



**Ibstock
Kevington**



ASH & LACY

PRODUCT PACK

MECHSLIP

BRICK SLIP CLADDING SYSTEM

MECHSLIP PRODUCT PACK

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MechSlip Introduction

MechSlip is a mechanically fixed brick slip system typically on anodised aluminium rainscreen rails secured to an aluminium support system fixed back to the structure of the building.

Where to use MechSlip

The system is ideal for either exterior or interior applications as a lightweight solution for cladding.

Use MechSlip for:

- Steel frame
- Concrete frame
- Brickwork
- Dense concrete blockwork (minimum 1450 kg/m3)
- Lightweight steel framing
- Existing masonry

Please check suitability of MechSlip for your project with an Ibstock Advisor.

Scotland/Ireland - Michael Thomson	E: Michael.Thomson@ibstock.co.uk
North England/North Wales/East Midlands/ Northampton – Dan Gill	E: Daniel.Gill@ibstock.co.uk
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London/Home Counties, Suffolk & Cambs - Sarah Jefferson	E: Sarah.Jefferson@ibstock.co.uk

MechSlip performance

MechSlip achieves Reaction to fire classification: A1	
MechSlip holds third party performance testing by VINCI TECHNOLOGY CENTRE and LUCIDEON (CERAM), the ceramic industry test centre. A summary of 3 rd party testing is on page 9.	
Clay brick slip. Fully mechanically secured brick slips. Pre-spaced mortar bed joints. Compatible with a range of construction methodologies.	
Ibstock Kevington carries ISO 14001 accreditation.	
Ash & Lacy carry ISO9001 accreditation and ISO14001 accreditation	CWCT Certification

Ibstock Kevington MechSlip Installation Guidance Overview



Step 1 –

Steel frame -Mechanically fix horizontal rails to framework prior to affixing vertical supports via brackets supplied.

Masonry substrates - Mechanically fix vertical support rails to the building substructure using brackets supplied at 600mm maximum centres.



Ensure the starter rail is affixed at the base of the elevation.

Ensure the middle rails are the correct orientation. Complete the elevation with the top rail for a neat finish.



Step 2 –

Fix all brick rails to all vertical rails at 75mm vertical centres.

A gauge tool can be supplied to allow simultaneous setting out/fixing of horizontal rails



Step 3 –

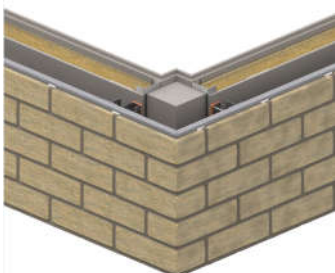
Slot MechSlip brick slips firmly into place, guided by the pre-formed upper and lower retainers.



Step 4 –

MechSlip slips have integrated rebates consistently setting the horizontal bed joint at 10mm.

Supplied brick spacers should be inserted between each brick to create a 10mm vertical joint and act as the backing for pointing mortar.



Step 5 –

When installation is complete simply injection point with Parex Historic mortar to realise a classic clay brick finish.

Ibstock Kevington MechSlip Specification, Handling and Laying Guidelines

1. Product Specification

A non-loadbearing external cladding tested to CWCT and Hygrothermal standards, fixed back to provide weather protection to an inner leaf, drained and back ventilated, suitable for both new build and refurbishment projects.

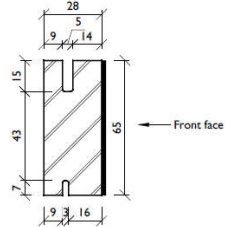
1.1 System Composition

Brick Slip

Clay facing bricks of any face size format can normally be accommodated. Bricks are cut to a 28mm thickness and pre-cut grooves in each slip are set back approximately 14mm from the top of the unit and 16mm at the bottom in order to sit on the support rails.

The narrower 9mm fillet should face innermost.

Standard bricks are 215x 65mm however Imperial or Linear sizes can be specified (supplied to the published size tolerances for each brick type).



Brick Spacer

Spacers/clips are inserted into the rebated groove to create the base for the vertical mortar joint in 0.7mm pre-finished steel LG Colorcoat.



Pointing Mortar

The system has been tested using Parex Easipoint Historic gun injection pointing mortar which has excellent adhesion and movement accommodation properties.

Support System

Anodised aluminium slip support rails can be affixed either directly to the substrate, or to vertical support mullions fixed back to a masonry substrate by means of wall brackets.

For steel frames, dependent on SFS stud centres, additional horizontal 'top hat' rails are available if required to fix support rails back to the substrate.

Fixings

All system fixings should be stainless steel.

Rail/mullion fix screws, thermal pad and fixing screws and bracket/wall fix screws are supplied where necessary.

Fixings, brackets and support rails are supplied by Ash & Lacy. The quantity calculated on an individual project by project basis.

