

KNAUFINSULATION

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Rocksilks® RainScreen Slabs

Partially filled masonry cavity installation guide

WHAT YOU NEED TO KNOW



* Excludes Rocksilks®
RainScreen Slab EE

Build on us.

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Safety considerations

STORAGE ON SITE

Rocksilk® RainScreen Slab 455 should be stored properly and handled in such a way as to ensure that the product remains clean and undamaged.

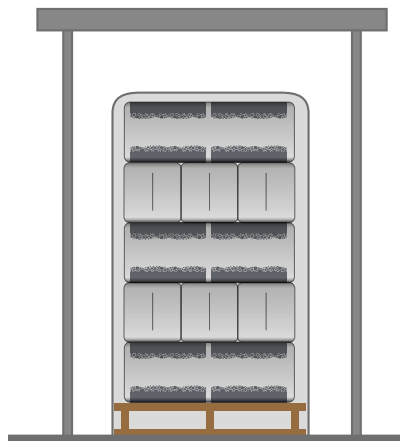
The shrink-wrapped pallets used for the supply of Rocksilk® RainScreen Slab 455 455 are designed for short-term protection only. For longer term protection on site, the products should either be stored indoors or under cover and off the ground. Rocksilk® RainScreen Slab 455 455 should not be left permanently exposed to the elements.

If the main hood is removed or damaged, the remaining packs should be kept under cover indoors or protected from the elements by a weatherproof cover. In coastal locations where weather is more extreme and bird damage is more common, use additional covering or store indoors.

The product must be protected from prolonged exposure to sunlight, and stored dry and flat.



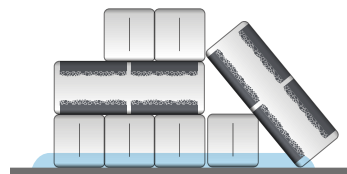
Slabs protected from weathering potential



HANDLING

Rocksilk® RainScreen Slab 455 is light and easy to handle; care should be exercised to avoid crushing their edges or corners. If damaged, the product should be discarded. Damaged, contaminated or wet products must not be used.

During construction exposed areas of slabs should always be covered at the end of a day's work or in heavy rain. Polyethylene covers should be used to provide protection and prevent work from becoming saturated.



Slabs exposed to the elements

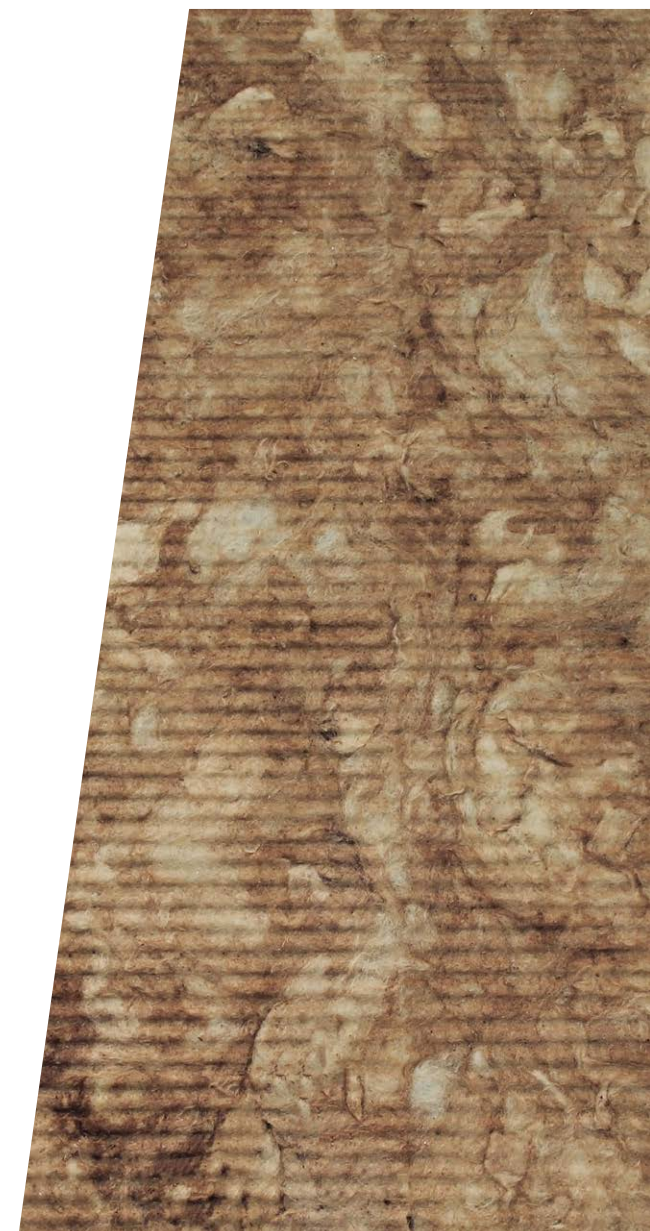
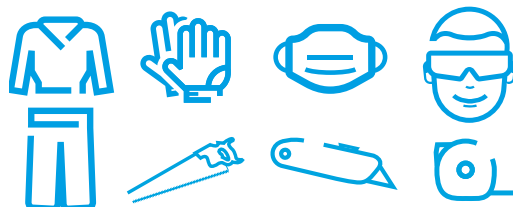
SAFETY EQUIPMENT AND TOOLS

It is recommended that the following Personal Protective Equipment should be used while handling the product:

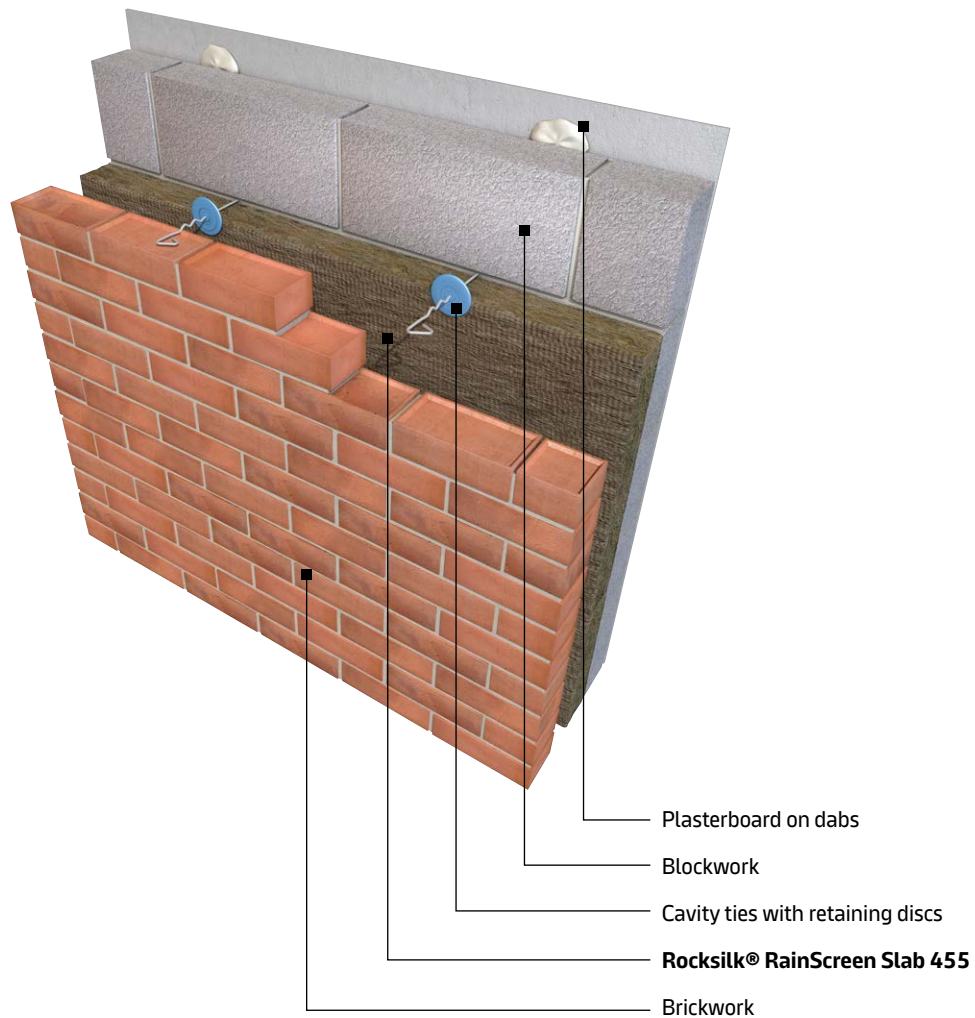
PPE: Dust mask (FFP1 minimum), gloves, safety glasses

Tools: Knife or fine-toothed saw, tape measure

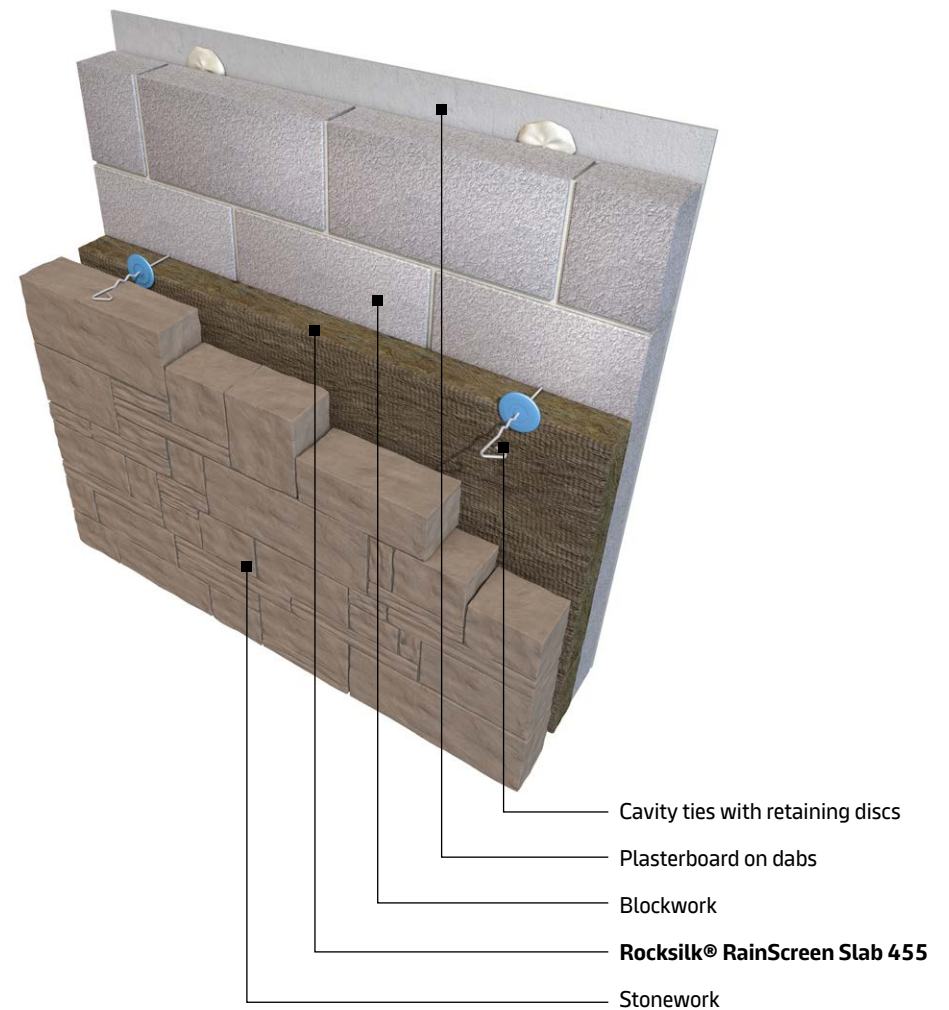
It is recommended that dust masks, gloves and long-sleeved clothing should be worn during cutting and handling of the product.



