



Planning and installation instructions

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1 General

The Stofix façade system is suitable for brick and tile facades. Stofix brick cladding is a combined structure of burnt brick, polymer-modified mortar and a pressed metal frame. Stofix brick panels are manufactured in standard sizes. The brick panels are measured and cut on site. Only corner elements need to be manufactured to size. Brick panels are suitable for both new buildings and reconstruction. Stofix brick panels allow for any number of colour combinations.

The Stofix mounting system has been developed for quick, smart and invisible mounting of various shapes of panel façade surface materials. The mounting system allows for thermal insulation and straightening of wall surfaces in both renovated buildings and new construction. Thanks to its modular character, the Stofix mounting system speeds up the construction project considerably.

2 Project Design

The following details should be considered in the project design:

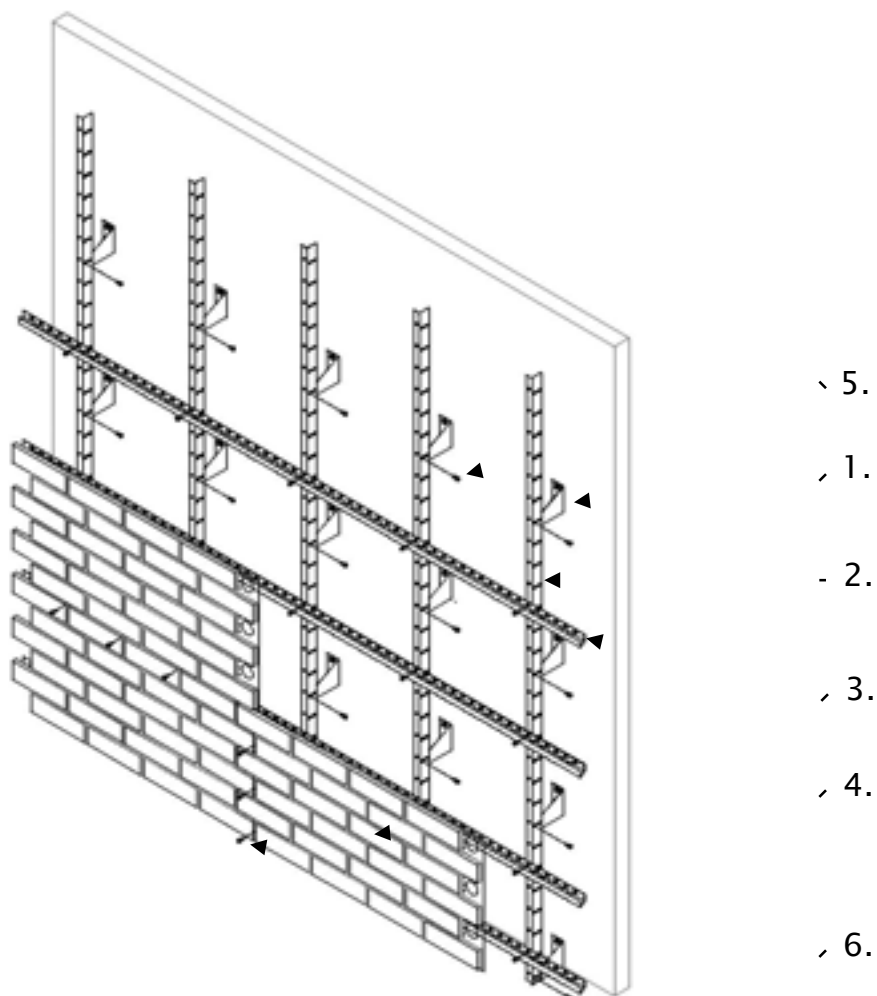
- The recommended distance between the lower end of the cladding and the ground is 500 mm.
- Cavities must not be blocked with plating or anything else.
- The minimum cutting width of a brick panel is 200 mm. When cutting the panel, the row of vertical joints next to the cutting line should remain intact.
- Panels of less than 500 mm with no lateral bonding must have supports at both top and lower ends.
- In shock-sensitive areas, such as near exterior doors, we recommend horizontal rails with 300 mm spacing.
- Light accessories, such as lamps, can be attached directly to brick panels following separate installation instructions.
- In the installation of heavier accessories, such as fire ladders attached directly to the frame, separate instructions must be followed.

A separate diagram defining the types and sizes of different elements is drawn up for each project. As corner panels and box elements are manufactured to size, the construction method of external corners and window frames (straight bricks/corner bricks) must be defined before drawing up the diagram. Straight panels have a standard size of 1200 mm × 600 mm and have to be cut to size on site.

2.1 Technical Specifications

Façade Surface	Burnt Brick	Ceramic Tile
Panel dimensions	Standard brick panel: 285x85x20 mm, Special size of brick can be used.	Depends on the project
Joints	Cement-based, polymer-modified mortar	
Elasticity of joint mortar	4 %	
Joint surface material	Micro-stone (crushed stone)	
Jointing temperature	>+5 °C, curing time 3 days	
Frame	Hot-dip galvanized, 275–350 g/m ²	
Surface area of Stofix panels	0.72 m ²	0,50–0,91 m ²
– Height	600 mm	500–700 mm
– Width	1200 mm	1000–1300 mm
– Thickness	21 mm	15–20 mm
Weight	About 40 kg / m ²	About 20–50 kg / m ²
Surface panel Bonds	Standard 1/2 brick, 1/3 brick, unbonded. Special bond can be used.	Standard 1/2 tile, 1/3 tile, unbonded. Special bond can be used.
Thermal expansion	0,5 mm / m (from 20 °C to +50 °C)	
Minimum cavity	25 mm without insulation, 35 mm with insulation	
Expansion joints	At 7.5 m intervals when length / height exceeds 12m	
Additional insulation capacity	40–250 mm	
Wall brackets	Hot-dip galvanized, 275 g/m ² , thickness 2.0 mm	
Mounting rails	Hot-dip galvanized, 275–350 g/m ² , thickness 1.25 mm	

