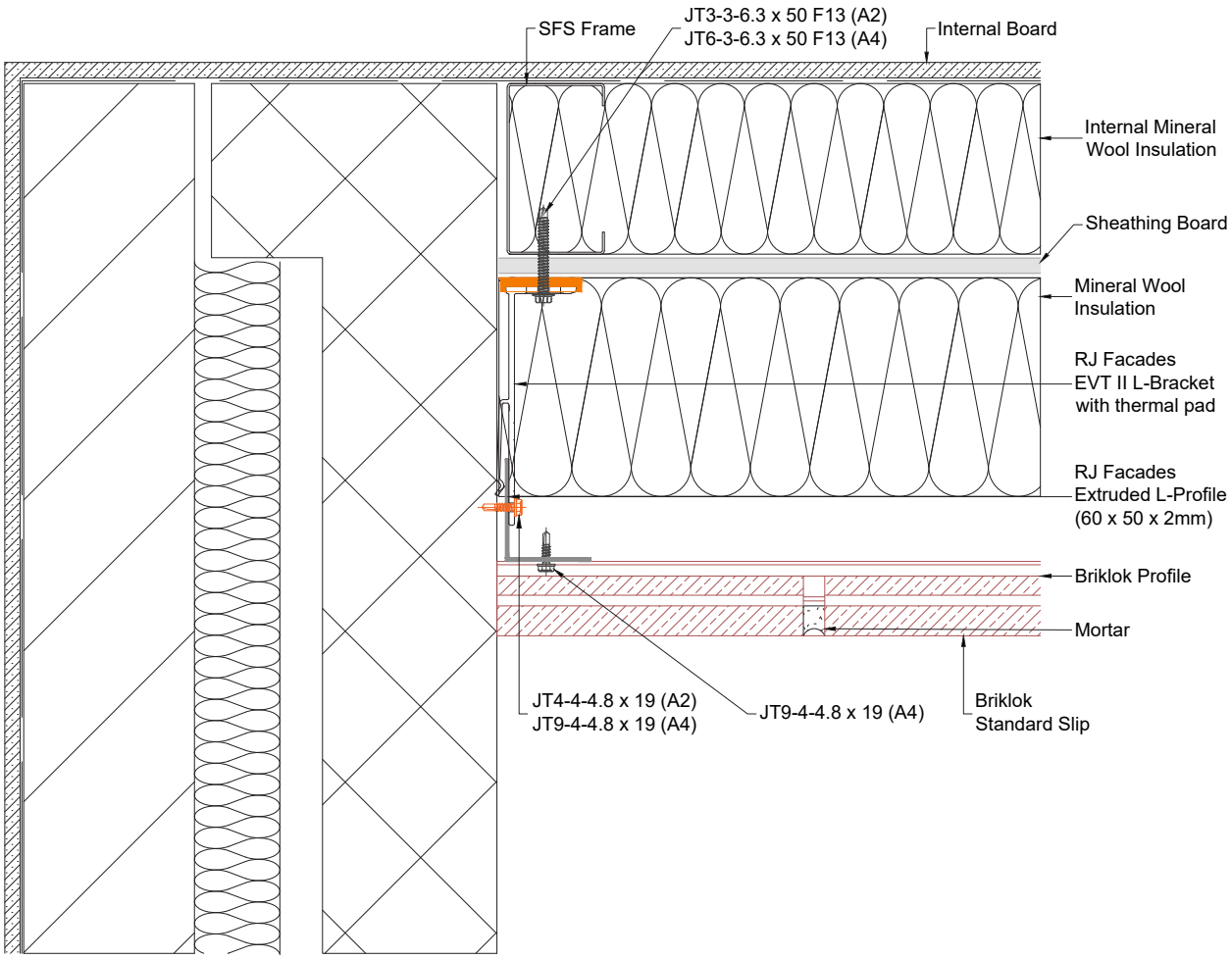
Briklok Brick Slip - External Corner



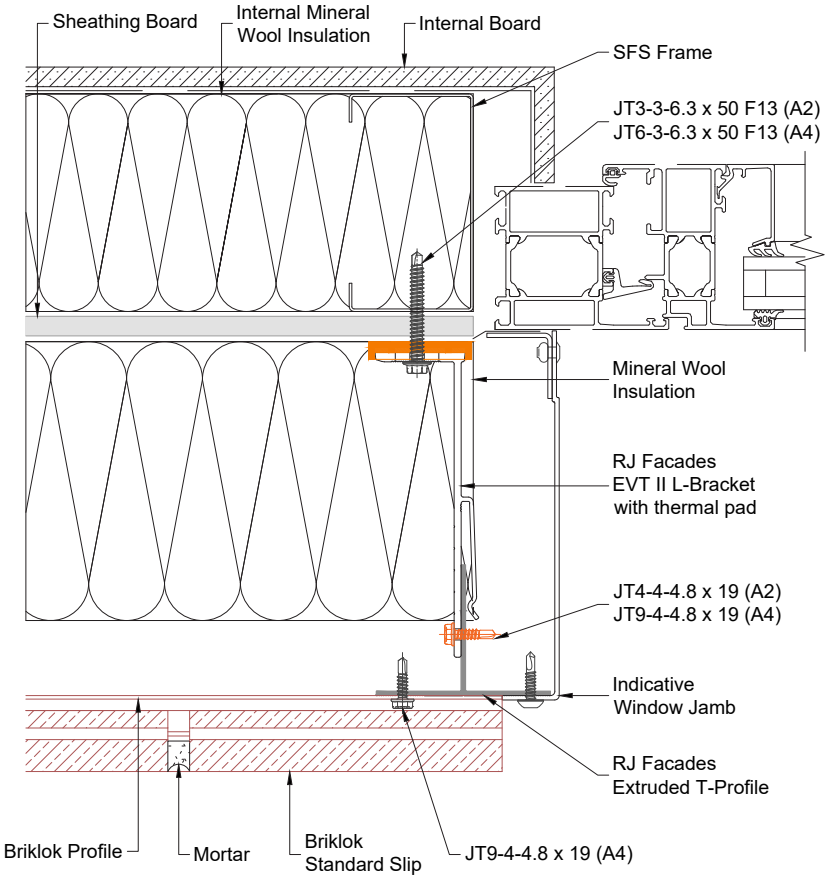
Briklok Brick Slip - Internal Corner



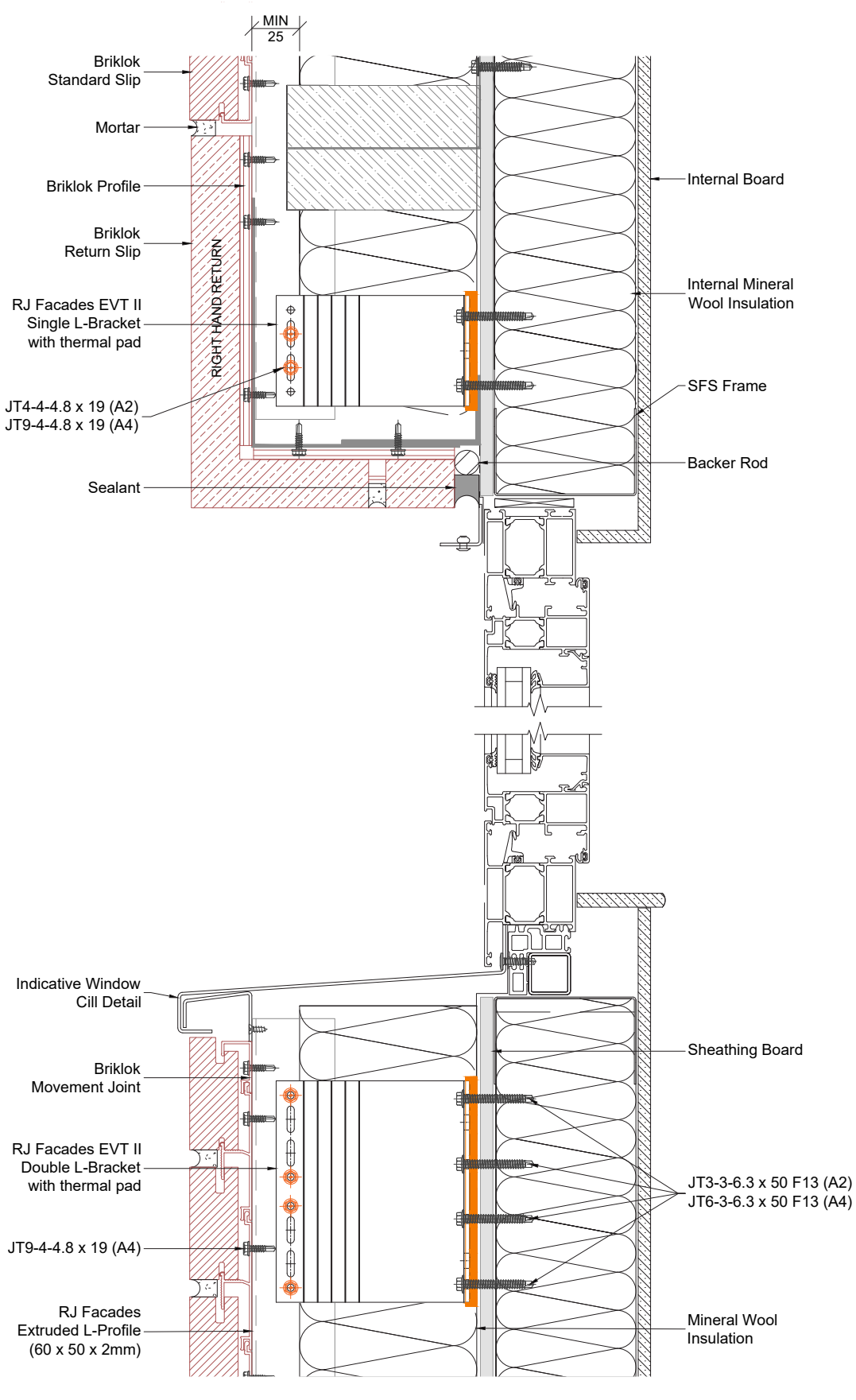