BLOCK AND BRICK CONSTRUCTION



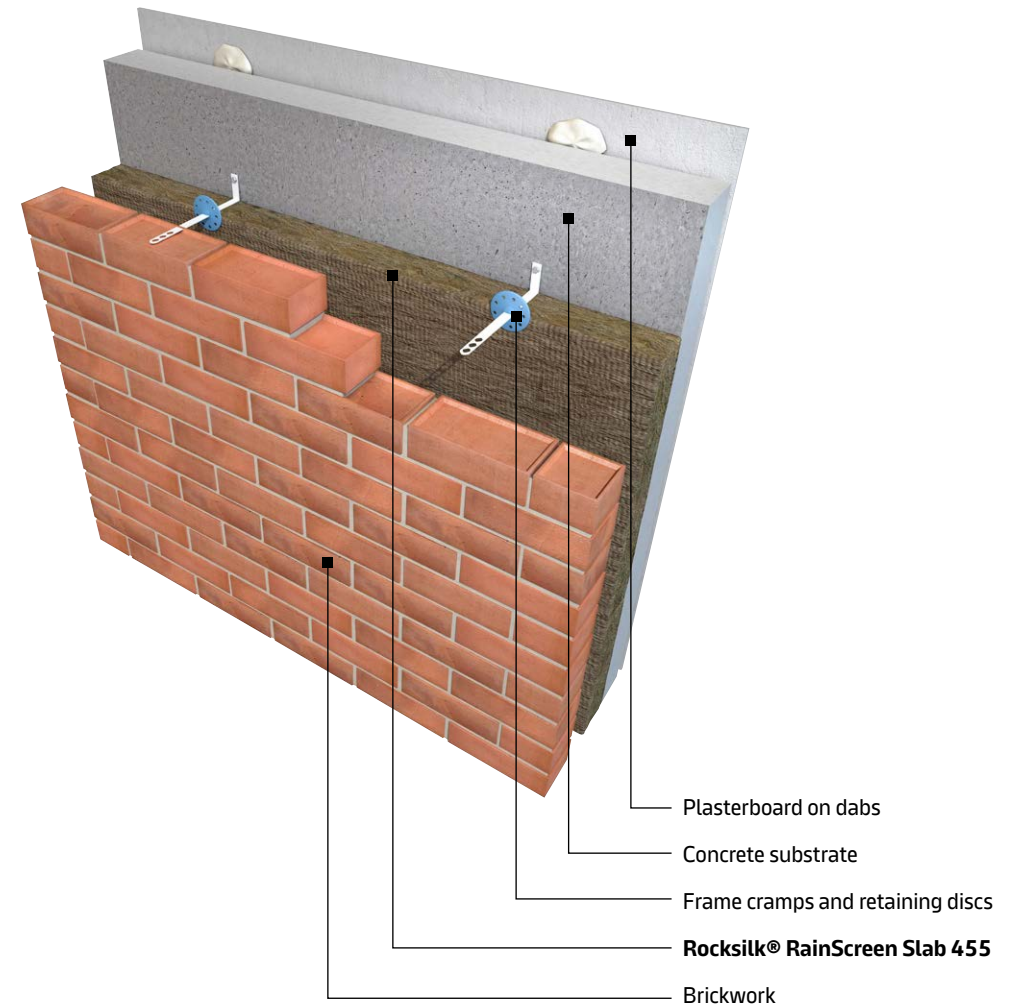
BLOCK AND NATURAL STONE CONSTRUCTION

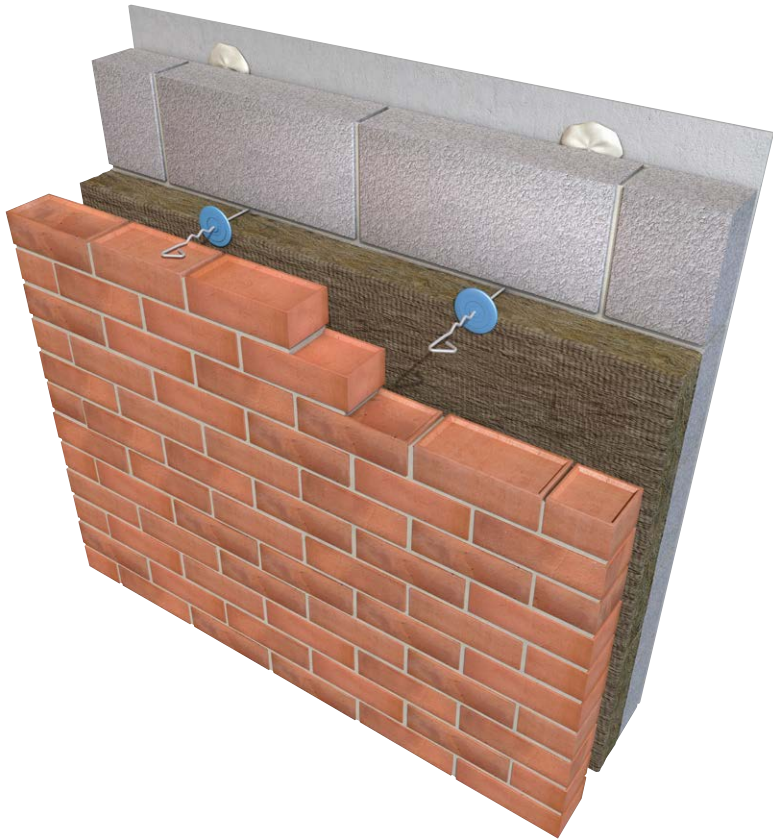


BLOCK AND BLOCK CONSTRUCTION



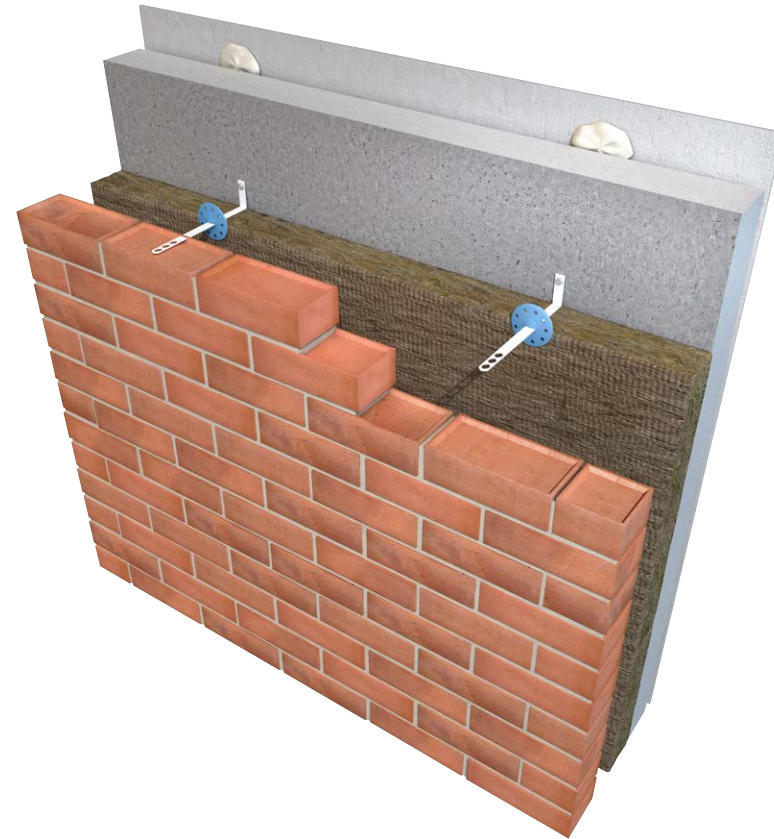
REINFORCED CONCRETE AND BRICK CONSTRUCTION





BLOCKWORK

When installing using a blockwork inner leaf, cavity ties and retaining discs / brick tie channels or frame cramps should be used.



REINFORCED CONCRETE

When installing using a reinforced concrete inner brick, tie channels or frame cramps should be used.