2.2 Exploded View

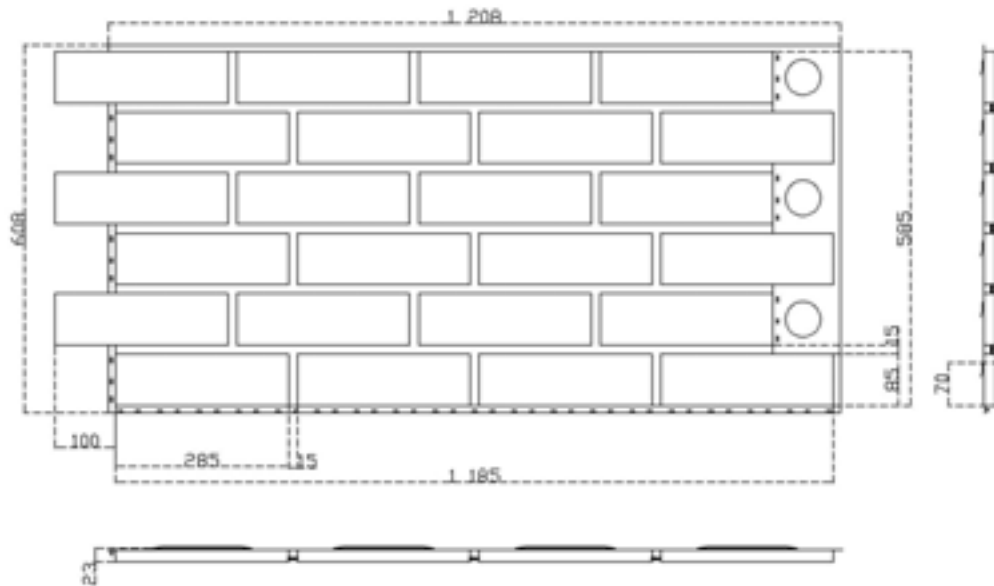


1. Wall brackets
2. Insulation rail
3. Mounting rail
4. Stofix brick panel
5. Hex socket screw
6. Self-drilling screws (for fixing the brick panels at joints before on-site sealing, six screws for each panel.)