Briklok Brick Slip - Abutment



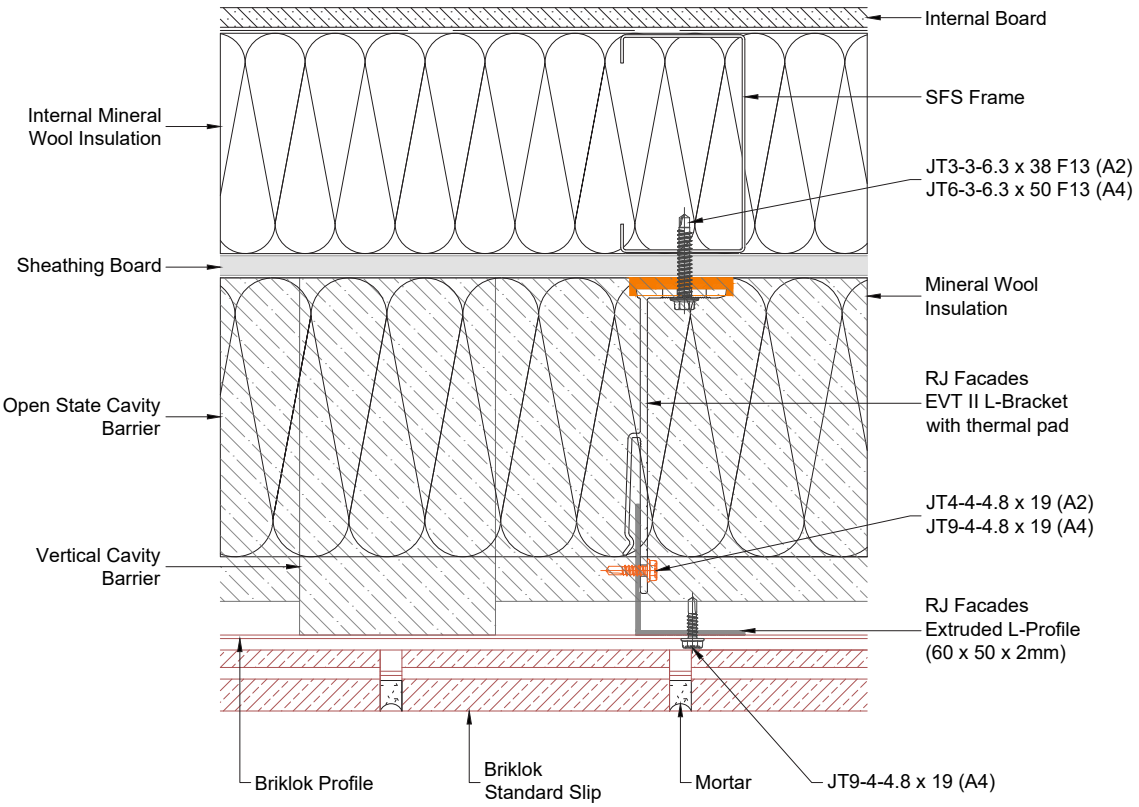
Briklok Brick Slip - Window Jamb



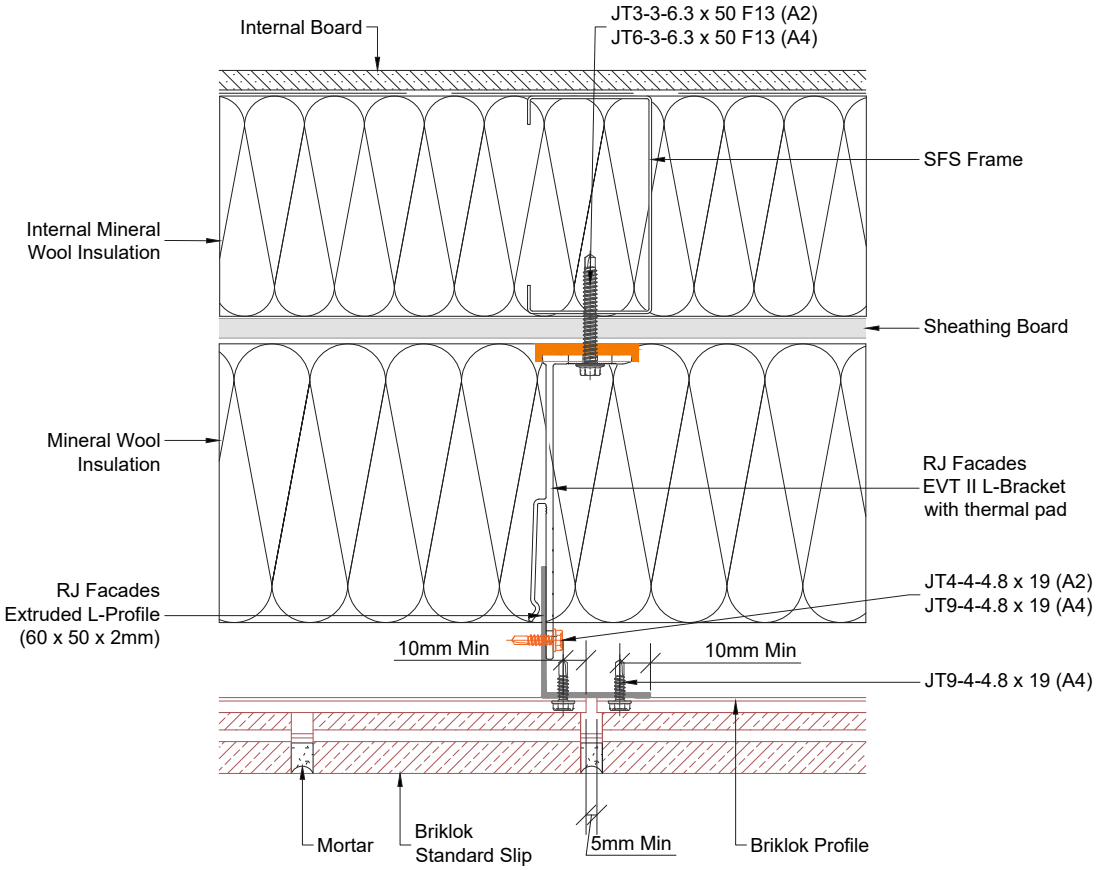
Briklok Brick Slip - Window Head & Cill



Briklok Brick Slip - Vertical Cavity Barrier



Briklok Brick Slip - Profile Joint



Briklok Installation Sequence

Briklok Installation Sequence

1. Install helping hand brackets and vertical profiles as per RJ Facades subframe calculation summary.

Substrate Fixing

Confirm helping hand brackets installed as per subframe calculation centres. It is acceptable to reduce centres, but do not exceed.

