

SURECLAD ACCESS SYSTEM INSTALLATION PROCEDURE

The SureClad Access system is supplied as a kit requiring fabrication and assembly on site.

The project specific design for each installation will be produced by the project engineer.

Installation should be carried out by a suitably qualified specialist contractor.

General setting-out principals are detailed in our system data sheets and should form the basis of the design produced by the project engineer.

Basic Installation Procedure

The system components are delivered to site as a kit comprising of:-

- Primary support brackets
- Vertical 'T' rails
- Horizontal rails
- Fixings (various)
- Ceramic Granite facade panels

Details of the standard range of parts and fixings can be found in our Components Catalogue.

Shackerley 'N' series primary support brackets are provided in a range of lengths. The project engineer will determine the length of bracket required.



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'N' series brackets are provided with pre-punched apertures within the base plate to facilitate fixings for both masonry and metal framing system (SFS) backgrounds.



'N' series brackets are produced in two heights – 80mm commonly known as 'single' brackets and 160mm commonly known as 'double' brackets.



When securing the 'N' series brackets to an SFS type background, Tek screw fixings of a type determined by the project engineer, will be inserted via the two preformed circular apertures in the base of the bracket (2 No anchors for 'single' brackets, 4 No anchors for 'double' brackets).

When securing the 'N' series bracket to masonry backgrounds the appropriate fixing of a type, determined by the project engineer, will be inserted via the slotted preformed aperture in the base of the bracket (1 No anchor for 'single' brackets, 2 No anchors for 'double' brackets).

Bracket Setting-Out

The design layout of the 'N' series primary support brackets will be determined by the project engineer, however, the setting-out centres should not exceed a maximum distance of 700mm horizontally and 800mm vertically. Upon installation of the 'N' series primary support brackets, installation of the vertical 'T' profiles will commence.

Vertical 'T' Profiles

Vertical 'T' profile aluminium sub-frame members are supplied by Shackerley as part of the sub-system in various standard section sizes – see Component Catalogue.

The project engineer will determine the most suitable 'T' profile from the Shackerley range.

Shackerley vertical 'T' profiles will be supplied to site in 6m lengths and be cut to suit the required site dimensions on-site by the installer.



Cut to size vertical 'T' profiles are inserted into the 'N' series helping-hand brackets in accordance with the project engineer's design.

'N' series brackets are formed with a pre-punched gripping finger which allows the vertical 'T' profiles to be temporarily secured in position and aligned for planarity prior to securing with fixings.



'T' rails are secured to the helping-hand bracket with stainless steel rivets 4.8mm x 14mm Shackerley part reference RS-RV4.

Upon final alignment of the 'T' rail, the 'T' rail is drilled to receive the rivet fixings using a 4.9mm HSS drill bit.

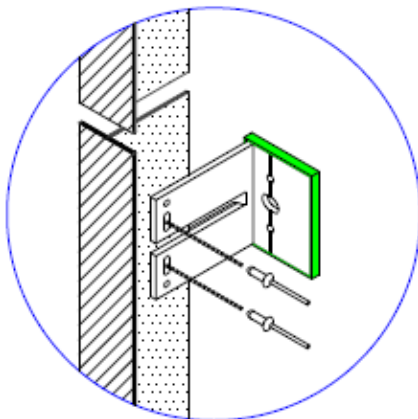
The 'N' series brackets are provided with pre-punched apertures to receive rivet fixings, the rivet fixings are inserted via these pre-punched holes.

The 'N' series primary support brackets can be used in two configurations, as determined by the project engineer.

Flexi Point Brackets

Flexi-point brackets are designed to carry the 'live' load of the facade and are fixed centrally via the pre-punched slotted apertures.