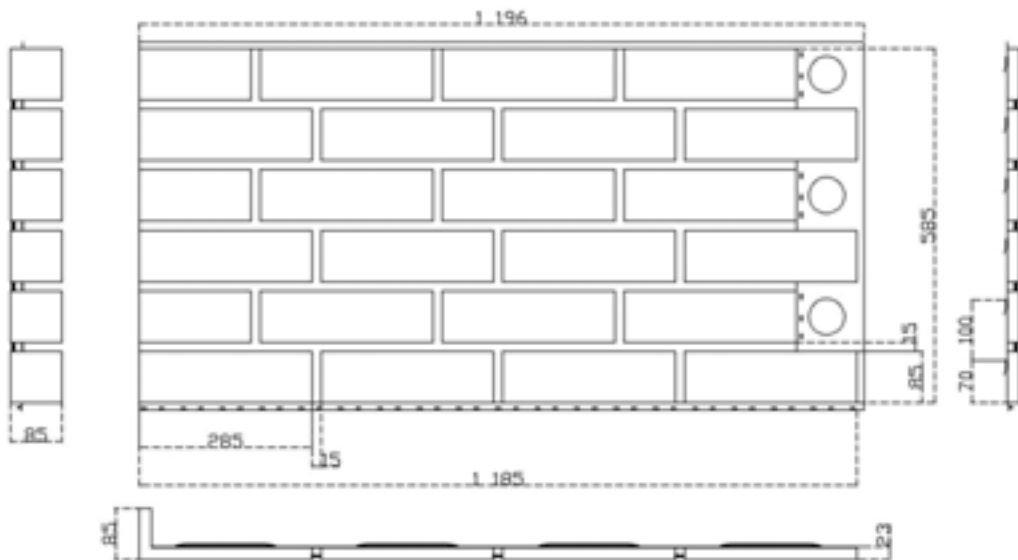
2.3 Dimension Diagrams

2.3.1 Stofix Brick Panel

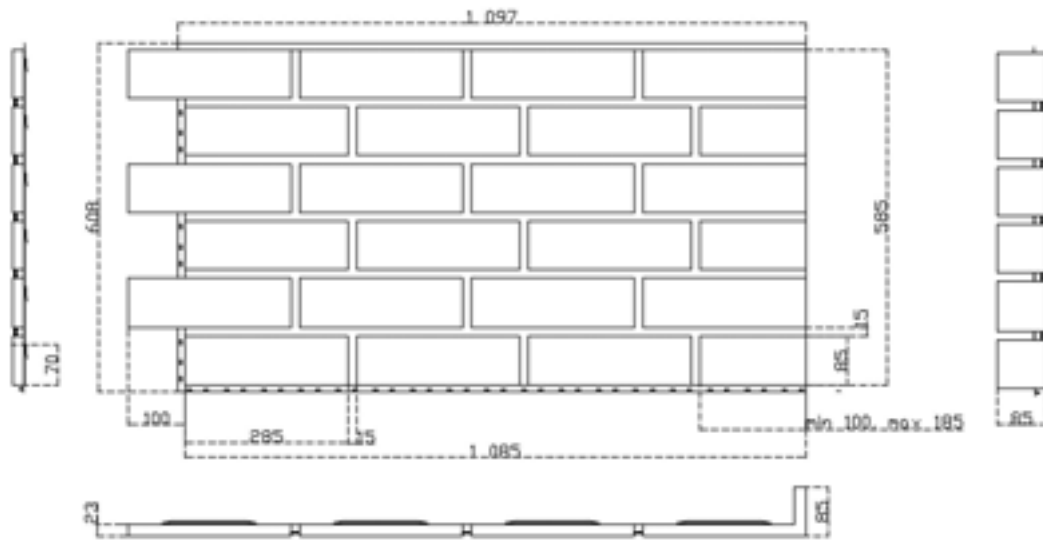
2.3.1.1 Straight Panel



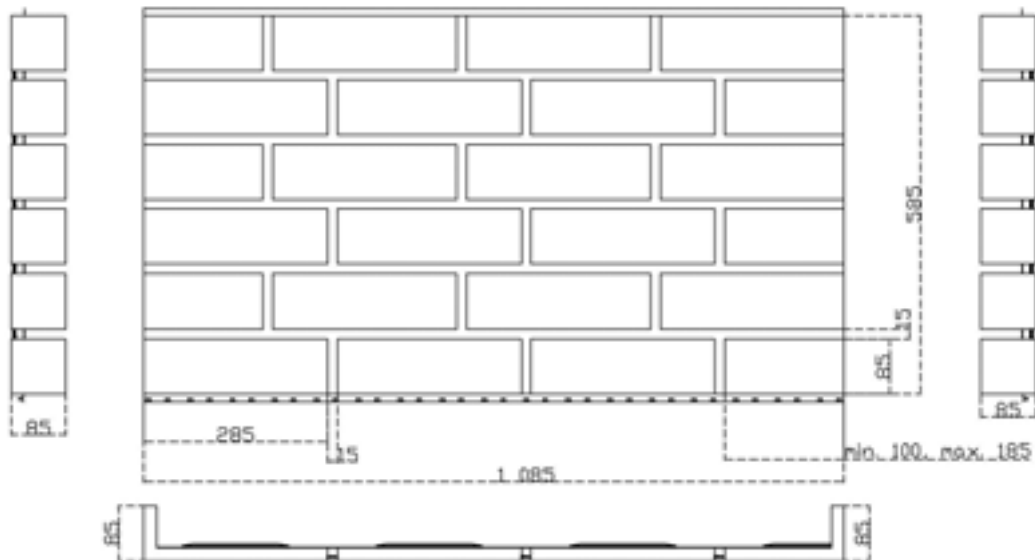
2.3.1.2 Left Corner Panel



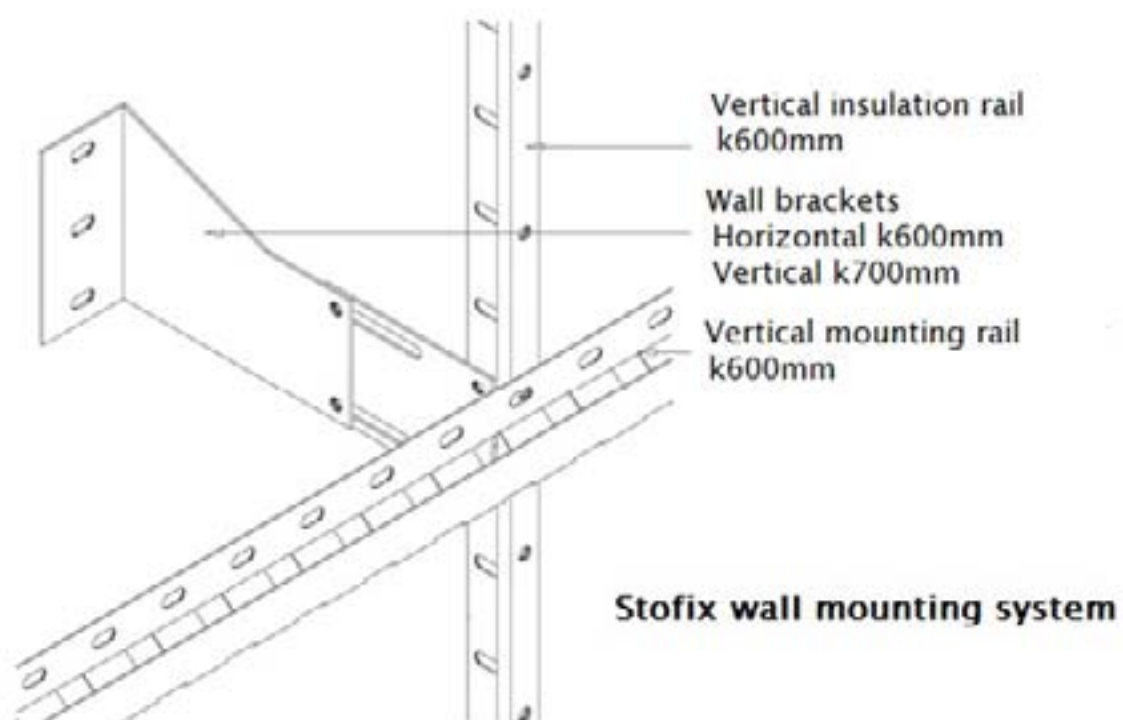
2.3.1.3 Right Corner Panel