For fixing to concrete/blockwork: 2 fixings per double bracket, 1 fixing per single bracket (fixed into 11mm slots)

For fixing to SFS/Steel/Timber: 4 fixings per double bracket, 2 fixings per single bracket (fixed into 6.5mm slots anvd holes)

Vertical Subframe

Fixed point holder fixed to vertical profile with JT4-4-4.8x19 (A2) or JT9-4-4.8x19 (A4), through the predrilled holes only. 4no for double EVT II bracket and 2no for single EVT II bracket.

Sliding point holder fixed to vertical profile with JT4-4-4.8x19 (A2) or JT9-4-4.8x19 (A4), through the predrilled slots only. Fixed into the centre of the slot. 4no for double EVT II bracket and 2no for single EVT II bracket.

Horizontal Subframe

Fixed point holder fixed to horizontal profile with JT3-6-5.5x50 (A2, contact RJ for A4 option). 2no fixings, 1no per slot in horizontal adaptor, fixed at far ends of slots to prevent any lateral movement.

Sliding point holder fixed to horizontal rofile with JT3-6-5.5x50 (A2, contact RJ for A4 option). 2no fixings, 1no per slot on horizontal adaptor, fixed at centre of slots to allow lateral movement.

Vertical/Horizontal Profiles

60 x 50 x 2mm L-Profile as standard unless otherwise stated.

Minimum 10mm of the profile is to be sat behind the centre of the bracket to profle fixing line.

Observe maximum cantilever for the rail of 250mm from the centre of the bracket to the end of the profile, unless otherwise confirmed as acceptable by RJ Facade Systems.

Observe correct orientation of the vertical profile i.e. 60mm leg fitted into the L-bracket unless otherwise specified in the calculation.

Set out vertical profiles to maximum length stated in subframe calculation.

Min air gap 25mm.

2. Install Briklok profiles onto subframe:

The following sequence applies to briklok S and briklok XL

Line and fix Briklok lower profile onto subframe. Making sure that it is set out absolutely level. If it is not, the deviation will translate up the facade.

Set out and fix Briklok mid profiles onto subframe, interlocking into the lower profile, and continuing up the facade. These are to be set out 75mm apart, to allow for a standard brick course. This step should be done using one of the available gauging tools, which will do 3, 6, or 9 profiles at a time.

Fix Briklok profiles onto subframe profiles using JT9-4-4.8x18 (A4), one per connection to subframe profile (600mm max centres).

Briklok profiles can also be set out at 74mm, 75mm or 76mm spacings in order to make up tolerances in the building. There are gauging tools available to allow for +1 and -1 fitment.

Movement joints should be allowed for every 6.0m horizontally and vertically at maximum.

Internal and external corners with a cantilever under 150mm do not need to be additionally supported.

Internal and external corners with a cantilever over 150mm should be fixed together by a 42 x 42 x 2.5mm L-Profile.

Profiles should stop 6mm from the corner to allow for all tolerances of corner brick to fit into the profiles.

Briklok Installation Sequence

2.1 Using Gauging Tools

There are different types and sizes of gauging tools available in order to make it easy and quick to install the briklok profiles to the correct spacing. Nominally, the profiles are designed to be spaced out at 75mm spacings, to match up with traditional brick coursing. In order to make up tolerances on the building, the briklok S and briklok XL systems have been designed to allow for a -1 or +1 fitment per course. The gauging toovls are therefore available in these different spacings. The larger 9-profile and 6-profile gauging tools are available in 0 fitment (75mm) only. The smaller 3-profile gauging tools are available in 0, -1, and +1 fitment, 75mm, 74mm, and 76mm coursing respectively.

The gauging tools are easy to use. They all have an integrated belt hook for hanging them up when not in use. The larger 6 and 9 profile gauging tools feature fixing holes in order to fix them in place whilst in use.

