

CERTUS™ Modular Brick Façade System



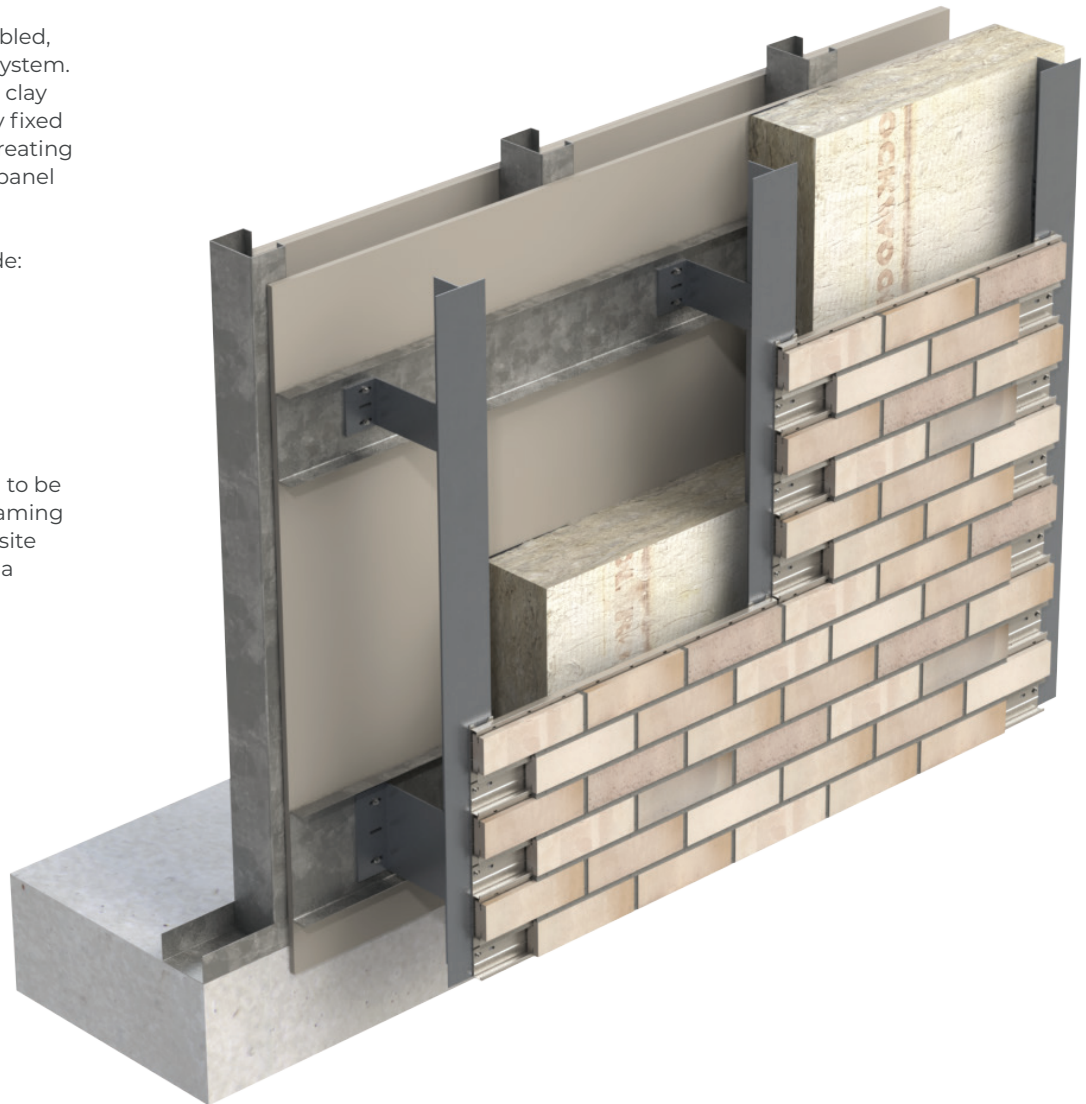
Product summary

ACS CERTUS™ is a pre-assembled, modular brick slip cladding system. Brick slips cut from standard clay facing units are mechanically fixed into a stainless steel carrier creating standard factory assembled panel modules.

