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Application of FR Breather Membranes

INSTALLATION GUIDANCE

TREMCO
Construction Products Group

FR Breather Membranes

illbruck FR Breather Membranes are non-combustible, vapour permeable and water resistant and are used on the exterior side of lightweight steel and timber frame systems.

This document outlines installation methods for breather membranes without self-adhesive strips. The appropriate method should be determined based on project-specific factors, such as anticipated wind loads, exposure duration before cladding bracket installation, building height and location.

Please note:

The membrane must always be installed in the correct orientation with the correct tape – please refer to the table below:

Product	Orientation	Tape	Reaction to Fire in accordance with EN 13501-1	Resistance to water penetration
ME055 FR Breather Membrane White	Can be installed on either side	ME356 FR sealing tape (White)	Class A1	Class W2
ME013 FR Breather Membrane Black	Black coated side to face outwards towards the external environment	ME315 or ME316 sealing tape	Class B-s1,d0	Class W1

Materials required:

- illbruck TF448 50 mm High Performance Bonding Tape
- illbruck ME315 Total Protection Tape
- illbruck AT140 Primer for Porous Substrates
- Mechnical fasteners/fixing
- Low tack masking tape
- illbruck ME007 FR Window & Door Sealing Membrane
- illbruck SP025 FR Membrane Adhesive

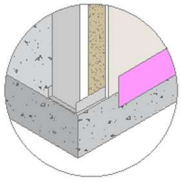
Tools and Accessories:

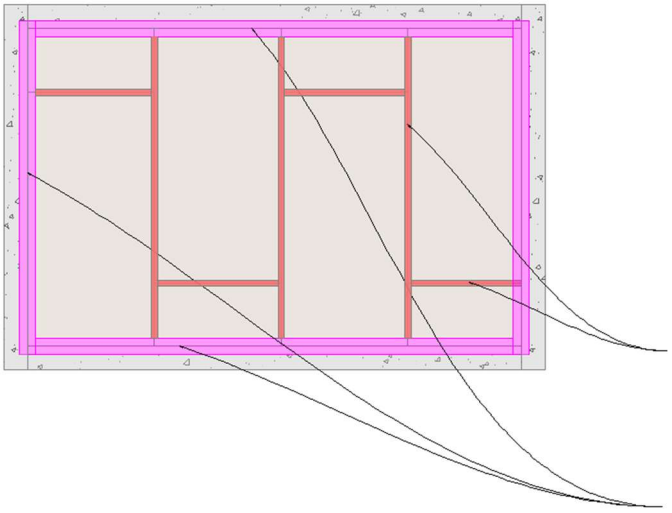
- Sharp retractable bladed knife and /or illbruck cutting shears
- Laser or chalk line
- 2” disposable paint brushes
- Pots for decanting AT140 Primer
- Stout seam roller
- Bench or table wide enough to accommodate the width of the membrane and long enough to accommodate the required cut lengths

Before commencing work:

The working area must be dry and free from dust and debris. Scaffolding (if provided) should be clear of any other trades or obstructions left by others.

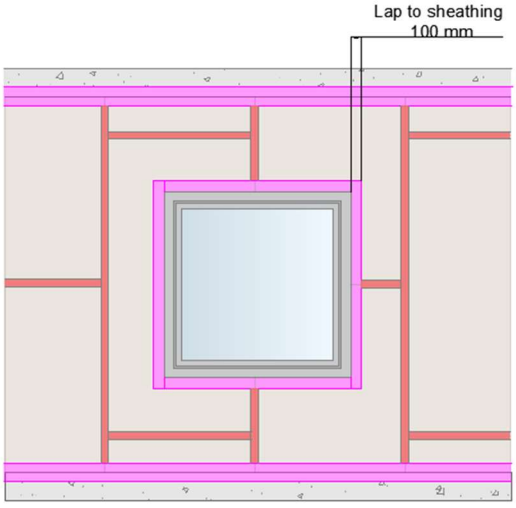
Ensure the sheathing board joints have been sealed in accordance with the manufacturers board joint sealing recommendations, or with illbruck ME315 Total Protection Tape.





Seal the junctions between sheathing boards and floor slabs or columns using illbruck ME007 FR Window & Door Sealing Membrane. Overlap both the structure and sheathing board by at least 100 mm and bond with SP025 FR Membrane Adhesive in accordance with the illbruck method statement. Where required, apply an appropriate illbruck primer to ensure adhesion, for guidance consult Tremco CPG UK Ltd. Use AT140 primer on friable concrete substrates or over silicone-based sealants applied to sheathing board joints.

