ASH & LACY

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At the heart of building

MECHSLIP
CONFIDENCE. BUILT IN.

INSTALLATION MANUAL

BBA BRITISH BOARD OF AGREMENT

Preface

The purpose of this document is to assist the project designer and installer in producing the respective documentation for any project under consideration.

Rules (recommendations/advice/instructions) contained in this document are for general indication and individual project may require further consideration.

The Installation Manual is provided in good faith for use at the discretion of the respective design consultants, which can be amended and edited as required to suit the particular project requirements.

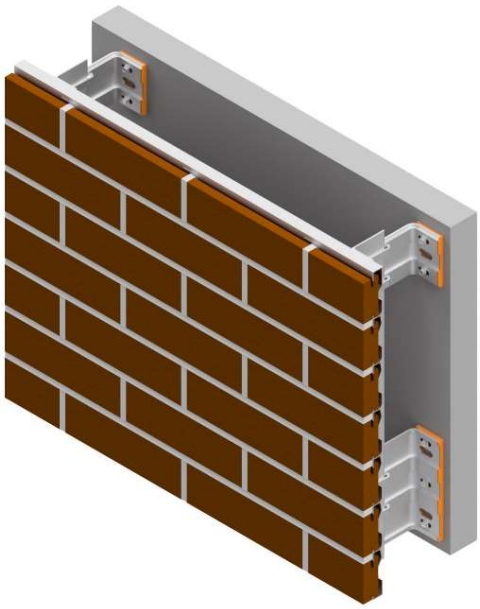
It is not the intention for this manual to relate to any particular project, but to provide a general overview to illustrate construction assemblies and installation principles incorporating MechSlip products.

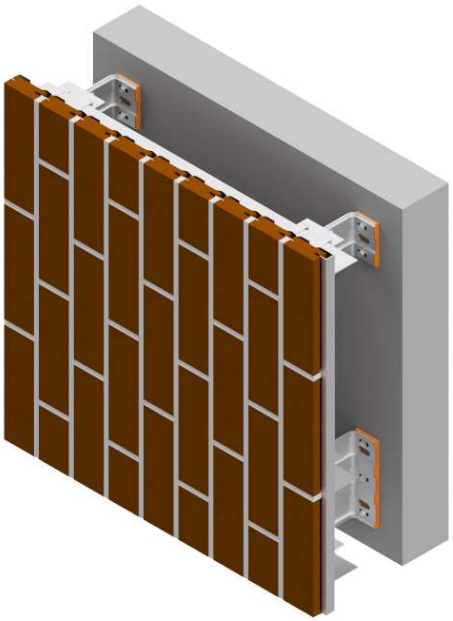
Great attention was taken during the drafting of this document. However, due to our continuous product and system developments this document may be subjected to continuous review and update.

Any technical queries relating to the façade system should be directed to the Ash & Lacy or Ibstock Technical Department.

Contents

MechSlip Installation Instructions





Warranty

Note: The entire system must be installed in accordance with MechSlip Typical Details and both Ash & Lacy and Ibstock recommendations. All fixings should be stainless steel and supplied/approved by Ash & Lacy and all brick slips must be supplied by Ibstock Kevington in order to validate the product warranty.

Item Checklist

Fixings – brick rail to mullion	Qty:……No	Type: ……
Brick rails	Qty:……No	Type: ……
Brick slips	Qty:……No	Type: ……
Brick spacers	Qty:……No	Type: ……

The System

MechSlip is a mechanically fixed brick slip cladding system. The brick slips used in this system are fabricated from traditional bricks and are installed on aluminium brick rails. All brick rails are fixed to helping hand system using stainless steel fixings. Depending on required brick slip finish, two different helping hand systems can be used.

For traditional (horizontal) brick work, vertical helping hand system AxiAL AX1 must be used (for AX1, please refer to AX1 installation manual).

For standing soldier (vertical) brick work, horizontal helping hand system AxiAL AX2 must be used (for AX2, please refer to AX2 installation manual).

Technical Support

Ash & Lacy and Ibstock Kevington offers various technical support for commercial projects. That include:

- 2D CAD Typical Details
- Inventor Model Solutions
- Bespoke Detail Design
- Indicative Static Calculation
- Basic U-Value Calculation
- General Technical Advice
- Full Static Calculation (limited by two wall built-ups)*
- Full U-Value Calculation (limited by two wall built-ups)*
- On-Site Pull Out Tests*

** paid service (for prices, please contact our support team)*

Contact our support teams:

Ibstock Design and Technical Advice Helpline	T: 08448004576
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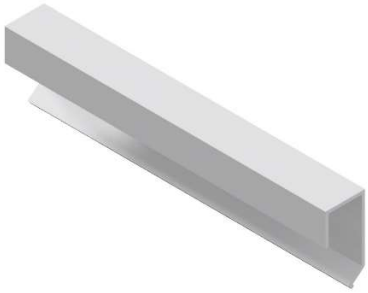
MechSlip System Components

Brick Rails

Aluminium Brick Start Rail

Aluminium Brick Rail – Intermediate



Aluminium Brick Top Rail

Stainless Steel Start Brick Rail

Stainless Steel Top Brick Rail

Aluminium base angle 25x25x1.5mm (used in standing soldier application)