The standard modules include:

- Facing Units
- Corners
- Reveals
- Soffits
- Special Details

The panel units are designed to be fixed back to a rain screen framing system and then pointed on site to create the look and feel of a traditional brick façade.



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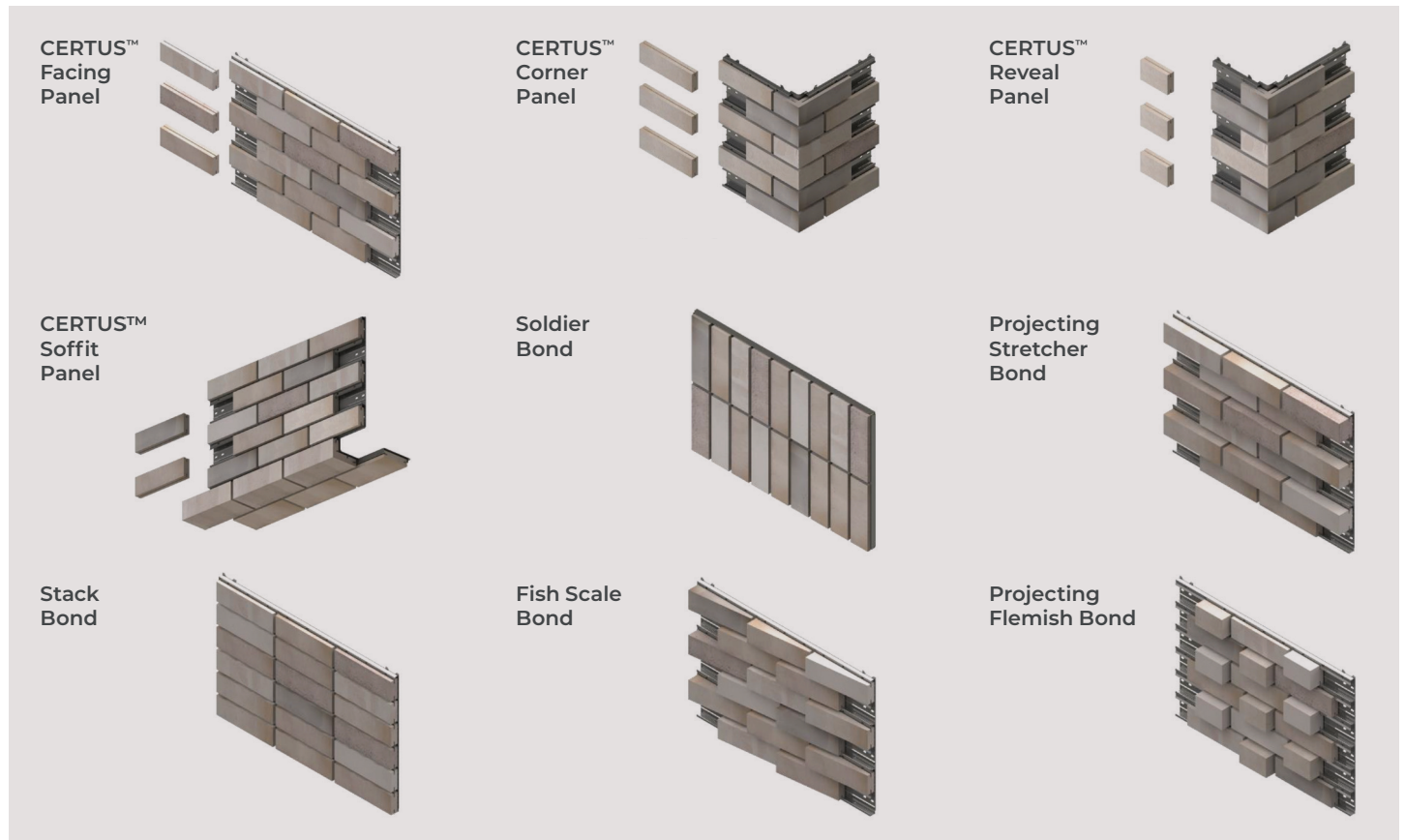