1.2 Sizes and Weights

Vertical support rail lengths: 3 metres, 4.85 metres or 6 metres available.

Starter rail lengths: 3000mm

Middle rail lengths: 3000mm

Top rail lengths: 3000mm

Brick slips typically 215mm x 65mm x 28mm weigh approximately 42kg per m². Cut and bonded variants for corners, sill and rebates are available which will increase individual slip weights.

Rail System weight approximately 4.48kg/m²

Pointing mortar weight approximately 5kg/m²

System Weight approximately 51.5kg/m²

1.3 Thermal Conductivity

The average thermal conductivity (k value) for clay brick slips is 0.71W/mK.

2. Substrates

MechSlip is intended to be used as a cladding system and is not self-supporting.

Ensure the substrate is robust enough to support the envisaged weight.

MechSlip is suitable for new build construction and for renovating existing structures, and is suitable to be fixed to the following materials:

- Existing brickwork
- Existing concrete
- Existing blockwork
- Lightweight steel studs
- New build blockwork

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3. Setting Out

Ash & Lacy or Ibstock's Design Advisory Service can assist in project design and specification.

For masonry substrates vertical support rails are normally mechanically fixed to the building substructure at 600mm maximum centres.

Middle rails are horizontally fixed to the vertical supports at 75mm increments, including a starter and top rail in their respective locations. Aluminium adjustable wall bracket adjustment range 40mm – 300mm

MechSlip brick slips are slotted firmly into place, guided by the pre-formed upper and lower retainers.

Avoid short lengths of horizontal support rails at external returns. Keep any cut lengths between full rail lengths if possible.

Refer to Advisors for steel or timber frame.

4. Design Details

Refer to MechSlip CAD details on pages 10 to 16.

Fire cavity barriers are not included within the MechSlip system and should be specified and designed by a qualified engineer.

5. Movement

5.1 Existing Structures

Movement provision in the MechSlip system should be provided at 6m centres vertically and horizontally.

Leave a 10mm gap between horizontal rails, omit brick spacer and pointing mortar, place 20mm low density, compressible, closed cell polyethylene filler at a depth of 10mm and seal with a suitably coloured low modulus neutral cure silicone sealant (such as Adshead Ratcliffe Arbosil 1090 as the modulus is flexible enough to accommodate envisaged movement).

5.2 New Build Structures

Where MechSlip is applied to new build masonry, vertical movement joint spacing for the masonry should be in accordance with BS EN 1996 and PD6697. Movement provision in the MechSlip system should be provided at 6m centres vertically and horizontally.

Where MechSlip is applied to new build stud frame, the MechSlip system should be provided at 6m centres vertically and horizontally.

Leave a 10mm gap between horizontal rails, omit brick spacer and pointing mortar, place 20mm low density, compressible, closed cell polyethylene filler at a depth of 10mm and seal with a suitably coloured low modulus neutral cure silicone sealant (such as Adshead Ratcliffe Arbosil 1090 as the modulus is flexible enough to accommodate envisaged movement).

6. Cutting on Site

Also refer to section 10.4 COSHH.

If brick slips require cutting down to shorter lengths it is recommended to wet cut using a water fed angle grinder or chop saw and wear a suitable face mask when cutting.

Aluminium rails are likely to require cutting to size and can also be cut using an angle grinder or metal chop saw.

Wear suitable eye and hand protection when cutting.

Suitable ear defenders should be worn by everyone in the vicinity of mechanical cutting machines.

7. Pointing

The recommended mortar for pointing the MechSlip system is Parex Ltd Easipoint Historic

Product code: Dependent upon specifier's choice of mortar colour

Easipoint Historic mortar is a dry packed blend of lime, GGBS, selected silica sands and natural aggregates together with additives to provide water resistance, workability and colour. A minimum Class (iii) designation mortar can be used.

Bucket Handle joint profile is recommended, however for certain products a slightly recessed joint, no more than 3mm, may be more aesthetically suitable.

Follow the mixing guidelines supplied on the packaging and allow sufficient curing time.

Avoid mortar contamination on bare aluminium rails.

8. Cleaning

The procedures and recommendations available from Ibstock Kevington should be followed.

Additional information is contained within BS8221-1, which refers to general cleaning of building materials with a useful reference on brick masonry reparation, and also BDA Note 2 on cleaning of brickwork.

Take care if considering acid based cleaners as this may adversely affect any bare aluminium.



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9. Health and Safety

The Health and Safety at Work Act, Consumer Protection Act and other legislation require us to provide relevant information regarding our products in respect of handling, processing, storage, transportation or disposal without risk to health.

9.1 Handling and Storage

The use of personal protective equipment (PPE) is strongly recommended whenever practicable, to minimise the risks associated with falling objects and sharp edges.