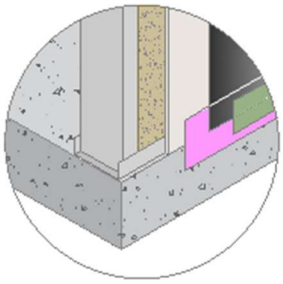
Before installing FR Breather Membranes, ensure all windows, doors, and openings are sealed with illbruck ME007 FR Window & Door Sealing Membrane, or other specifed illbruck window & door membrane, with a lap of 100 mm (minimum 50 mm) back to the substrate. Refer to separate guide 'Application of illbruck membranes using paste adhesive' for detailed instructions.

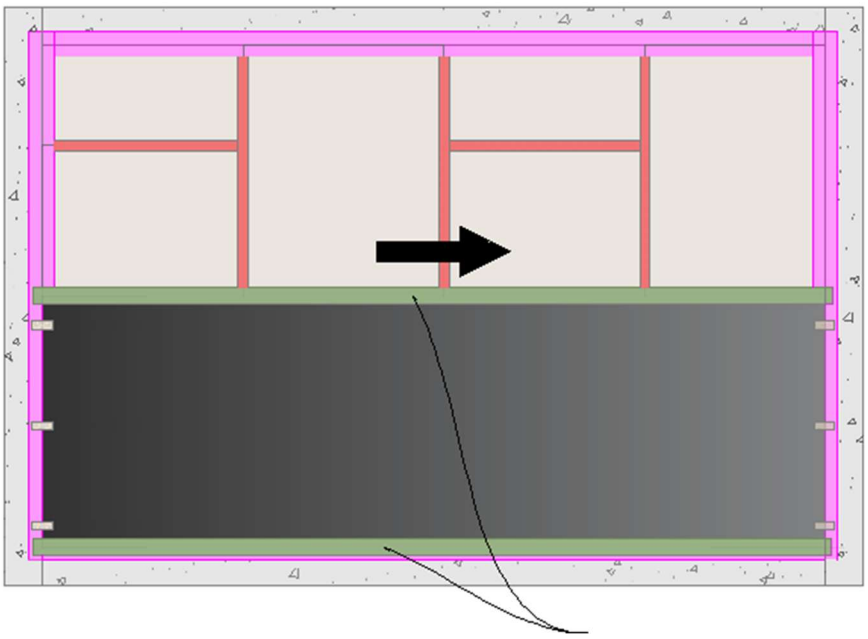


Method 1 – suitable for low to moderate wind loads or when cladding brackets will be installed immediately after membrane application.

Installing the first layer of membrane

Stand the log upright and position the membrane at the lowest elevation, align the lower corner with the midpoint of the ME007 FR Window & Door Sealing Membrane at the base of the sheathing board and temporarily secure it with a low tack masking tape. Ensure the membrane overlaps the perimeter sealing membrane by a minimum of 100 mm.





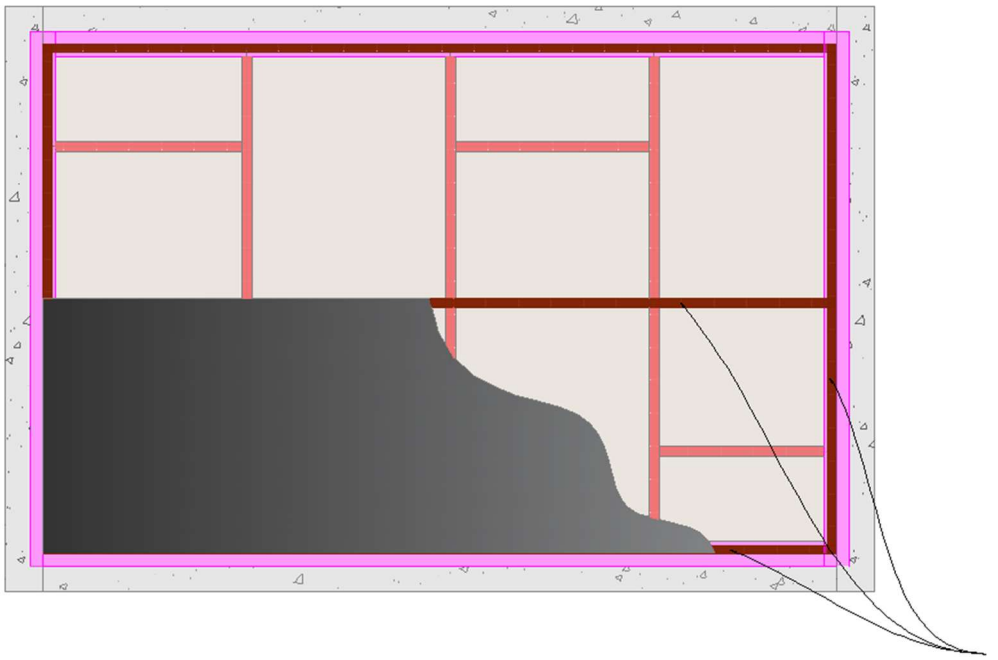
Unfurl the membrane horizontally until you have reached the end of the bay or an opening, applying more sections of masking tape at intervals of not less than 450 mm and not more than 1000 mm to temporarily secure the membrane in position.