2No rivets RS-RV4 in 80mm 'single' brackets



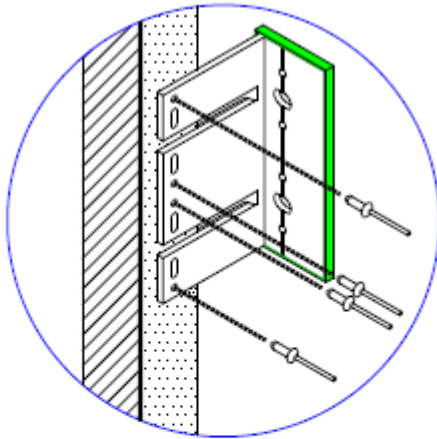
Flexi - Point

Fixed Point Brackets

Fixed point brackets are designed to carry the 'dead' load of the facade and are fixed via the circular pre-punched apertures.

2No rivets RS-RV4 in 80mm 'single' brackets

4No rivets RS-RV4 in 160mm 'double' brackets



Fixed - Point

Every 'T' rail will require a minimum of one fixed point bracket.

The project engineer will determine the layout of the vertical 'T' profiles taking account of the following.

The maximum continuous 'T' rail length is 6m. The installer must allow an 8-10mm gap between the abutting 'T' rails in order to accommodate thermal expansion.

'T' rails must not span across deflection or movement control joints formed within the background structure.

Upon completion of the 'T' rail installation, the sub-system horizontal rails can be installed in accordance with the projects engineer's design layout. When utilising the SureClad Access system, three standard horizontal rail profiles are utilised.

Top rail – part reference – RS-Z1-KS

Intermediate rail – part reference – RS-BX-HV

Bottom rail – part reference – RS-BX-BT

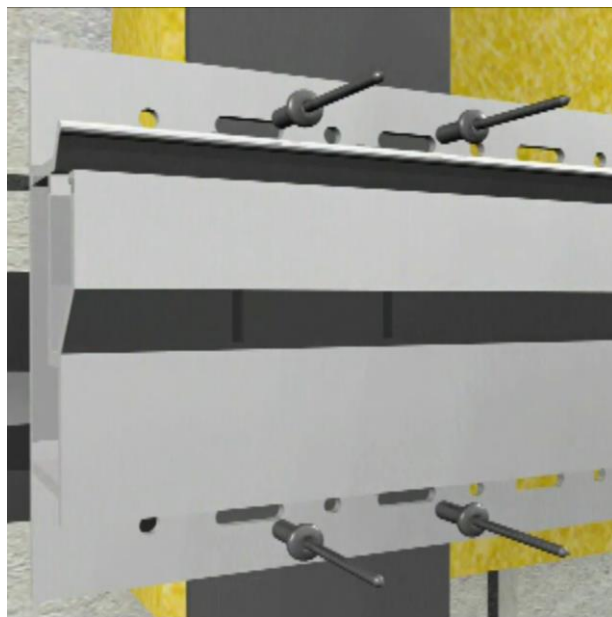
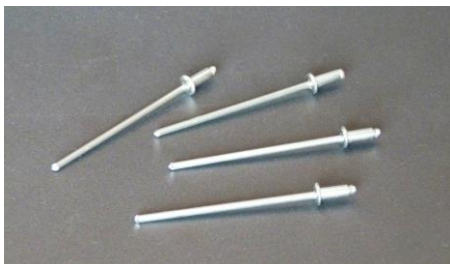
The set-out position of the horizontal rails is determined by the facade panel size and in accordance with Shackerley data sheet CDAT20.

The bottom rail and intermediate rail are provided with pre-punched apertures in order to receive rivet fixings.

Upon determining the final required position of the horizontal bottom and intermediate rails, they are clamped temporarily into position upon the vertical 'T' profiles and 4.1mm holes drilled at the required locations, via the pre-punched apertures in the horizontal rails, in order to receive stainless steel rivet fixings. Shackerley part reference – RS-RV2 4.0mmx10mm.

Each intersection in a bottom rail RS-BX-BT with 'T' rail will have a minimum of 2No fixings.

Each intersection in an intermediate rail RS-BX-HV with 'T' rail will have a minimum of 4No fixings.