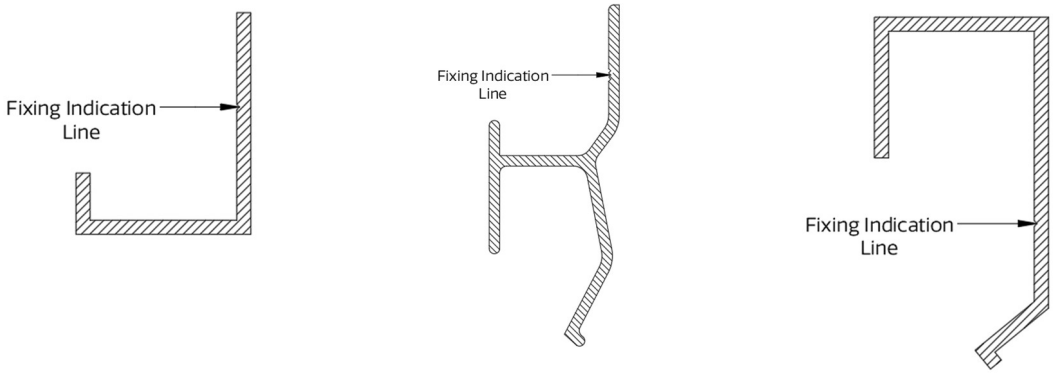
Standard aluminium brick rails are used to support brick slips for all applications above damp-proof course (DPC). They are anodised 6063 T6 grade aluminium and are available as:

Brick Starter Rail – used on base, window head, movement joint details – on all areas, where brick slip wall starts;

Brick Top Rail – used on every parapet, window cill details – in places, where wall needs to end;

Brick Rail (Intermediate) – used on all areas between starter and top rails.

All three aluminium brick rails have indication lines that show where fixings should be installed vertically in order to keep 10mm minimum edge distance for the fixings.



Fixing Indication Lines

Stainless steel brick rails are used on areas, where MechSlip system must be installed below DPC. For these areas we have starter and top rails. Where the stainless steel intermediate brick rail is needed, a combination of starter and top rail is used to form it.

Brick Slips

Stretcher

Header

Left Hand Corner Brick Slip

Right Hand Corner Brick Slip

Standing Soldier Corner Brick Slip

MechSlip brick slips are formed by cutting actual bricks. They are engineered with grooves to the rear for seamless fixing to the brick rail system. Corner returns are manufactured as one-piece units at 90°. Other angle brick slips are manufactured in two pieces.

Ibstock Kevington have a wide brick slip range that can be used in MechSlip system. All catalogues can be reviewed at: https://www.ibstockbrick.co.uk/brick-selector/

Brick Spacers

Mechslip Brick Spacer

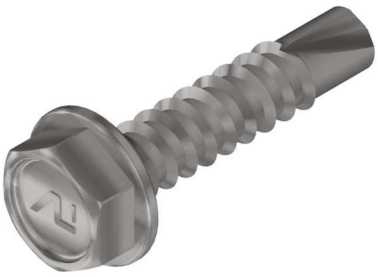
Mechslip Brick Spacer - Curved

There are two types of MechSlip Brick spacers:

- MechSlip Brick Spacer – standard spacer, that is used to create vertical mortar joints, and stop mortar from falling in between brick rails into cavity.
- MechSlip Brick Spacer – Curved – spacer that is normally used for standing soldier and soffit applications. Besides same functions as standard spacers, curved spacers also secure brick slips in positions (this function is very important in standing soldier and soffit application).

Both of these brick spacer types are made from 0.7mm thickness galvanised steel with 200μm PVC coating.

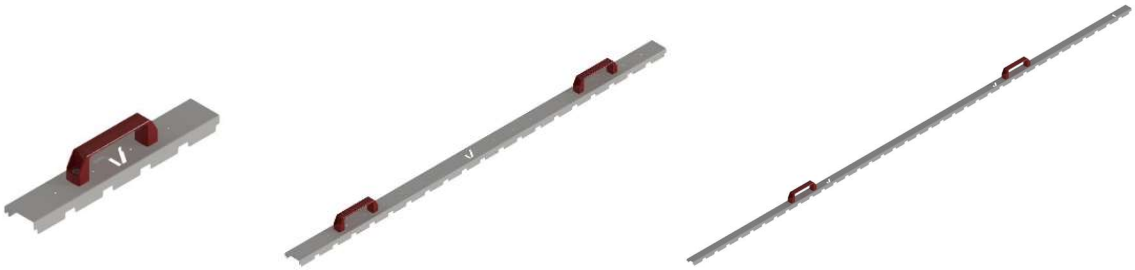
Fixings



SS-LS22

Standard fixing to fix brick rails to mullions is SS-LS22 - 4.8x22mm stainless steel A2, self-drilling screw.