Ensure that the unfurled membrane is plumb, a laser or chalk line may be of assistance.

Remove the temporary masking tape and apply the correct illbruck tape (see table) along the top and bottom edges of the membrane creating a 50/50 lap with the membranes edge and the substrate. Ensure the tape is smooth, free from any wrinkles and bubbles, and firmly consolidate the bond using a seam roller.

Method 2 - suitable for low, moderate or high wind loads where mechnical fastenings are not specified – TF448 option

The surfaces must be clean, dry and free from oil, grease, paint and other contaminants liable to impair adhesion.



illbruck TF448 tape at the perimeter of the membrane.

For low to medium wind loads TF448 High Performance Bonding Tape should be applied around the entire perimeter of the membrane.

For higher wind loads, the bond can be further enhanced by installing additional vertical strips of TF448 tape at 500 mm centres.

The TF448 High Performance Bonding Tape is pre-applied to the sheathing board to fix the FR breather membrane in place and provide support to the membrane during installation.

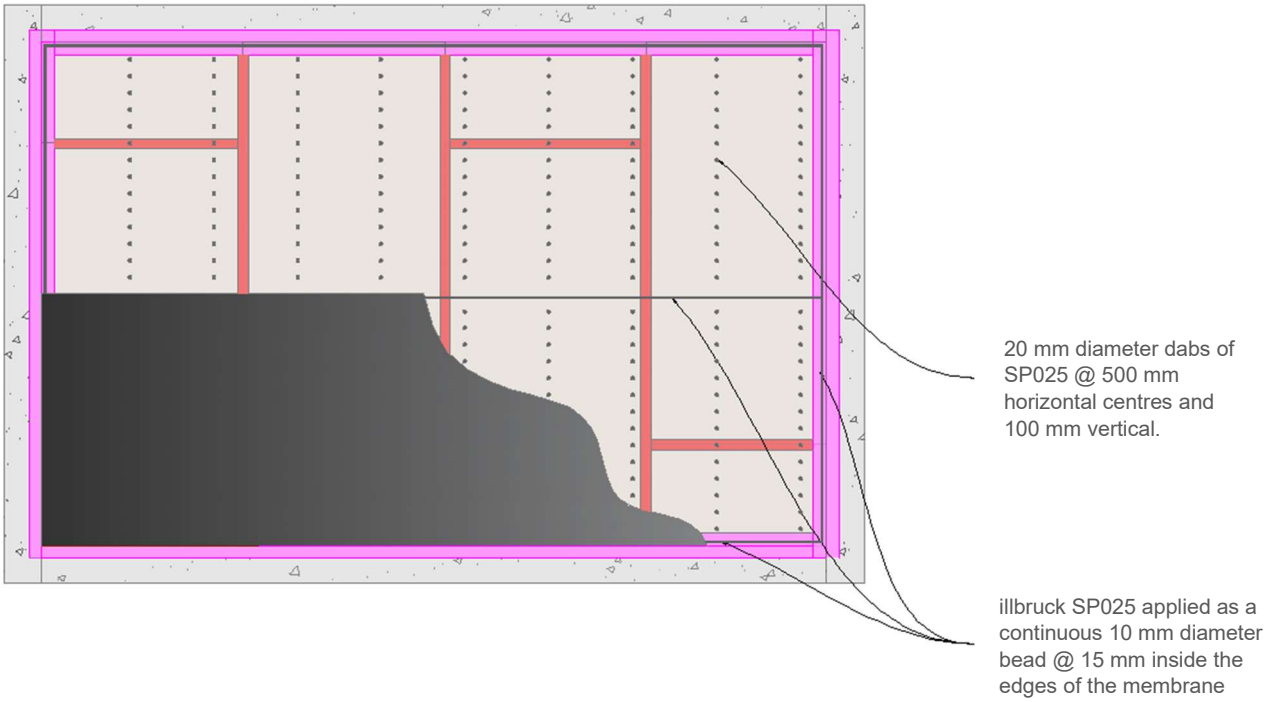
Remove the release liner and apply the TF448 High Performance Bonding Tape to the sheathing board, pressing firmly to ensure a secure bond. Peel off the top liner and install the membrane, starting at the bottom left corner. Unfurl horizontally, maintaining alignment and a smooth, wrinkle-free finish, and press firmly onto the tape to complete adhesion.