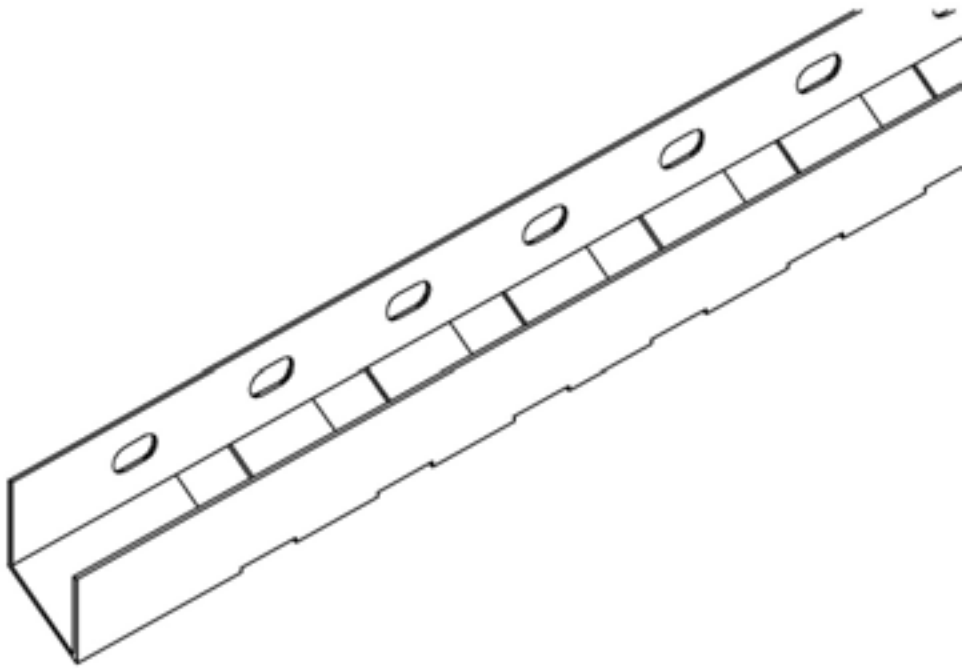
2.3.1.4 Box Element



2.4 Stofix Mounting System



2.4.1 Mounting Rail

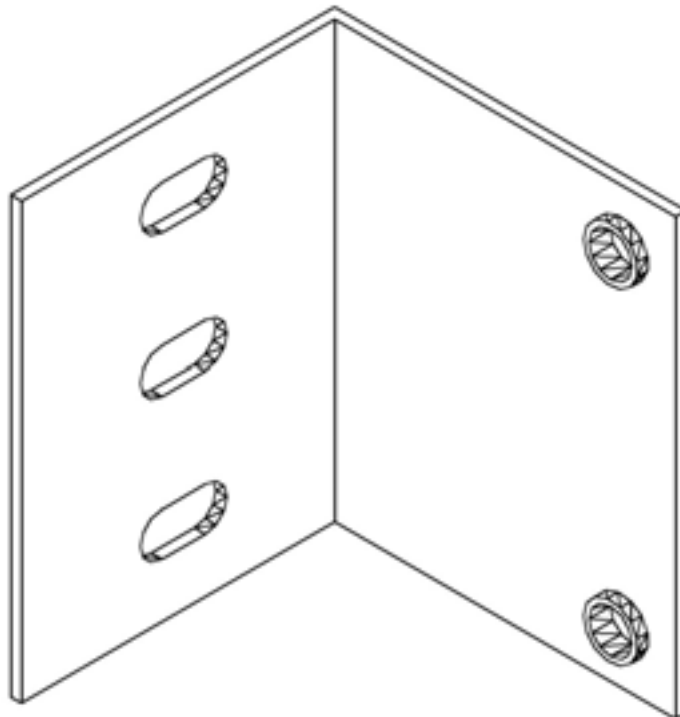


2.4.2 Insulation Rail

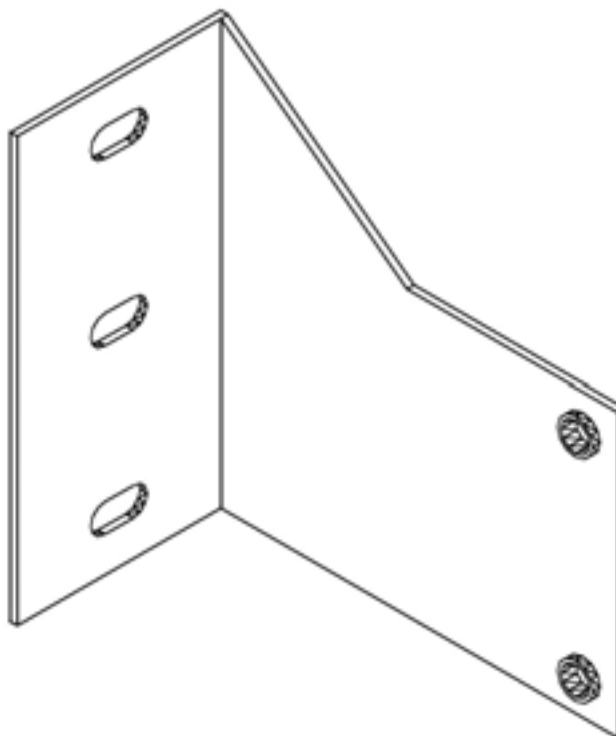


2.4.3 Mounting Brackets

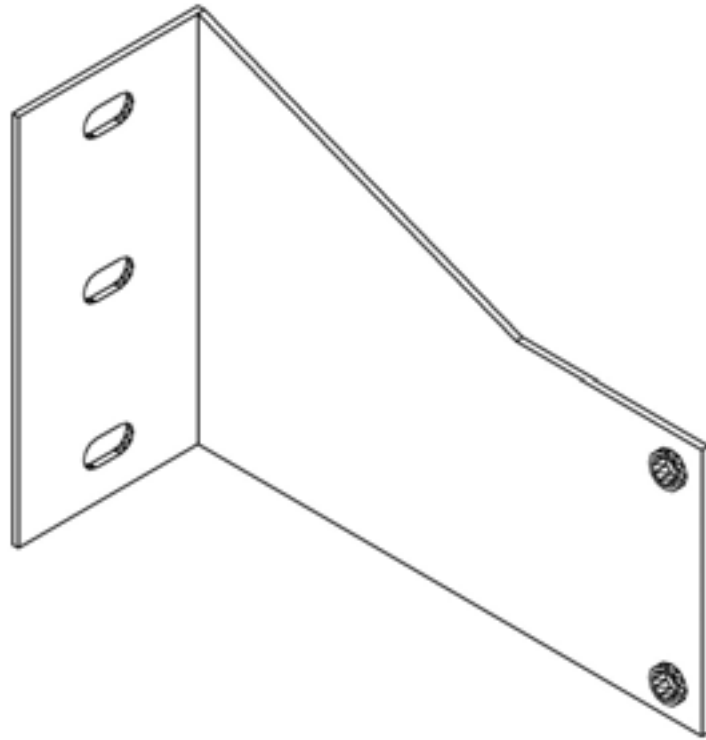
2.4.3.1 Wall Bracket 65 (SK 65)