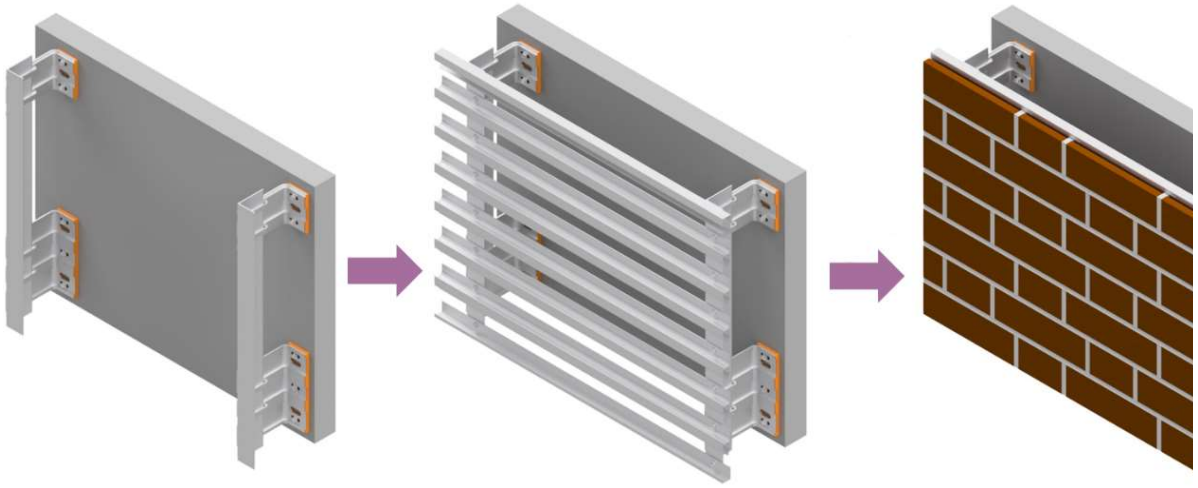
Brick Rail Installation Tool



One of the main elements for fast and easy Mechslip system installation is to use brick rail installation tools (gauging tools). There are two standard length of these tools: 1495mm and 373mm.

We also offer gauging tools with legth of 1495-2980mm – these tools are designed and manufactured on project basis to cover full floor height.

System Installation



AXIAL
Support System

Aluminium Brick Rails

MechSlip
Brick Slips

Installation process of Mechslip brick slip cladding system can be split into three main stages:

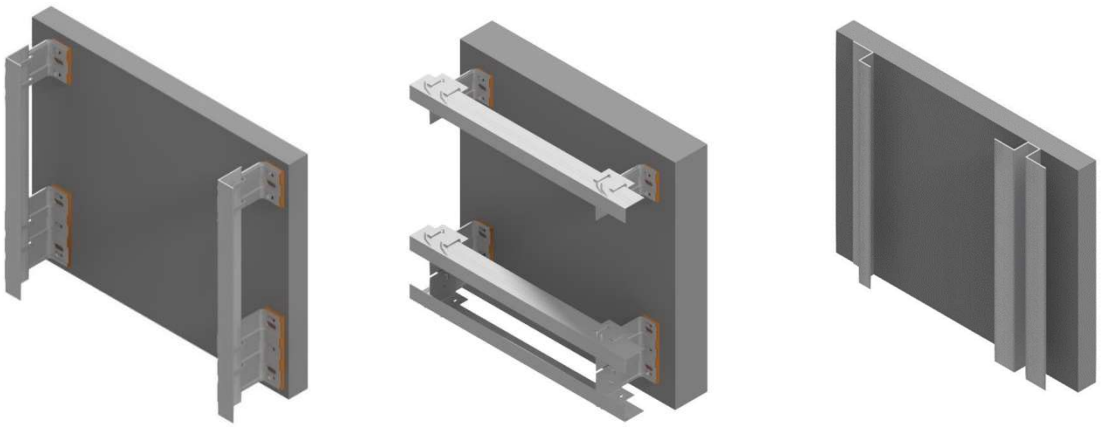
AxiAL support system installation;

Brick rail installation;

Brick slip and mortar installation.

AxiAL Support System Installation

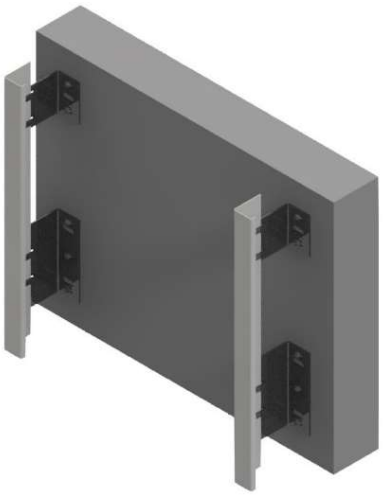
The main structural element in MechSlip is the AxiAL support system. There are 5 main support systems that can be used with MechSlip depending on required façade finish, cladding zone depth and material of helping hand elements.