Pre-installation considerations

USING BRICK TIE CHANNELS / CAVITY TIES AND RETAINING DISCS / FRAME CRAMPS

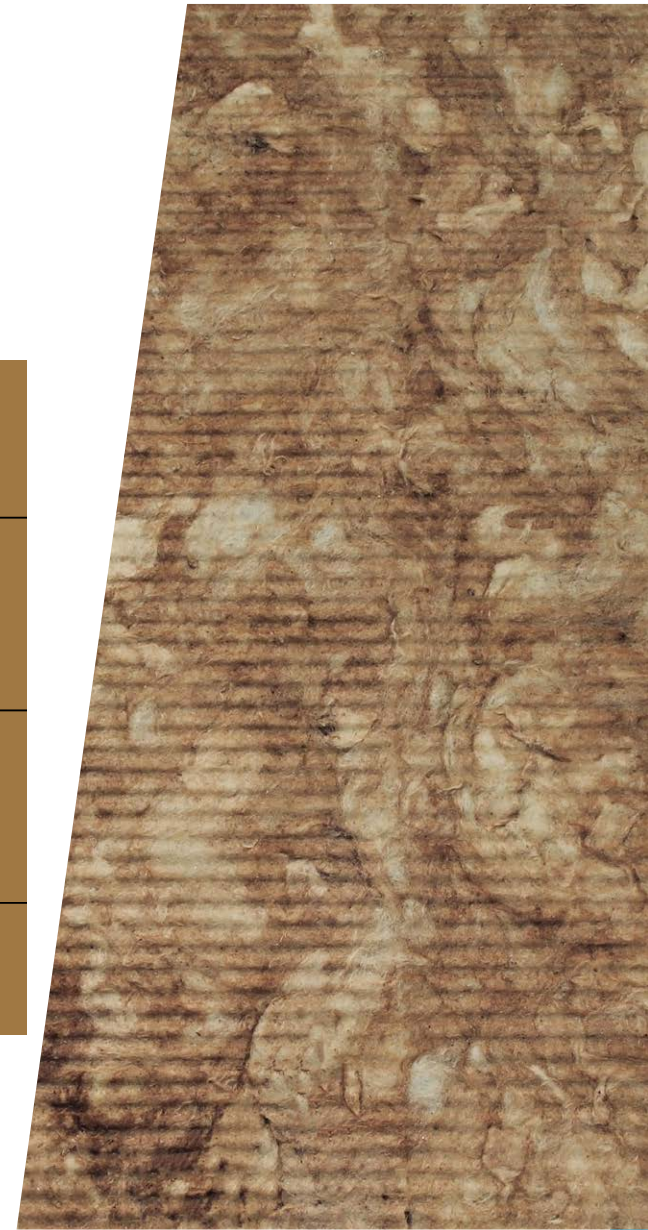
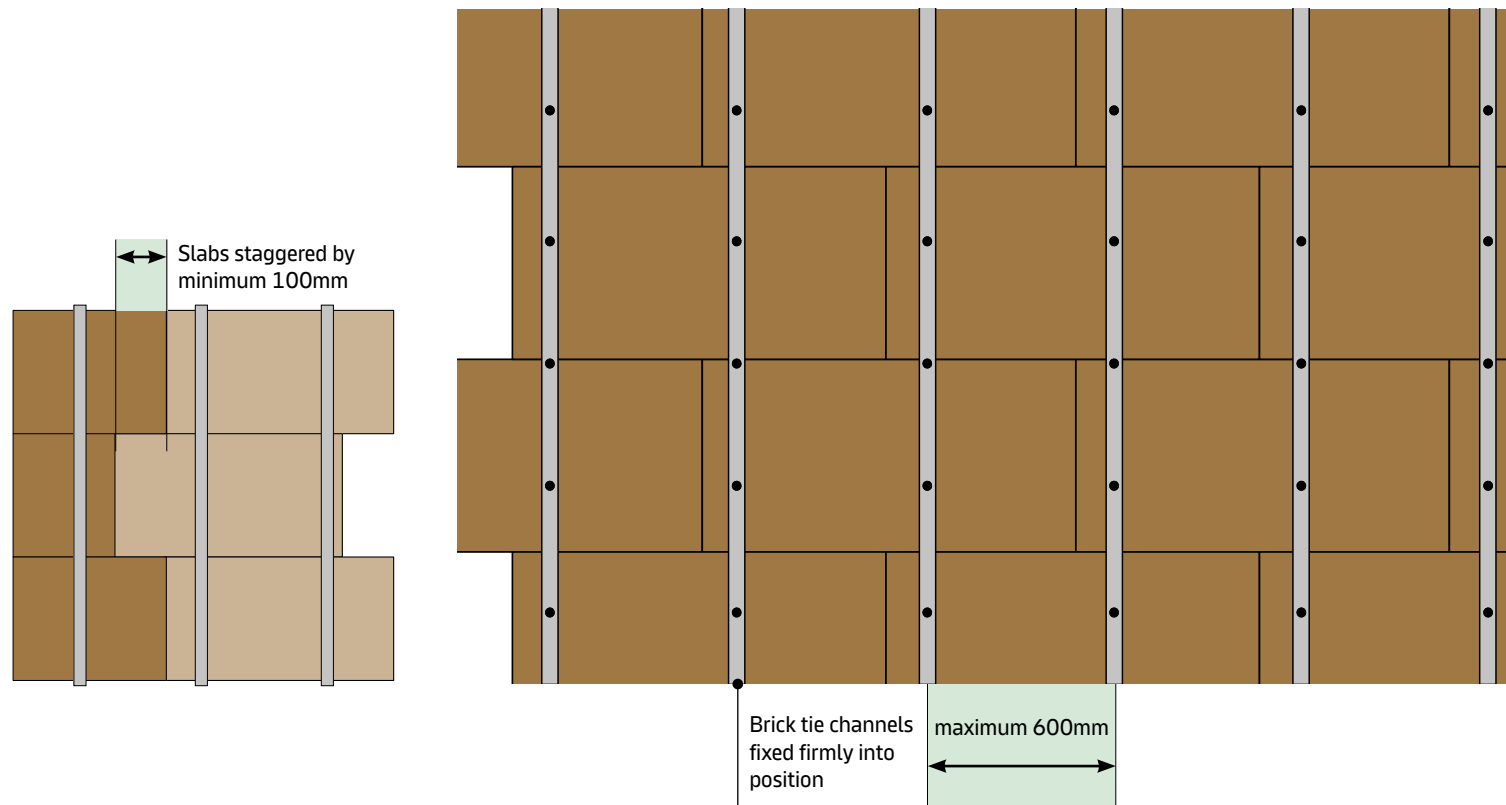
Slab Joints

Joints between slabs should be staggered by a minimum of 100mm and coincidental joints should be avoided.

Slabs should be installed in a landscape orientation.



To avoid gaps between slabs



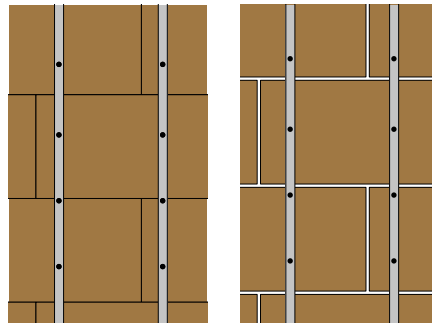
Pre-installation considerations

SLABS TO BE IN CONTACT WITH EACH OTHER

Installed in a landscape orientation such that they are tightly butted together at joints.



To avoid coincidental joints and maintain thermal and acoustic performance.

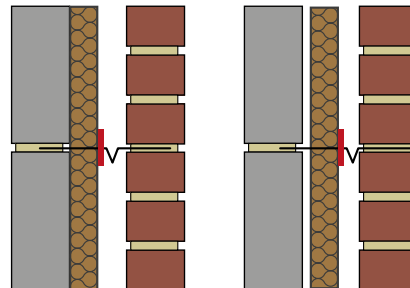


INTIMATE CONTACT WITH SUBSTRATE

Rocksilk® RainScreen Slab 455 should be in intimate contact with the building substrate. The nature of the insulation material lends itself to accommodate any irregularities in the surface of the substrate.



Creating a snug fit between the slabs and the wall reduces the chance for air gaps and ensures thermal efficiency.

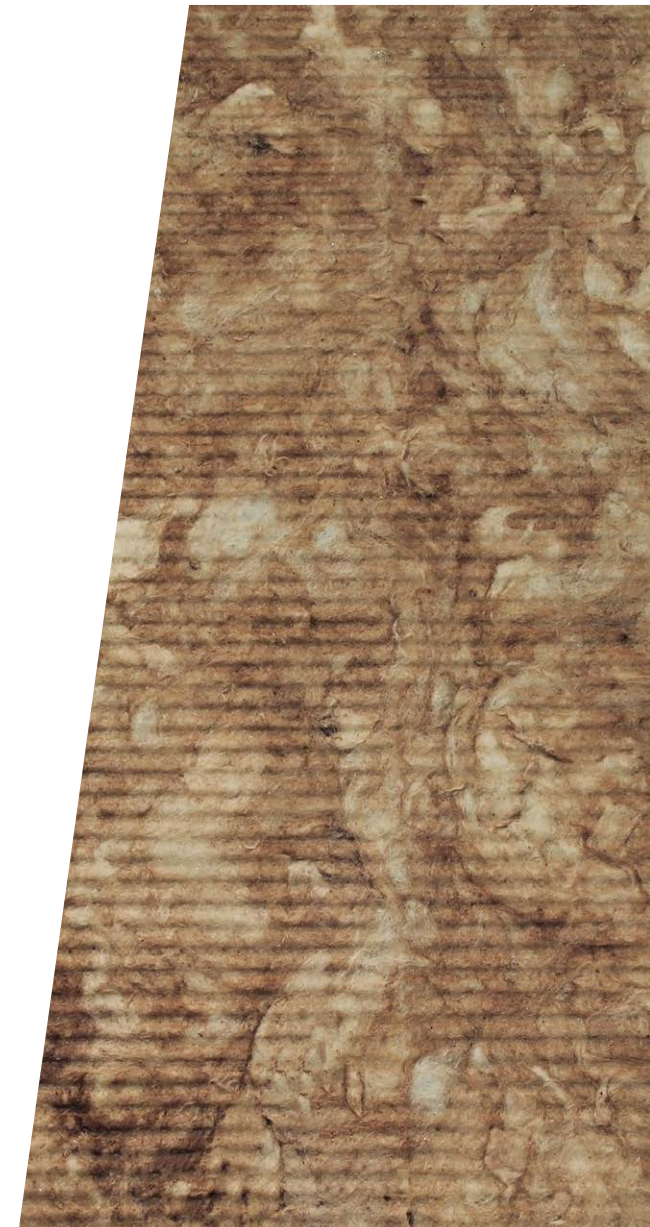
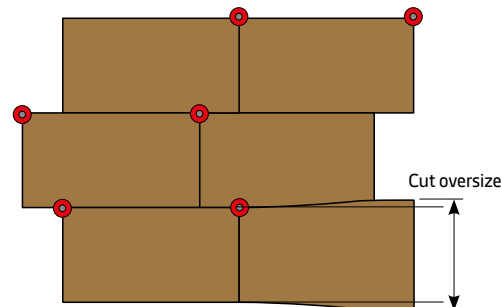


COMPRESSION FIT INTO PLACE

Rocksilk® RainScreen Slab 455 should be cut slightly oversize and compression fitted into place. Make sure a cavity of at least 50mm remains between the insulation and the external substrate.



To create a snug fit between slabs, reducing the chance for air gaps and ensuring thermal efficiency.



Pre-installation considerations

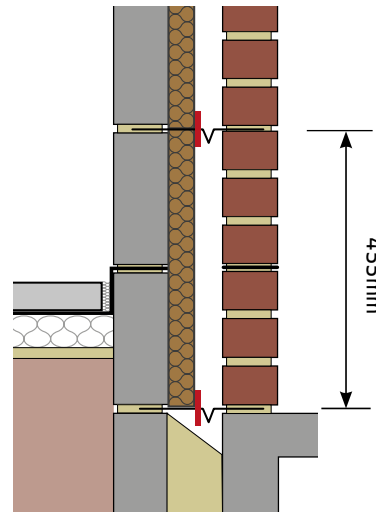
USING FRAME CRAMPS / CAVITY TIES AND RETAINING DISCS

FIXED AT 455mm centres

Discs and wall ties should be fixed at maximum 455mm vertical centres to lie within mortar joints, slabs should then be friction fitted between wall ties such that the discs fall between slab joints. Retaining discs are used to retain insulation back to the substrate.