The bonds then should be firmly consolidated with a seam roller.

For alternative option using SP025 adhesive – see Method 3.

Method 3 - suitable for low, moderate or high wind loads where mechnical fastenings are not specified –SP025 adhesive option

The surfaces must be clean, dry and free from oil, grease, paint and other contaminants liable to impair adhesion.



For low to medium wind loads, a bead of SP025 adhesive is applied around the membrane perimeter. For higher wind loads, the bond is reinforced with additional SP025 adhesive dabs.

Mark the sheathing board to indicate the membrane's final position. Apply a continuous 10 mm bead of SP025 Fire Membrane Adhesive 15 mm inside the marked perimeter. For higher wind loads, apply 20 mm adhesive dabs spaced at 500 mm horizontally and 100 mm vertically.

Begin at the bottom left corner and unfurl the membrane horizontally, ensuring it remains plumb and wrinkle free. Press firmly into position with all edges overlapping the centre of the adhesive bead by 15 mm.

Apply firm pressure with a seam roller along the membrane edges to ensure proper adhesion. A uniform adhesive ooze of 2–5 mm around the perimeter indicates full consolidation; do not remove the excess.

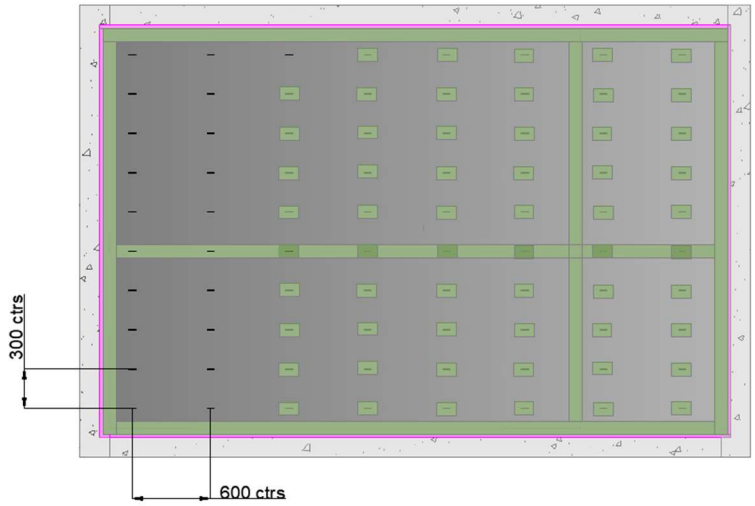
Ensure all membrane edges are fully bonded with a continuous 20–30 mm adhesive band around the entire perimeter.

Where dabs are applied, consolidate each row of dabs using a seam roller as described above.