MechSlip components may be grouped together into packs. Care should be taken in their handling. Equipment used for lifting packs must be adequate for the weight involved. The weight of the pack varies according to the content. These packs are delivered on disposable wooden pallets and are contained by plastic shrink-wrap.

All personnel involved in the handling of packs should be made aware that shrink-wrap and banding straps contain the products and tilting of the pack could allow the products to fall:

AVOID abnormal shocks to the packs AVOID sliding one pack against any face of another pack

NOTE packaging can deteriorate over a period of time.

Packs should be placed singly on dry, level ground.

Any pallets supplied by the client to store or transport packs must be very close in size to the pack dimensions and must be of adequate strength to support the weight of product placed on it.

9.2 On Site Handling

To lift pallets by a mobile fork truck, only use the holes in the pallets provided. "Side grabs" should not be used to lift packs from the lorry. Do not move opened packs of stacked units around site. Ensure units are laid flat.

Where packs are lifted more than 1 metre above ground level, a safety cage of adequate dimensions around the pack should be used. All personnel must stand well clear of packs when they are being lifted or moved.

If it is considered necessary to store a pack above ground level, it should only be placed on a suitably designed staging with guard rails of appropriate height to prevent any components falling to lower working areas.

9.3 Disposal of Packaging

Redundant packing materials should be gathered together daily and placed in waste disposal skips for removal to an approved tip. The burning of any packaging materials is not normally permitted on sites; some plastic materials may give off harmful fumes. If permission is granted for the burning of wooden pallets great care must be exercised to ensure that environmental pollution controls are not contravened.

9.4 COSHH

MechSlip brick slips and carrier rails will require cutting on site. If powered tools are used to cut this product, amounts of dust may be produced.

Depending on the environment and the method of cutting, it is possible that some respirable silica may be generated from the brick slips. The main effect in humans of the inhalation of respirable silica dust is silicosis. There is sufficient information to conclude that the relative lung cancer risk is increased in persons with silicosis. Therefore preventing the onset of silicosis will also reduce the risk of cancer. Since a clear threshold for silicosis development cannot be identified, any reduction of exposure will reduce the risk of silicosis.

Under the COSHH Regulations, the Workplace Exposure Limit (WEL) for respirable silica is 0.1mg/m³ (from October 2006). The only reliable way to ascertain the levels of individual exposure during cutting is to carry out detailed personal monitoring.

Flammable dust may be generated from cutting aluminium. The use of water fed cutting equipment is recommended to minimise dust generated by cutting operations

Dust may cause skin irritation, wear suitable gloves and barrier cream to avoid abrasion.

Wear eye protection and ear defenders when mechanically cutting materials.

MechSlip components are manufactured in the UK from naturally inert materials and are not prone to off-gassing of volatile materials. Clay products are non-toxic.

9.5 Manual Handling

Repetitive handling of any product including brick slips can give rise to upper limb disorders such as muscular strains and sprains. Specialist help should be sought for anyone involved in this type of work.

IT IS THE CUSTOMERS RESPONSIBILITY TO OBTAIN TECHNICAL DATA ON ALL MATERIALS TO BE USED WITH IBSTOCK KEVINGTON/ ASH & LACY MECHSLIP PANELS.NO LIABILITY CAN BE ACCEPTED IN RESPECT OF OTHER MATERIALS USED IN CONJUNCTION WITH THESE PRODUCTS.

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10. Damage

Repairs; In the unlikely event of damaged or broken slips, they can be easily replaced by carefully removing mortar pointing around the slip lifting it upwards to free the bottom from of the support rail and sliding it out base first. Damage to the horizontal supporting rails may require removal of a section of slips to remediate. Unbroken slips may be able to be re-used.

11. Maintenance

The MechSlip system requires little or no maintenance. Check mortar pointing at 5 year intervals as part of a maintenance review. Refer to Ibstock Kevington for guidance on specific topics if required.

12. Recycling

Despite the potential longevity of fired clay products, they are sometimes demolished well before the end of their useful life.

The following are possible uses for recycled clay building materials:

- Reclaim and re-use.
- Filling and stabilising material for infrastructure works.
- Aggregates for in-situ and precast concrete and mortars.

The majority of the aluminium used in carrier and support rail extrusions is from recycled sources and can be recycled by a licenced company.

'Adaptable building' is used to describe a structure that has the ability to be modified or extended at minimum cost to suit the changing needs of the people using the structure. Thoughtful design can provide the flexibility for these needs to be met without requiring expensive and energy intensive renovations. The ease of assembly and disassembly of the MechSlip system components means a structure can be re-shaped or extended incorporating the re-use of the MechSlip system.

MECHSLIP WARRANTY DETAILS

Ibstock Kevington provides a durability warranty on MechSlip Brick Slip Cladding Panels subject to correct installation. This excludes the supporting masonry.