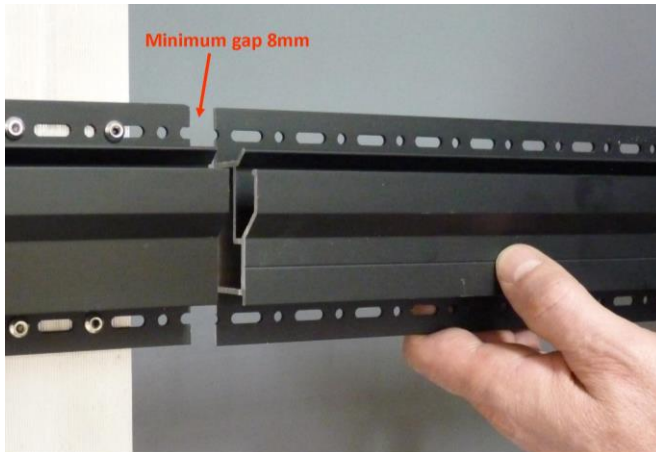


RS-ZI-KS horizontal top rails are not pre-punched therefore, after clamping temporarily into the required position, 4.1mm diameter holes are to be drilled through both the horizontal rail and corresponding 'T' rail in order to receive rivets. Shackerley part reference – RS-RV-2 4.0mm x 10mm.



When inserting rivets the installer should ensure that no swarf residues have collected between the mating surfaces of the two metal profiles during drilling.

The horizontal rail profiles of the system are supplied in 6m lengths and are cut to site on-site by the installer in accordance with the project engineer's layout details. Where continuous runs of horizontal rail occur with more than one section of horizontal rail, the abutting rails should be installed with a minimum of 8-10mm gap between profiles in order to accommodate thermal movement.



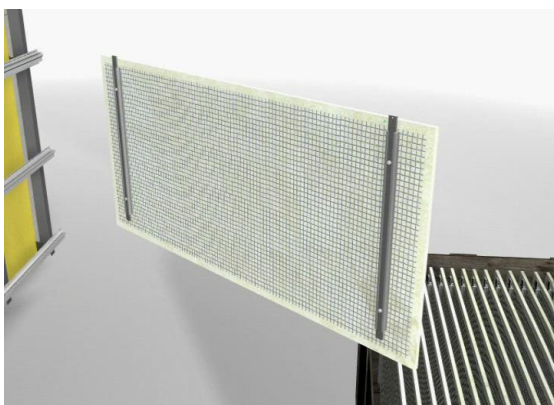
The horizontal rails of the system should not span continuously across deflection or movement joints formed within the background structure, any movement joints in the background structure must be mirrored in the facade system.

Upon completion of the installation of the system horizontal rails, facade panels can be installed.

The installer will be provided, by the project engineer, with detailed layout drawings determining the location of each facade panel. Each facade panel variant will be provided with a unique identification reference. This reference will be noted on the panel layout drawings by the project engineer and on the rear of the facade panels by Shackerley.

Each pallet of facade panels will be packed with a manifest enabling the installer to locate individual panels.

Each panel will be delivered to site pre-assembled and ready for installation.



The installer will locate the required panel within the appropriate packing crate.

The panel is removed from its crate and inspected for any damage. Damaged panels should be set-aside and notified to Shackerley.

The panel should be checked for size and colour/finish against the manifest. Any panels found to be incorrect should be set-aside and notified to Shackerley.

Each panel will be supplied with two fixing straps pre-attached to its rear face, the straps are secured by means of undercut anchors.

The torque of the undercut anchors should be confirmed by the installer prior to installation using a calibrated torque screwdriver. The torque of the anchor will be 3-4 Nm.



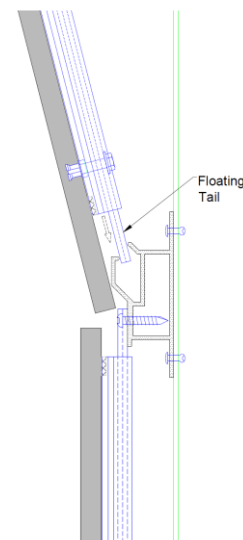
Upon completion of the inspection for size, condition and torque, the panel maybe installed onto the facade.