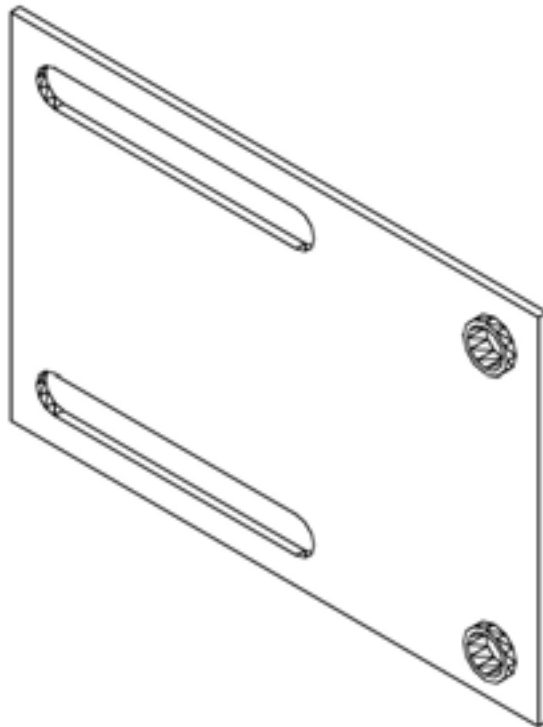
2.4.3.2 Wall Bracket 115 (SK 115)



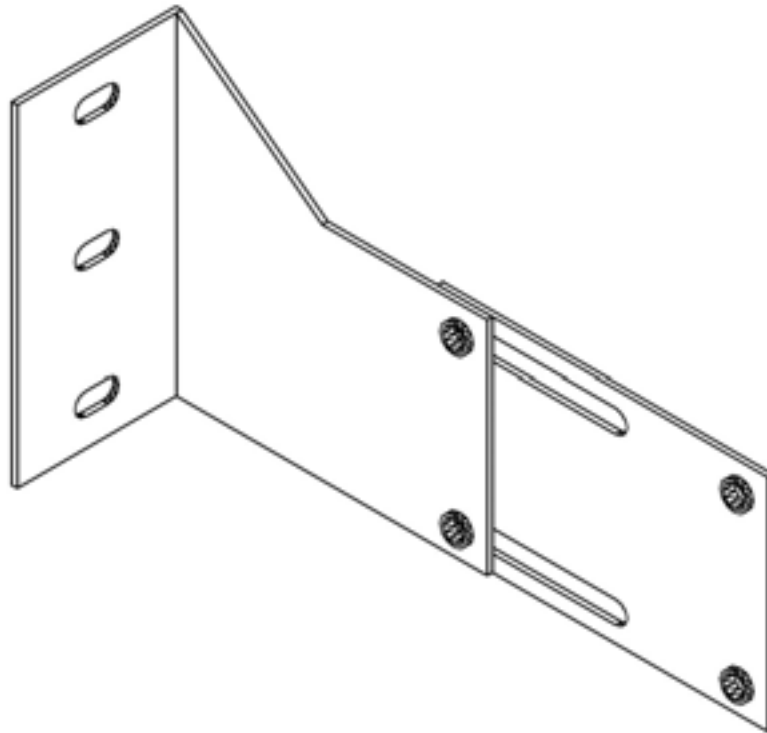
2.4.3.3 Mounting Bracket 165 (SK165)



2.4.3.4 Extension Bracket 120 (JK 120)



2.4.3.5 Wall Bracket + Extension Bracket



3 Installation

3.1 Preparation

Insulation panels and brick panels can be installed by using scaffolding or lifting equipment; always follow the applicable safety instructions.

Before you start, remove the following from the façade:

- Any equipment and accessories on the façade that will have to be reinstalled.
- Old drain pipes. Temporary spouts should be installed at the connections of the drainpipes of rain gutters.

External door and window lintels and windowsills should be removed and replaced with new ones.

3.2 Storage

Stofix brick panels are delivered on disposable pallets. The pallets are covered with plastic and tightened with a plastic strap. The pallets should be stored on a flat surface at an adequate distance from the constructed or renovated wall.