For further information on warranty details and period for these components please contact Ibstock Technical Services technical@ibstock.co.uk and include project details.

Ibstock Kevington MechSlip – Summary of Third Party Testing

Introduction

The MechSlip system was independently tested by Vinci Technology Centre in Bedfordshire
For wind resistance, water tightness and impact resistance.



Lucideon tested the weatherability of the system.



Materials

Fired clay brick slips supported by anodised aluminium rails affixed to steel

Test Programme

The test programme was carried out with results as follows:

Wind Resistance – serviceability and safety

CWCT testing achieved ±2400 Pascals serviceability, ±3600 Pascals safety. PASS



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Water Tightness –dynamic pressure

CWCT testing achieved 600 Pascals - PASS

Impact Resistance

Soft and hard body impact tests - CWCT testing achieved Class 1 serviceability, negligible risk safety. PASS.

Weatherability Tests

Hygrothermal testing to ETAG 034. PASS

Freeze/Thaw Resistance

Freeze Thaw testing in accordance with ETAG 017

Additional freeze/thaw resistance test is carried out in accordance with the European method DD CEN/TS EN772-22, which involves subjecting a panel of brickwork to repeated free thaw cycles designed to simulate naturally occurring conditions. From the results, the bricks were classified as F2 i.e. suitable for use in conditions of severe exposure, in accordance with BS EN771-1, Specification for Clay Masonry Units

Additional Testing**Fire**

MechSlip has been tested at Warrington Fire Exova to EN13501-1:2007+A1:2009 and has been tested and certified as having an A1 performance.

Fire cavity barriers are not included within the MechSlip system and should be specified and designed by a qualified engineer.

The use of Rockwool insulation is recommended in association with MechSlip.

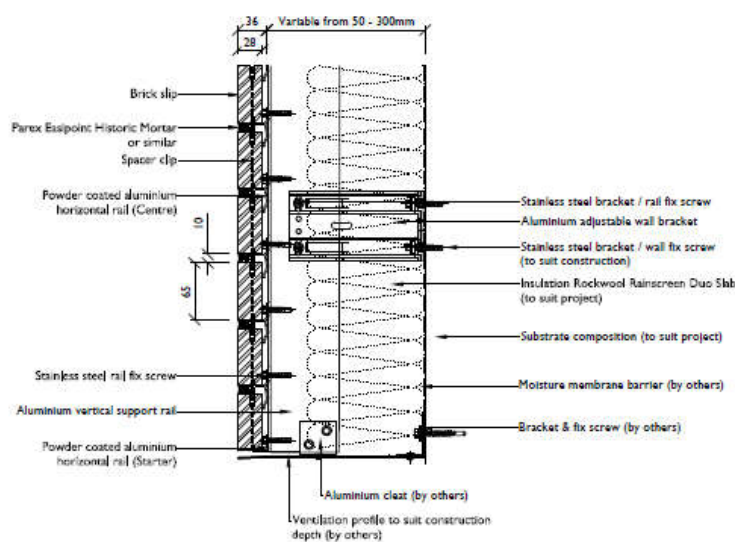
MECHSLIP PRODUCT PACK

MechSlip CAD drawings

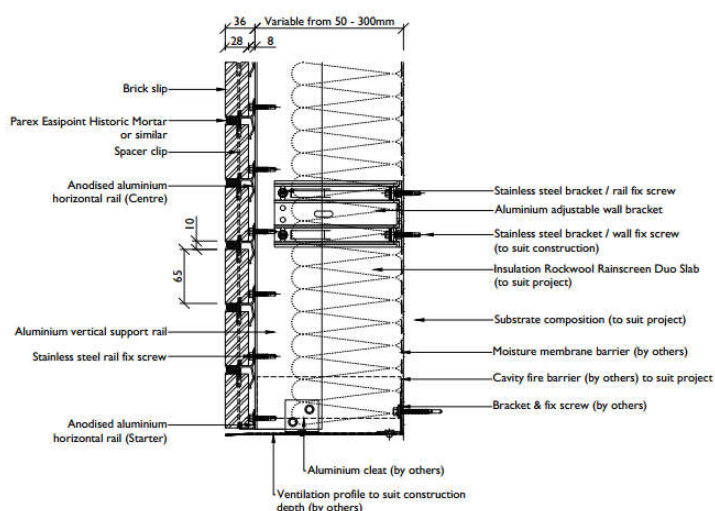
- Base Detail
- Intermediate Detail
- Parapet detail WM.
- Vertical Joint Detail
- Vertical Movement Joint Detail
- Horizontal Movement Joint Detail
- External Corner Detail
- External Corner Detail using PPC Corner Rail
- Internal Corner Detail
- Vertical Stretcher Bond typical details
- Window Cill Detail
- Window Head Detail
- Window Jamb Detail
- Window Jamb Detail using PPC Jamb Closer
- Header & Stretcher Slip Details
- Soldier Slip Details
- Header & Stretcher Return Slip Detail
- Projecting Brick Slip Detail
- External Corner Detail

For a complete set of typical details please speak with a Design Advisor.