The facade panels can be mounted both sequentially or non-sequentially as site conditions dictate.

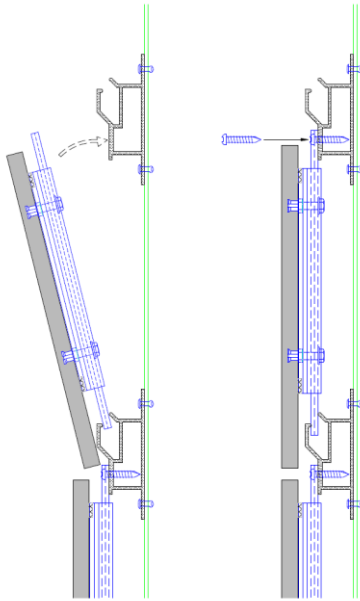
Panels are installed by inserting the lower 'tails' of the straps mounted to the rear face of each Ceramic Granite panel into the corresponding continuous slot aperture in the RS-BX-HV or RS-BX-BT horizontal profile.

Key Feature

- Top of straps are secured to support rail
- Unique feature - 'floating tail'
- Holds panel safely in position without creating **ANY** stress
- Ensures system can withstand excessive pressures – ***suitable even in earthquake zones***



The panel is rotated into a vertical position so that the top portion of the straps mounted to the rear face of the ceramic granite facade panel contact the corresponding mating panels of the next horizontal profile.



Upon reaching the vertical position the facade panel is held in position at the strap tail by friction. At this time, the panel should be carefully aligned. The aligned panel should have 8-10mm horizontal and vertical joints with adjacent panels.

After final alignment the facade panel can be secured into position using Shackerley self-drill, self-tap screw fixings. Shackerley reference – RS-SSC3A 4.8mm x 25mm.

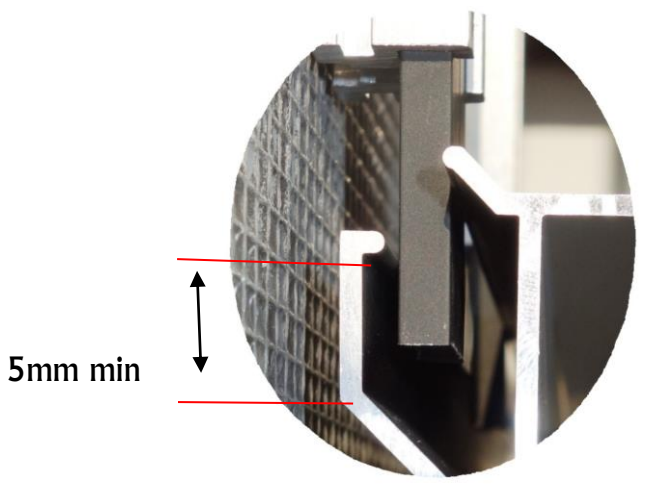
The RS-SSC3A screws are provided with a square drive anti-tamper head and will require the corresponding drive bit in order to facilitate installation.

The RS-SSC3A screws should be inserted by means of a slow speed battery powered driver/drill with a clutch control mechanism to prevent over-torquing. The drilling speed should not exceed 2000 RPM.