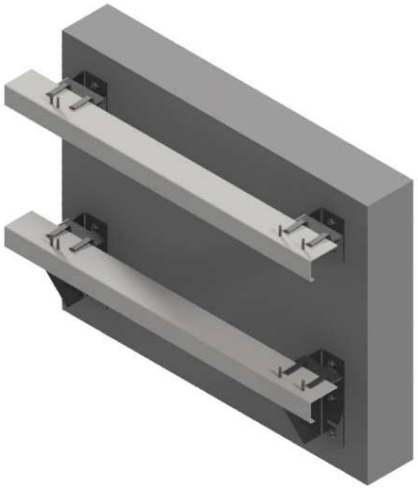
AxiAL AX1

AxiAL AX2

AxiAL AX4



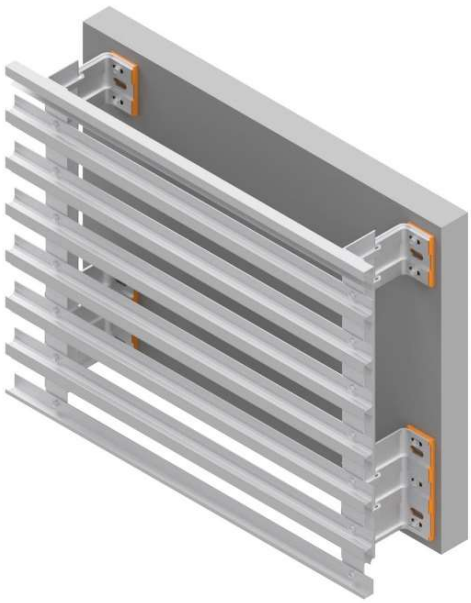
AxiAL AXR1

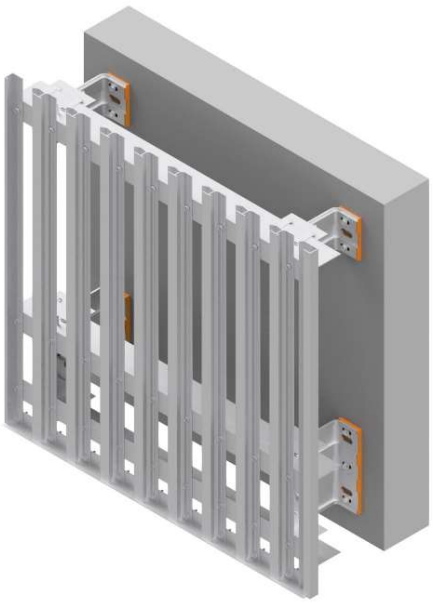


AxiAL AXR2

I. AxiAL AX1 – Aluminium vertical support system. This support system is used when a horizontal brick slip bond is required and cladding zone (from substrate to external face of vertical mullion) is deeper then 45mm (to get full installation instruction for AX1 system, please refer to AxiAL AX1 Installation Manual);
II. AxiAL AX2 – Aluminium horizontal support system. It is used when a vertical (standing soldier) brick bond is required and cladding zone is deeper then 45mm (to get full installation instruction for AX2 system, please refer to AxiAL AX2 Installation Manual);
III. AxiAL AX4 – Aluminium support system with a shallow cladding zone and no adjustability requirement in the cladding zone.
IV. AxiAL AXR1 – Stainless steel vertical support system. Used as alternative for AX1 system when a lower U-Value of build-up needs to be achieved (to get full installation instruction for AXR2 system, please refer to AxiAL AXR1 Installation Manual).
V. AxiAL AXR2 – Stainless steel horizontal support system. Used in alternative for AX2 system when a lower U-Value of build-up needs to be achieved (to get full installation instruction of AXR2 system, please refer to AxiAL AXR2 Installation Instruction).

Brick Rail Installation





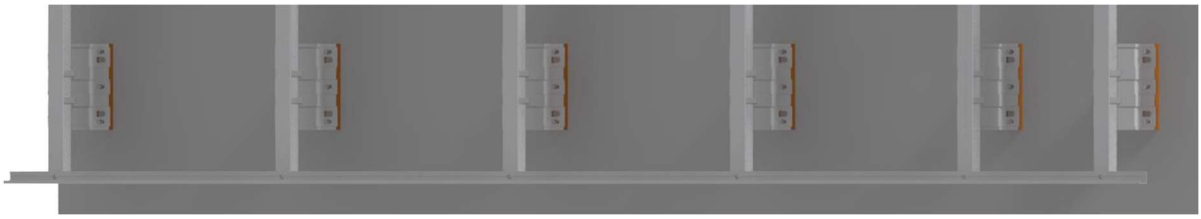
After AxiAL helping hand system is installed, moving to brick rail installation.

Depending on the helping hand system orientation brick rails can be installed:

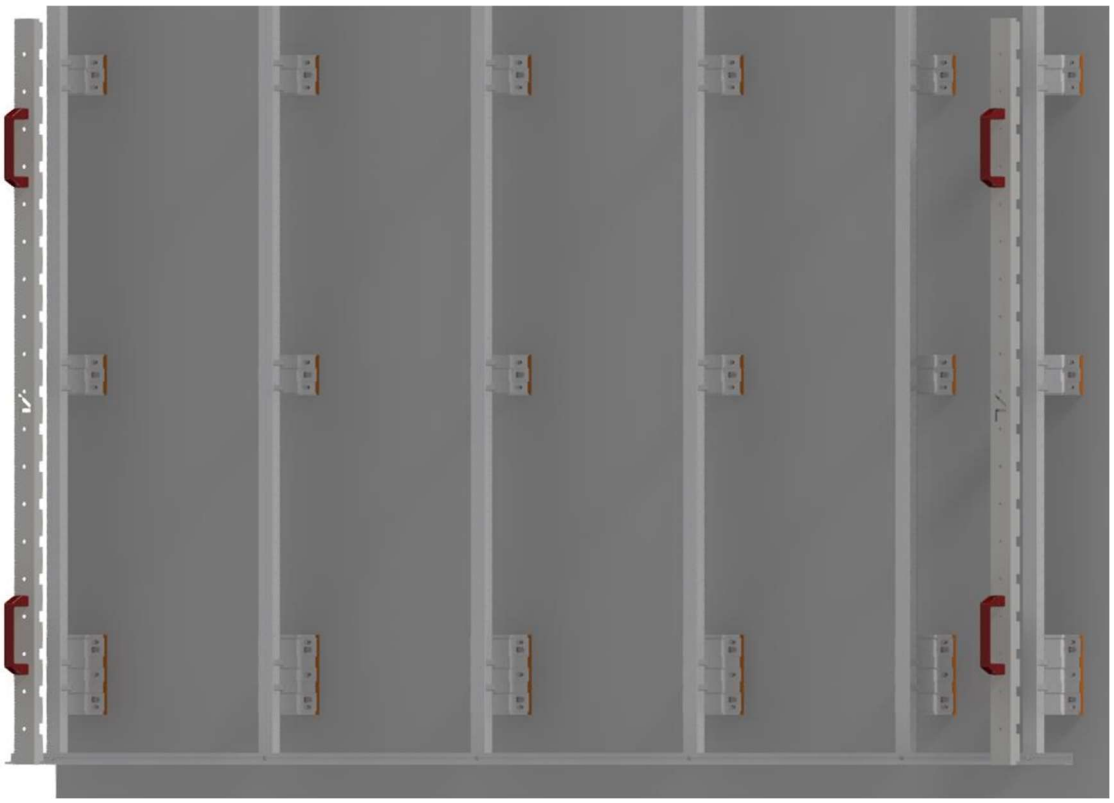
- Horizontally to support horizontal brick slip application (on vertical helping hand system);
- Vertically to support vertical brick slip application (on horizontal helping hand system).

For horizontal brick slip build-up:

- Install the brick starter rail at the location of the first brick course. The rail must be lined and levelled. Brick starter rail must be fixed to the vertical mullions using SS-LS22 fixings at the recommended support centres;

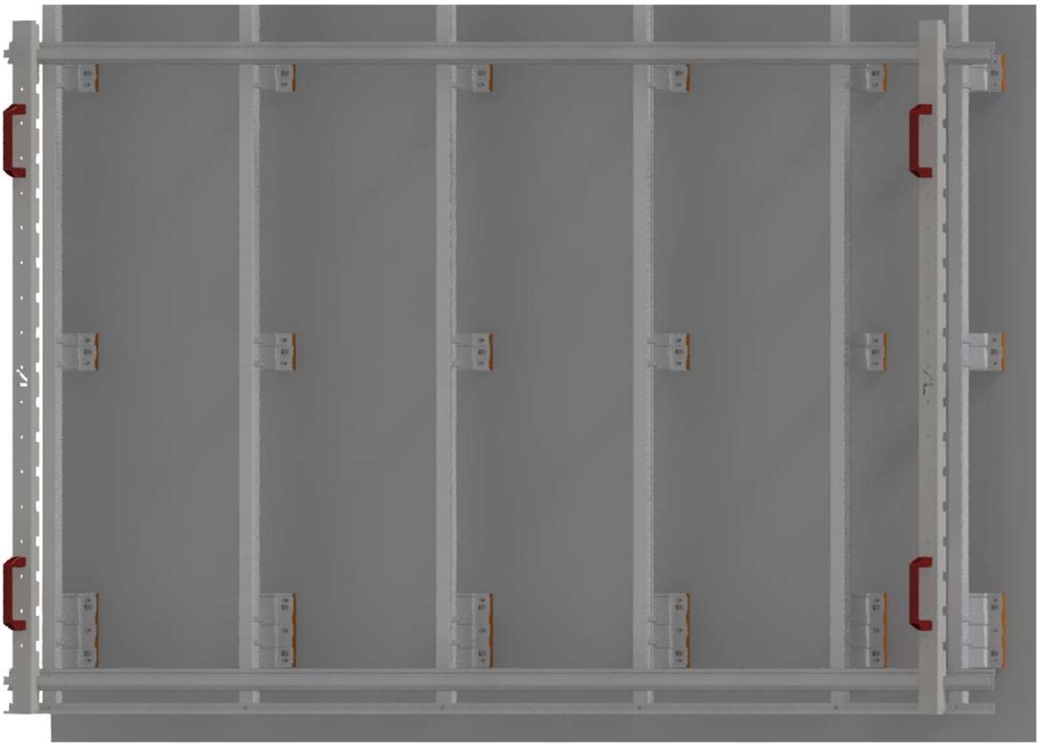


- With the starter rail installed, align the bottom slot of the gauging tool so that it's in full contact with the starter rail at each end of the full rail length (generally approx. 3m). Two fixers and two gauging tools are required at this stage, one at each end of the length of brick rail.