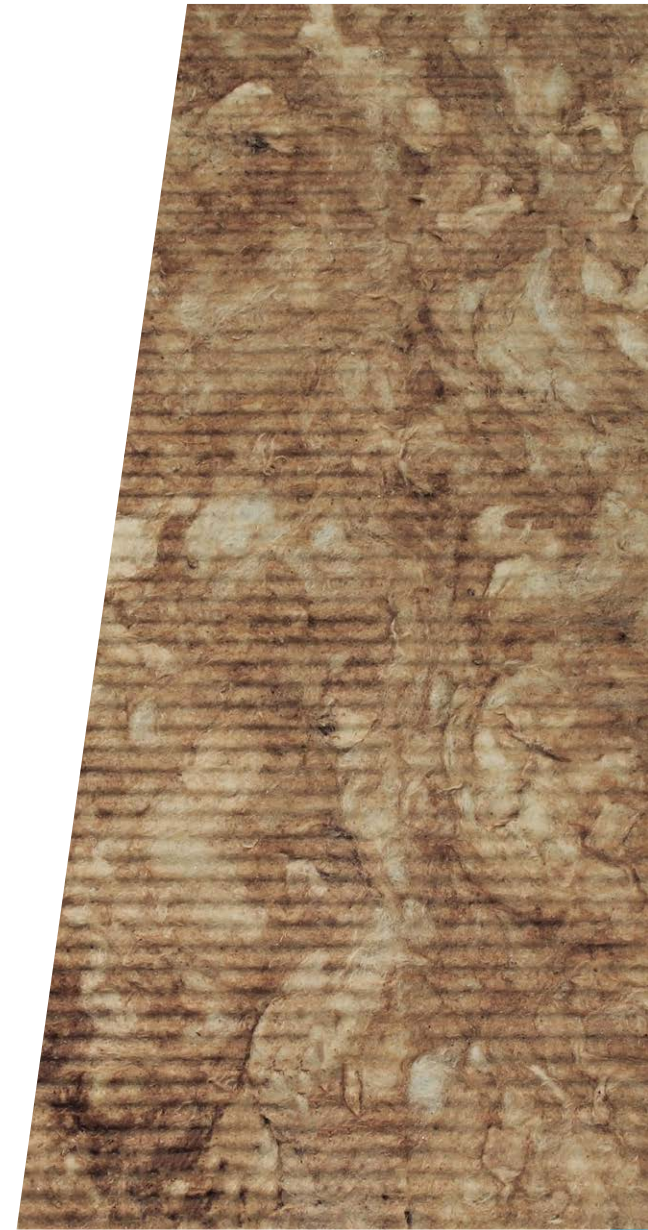
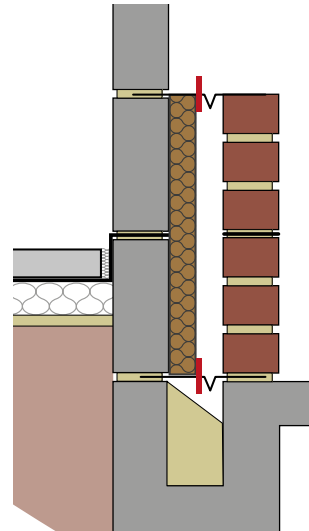
To comply with building regulations for masonry cavity walls.



USE BELOW DPC

BRIDGING THE DPC

Rocksilk® RainScreen Slab 455 does not absorb water by capillary action and may therefore be used in situations where it bridges the DPC's of the inner and outer leaf.

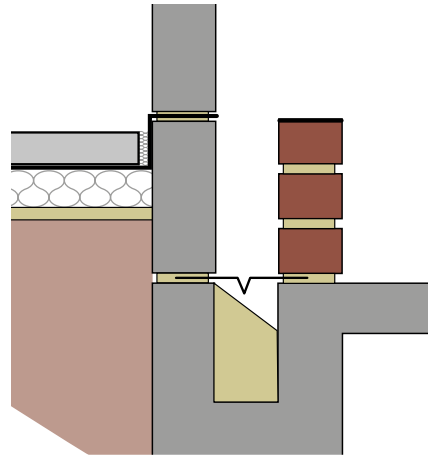


Installation sequence

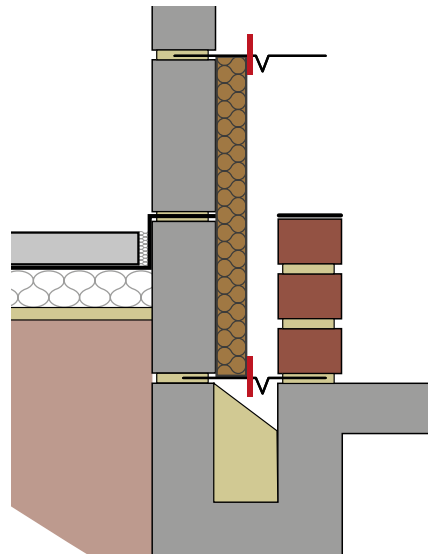
USING FRAME CRAMPS / CAVITY TIES AND RETAINING DISCS

Build up the first stage of one leaf of masonry to include the first row of ties above the commencement of Rocksilk® RainScreen Slab 455.

Clean mortar snots from any ties or cavity tray.

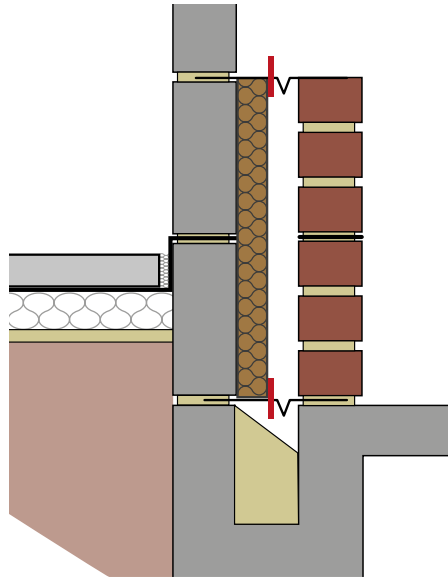


Position the Rocksilk® RainScreen Slab 455 against the inner leaf. The slabs should be cut to size if necessary and should be taken below the floor insulation to reduce thermal bridging, with no risk of capillary action. Rocksilk® RainScreen Slab 455 does not wick moisture and is suitable for use below DPC. Always ensure that Rocksilk® RainScreen Slab 455 is course with wall ties.



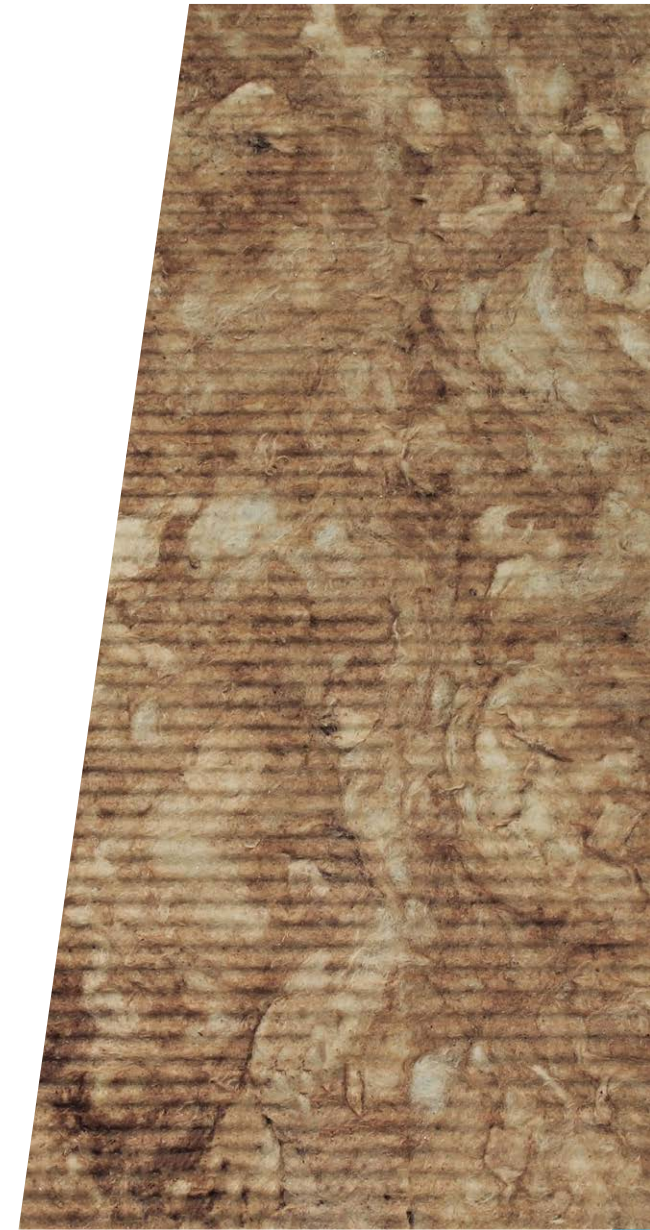
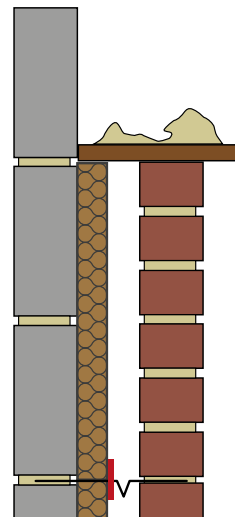
Installation sequence

The following leaf is then built to the top level of the Rocksilk® RainScreen Slab 455. Do not let the second leaf overtake so as to create a trough.



Proceed similarly with successive stages of the wall. As with normal masonry cavity wall constructions, no mortar should remain in the cavity, particular care should be taken to keep slab joints closely butted and free from mortar. To facilitate keeping the top edges of slabs clean it is recommended that cavity boards be used.

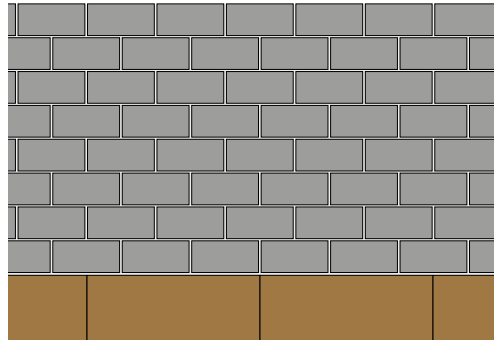
It is recommended to build a trough no more than one brick deep at horizontal joints of Rocksilk® RainScreen Slab 455. The mortar joints should be struck flush inside the cavity and any mortar droppings must be removed before the next slab is fitted.