To start, fix the lower briklok profile in place. Then stack up the interlocking briklok profiles above. This process is better as a two-person team, and allows you to fix more profiles at a time. With the briklok mid profiles in place but not fixed, place the selected gauging tool on the briklok lower profile, lining up the notch on the bottom until it clicks on. Then push the gauging tool forwards until it collects all the briklok mid profiles in their grooves. You can then fix the gauging tool if necesary, and fix all the mid profiles into place.

3. Install brick slips and point

Brick slips can be fitted in any sequence, i.e going up the elevation or down the elevation.

Push the brick slip up into the upper kerf using the 5mm upper groove, and then drop it down onto the lower kerf with the smaller. Make sure the brick is sat fully on the bed of the profile, and sits flush the whole way along.

There will be minimum of 2mm mechanical fitment between the brick and the briklok profile. Make sure this is correct, if you have less then your brick may be out of tolerance and you will need to check/measure them.

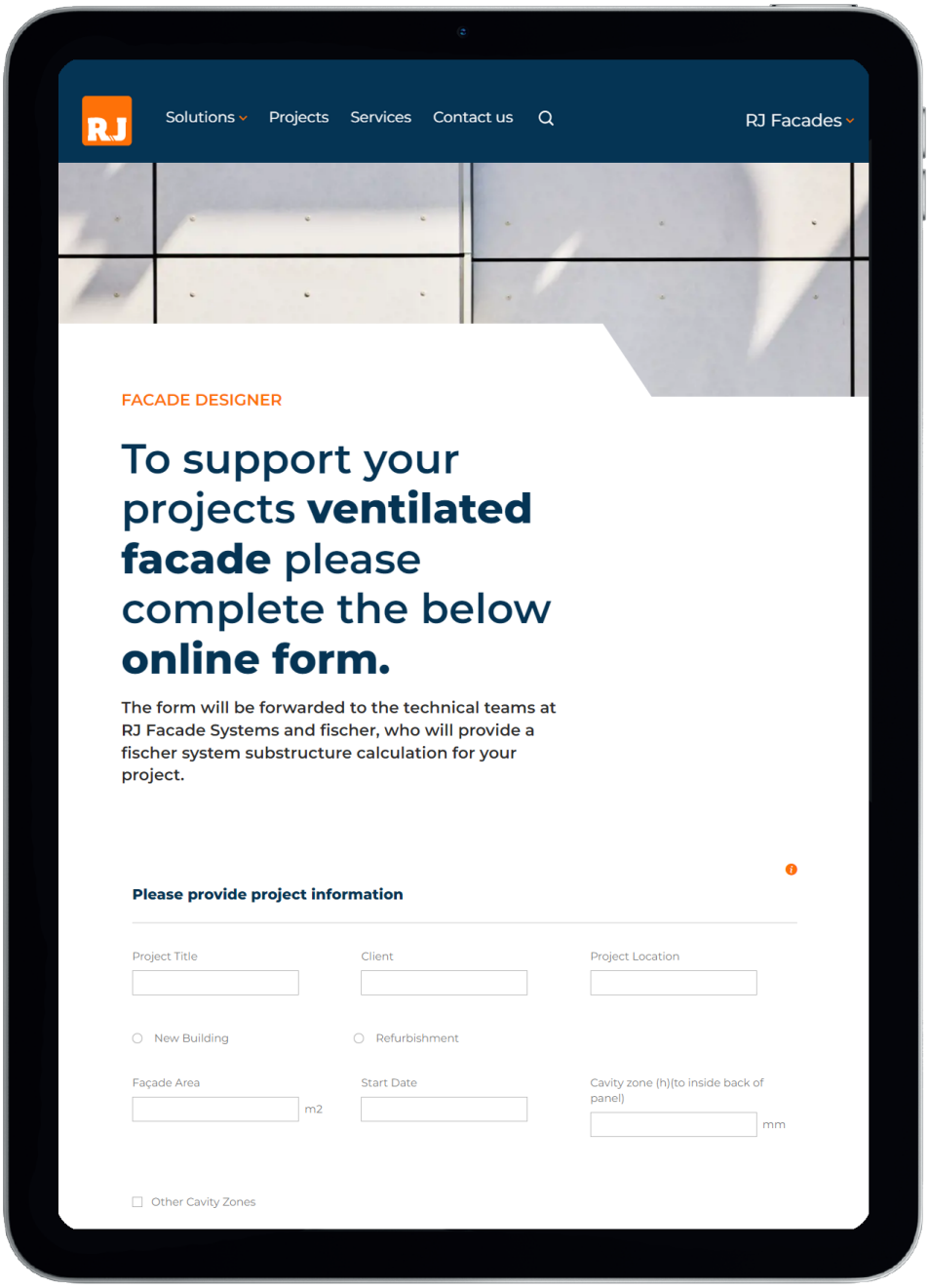
If bricks are in soldier position using the standard Briklok profiles laid vertically, then solider spring spacers will be reuired to keep the 10mm joint between the bricks. A spring clip may also be required to ensure the bricks are perfectly straight ready for pointing.