Method 4 - Suitable for high wind loads using mechanical fasteners

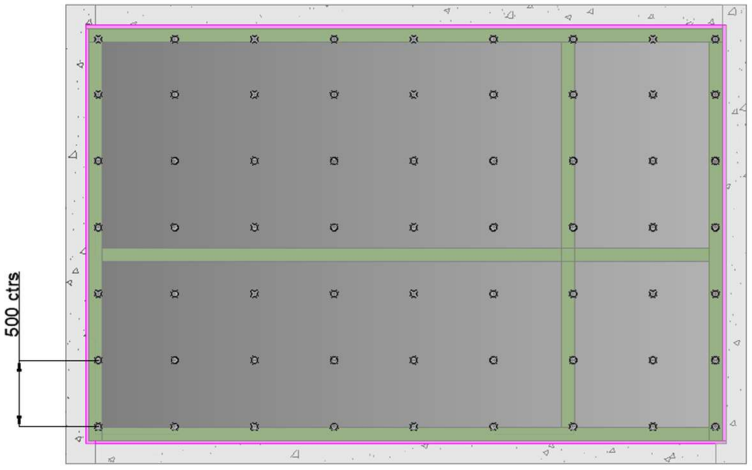
Stainless steel staples can be used as an option to provide a mechanical fix, where the substrate type is suitable to accept them (such as OSB or similar).

The staples should be installed at 600 mm centres horizontally and 300 mm centres vertically. Piercing the membrane with staples will compromise its effectiveness as an air and weather barrier, therefore the staples must be sealed with the correct illbruck tape, either in small patches as shown below, or applied in a single length covering a run of staples.



Where staples are unsuitable or a stronger fixing is required, install stainless steel screws through the sheathing board into the SFS at 500 mm vertical intervals, aligned with each stud.

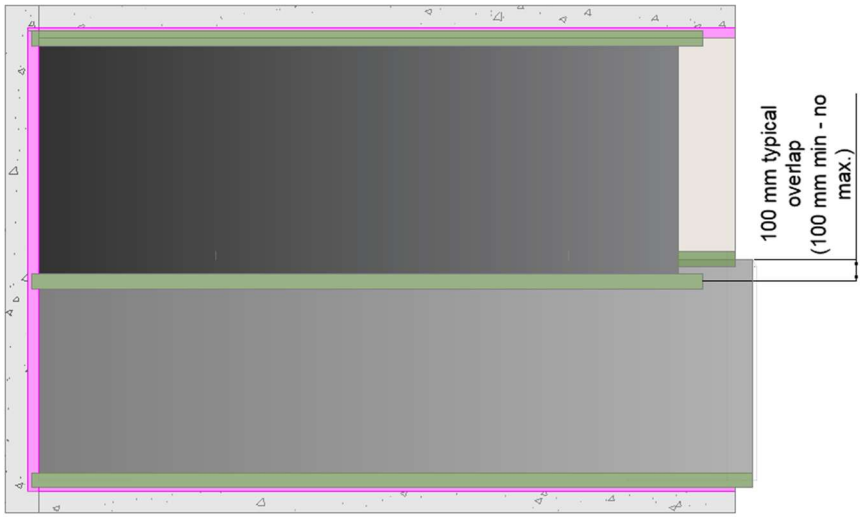
Use suitable drill-tip or self-tapping screws with heads flush to the surface (not countersunk). Fit an EPDM or Butyl washer between the screw head and membrane to prevent water ingress. When washers are used, additional sealing with tape is unnecessary.



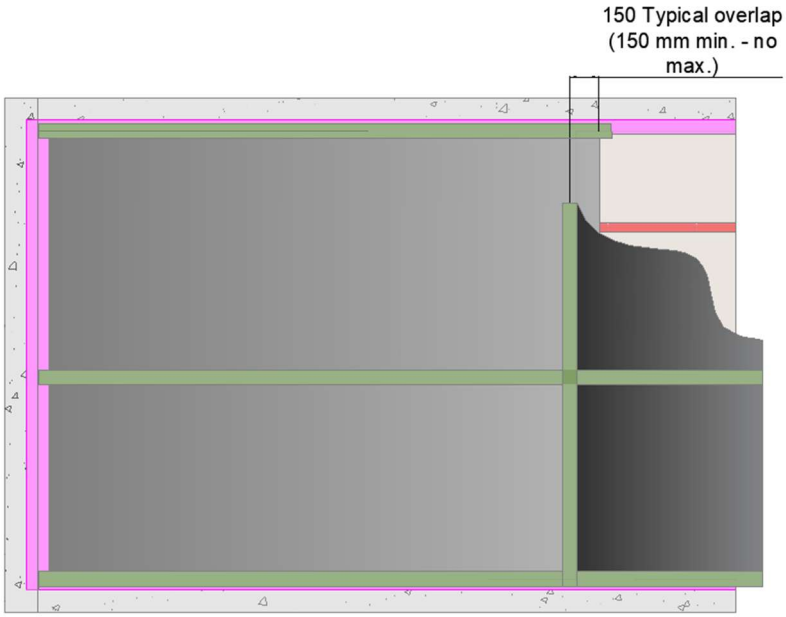
General guidance – all installation methods

Forming overlaps

All horizontal joints must be formed with a minimum 100 mm sealed overlap.