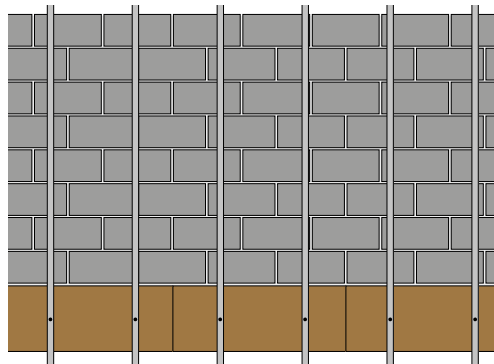
Installation sequence

USING A BRICK RESTRAINT SYSTEM

Place the first layer of Rocksilk® RainScreen Slab 455 in position against the substrate.

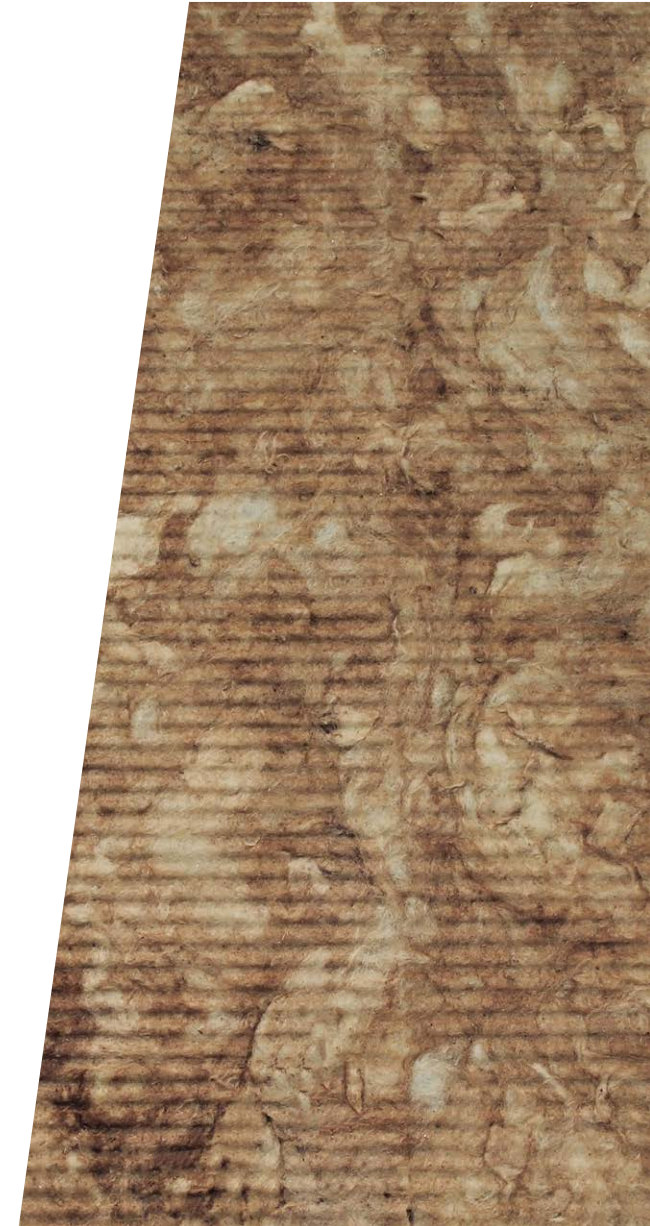
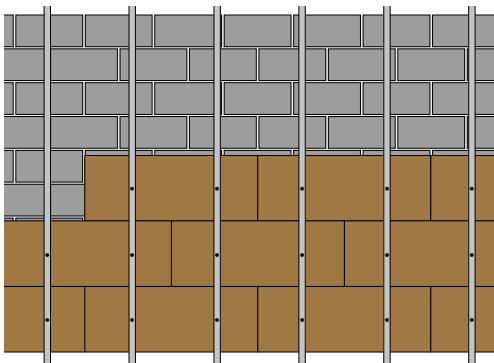


Offer up the brick tie channel e.g. Ancon 25/14 channel or ACS 25/15 Framefix Ultra Channel and fix in position using fixings recommended by the manufacturer. Do not fix beyond the 455mm height of the first layer of Rocksilk® RainScreen Slab 455.



From above, slide the next row of Rocksilk® RainScreen Slab 455 into place behind the brick tie channel. The slabs will be retained in position by the channel and supported by the row of slabs below.

Fix the channel back to the substrate using the fixing pattern recommended by the fixing manufacturer e.g. Ancon or ACS, to the height of the next layer of Rocksilk® RainScreen Slab 455. This procedure should be repeated for every new layer of brick tie channels.



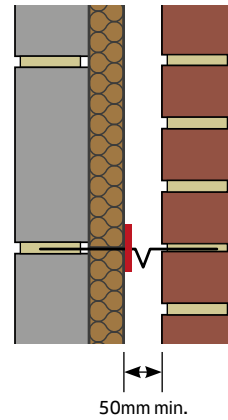
Detailing considerations

MINIMUM CAVITY WIDTH

A minimum 50mm cavity must be maintained between the Rocksilk® RainScreen Slab 455 and the outer leaf.

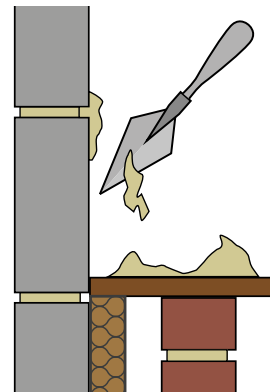


To allow for adequate ventilation in the cavity.



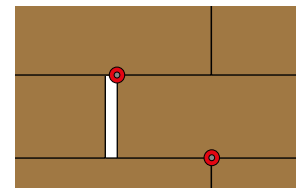
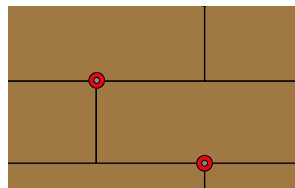
EXPOSURE ZONES

In partially filled applications, the type of insulation, its thickness, and the wall construction should be suitable for the exposure of the building. Excess mortar must be cleaned off; a cavity or board will protect the installed slabs and keep the cavity clear.



COMPRESSION FIT

Workmanship should be maintained to minimise the risk of damp penetration to the inside of the property. Gaps compromise thermal performance, provide routes for dampness, and condensation can form on the cold spots where insulation is missing. Insulation should be close butted with no gaps.



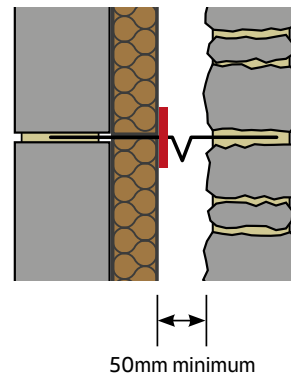
Detailing considerations

EXPOSURE ZONES

When natural stone is used, a cavity width of minimum 50mm must be maintained across all areas of the wall.

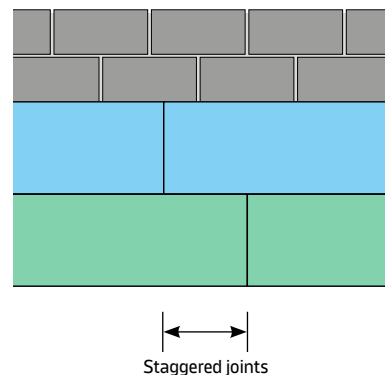


To allow for adequate ventilation in the cavity



WIDE CAVITIES

When insulating wide cavities with two layers of Rocksilk® RainScreen Slab 455, the placement remains the same, but the vertical joints in the second layer must not be coincidental with the vertical joints in the first layer.

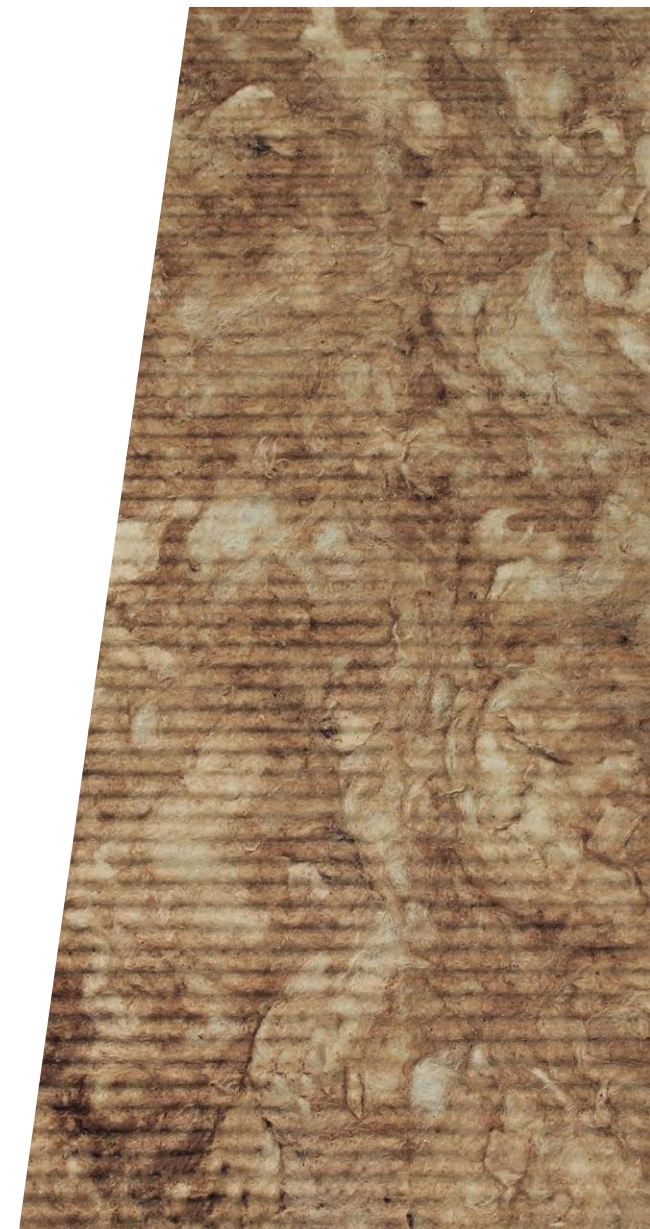
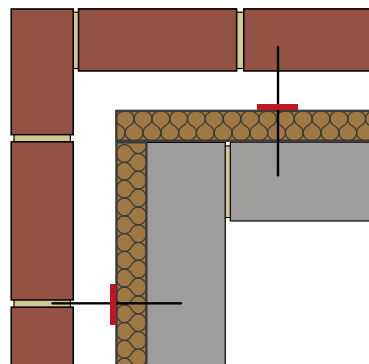


CORNERS

Rocksilk® RainScreen Slab 455 should be cut neatly around corners so that the slabs butt against each other and there are no gaps at joints.



Creating a snug fit between the slabs and the wall reduces the chance for air gaps and ensures thermal efficiency.