Point bricks using Parex® Historic Mortar KL.

For movement joints, leave a 10mm gap between profiles and use a non absorbent, compressible closed cell polyethylene foam back material, with an external, low modulus, external silicone sealant such as SikaHyflex®-250 Facade to fill the joint.

Briklok Facade Designer

For each calculation of new projects by RJ Facades, it is necessary for a project checklist form to be filled. It includes detailed information, which helps customers to receive the most accurate and precise offer. The offers may vary depending on the cladding/facade material; the dimensions and weight of the material; wind load; floor heights; thickness of thermal insulation; structural base; raster of the facades; fixing methods; and different ventilated facade systems. In order to achieve a qualitative calculation, it is necessary for the drawings to be submitted via email/courier in CAD format. If there are any specific features of the project, these are also taken into consideration.



Standards & Liability

Standards

General

EN 12020 (1÷2) - Aluminium and aluminium alloys - Extruded precision profiles in alloys EN AW-6060 and EN AW-6063

EN 755 (1÷9)– Aluminium and aluminium alloys - Extruded rod/bar, tube and profiles

EN 573 (1÷3) - Aluminium and aluminium alloys - Chemical composition and form of wrought products

EN 15088 – Aluminium and aluminium alloys – Structural products for construction works – Technical conditions for inspection and delivery

EN 1990 Eurocode - Basis of structural design

EN 1991 Eurocode 1 - Actions on structures

EN 1998 Eurocode 8 - Design of structures for earthquake resistance

EN 1999 Eurocode 9 - Design of aluminium structures

Ventilated facade systems

ETAG 034, part 1 – Kits for external wall claddings, Part I: Ventilated cladding kits comprising cladding components and associated fixings

ETAG 034, part 2 – Kits for external wall claddings, Part II: Cladding kits comprising cladding components, associated fixings, subframe and possible insulation layer

CWCT Standard for Systemized Building Envelopes

EN 13830 - Curtain walling - Product standard

EN ISO 6946 - Building components and building elements - Thermal resistance and thermal transmittance - Calculation method

EN ISO 10211 - Thermal bridges in building construction - Heat flows and surface temperatures - Detailed calculations EN

ISO 14683 - Thermal bridges in building construction - Linear thermal transmittance - Simplified methods and default values

EN 13116 - Curtain walling - Resistance to wind load - Performance requirements

EN 12179 - Curtain walling - Resistance to wind load - Test method

EN 14019 - Curtain Walling - Impact resistance - Performance requirements

EN ISO 10140 - Acoustics - Laboratory measurement of sound insulation of building elements

EN 20140 - Acoustics - Measurement of sound insulation in buildings and of building elements

EN ISO 717-1 - Acoustics - Rating of sound insulation in buildings and of building elements - Part 1: Airborne sound insulation

Liability

The stated data and calculating methods are provided by RJ Facades as a guideline only.

The information given in this catalogue does not substitute all applicable regulations – Eurocodes, harmonized European standard, national or regional building codes.

The specific conditions and technical details of every particular project have to be take in consideration.

The right choice of all elements as well as any special requirements regarding stability of the structure must always be considered by the structural/facade engineer, responsible for the project.

The solution presented in these pages are indicative and cannot cover all possible project cases. Because of that every single project has to be evaluated by the structural/facade engineer in charge taking into consideration the specific features, such as climate conditions, location, orientation, etc.

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