3.3 Installation of the Stofix Mounting System

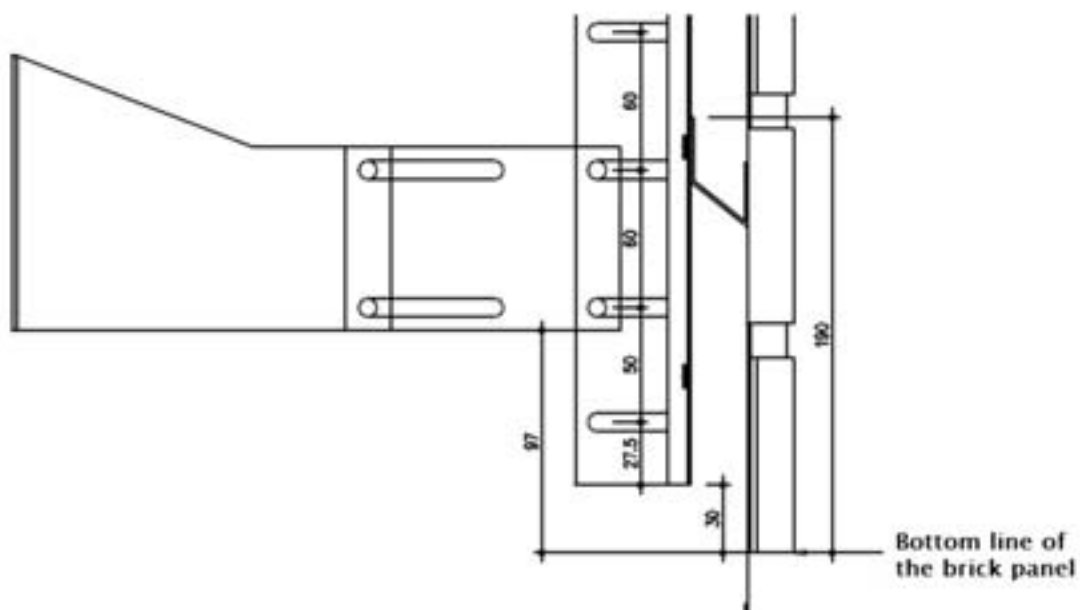
3.3.1 Bottom Plate

Install the bottom plate according to the instructions provided by the structural engineer.

3.3.2 Wall Brackets

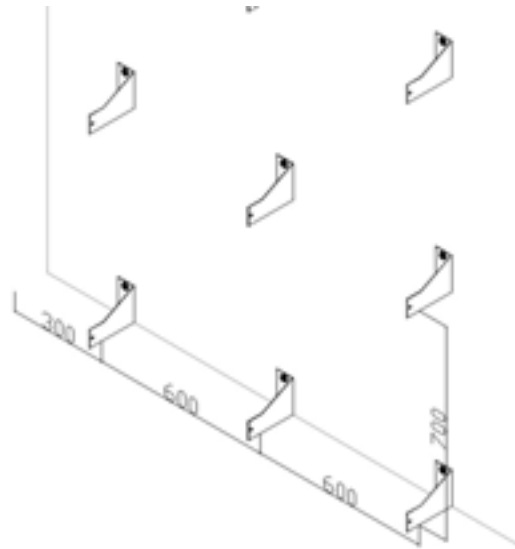
When installing the wall brackets, use a laser measuring device or a blumb-line to ensure that the wall brackets follow a straight line. Proceed from left to right and from bottom to top.

Install the lower edge of the first wall bracket as shown (97 mm above the desired bottom line of the brick panel.)



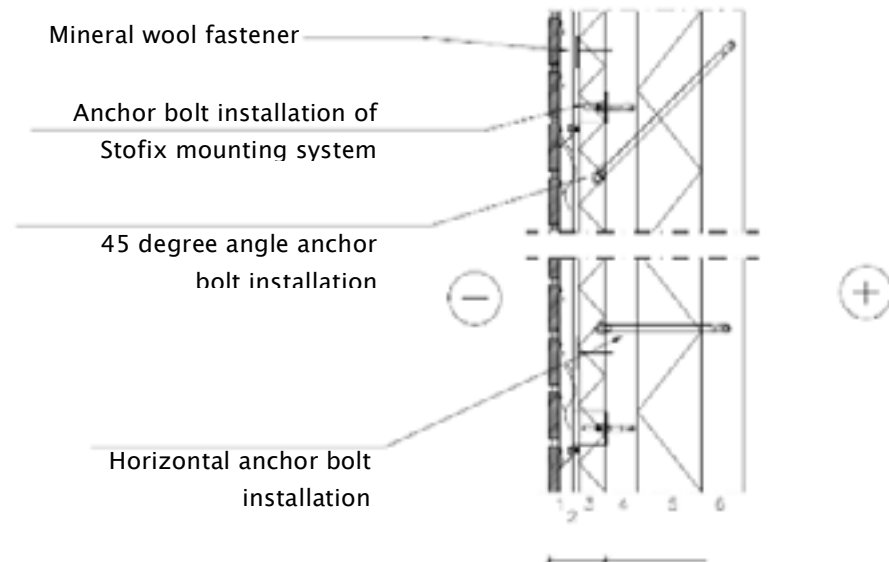
When starting from a corner the first wall bracket must be installed at a distance of about 300 mm from the future corner. Attach the next wall brackets horizontally with 600 mm spacing (this determines the horizontal straightness of the cladding).

The vertical spacing between brackets should be 700 mm. Here, an insulation rail is useful, as fixing the upper wall brackets straight to the insulation rail allows you to use the rail as a guide for installing the fixtures.



3.3.3 Ties to External Skin

Follow the instructions provided by the structural engineer when installing ties to the external skin. Below is an example of a project where the old external skin is covered with thermal insulation and Stofix brick panel cladding.



3.3.4 Installation and Adjustment of Insulation Rails

Attach the insulation rail to the fixtures with 8 mm hex socket screws. Adjust the rails and tighten the screws. Use a laser measuring device or a plumb-line in adjusting the rails.

3.3.5 Coupling Bracket

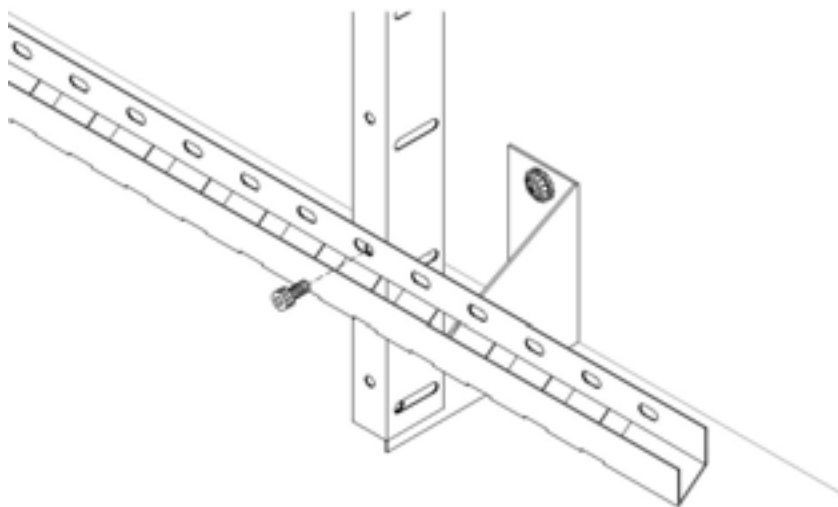
Coupling brackets are used for jointing vertical insulation rails. Coupling brackets replace wall brackets in junctions.