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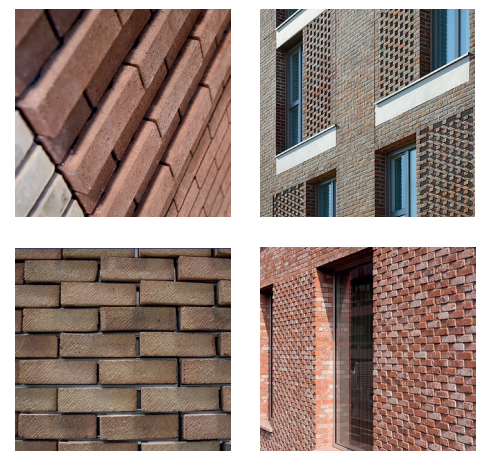


Bonds and Patterns

Through the combination of brick cutting and carrier design, various bond patterns and brick features are possible with the CERTUS™ System. These include:

- Stretcher Bond
- Soldier Bond
- Stack Bond
- English Bond
- Flemish Bond
- Saw Tooth Bond
- Stepped Headers & Stretchers

Feature panels are factory assembled and installed on site in the same way as the standard units, creating architectural brick details without the need for highly skilled bricklayers.

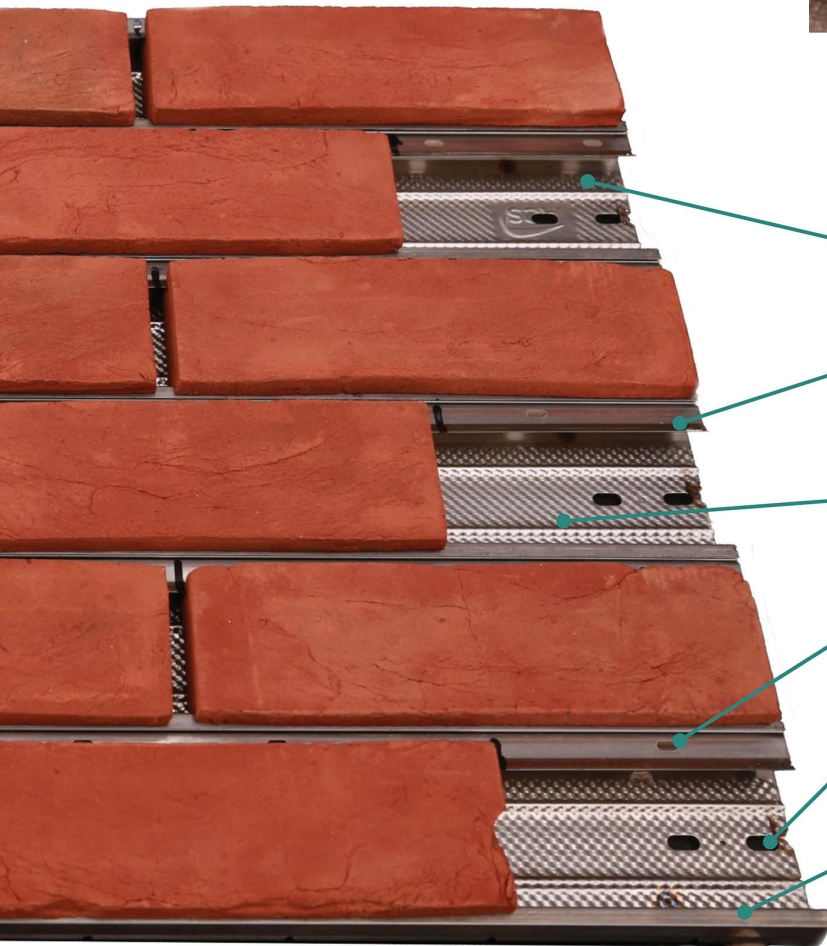
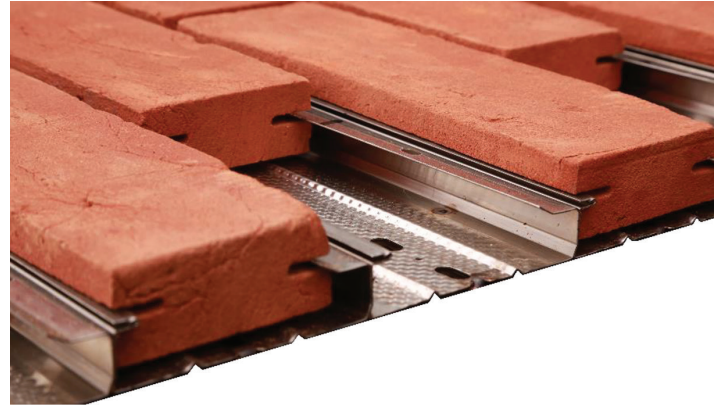