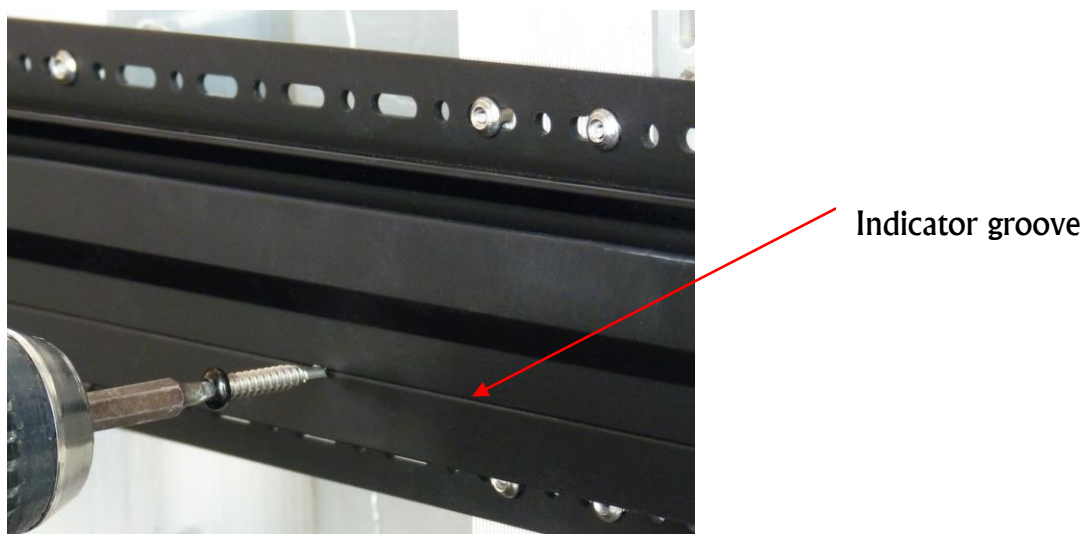


Mains powered drill driver or impact driver drills should not be used in order to install screws.

The horizontal rails of the system should be set-out to facilitate the tail-end of the panel strap having a minimum seating into the RS-BX-HV and RS-BX-BT profiles of 5mm.



The top portion of the panel straps is provided with a pre-drilled aperture in order to assist with installation of the RS-SSC3A screws. This aperture should coincide with the visual alignment/indicator groove provided in mating surface of the BX rail.



At the uppermost termination of an installation of facade panels, a horizontal RS-Z1-KS rail can be installed in lieu of the intermediate RS-BX-HV rail. The panel is secured to the RS-ZI-KS rail using the same procedure as that of the RS-BX-HV rail.

Facade panels must not be installed over structural movement joints within the background structure, these joints should be mirrored in the facade.

Facade panels must not span-over thermal movement breaks in the horizontal or vertical profiles or the SureClad support system. The facade engineer will design the system so that such joints are corresponding with the open joints of the facade system.

Panel removal – panels can be removed by unscrewing the two or more RS-SSC3A retaining screws. The panel will then be pulled forward at its top edge in order to release the lower tail clamping action and then lifted clear.

When installing the panel the procedure will be reversed and the panel re-secured with new screws.

Cleaning and Maintenance

Ceramic granite facade panels are generally self-cleaning. Where necessary, a non-soapy detergent should be applied to remove any surface contamination which may be present. Copious amounts of clean water is required to rinse and remove any emulsified dirt.

For any solvent based graffiti removal or other persistent stains, a specialist cleaning material may be required and further advice sought from the supplier detailing the type of stain and the colour and surface finish of the panel – i.e. natural, polished, honed.

Visual checks should be carried out periodically to ensure that ventilation and drainage pathways remain clear.

Means of access enabling all parts of the facade to be safely reached for the purpose of cleaning, inspection and maintenance should be considered and established at the design stage.

The access system must comply with all relevant British Standards and any statutory obligations within the Health and Safety at Work Act and the CDM regulations.

The facade should be inspected at regular intervals and the installer, in consultation with the main contractor, should be invited to suggest methods and procedures to be utilised.

Should it be found that a facade panel requires replacement following accidental damage, the methodology for replacement is set out in our SureClad system data sheet - CDAT72 Access system.

It is recommended that an appropriate quantity of spare, un-fabricated panels from the same shade/batch as the original order are set aside and supplied by the installer to the client upon completion of the works. These panels to be held by the building's owner to cover any maintenance requirement.