Base Detail WM.18.23-01

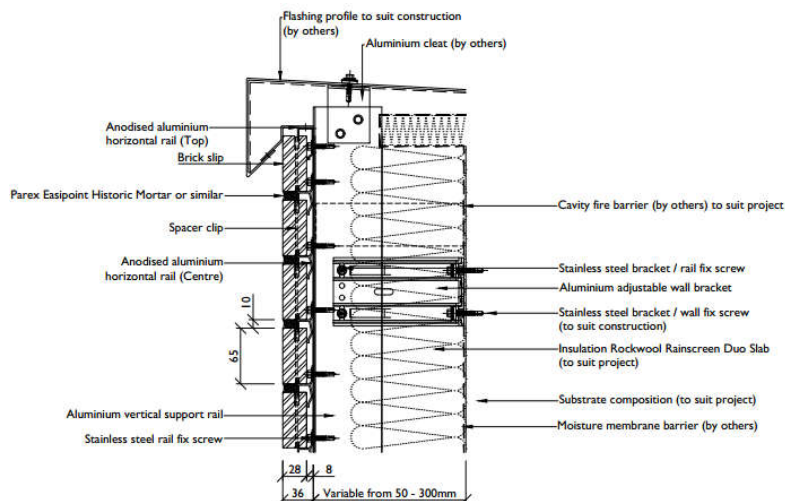


Intermediate Detail WM.18.23-02

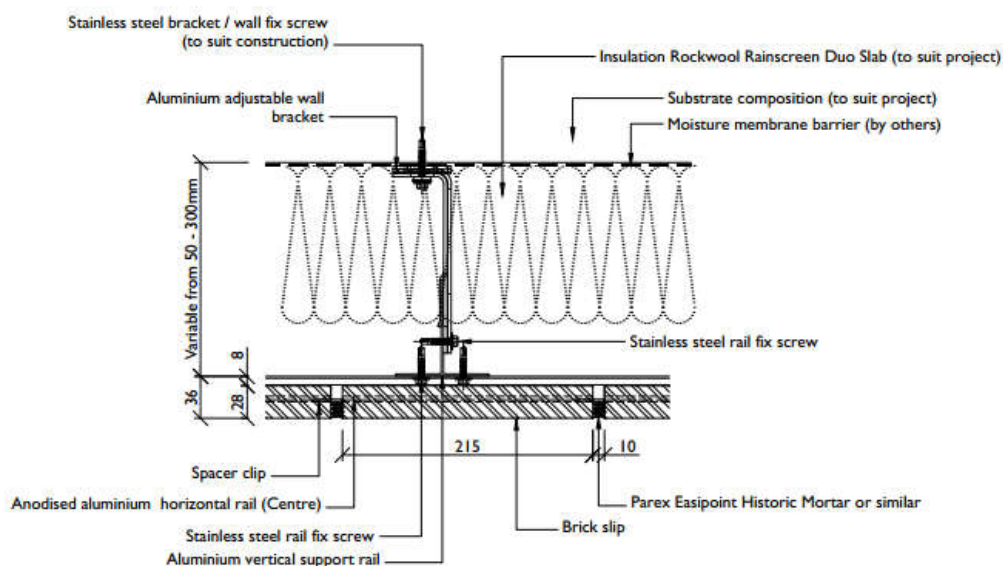


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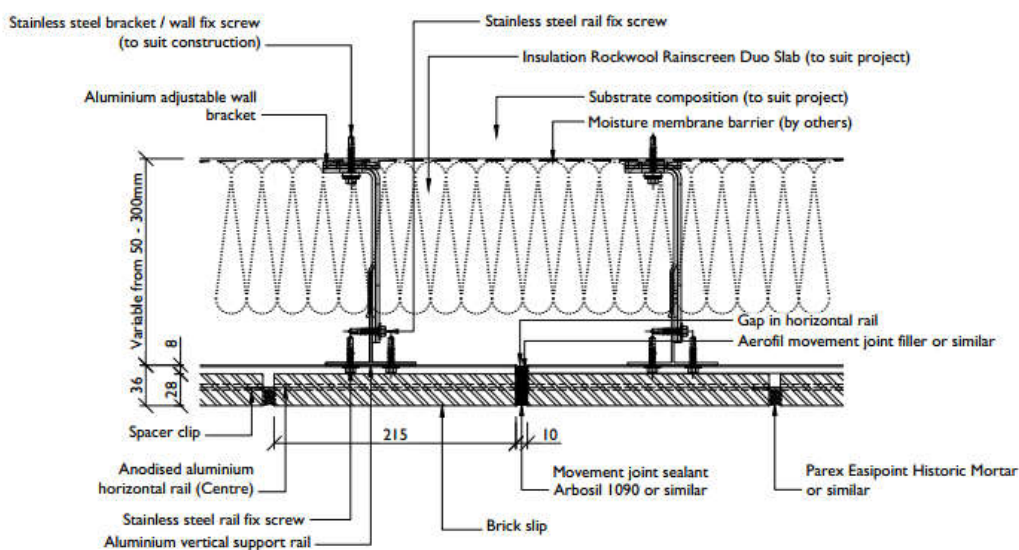
Parapet detail WM.18.23-03