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CERTUS™ features

The CERTUS™ panels are designed and manufactured exclusively from stainless steel. The carrier is an assembly of CERTUS™ rails and jointing plate that is assembled into the carrier. The CERTUS™ rails have been designed specifically for use as brick slip rainscreen panel and integrate a range of unique design features that make the system the perfect solution for the application.



Stainless steel rail

Formed leg to accommodate tolerance & lock the slip into the chassis

Rigidised section to add strength & stiffness

Mortar Key Holes

Horizontal Fixing Slots

Rolled Leg to easily seat & restrain the slip

Locking tabs to aid installation allowing lateral tolerance and whilst keying the panels together

CERTUS Facing Panel with Michelmersh – Charnwood Dark Victorian Red Slips

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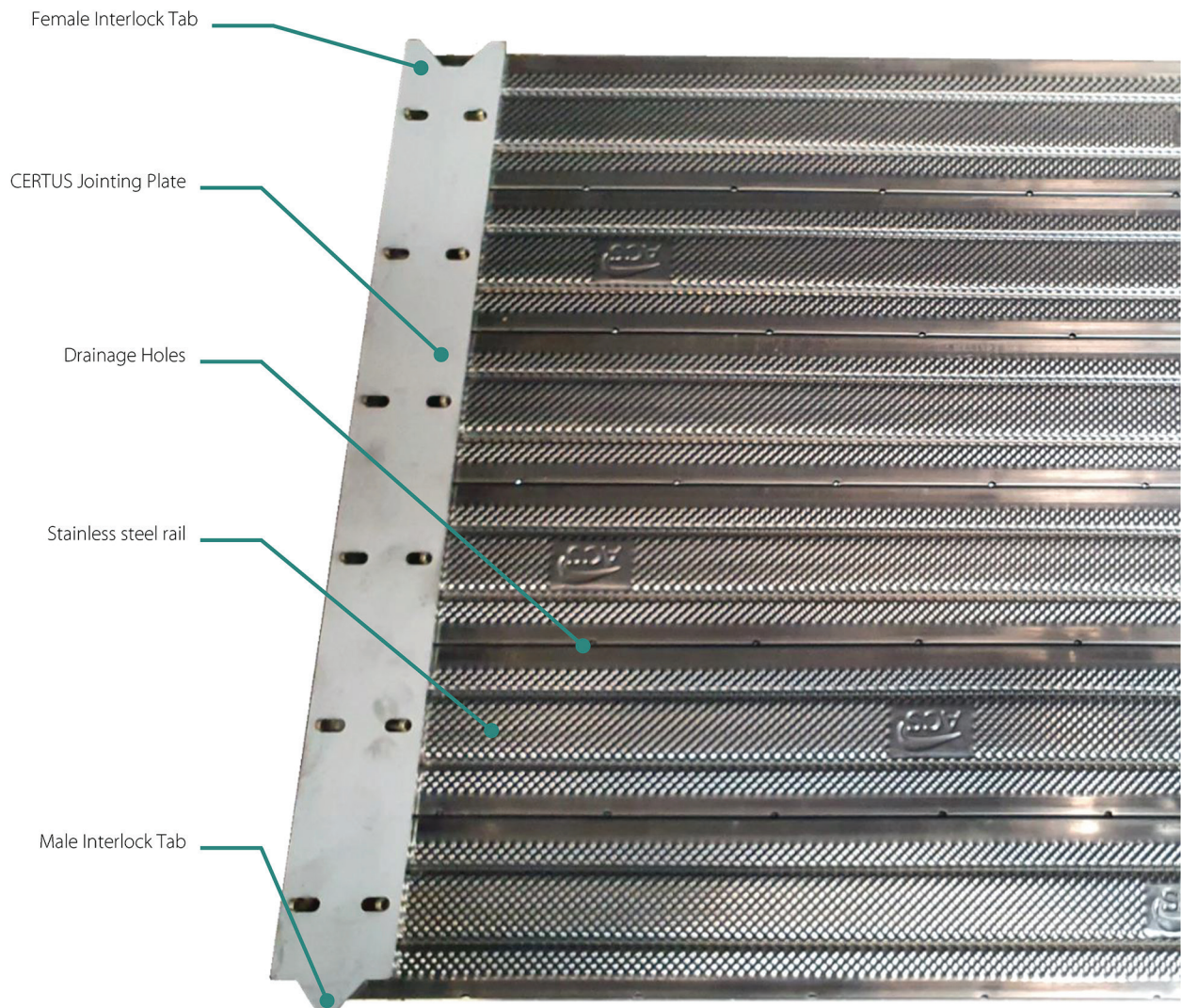
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The rear face of the panel has been specifically designed to provide additional functionality whilst accommodating the requirements of interfacing products critical for the safe and effective performance of the cavity construction. The rear face is flat, and the rails and panels interlock to ensure effective ventilation and provide a flat surface for cavity barriers/closers.