Detailing considerations

ONGOING PROTECTION

Rocksilk® RainScreen Slab 455 is designed to be weather resistant, however wherever possible Rocksilk® RainScreen Slab 455 should be covered up with the outer leaf masonry as work proceeds, on the basis of an advancing front.

WINDOW DETAILS

Cut slabs to fit neatly around window details. Additional fixings and washers may be required to firmly retain the slabs and ensure continuity of the insulation layer.

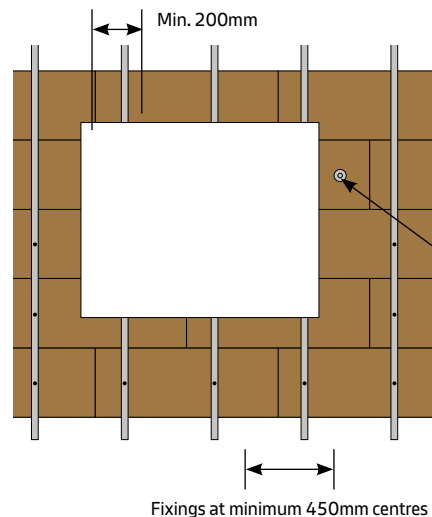
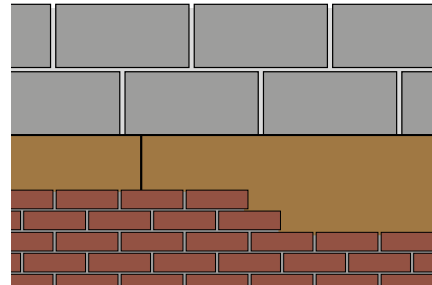
INSTALLATION AROUND SERVICE PENETRATIONS

The product should be offered up to penetration applying sufficient pressure to allow a small indent to be made in the product. An indent should be made on the face that will come into contact with the substrate when the product is installed.

Cut a slot in the product with an insulation saw or large bladed knife. Install product over the penetration taking care not to damage the external face of the slab. Ensure that the product is in intimate contact with neighbouring slabs. Secure the slab to the wall substrate with mechanical fixings in accordance with the design specification. Consideration should be made to ensure appropriate fire stopping measures are used around penetrations, especially plastic.



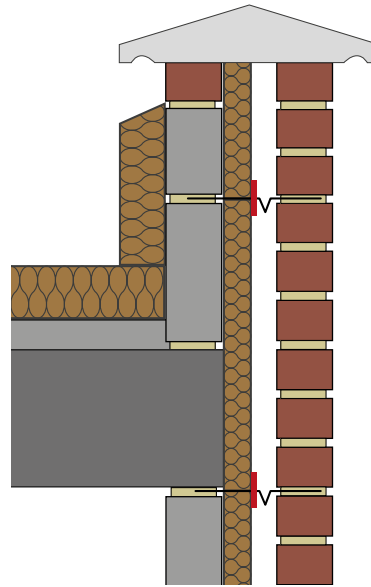
Ensures a tight fitment of slabs around penetrations, ensuring maximum thermal efficiency.



Detailing considerations

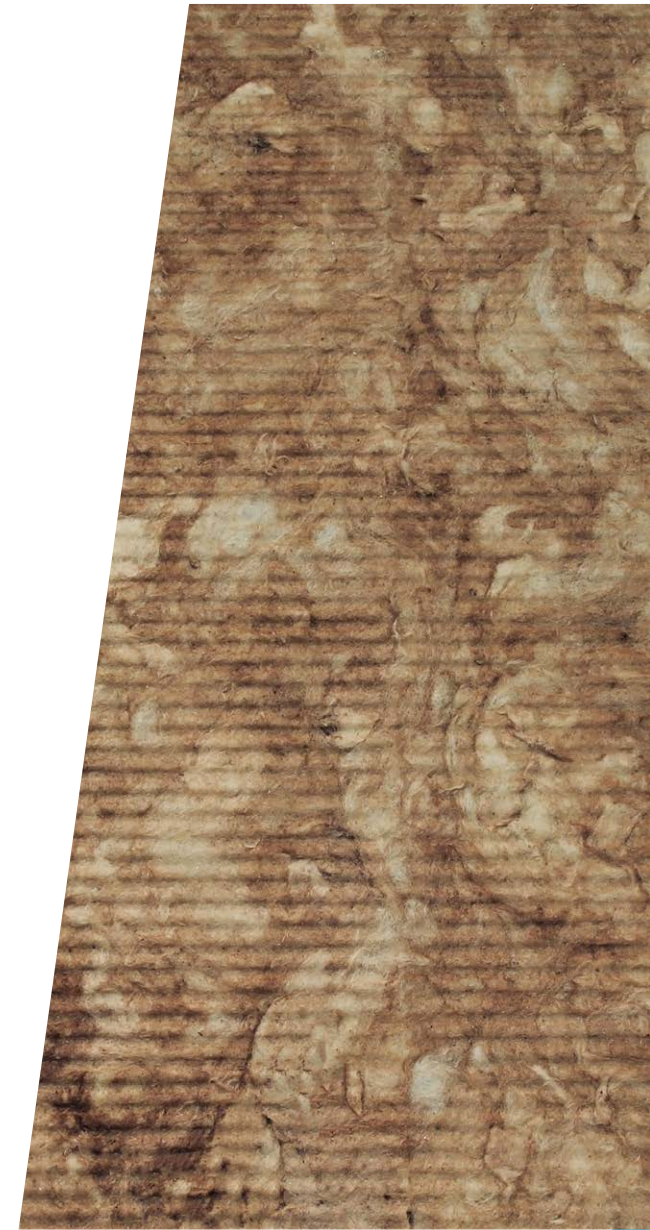
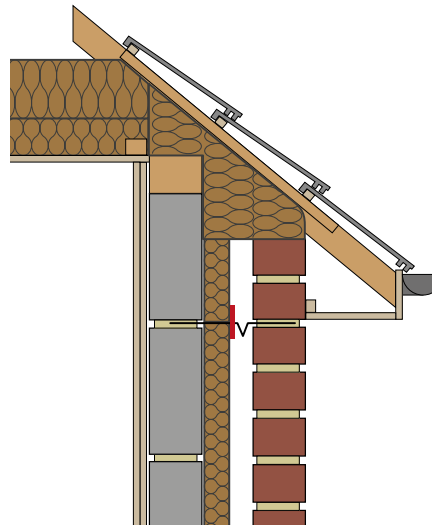
PARAPET WALLS

As with gable ends, cavity insulation should be taken to the top of parapet walls. In taller parapets, DPC trays should fall to the outer leaf.



EAVES

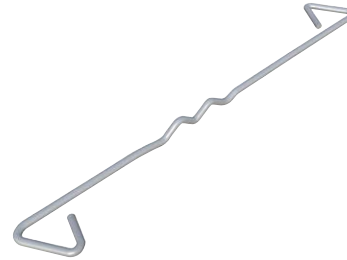
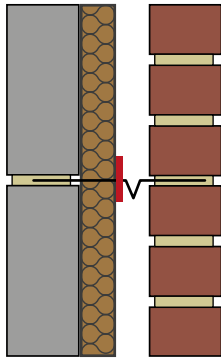
At eaves, cavity insulation should terminate at the top of the wall to meet the insulation at ceiling level. This ensures continuity between the wall and roof insulation and prevents any unwanted heat loss at the junction.



WALL TIES

The leaves of a cavity wall should be tied together by wall ties and retaining discs of a type that are suitable for the substrate.

The wall ties should be either embedded in the horizontal mortar joints at the time the units are laid or fixed in accordance with the manufacturer's instructions.

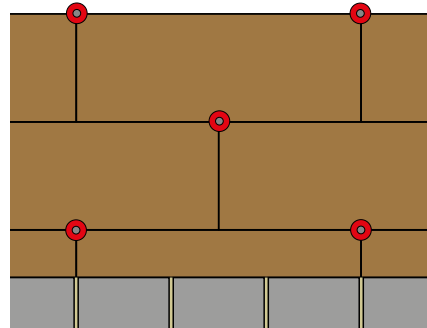


Rocksilk® RainScreen Slab 455 is supplied for use in partially filled masonry cavities in 1200 x 455mm slabs for use between wall ties at 450mm vertical centres.



Generally, rows of wall ties should be at 450mm vertical spacing and at horizontal spacings of no more than 900mm or as otherwise required by the structure. Where whole rows of ties are at different vertical spacings Rocksilk® RainScreen Slab 455 should be cut to course, allowing an extra 5mm for compression to form close butt joints.

Where cavity insulation slabs start below DPC level, the vertical and horizontal spacing of wall ties should be compatible with the spacing to be used above DPC level.



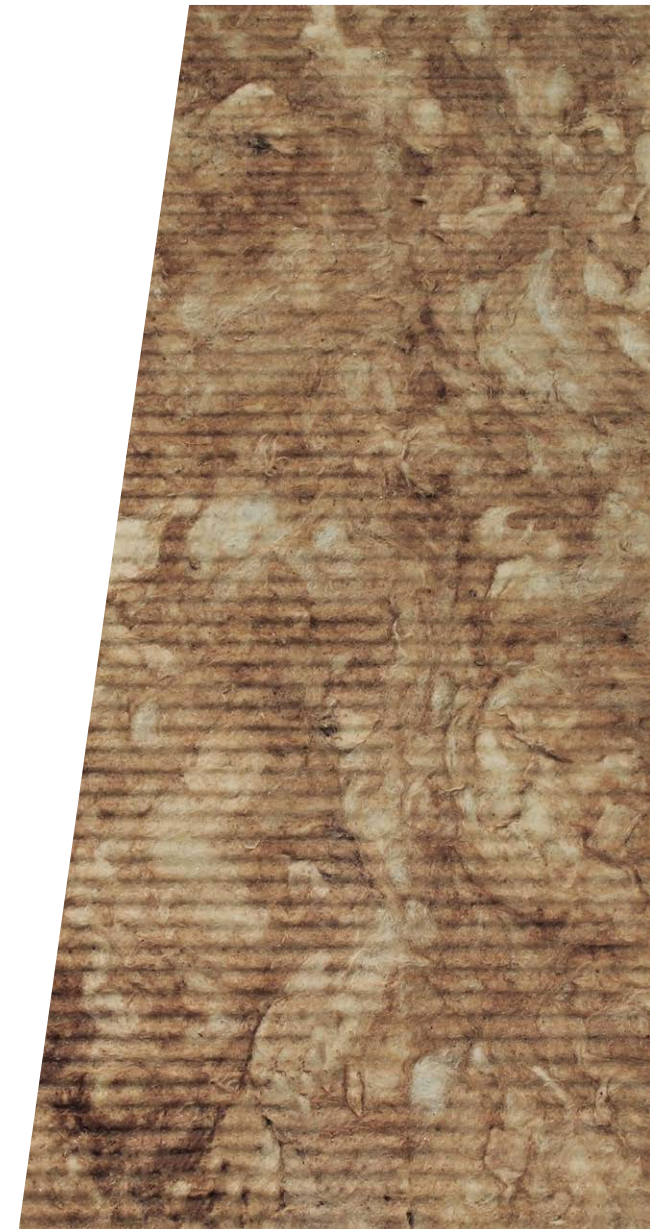
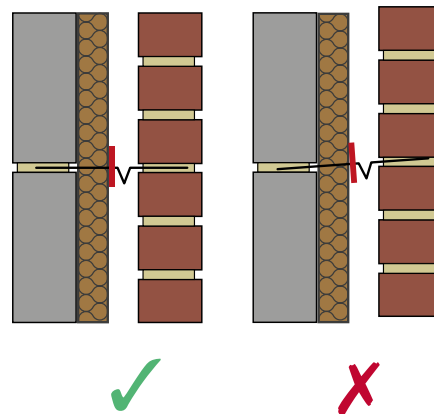
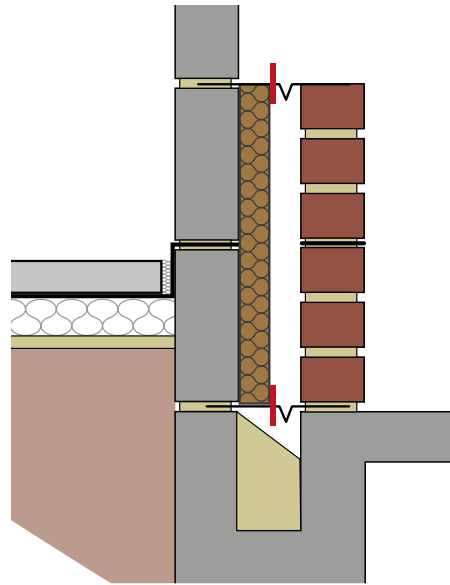
WALL TIES