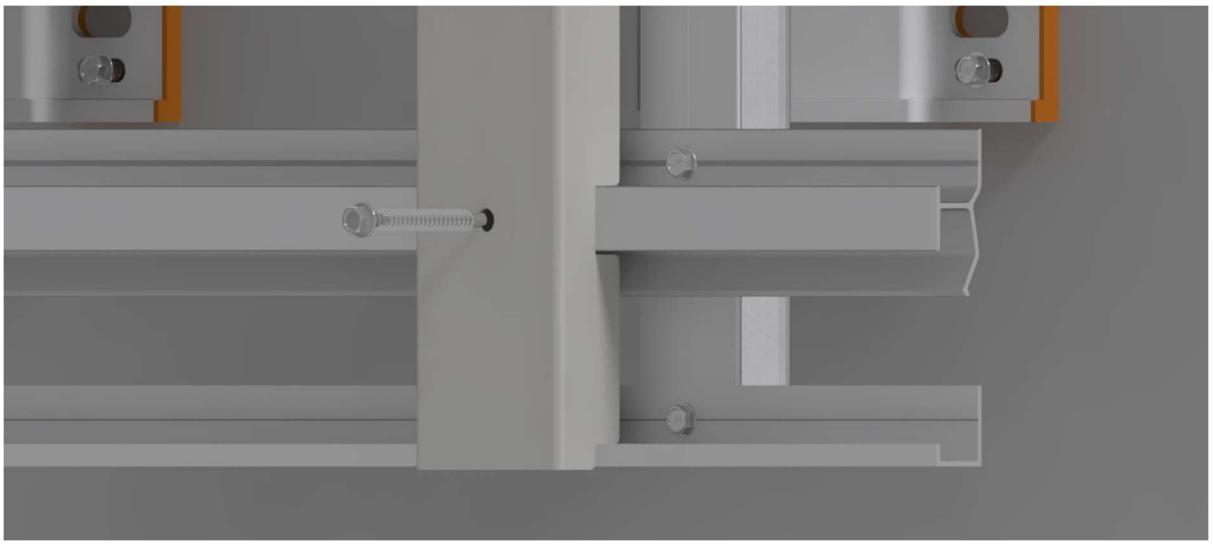


- Next, use the top slot of the gauging tool to locate the position of an intermediate brick rail, lining up at both ends of the rail so that it is straight. Fix this intermediate rail back to the vertical support rails using SS-LS22 fixings.

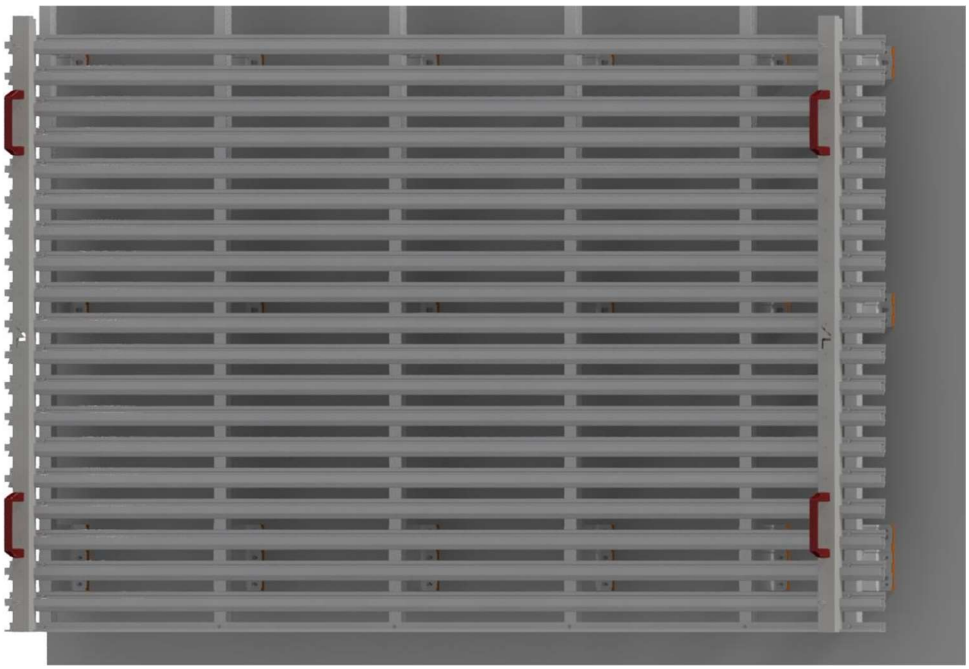
- Install intermediate brick rail into bottom slot of the gauging tool (1st above starter brick rail) and fix it to vertical support mullions next to gauging tools.