Rear Face of the ACS CERTUS Panel

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How it works...

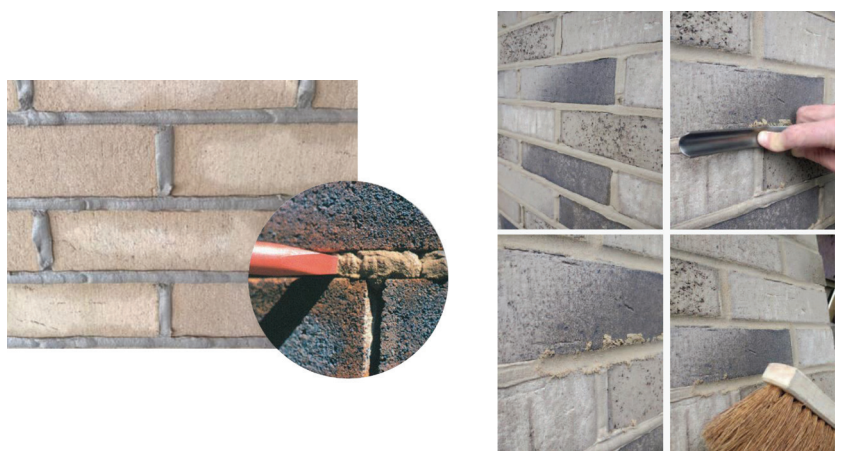
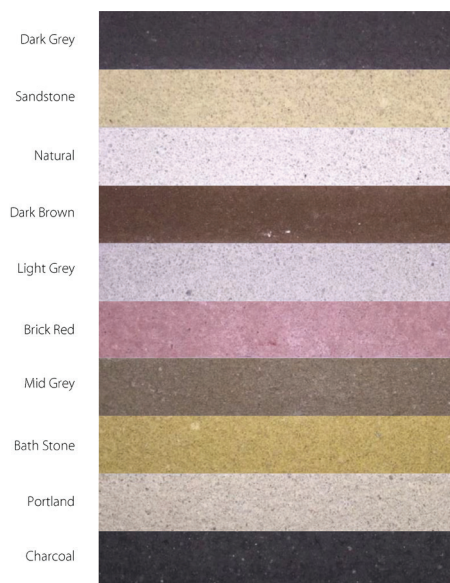
Installation

The CERTUS™ panels are supplied in brick coordinating sizes. For example, a standard facing panel is 3 courses wide (675mm) by 6 courses tall (450mm). Panels are set out and fixed to the aluminium rainscreen framing system using stainless steel selfdrilling & tapping screws through the pre-pierced horizontal slots located at the ends of each panel. Both the panel and the slips can be adjusted to ensure correct line/level and brick coursing and perp joint alignment is achieved.