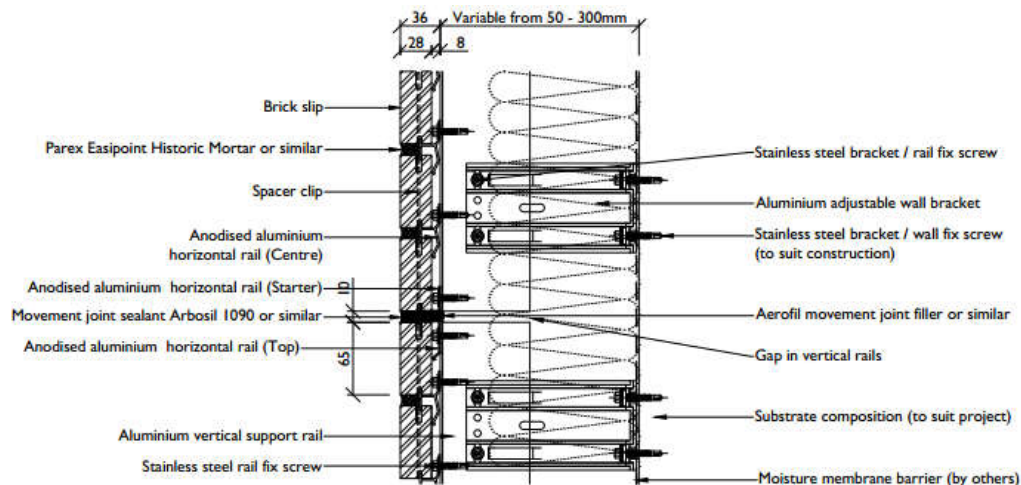
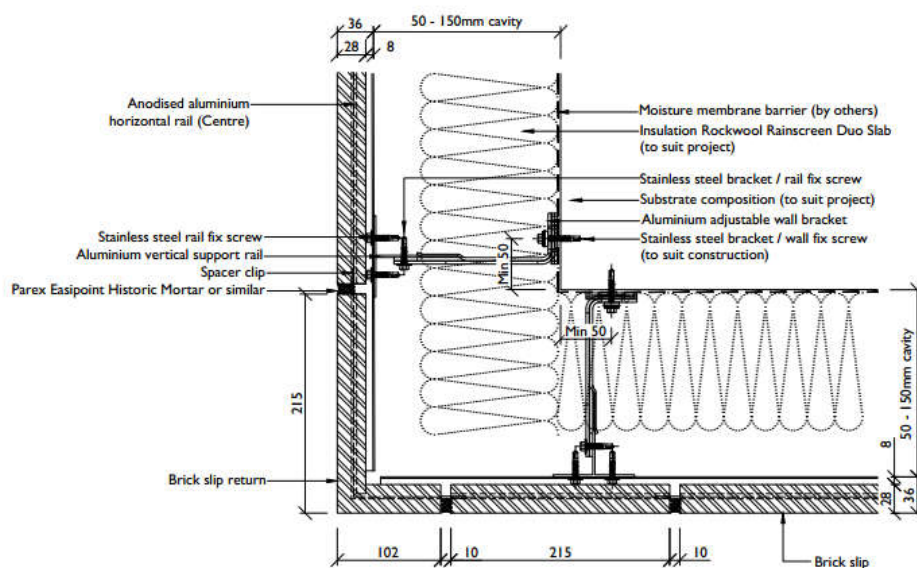
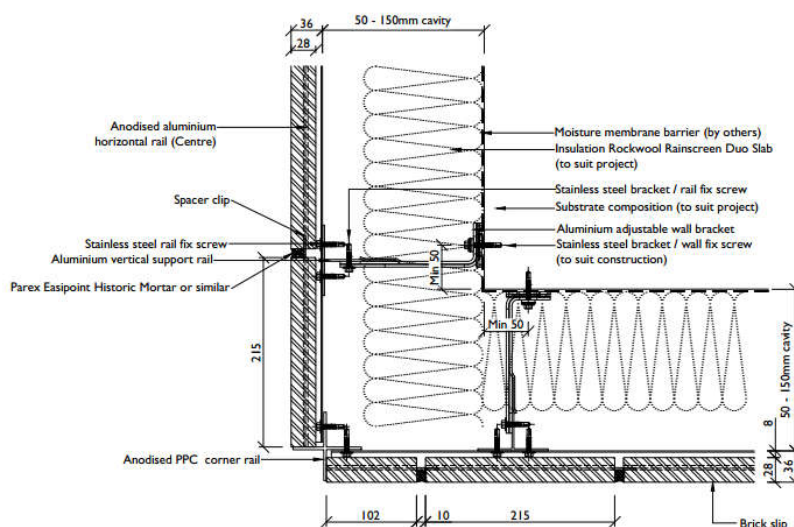
Vertical Joint Detail WM.18.23-04