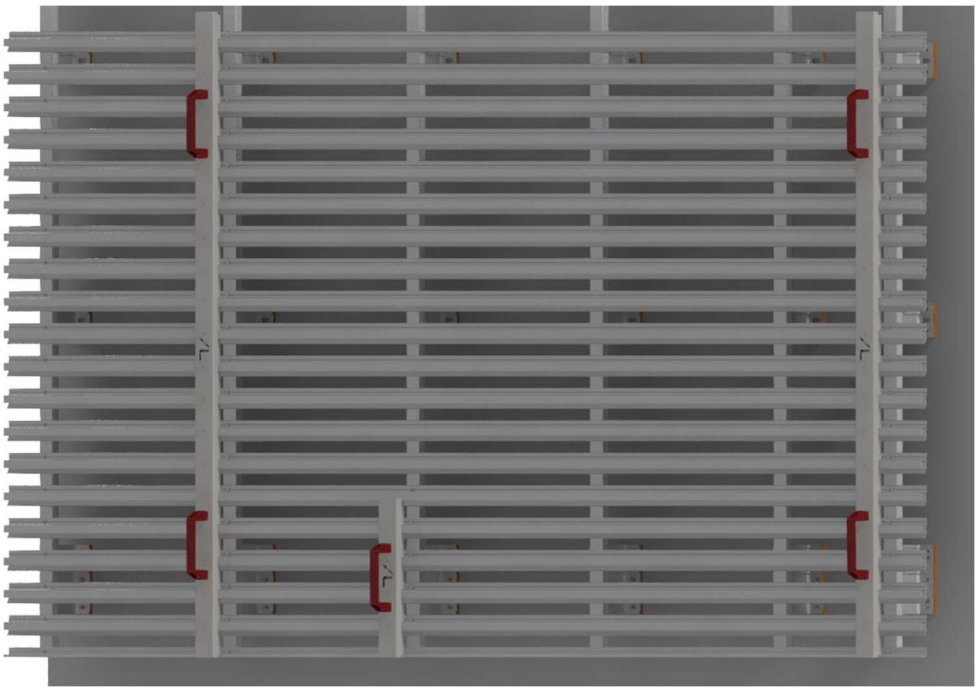
- In order to keep gauging tool in position, clamp it to the fixed intermediate brick rails or use existing holes in gauging tool and fix it to intermediate brick rails with screws (If gauging tool over 1495mm length is used, fix it not only at the ends, but also in the middle of the tool).



- The following step is to slide all remaining intermediate brick rails into position. The gauging tool will ensure that these rails are automatically spaced at 75mm increments vertically for 65mm tall brick slip (depending on brick slip height gauging tool can be made with different spacings). Once in position, fix all intermediate brick rails at each of their ends (next to gauging tools).

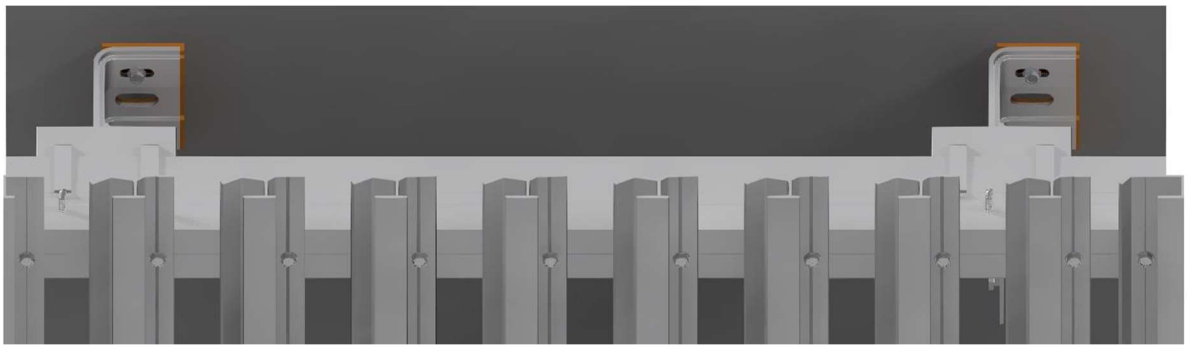


- Before fixing brick rail to intermediate vertical mullions, make sure that gauging tool is pushed along the intermediate rails (left to right/right to left) or use short gauging tool to prevent any bowing/flexing in brick rail.

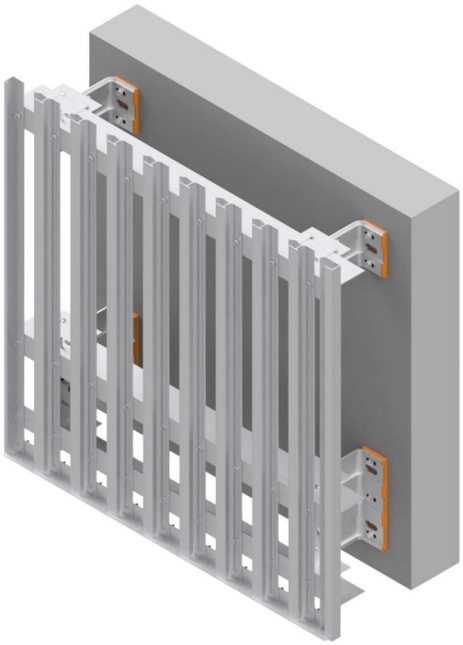


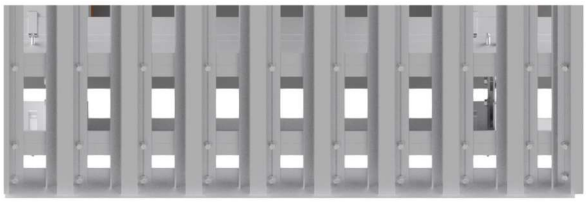
- If 1495mm gauging tool (and not gouging tool for full floor height) is used, before moving gauging tool upwards, check level of topmost rail and repeat process, locating the bottom slot of the gauging tool to the topmost rail.
- When fixing brick top rail, make sure that it is pressed downwards in gauging tool slot.

For vertical brick rail installation (vertical brick slip application), all MechSlip system, starting with helping hand mullions will be rotated 90° clockwise. It means that brick starting rail will be installed on the left and brick top rail will be installed on the right.



