

Installation Instructions

NaturAL-X Rainscreen

Warranty

Note: All fixings should be stainless steel and supplied/approved by Ash & Lacy Solutions Systems in order to validate the product guarantee.

Fixing Checklist

Wall Bracket to Structure	Qty: _____ No. Type: _____
Mullion to Wall Bracket	Qty: _____ No. Type: _____
Panel to Mullion	Qty: _____ No. Type: _____
Anti-Rattle Clips Present	YES: _____ NO: _____ N/A _____

- The **NaturAL-X** system is an external wall cladding with a base of generally solid extruded clay, crafted in the form of brickslips, which are supported by an aluminium brick rail fixed with stainless steel screws on a framing of aluminium sections. The sections are fastened to the structure via adjustable brackets.

A complementary insulation is usually positioned between the wall structure and the covering. This insulation, often with a breather membrane over it, is ventilated by the layer of air circulating between the insulation and the rear face of the panels.

The system is applicable on flat vertical substrates of masonry, concrete, steelwork, or timber and on new construction or renovation, sheer or containing openings.

The air layer shall be compartmented at the angle of adjacent facades and at vertical & horizontal positions as required by the designer. This partitioning, made of durable material (Z275 galvanised steel or aluminium sheet and appropriate fire stopping, for example), shall be clean all the way up the cladding cavity, so as to impede any air coming in from the sides.

The air layer shall be at least 50 mm thick. Make sure that this thickness is respected next to the horizontal joints.

- It is imperative that the fixing sub structure is plumb and true. If not, then the mullions must be adjusted and aligned to suit. The final brickslip positions/alignment is dependant on the accuracy of this operation. Before commencing cladding works check to ensure the provided primary supporting structure is within the required tolerances for the cladding supports ordered. The correct specification of fixings is stainless steel, either self-tapping or self-drilling/tapping, depending on substructure.

Note: The panels will follow any undulation in the support system and it is therefore essential that the support system is true for ease of installation and in order to achieve a flat and flush façade.

- The design and installation of the support framing is designed to be freely expandable.

The layout study of the support system shall take into account the wind forces. The maximum centres between mullions is determined either by a standard width of the panels including joints or by standard lengths. The spacing of the wall brackets, and the mullions shall be specified in such a way that the deflection of the mullions will be equal to or less than 1/200 of the span. A bracket shall mandatorily be placed at the location of the junctions with the horizontal cross members. Any cantilever of the mullions shall be limited to 250 mm. Adjustment of the support system is achieved by the provision of elongated holes.

In every case, an air layer shall be provided, minimum thickness 50 mm behind the panels.

End to end mullion connections shall be made, providing a spacing of 10 mm of expansion clearance by means of 'fish plating' utilising a mullion splice, incorporated on a single mullion with the aid of two drive screws.

- The mullions are fastened to the structure with the aid of wall brackets, either 'U' section or angles manufactured from mill finish aluminium. The wall brackets shall be sized according to the fixing of the façade insulation, and should allow for suitable adjustment clearance of at least 30 mm. Dissimilar metals and cementitious materials should be isolated

5. The mullion is an aluminium alloy extrusion (grade 6063 – T6) and is supplied in standard mill finish unless specified otherwise. The centres between the mullions is defined dependant on the permissible loads, corresponding to the deflections under NORMAL wind at the centre of the panels. This is determined by the project design team.
6. Commence at the bottom of the elevation and fix in the following sequence.

Installation of brick rails

- First install the starter rail at the location of the first brick course. The rail must be lined and levelled, then fixed back to the vertical mullion using a BM-ST19 screw at the recommended support centres.
- With the starter rail installed, align the bottom slot of the A&L gauge tool so that it marries with the starter rail at each end of the full rail length (generally approx. 3m).
- Two fixers and two gauge rails are required at this stage, one positioned at each end of the length of rail.
- Next, use slot 21 of the gauge tool (top slot) 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 an BM-ST19 screw. The A&L gauge tool features pre-punched holes, so the fixings can be installed through the body of the A&L gauge tool and into the rail, whilst the rail is retained in position.
- Once the first 2 rails are installed, keep the A&L gauge tool held in position and slide any remaining intermediate rails into position. If you are using the full length of the gauge, there will be 19 intermediate rails between. The gauge tool will ensure that these rails are automatically spaced at 75mm increments vertically.
- Once in position, fix all the intermediate rails at each of their ends, using the pre-punched holes in the gauge to position, using BM-ST19 fixings as previous.
- Using a third gauge tool, slide this along the intermediate rails (left to right, or right to left) to straighten any bowing/flexing between the fixed centres, installing BM-ST19 fixings through the gauge at every support centre (generally 600mm) as you go.
- After every 21 rails, check level of topmost rail and repeat process, locating the bottom slot of the A&L gauge tool to the topmost rail.

NaturAL-X Bricks

Flat wall areas

- Once rails are installed, bricks can be fitted in any order consecutively (top-down, bottom-up, left-right, right-left), leaving access for retrofitting of services or similar.
- Bricks are installed between rails by slotting the top profile of the brick into the underside of the brick rail above it, tilted at a 45deg angle and then pushed flat
- Next, locate the lower rear profile of the brick onto the topside of the intermediate or starter rail directly below it, and lower or tap down into a level position. The brick should now be secured between the rails immediately above and below it.
- Repeat the process for remaining bricks, installing the next brick adjacent to the first, ensuring that the rebated vertical joint profile abuts with the adjacent brick.
- 10mm wide horizontal (bed) and vertical (perp_ mortar joints are automatically created by the profile of the profiled design of the bricks, there is no need to use a spacer tool, or to measure the joints sizes in either location
- To remove a brick after fitting, lift it upwards approx 5mm so that the bottom profile disengages with the rail beneath, tilt the bottom edge outwards to approx. 45deg and remove

Note: Movement joints should be incorporated in the façade at max. 6m centres.

7. Once the brickslip installation is complete, the joints are to be pointed by a specialist contractor using Parex Historic Mortar or similar approved brickslip mortar.
8. The standard vertical and horizontal joint is 10mm.
9. The brickslips are located and interlocked with each other, ensuring that each slip is fully located with even joint widths.
Complete tiers/runs of panels are fixed along to the end of the elevation.
10. In high wind load areas such as at corners/parapets it may be necessary to fit additional fixing cleats. Check with engineer for this particular arrangement.
11. Openings for ventilating the air layer are to be provided at the lower and upper part of the cladding.
At the foot of the cladding, the opening is protected by a starter panel, fine mesh or perforated sheet metal. This acts as an anti-rodent barrier. An opening of about 20 mm is left for air circulation

At the top of the cladding, the opening consists of a space of about 20 mm on the inside of the parapet between the downward extension of the coping and the parapet.
12. Brickslips around openings may require special treatment; please check detail drawings. Any flashings and extrusions may have a requirement for drainage holes. If this is so, please ensure that this is made clear.

If there are any queries with the fixing of the panels and panel supports, they must be checked with the panel layout and detail drawings first, and then raised with Ash & Lacy Solutions Ltd. before commencing installation.

End of Procedure