3.3.6 Insulation

Structural plans illustrate the type and thickness of thermal insulation layers. If the thickness of thermal insulation exceeds 50 mm, we recommend that the insulation in the bottom layer is installed horizontally and the top layer is installed vertically (overlapping of seams).

3.3.7 Installation of Mounting Rails

Attach the lowest mounting rail to the second holes from the bottom of the insulation rail with 8 mm hex socket screws.



From bottom to top, the first spacing between rails is 400 mm and the next ones 600 mm.

If the vertical dimension of a brick panel has to be trimmed (below windows and other critical places), the mounting rail should always be fixed according to the actual dimensions of the cut brick panel.

In overlaps and horizontal expansion joints, the brick panels have to be supported at both top and lower ends. Here, the mounting rail should be fixed on the bottom attachment flange of the brick panel. In this case, the first spacing between rails is 500 mm and the next ones 600 mm.

The spacing between attachment flanges at the back of brick panels is 100 mm. See also Expansion joints.

3.3.8 Cutting

Insulation and mounting rails can be cut with snips.

3.4 Installation of Stofix Brick Cladding

3.4.1 Installation of Mounting Rails for Cladding with No Insulation

When installing cladding with no insulation, install the top end of the mounting rail 190 mm above the desired cladding bottom line.



From bottom to top, the first spacing between rails is 400 mm and the next ones 600 mm.

If the vertical dimension of a brick panel has to be trimmed (below windows and other critical places), the mounting rail should always be fixed according to the actual dimensions of the cut brick panel.

In overlaps and horizontal expansion joints, the brick panels have to be supported at both top and lower ends. Here, the mounting rail should be fixed on the bottom attachment flange of the brick panel. In this case, the first spacing between rails is 500 mm and the next ones 600 mm.

The spacing between attachment flanges at the back of brick panels is 100 mm. See also Expansion joints.

3.4.2 Installation of Brick Panels

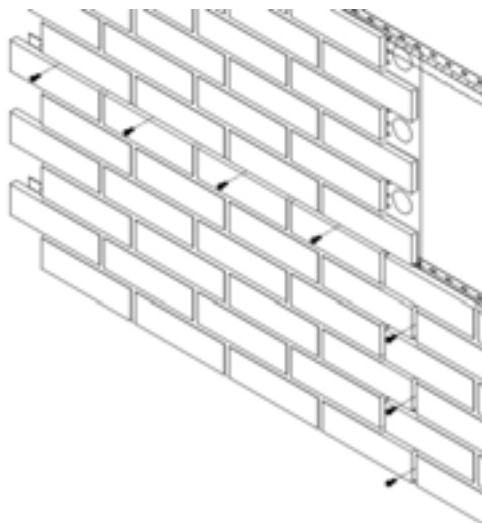
It should be ensured that the panel width at corners is at least 300 mm. Installation should be started at the bottom-left corner of the wall. When starting installation at a corner, cut off the unnecessary panel ends or use corner elements.

Lift the brick panels in the bottom row onto the mounting rail and ensure that the attachment flanges of the panel support the panel at both top and lower ends. This also applies to all overlaps and horizontal expansion joints, windows, doors, etc.

In the next row, the brick panels should be supported at their top ends.

3.4.3 Coupling the Panels

The brick panels are coupled with the supplied self-drilling screws. There are three screws for each vertical and horizontal joint.



3.4.4 Cutting

Brick panels are cut with a diamond wheel. The frame at the back of brick panels is cut with a steel cutting disc. Near windows and doors, the vertical or horizontal dimension of a brick panel can be trimmed as necessary.

- Trim the panel with the brick surface outward.
- Draw the outline of the piece to be cut onto the brick panel.
- Place the guide at the outline.
- Cut the panel with the help of the guide.

If a straight vertical joint is to be used in corners, the frame of the brick panel to be installed in line with the corner should be cut off at a distance of about 25 mm from the edge. In this case, start cutting from the back of the brick plate. Wear eye and ear protection when cutting the panels. Consider your own safety as well as that of your environment.

3.4.5 Grouting the Joints on Site

Mix the grout with a mixing whisk following the supplied instructions.

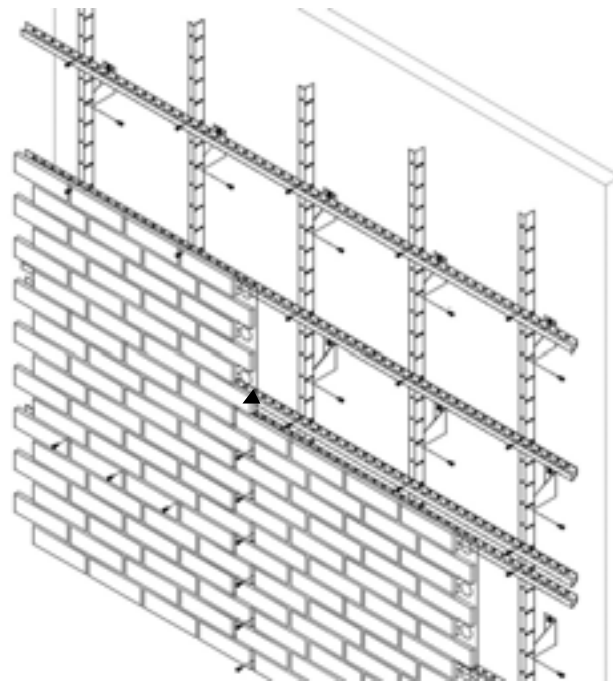
Mix with a mixing whisk for about two minutes, let the grout stand for about five minutes and continue mixing for about 30 seconds. Apply the grout with an extruder gun into the open joints between the panels so that the surface of the grout is 3–4 mm below the surface of the brick plate. Smooth the surface of the wet joint with a grout rake so that the surface is level to the factory joint. Apply the crushed stone on a wet surface at a distance of about 30 cm using as little pressure as possible.