The first course of insulation slabs should be fully supported, either on wall ties at approximately 600mm horizontal spacings (at a level to be decided by the specifier), on the weak concrete at the foot of the cavity, or on a cavity tray. Subsequent runs of wall ties to be at no more than 900mm centres horizontally, or as otherwise required by the structure, and at 450mm vertically.

Rocksilk® RainScreen Slab 455 can be used in situations where they bridge the DPC in walls.

Tests by the British Board of Agrément confirm that Rocksilk® RainScreen Slab 455 will not transmit water to the inner leaf, nor will they transmit moisture by capillary action across the cavity or from below damp proof course level provided it is installed correctly. Rocksilk® RainScreen Slab 455 does not add to the risk of water penetration.

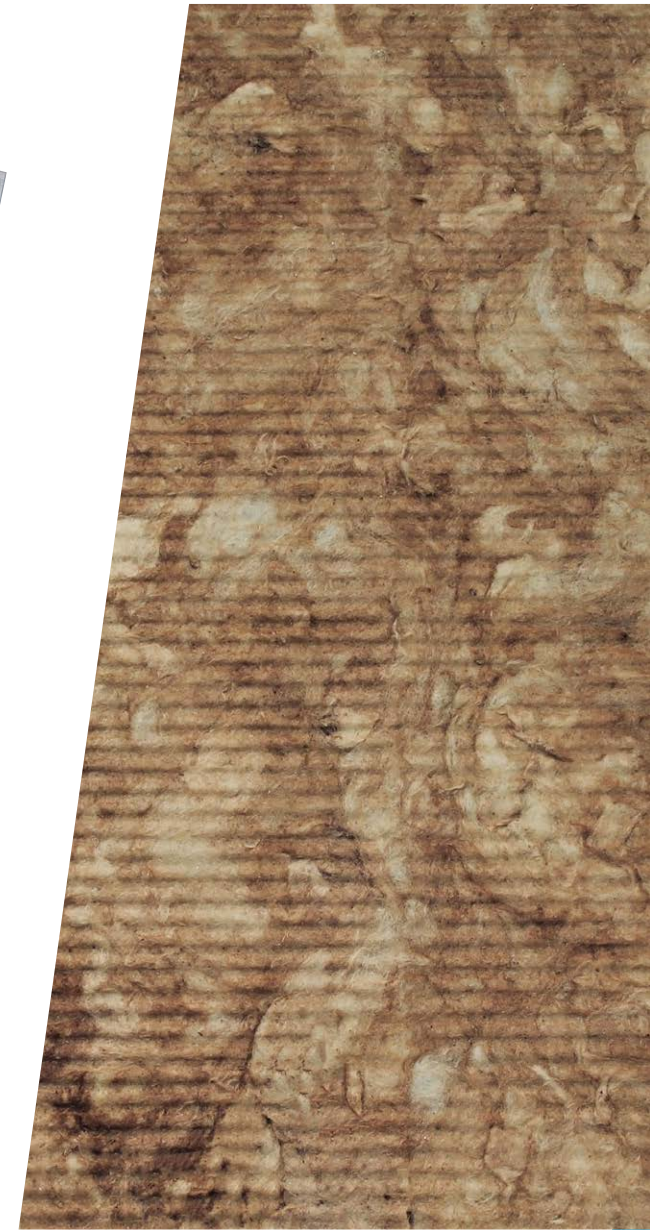
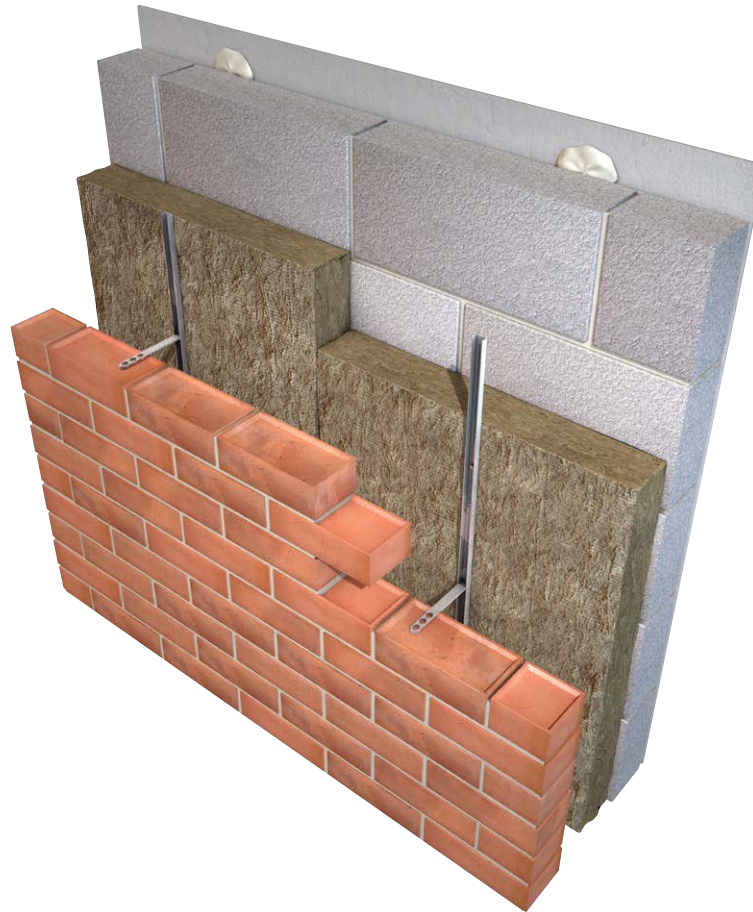
Wall ties should be built into joints, not pushed and positioned, so that the drip faces downwards and the ties are level or slope slightly towards the outer leaf.



COMPRESSION SLEEVES

When using Rocksilk® RainScreen Slab 455 up to 180mm with Ancon 25/14 Restraint System, the screws can be installed directly through the insulation. When using greater thicknesses, Ancon recommend Compression Sleeves (the same depth as the insulation) should be used around the fixing screws to provide the necessary support.

When using Rocksilk® RainScreen Slab 455 with ACS 25/15 Framefix Ultra Channel, ACS recommend Compression Sleeves (the same depth as the insulation) should be used around the fixing screws to provide the necessary support irrespective of insulation thickness.



Cavity trays

Cavity trays and lintels should be installed to ensure that penetrating water is directed only to the outer leaf.

Cavity trays should be provided:

- At all interruptions of the cavity such as lintels and sleeved vents and ducts.
- Above insulation that stops short of the top of the wall.

Cavity trays should rise at least 140mm within the cavity, be self-supporting or fully supported with joints lapped and sealed.

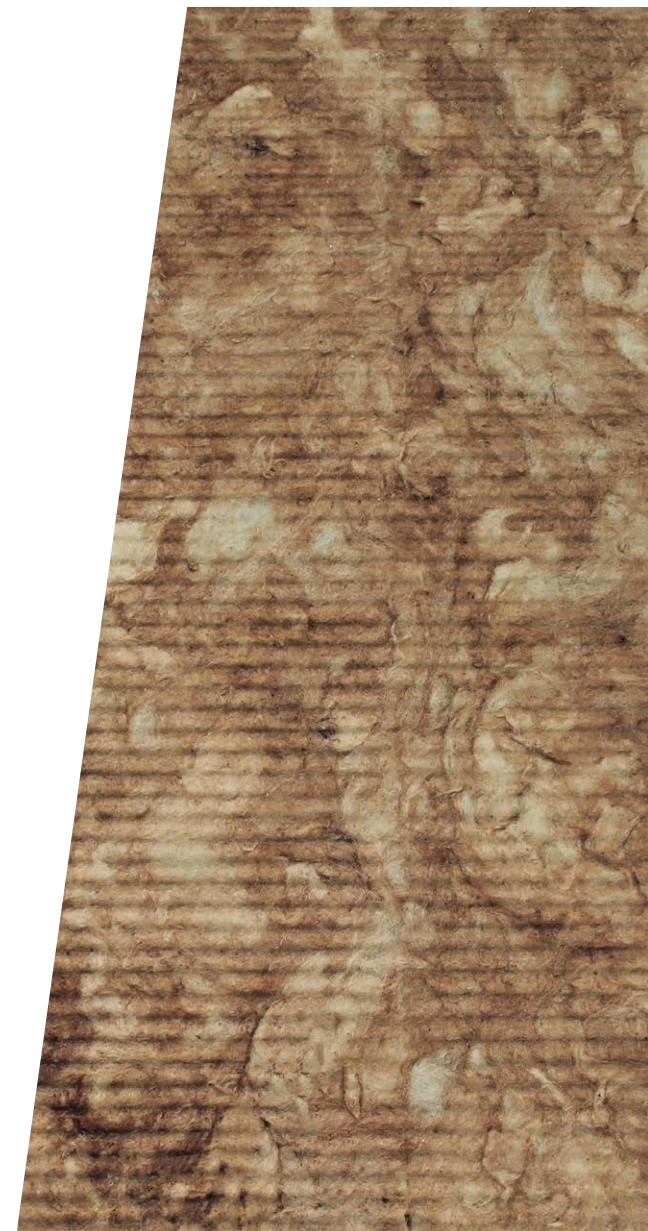
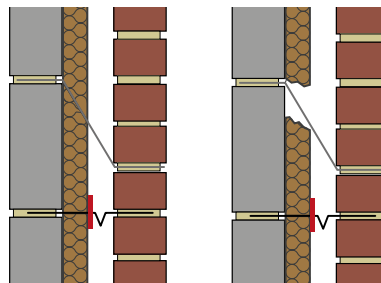
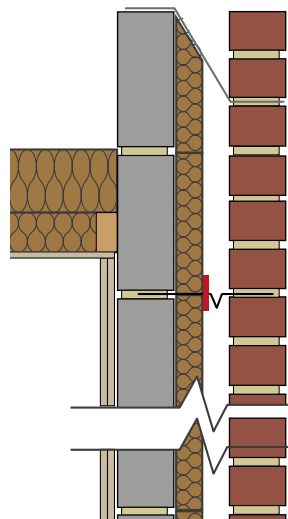
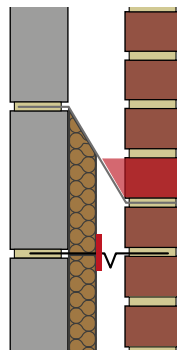
Stop ends should be provided to the ends of all cavity trays.