Once the panels are installed, stitching slips are simply clipped into the carrier to conceal the fixing points ready to be pointed.

The CERTUS™ panels are then pointed using Parex Historic KL Mortar following the ACS installation guide. The mortar is available in a range of standard colours as illustrated below but can also be blended to suit project specific requirements upon request.

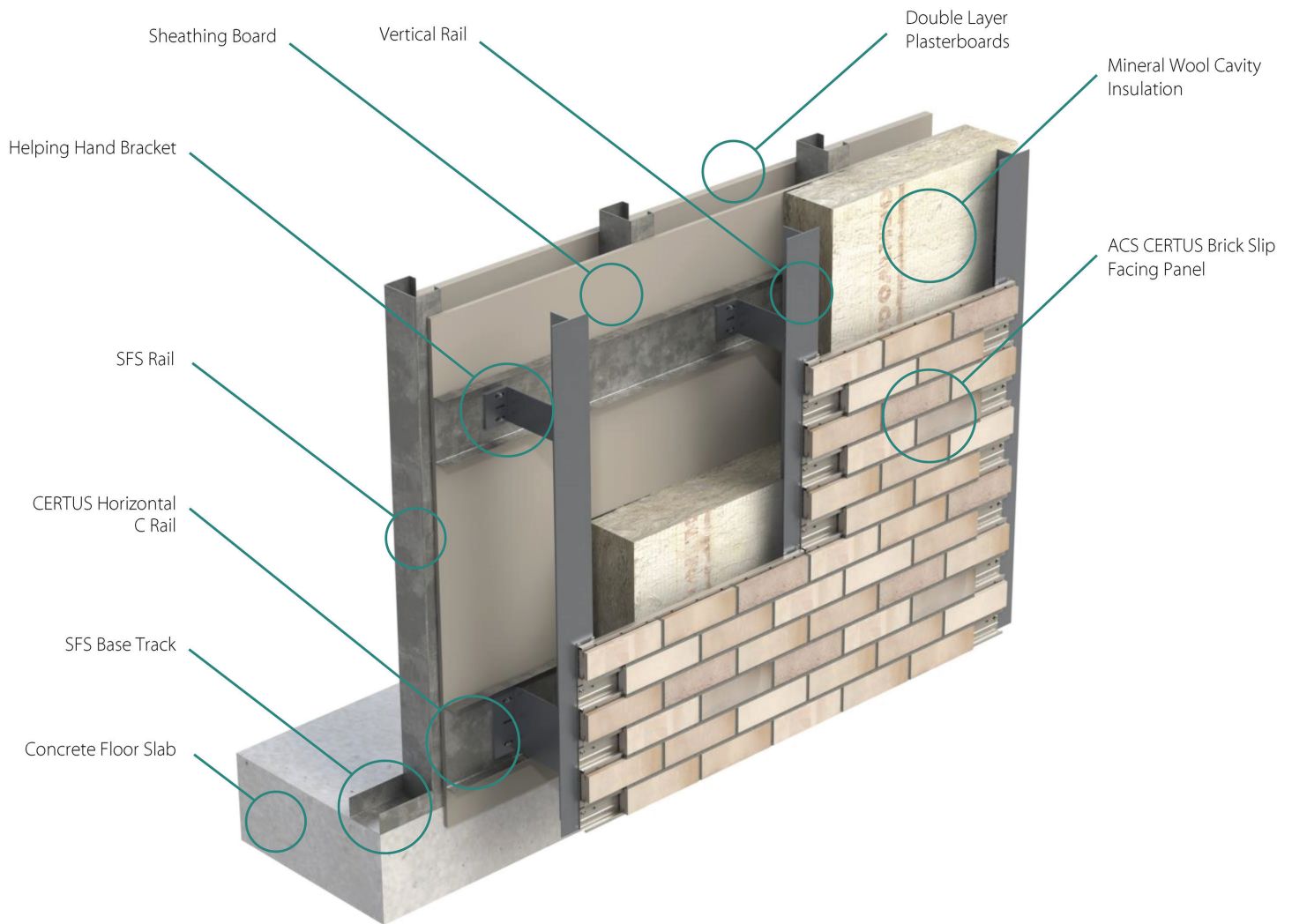
Standard colours



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Standard detail – SFS Framing System



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CERTUS™ Modular Brick Façade System



Design and detail

As part of the standard CERTUS™ Technical Service, ACS Façades will provide project specific detailed drawings for each elevation of the building.