3.4.6 Expansion Joints

The minimum spacing between expansion joints is 7.5 m if the height/width of the wall exceeds 12 m (in other words, a wall of 12 m × 12 m or less does not need expansion joints).

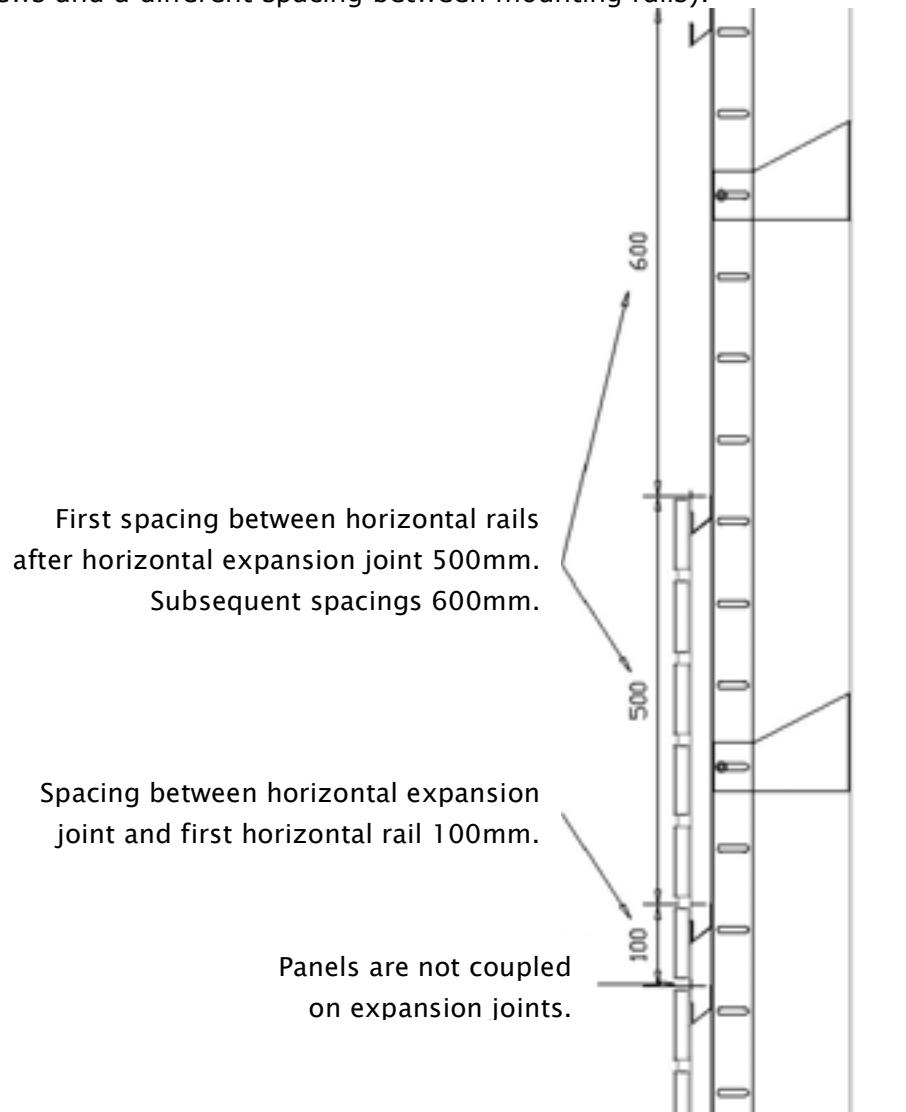
Press a strong 20 mm cellular rubber band into the bottom of the joint and apply the filling paste specified by the designer on top of the band. Finish the surface of the joint with a grout rake.

To make the expansion joint the same colour as other joints, it is also possible to apply the supplied crushed stone to the surface of the joint.



Horizontal expansion joint

The above figure illustrates a horizontal expansion joint (with no self-drilling screws and a different spacing between mounting rails).



The figure illustrates the spacing between horizontal rails after a horizontal expansion joint.

3.4.7 Flashings

Flashings should be installed with special care. For detailed installation instructions, see structural diagrams. Windowsills should be installed in the groove at the frame of the window.

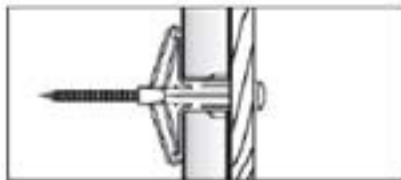
3.4.8 Finishing

Replace the lamps, plates, sensors, wiring and other accessories according to the installation instruction.

4 Instructions for Installing Hardware on Stofix Brick Panel Walls

4.1 Lightweight Structures

Lightweight structures of less than 10 kg, such as lamps, plates, sensors, wiring, etc., can be installed directly on the Stofix brick wall with metal anchors (Illustrated below).



4.2 Heavy Structures

Heavy fixed structures with a weight of more than 10 kg should be installed through the Stofix plates on the load-bearing frame or, in some cases, on the Stofix mounting system. In this case, the hole to be cut through the brick cladding should be large enough to allow potential movement of the structure without damaging the cladding (see illustration below).