Weepholes should be provided at no more than 900mm centres to drain each cavity tray, with at least two weepholes per cavity tray.

If Rocksilk® RainScreen Slab 455 is terminated vertically at an open cavity, a vertical DPC must be fitted up the inside face of the outer leaf to ensure that any mortar droppings on exposed edges do not bridge the cavity.

In buildings where the roof insulation is at ceiling level, the cavity insulation may be terminated 200mm above the loft insulation. It should be protected by a cavity tray, to avoid the top edge being bridged by mortar dropping from above. Similarly, if insulation starts at high level and terminates part way down the walls, it should be protected on the underside by a cavity tray.

Cavity trays should remain clear of droppings and debris. Rocksilk® RainScreen Slab 455 can be easily cut to a chamfer to suit the profile of the cavity tray and ensure no voids are present in the cavity. Slabs can be easily cut with a sharp knife or saw to suit.



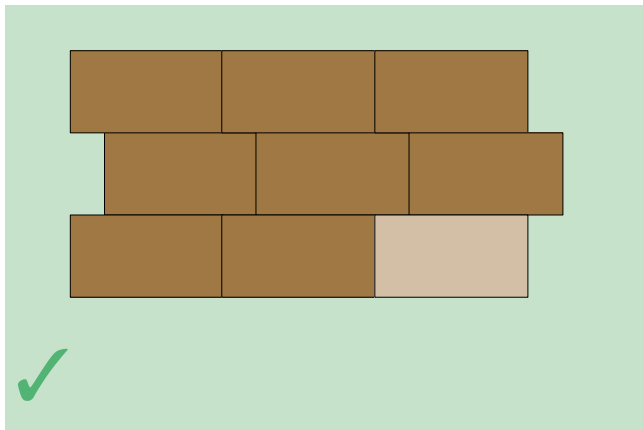
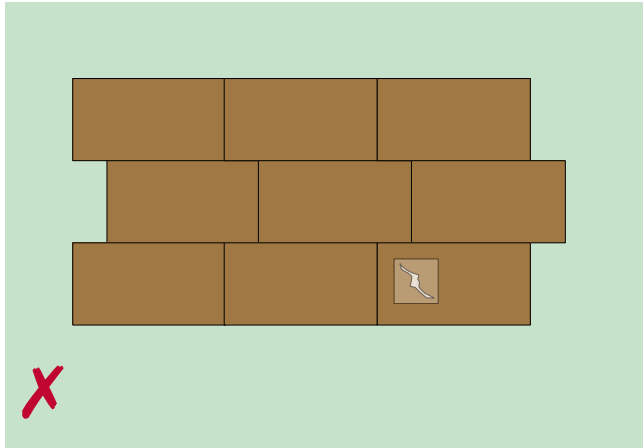
Maintenance

CONSTRUCTION REPAIRS

In the event of small repairs being needed on site, we recommend the replacement of full slabs wherever possible before installing the brick restraint channels or the insulating retaining clips on the frame cramps.

✓ Full slab replacement after damage

✗ Small patched repair



Site check list Rocksilk® RainScreen Slab

System type?

Is the product Unfaced or Rocksilk® RainScreen Slab EE?

Is there a breather membrane being used in the construction?

- › If yes, is the breather behind or in front of the insulation layer?

Has a single or double layer* of insulation been used?

- › If double-layered, have layers been staggered?
- › If no, the product will dry out if there is no mechanical damage. If the product is wet and damaged, replace the slab.

Have the slabs been installed in “portrait” or “landscape” orientation?

Does the minimum width of the residual cavity conform with the best practice recommendations of the cladding supplier?

- › If unsure, please check with your cladding supplier

Have non-combustible metal washers been used throughout or a combination of plastic and metal washers?

Is the insulation bridged by another component of the construction other than the bracket?

Has the slab been cut to fit neatly over brackets?

What percentage of the installation is exposed to the elements?

What percentage of the installation of insulation has been completed?

Has the product been stored off-ground and undercover?

Has the product been mechanically or physically damaged in any way during installation?

- › If yes, then replace the full damaged slabs

Does the product being installed appear dry at the time of survey?

- › If no, the product will dry out if there is no mechanical damage. If the product is wet and damaged, replace the slab.

If installed to parapet level, has the product been protected?

Are all slabs closely butted together such that there are no visible gaps between them?

Have slab joints been staggered by at least 100mm?

- › If no, ensure all slabs are repositioned to remove any gaps

Have multiple cut pieces been avoided where possible?

Is the primary fixing washer a metal washer?

Is there a minimum of one metal washer on every slab?

- › If no, ensure at least one fixing has a metal washer in each slab, including cut sections

Do washers have a minimum head diameter of 70mm?

Are all washers fixed so as to be flush with the surface of the slab?

- › If no, ensure fixings do not compress the slab or damage the insulation layer

Have additional fixings & washers been used around windows, corners or other features?

- › If no, ensure at least 1 metal fixing per slab

☐ Cladding

☐ Rocksilk® RainScreen Slab Unfaced

☐ Yes

☐ Behind

☐ Yes

☐ Yes

☐ Portrait

☐ Yes

☐ All metal

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Yes

☐ Brickwork

☐ Rocksilk® RainScreen Slab EE

☐ No

☐ In front

☐ No

☐ No

☐ Landscape

☐ No

☐ Combination

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

☐ No

*Rocksilk® RainScreen Slab BBA certified in single or double layer only. Rocksilk® RainScreen Slab EE does not hold an Agrément certificate from the BBA.

This checklist is for on-site install guidance only, and is not a confirmation that Knauf Insulation has inspected or approved install of Rocksilk® RainScreen Slab during or after construction.

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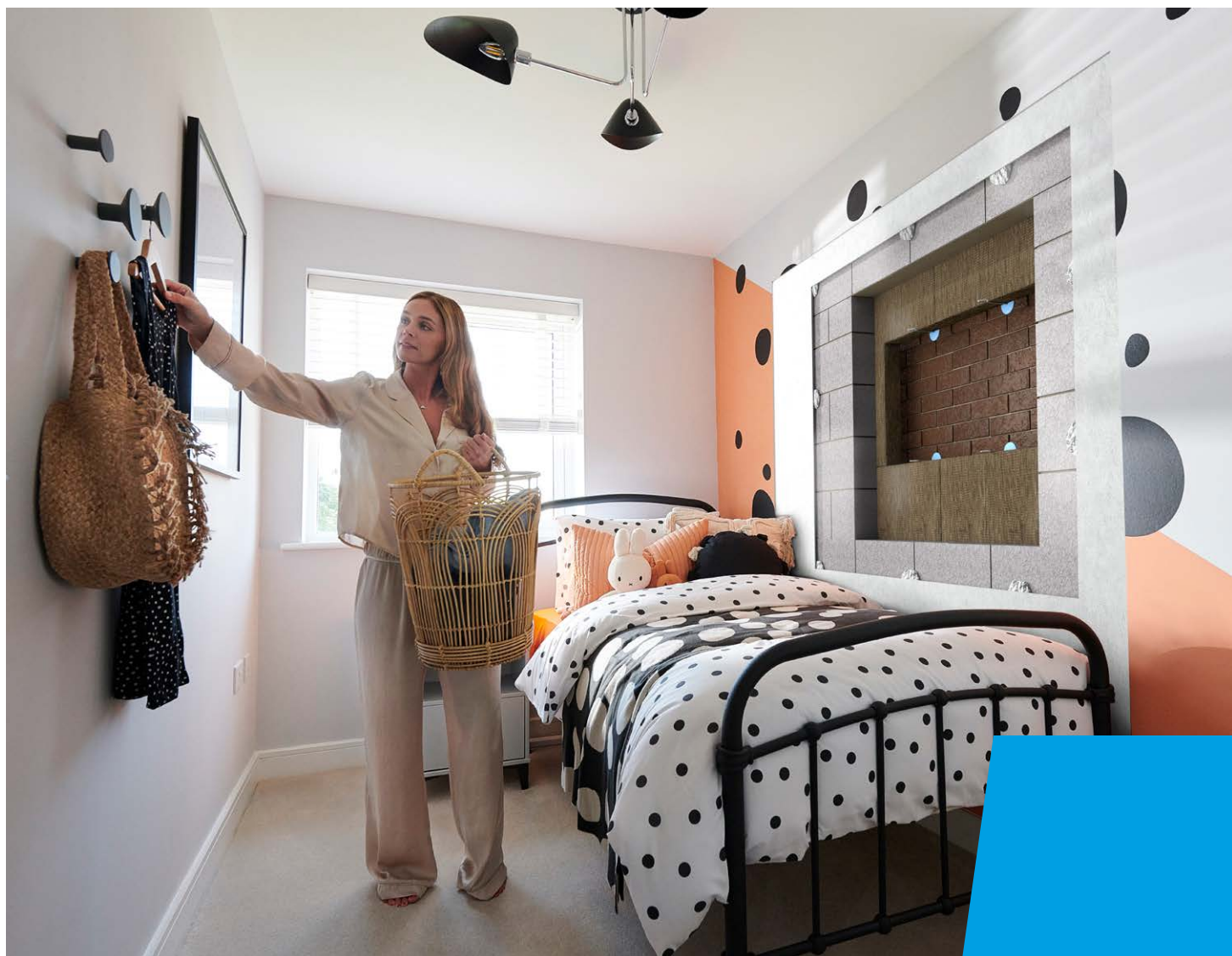
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