Vertical Movement Joint Detail WM.18.23-05



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Horizontal Movement Joint Detail WM.18.23-06**External Corner Detail WM.18.23-07****External Corner Detail using PPC Corner Rail WM.18.23-08**

Substrate composition (to suit project)

Moisture membrane barrier (by others)

Aluminium adjustable wall bracket

Stainless steel bracket / wall fix screw (to suit construction)

Stainless steel bracket / rail fix screw

Insulation Rockwool Rainscreen Duo Slab (to suit project)

Spacer clip

Parex Easipoint Historic Mortar or similar

Aluminium vertical support rail

Stainless steel rail fix screw

Anodised aluminium horizontal rail (Centre)

Variable from 50 - 300mm

8

28

36

10

102

10

215

8

36

Variable from 50 - 300mm

Technical cross-section diagram of a parapet wall assembly. The diagram illustrates the construction layers from the exterior face to the interior. Key components and labels include:

- Flashing profile to suit construction (by others)
- Aluminium cleat (by others)
- Anodised aluminium horizontal rail (Top)
- Brick slip
- Parapet Easipoint Historic Mortar or similar
- Spacer clip
- Anodised aluminium horizontal rail (Centre)
- 10
- 6.5
- Aluminium vertical support rail
- Stainless steel rail fix screw
- 28
- 8
- 36
- Variable from 50 - 300mm
- Cavity fire barrier (by others) to suit project
- Substrate composition (to suit project)
- Stainless steel bracket / rail fix screw
- Aluminium adjustable wall bracket
- Stainless steel bracket / wall fix screw (to suit construction)
- Insulation Rockwool Rainscreen Duo Slab (to suit project)
- Moisture membrane barrier (by others)

[illegible]

Technical cross-section diagram of a window jamb assembly. The diagram illustrates the following components and dimensions:

- Stainless steel bracket / wall fix screw (to suit construction)**: Located at the top left, securing the assembly to the wall.
- Aluminium adjustable wall bracket**: Positioned below the top bracket, supporting the insulation.
- Insulation Rockwool Rainscreen Duo Slab (to suit project)**: The main insulation layer, shown with a wavy profile.
- Substrate composition (to suit project)**: The material on which the insulation is applied.
- Moisture membrane barrier (by others)**: A layer below the substrate.
- Stainless steel rail fix screw**: Located at the top right, securing the rail to the wall.
- Cavity barrier (by others) to suit project**: A barrier between the insulation and the wall.
- Aluminium vertical support rail**: A vertical rail on the right side, supporting the insulation.
- Window jamb dim varies**: The vertical dimension of the window jamb, which varies.
- Brick slip return**: A brick slip at the bottom right, supporting the assembly.
- Brick slip**: A brick slip at the bottom left, supporting the assembly.
- Spacer clip**: A clip used to secure the insulation.
- Anodised aluminium horizontal rail (Centre)**: A horizontal rail in the center, supporting the insulation.
- Parex Easipoint Historic Mortar or similar**: Mortar used for the brick slip return.
- Stainless steel rail fix screw**: Located at the bottom left, securing the rail to the wall.
- Aluminium vertical support rail**: A vertical rail at the bottom left, supporting the assembly.

Dimensions:

- Variable from 50 - 300mm (vertical dimension of the insulation)
- 36 (horizontal dimension of the top bracket)
- 28 (horizontal dimension of the spacer clip)
- 8 (horizontal dimension of the spacer clip)
- 215 (horizontal dimension of the central rail)
- 102 (horizontal dimension of the brick slip return)

Technical cross-section diagram of a window jamb assembly. The diagram illustrates the following components and dimensions:

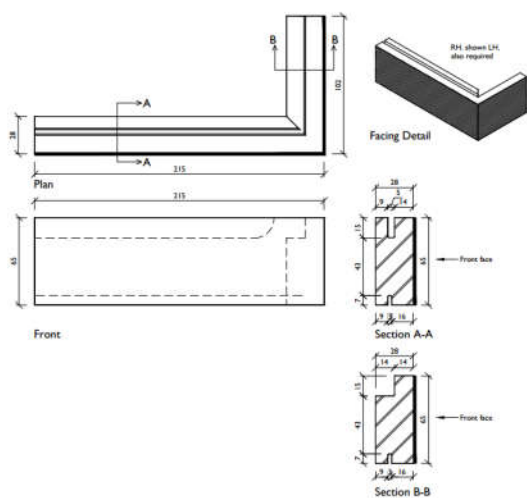
- Stainless steel bracket / wall fix screw (to suit construction)**: Located at the top left, securing the assembly to the wall.
- Aluminium adjustable wall bracket**: Positioned below the stainless steel bracket.
- Insulation Rockwool Rainscreen Duo Slab (to suit project)**: The main insulation layer.
- Substrate composition (to suit project)**: The base material of the wall.
- Moisture membrane barrier (by others)**: A layer below the substrate.
- Stainless steel rail fix screw**: Located at the top right, securing the rail.
- Cavity barrier (by others) to suit project**: A barrier between the insulation and the window frame.
- Window jamb**: The vertical frame of the window.
- PPC jamb closer (by others)**: A component for closing the window.
- Spacer clip**: A clip used to secure the insulation.
- Anodised aluminium horizontal rail (Centre)**: The central horizontal rail.
- Stainless steel rail fix screw**: Another screw securing the rail.
- Aluminium vertical support rail**: A support rail for the window.
- Parex Easipoint Historic Mortar or similar**: Mortar used for the window frame.
- Brick slip**: The brickwork of the wall.
- Dimensions**:
 - Variable from 50 - 200mm (height of insulation)
 - 36 (height of substrate)
 - 28 (height of moisture barrier)
 - 8 (height of spacer clip)
 - 215 (width of central rail section)
 - 102 (width of support rail section)

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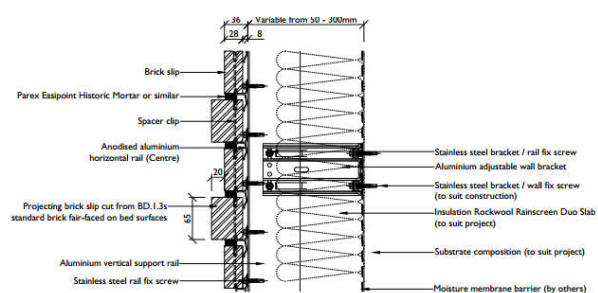
Header & Stretcher Return Slip Detail

WM.18.23-15

MechSlip Header Stretcher Return Slip Detail | 15



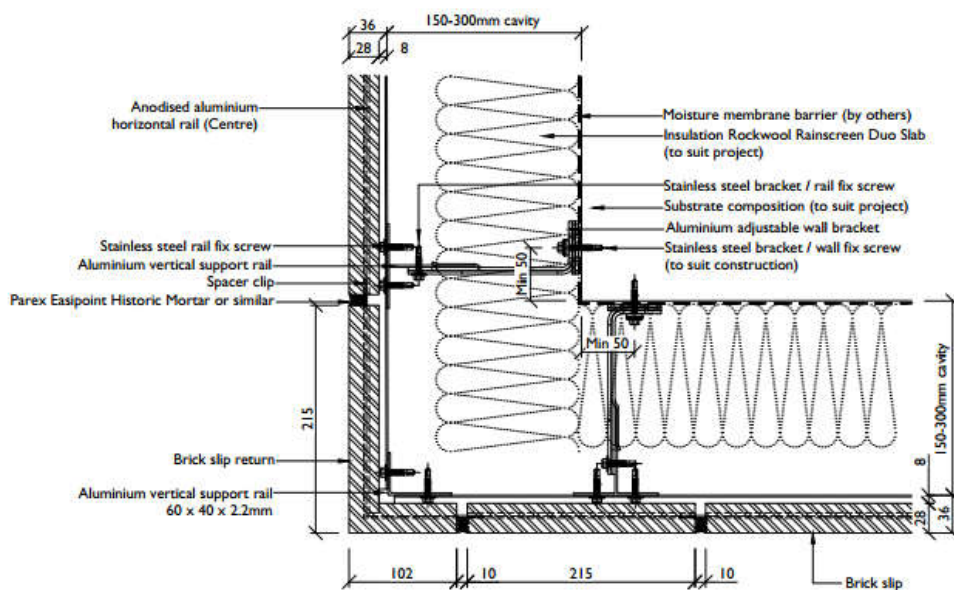
Projecting Brick Slip Detail WM.18.23-17



B 16.05.19 Horizontal rails amended
A 25/07/18 Text description altered

JC
JC

External Corner Detail WM.18.23-18



Contact

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Please check suitability of MechSlip for your project with an Ibstock Kevington Design Advisor or Ash & Lacy's Façade Detailing Manager.

Ibstock Regional Design Advisors

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