These details include:

Panel Module Drawings

Individually referenced CERTUS™ panel drawings demonstrating the setting out of each panel on elevation for all module types.

Section Details

Section drawings will be produced to show specific interface details and cavity make up based on the design team's requirements.

CERTUS™ Rail Drawings

Elevation drawings showing the setting out of the CERTUS™ horizontal rails corresponding to the section details.

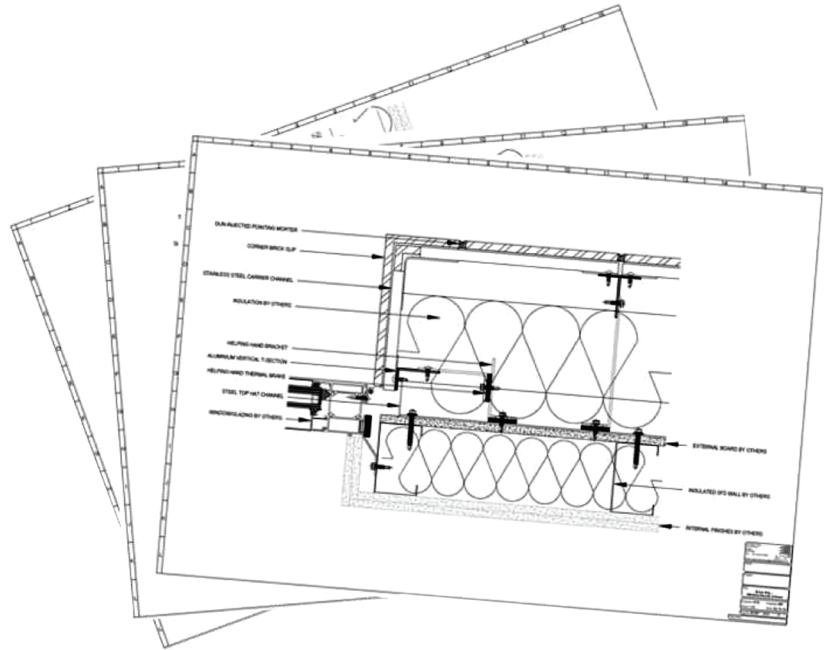
Rainscreen Frame Design

Elevation & section drawings showing the setting out, number and position of the helping hand brackets and vertical rails which correspond to the section details.

A wind load assessment is carried out for the project as part of the rainscreen frame design to EN 1991-1-4+UK NA Designs for both zones A and B are used in the calculation. Both the design inputs and resulting designs must be checked by the project design team against the specific project requirements to assess the suitability of the resulting design.

Standard Details

Standard layout and interface details are available for integration into design drawings showing standard configurations and interfaces for different junctions typically found in the façade.



Structural Performance

The CERTUS™ system has been tested to the CWCT Standards for rainscreen cladding. The design wind resistance of the system is 2.4kN/m² and it has an impact rating of Category B, which means it is suitable for use in areas readily accessible to the public or others with little incentive to exercise care and where there is a chance of accidents occurring or misuse.

The system has also been tested to ETA034 for hygrothermal accelerated cyclic weather performance providing a design life in excess of 60 years.

Bricks should be selected with a CE DoP to EN 771 and a minimum durability rating of F2. Most bricks are suitable for use with the system, however, ACS can offer design teams/clients small scale tests prior to commencing a project to validate the use of a specific brick type with the CERTUS™ system.