For vertical brick rail installation and preparation for vertical brick slip installation, one additional rail is required in order to stop the brick slip from sliding down. That is 25x25x1.5mm 6063 T6 grade extruded aluminium angle which is installed on every base detail, above openings and horizontal movement joints.





Brick Slip Installation

Once brick rails are installed, brick slips can be fitted in any order (top-down, bottom-up, left-right, right-left), leaving access to any area of the façade for services or similar. For vertical brick slip application installation order top-down is not recommended.

When installing brick slips horizontally:

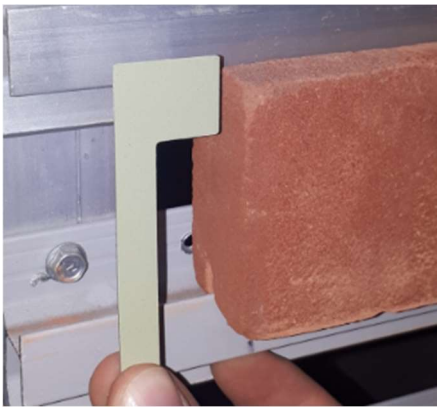
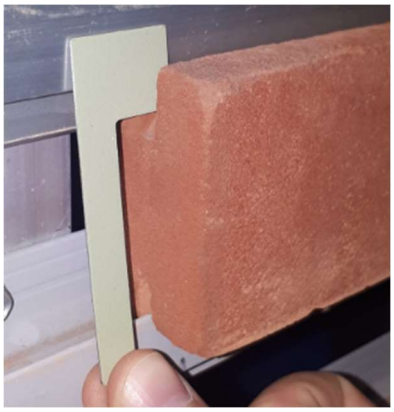
- Orientate the brick slip so the deeper slot is at the top. You can locate the brick spacer short leg into top slot of the brick slip now or You can install it after the brick slip is placed in position.

- Locate top part of brick slip to the upper brick rail tilted at approximately 15°-25° angle.

- Push it upwards while rotating it to flat position at the same time.

- Locate the bottom slot in the brick slip to the top side of the intermediate or starter brick rail and secure it in place. Brick slip should now be secured between the brick rails above and below it.

- If brick spacer is not installed with brick slip, position shorter leg of spacer in top slot of brick making sure that spacer is in front of brick rails. Plastic finished surface of spacer should be pointed outward.


- The brick spacer will create a 10mm wide vertical (perp) join between brick slips and also will keep mortar from falling into brick rails and cavity. A 10mm horizontal (bed) joint is created by profile of brick rails. Brick rail also closes the cavity from possible mortar dropping in it.

- In order to remove brick after fitting, lift it upwards approx. 5mm so that the bottom slot disengages from the brick rail beneath it, tilt bottom edge outwards approx. 15°-25° and remove it.

For standing soldier (vertical) brick slip installation need to make sure that:

- Brick slips (same as brick rails) are rotated 90° clockwise. Therefore the deeper groove in the brick slip must be on the right. 1st standing brick slip must be fully lowered onto the base angle.

- Curved brick spacers are installed on top of every brick slip, making sure that notched lip is placed face to face with brick rail on the right. Curved spacer not only forming vertical mortar joints and stopping mortar from falling in the cavity, but also secures brick slip in position.

All MechSlip brick slips are formed by cutting actual bricks. In order to be able to use the brick slips in the MechSlip system, the bricks that the slips are made of must be T2 tolerance. That gives full length of brick slip 215±4mm and height of it of 65±2mm.

Even though the MechSlip system is a façade cladding system, the brick slip installation should be treated as brickwork. Therefore:

- Installation of brick slips should start from corners towards centre of the wall.
- 1 in 5 perpendicular joints must be lined up.
- Brick slips should be mixed when installed from at least 3 different packs (better 4 to 5) to ensure finished appearance is uniform and without patches or bands of colour.

Mortar Installation

Final step of MechSlip system is mortar installation.

Based on our testing and certification we recommend to use Parex Historic mortar. Colour depends upon specifier's choice.

Mortar should be injected deep into the joint, providing a complete fill and a degree of flexibility. Mortar is porous, allowing the passage of water through the mortar joints.

Joints can be tooled with flash or bucket handle joint. Bucket Handle joint is recommended, however for certain products a slightly recessed joint (no more than 3mm) may be more aesthetically suitable.

Movement Joint

MechSlip system is designed to be freely expandable. Because of that thermal movement joints must be applied every 6m both horizontally and vertically. Leaving a 10mm gap between brick rails, omit the brick spacer and pointing mortar. Place a 20mm low density, compressible, closed cell polyethylene filler at a depth of 10mm and seal with suitable coloured low modulus neutral cure silicone sealant (such as Silicon Sealant Arbosil 1090). This does not cover structural movement joints.

If a structural movement joint is required, MechSlip system must be discontinued on these locations. The gap between mullions and brick rails must accommodate required structural movement joint.

If there are any queries with fixing of any of the system's components, they must be checked with the system layout and detail drawings first and then raised with Ash & Lacy before commencing installation.

This installation manual should be used in conjunction with following documents:

- MechSlip Technical Pack;
- MechSlip Typical Details (TD.MS.H1.G/TD.MS.V2.G);
- MechSlip Installation Guide;
- MechSlip Component Drawing (CD.MS);

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End of Procedure

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ASH & LACY

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