Design Documentation

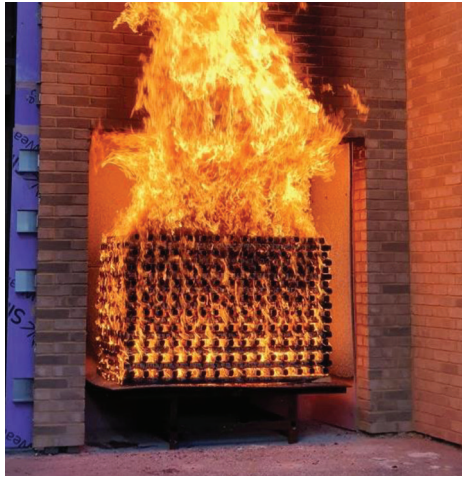
AS part of the design documentation, a full package of detailed drawings, calculations and certificates/ approvals will be submitted during the design and approval process. The submittal package provides sufficient information to the design team for comments and/ or approval. These drawings and details also provide the required level of detail for the installation team to construct the system on site. Installation instructions are also available to assist install teams and allow quality checks to be made by the main contractor as required.

Further information including RIBA NBS specifications and CAD details are available to download or can be issued by ACS Façades to assist in the design and specification of the product.

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Testing



Fire testing

All constituent components of the CERTUS™ system are classified as A1 non-combustible to BS EN 13501.

The CERTUS™ panel components include the stainless steel carriers, brick slips, pointing mortar and fixings. The framing system is also designed and supplied in exclusively class A1 materials and are therefore the system is not subject to any restriction on building height or proximity to boundaries when used on a substrate and with components that satisfy the non-combustibility requirement of materials in the relevant national Building Regulations.

An 8414 test was carried out to demonstrate the fire performance characteristics of the CERTUS™ System in a large scale construction including typical junctions and cavity construction. The system passed the test with minimal deterioration to any of panels or products within the cavity construction.

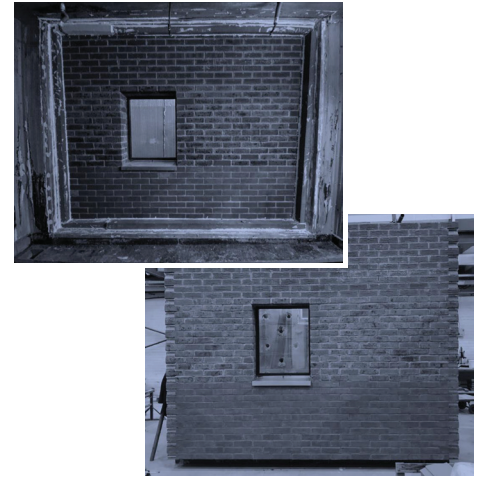


CWCT

The CERTUS™ system has been tested to the CWCT Standard for systemised building envelopes as a rainscreen façade system. The tests carried out during the test sequence from chapter 4 of the CWCT standards are as follows:

- Static Water Penetration
- Dynamic Water Penetration
- Aero Engine
- Repeat Static Water Penetration
- Water Penetration - Hose
- Wind Resistance I Serviceability
- Wind Resistance I Safety
- Impact Resistance
- Hard & Soft Body

The system passed all tests within the sequence. The CERTUS™ system has a design windload resistance of +; 2.4kN/m² and Category B impact resistance meaning it can be used in areas readily accessible to the public and others with little incentive to exercise care and where there is a chance of accidental damage and misuse.



Durability & Integrity

The durability and integrity of the CERTUS™ system was tested in accordance with:

- EAD 090062-00-0404
Heat/Rain I 70°C & Spray
Heat/Cold I 50°C to -20°C
- ETAG 017:2005 Saturated
Freeze/Thaw I -20°C
- ISO 7892:1988 Hard and Soft
Body Impact Testing

Bond (mechanical resistance) testing of the brick slips was then carried out after the exposure tests as detailed above. No deterioration or defects were recorded during the exposure tests and no damage or deterioration was recorded during the impact tests providing a Category I impact resistance. This means the system is suitable in zones readily accessible at ground level to the public vulnerable to hard body impacts. e.g. façade bases in public locations such as squares, schoolyards, or parks.