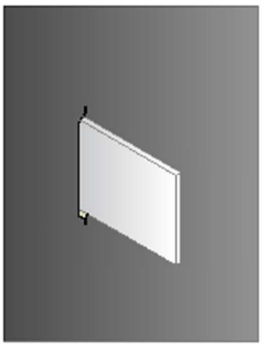
All vertical joints must be formed with a minimum 150 mm sealed overlap.

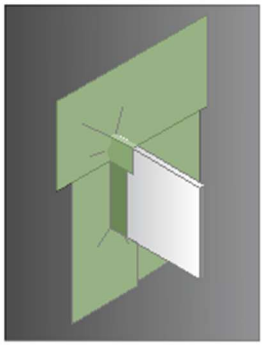


After forming the joints and securing the membrane, seal the overlap with the correct illbruck tape. Ensure the tape is smooth and free of wrinkles or bubbles, then consolidate the bond with a seam roller.

Sealing cladding brackets and penetrations

Identify the locations of brackets or similar protrusions, then make precise incisions in the membrane using a box cutter or palette knife. Carefully guide the protrusion through the opening.



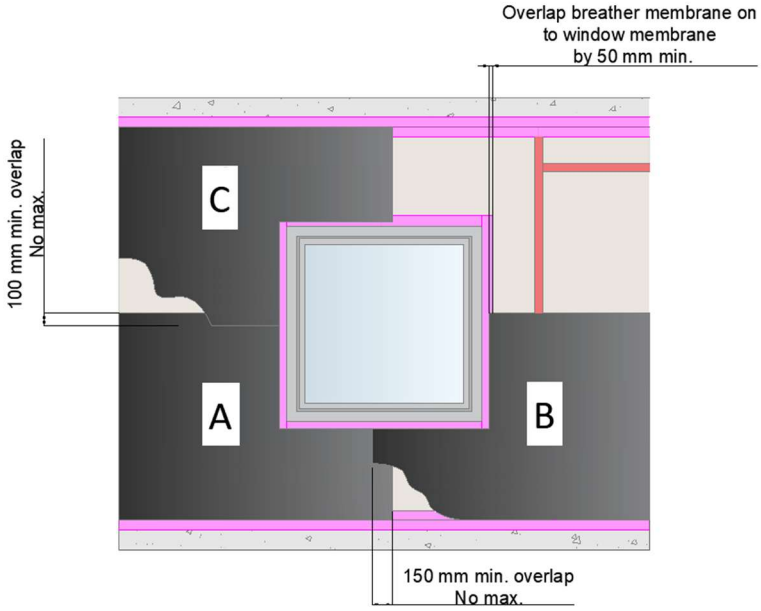


All incisions around any penetration are fully sealed with the correct illbruck tape.

Interfaces with window and door sealing membranes

Before installing the FR breather membrane, ensure all windows, doors, and openings are sealed with a compatible illbruck solution, such as the ME007 FR Window & Door Sealing Membrane.

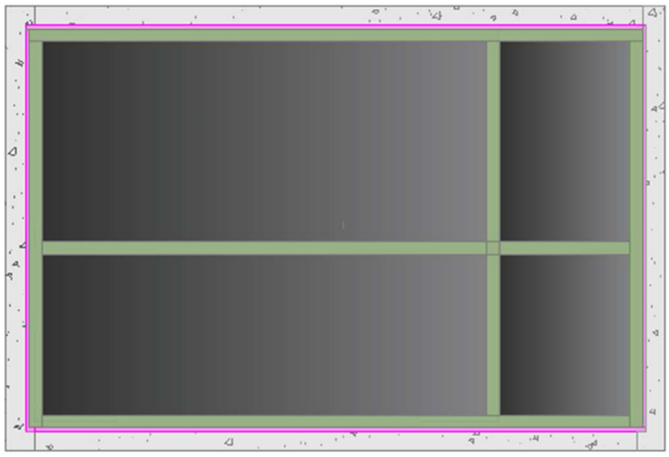
Measure the opening, cut the FR breather membrane to size, and ensure a minimum 50 mm overlap onto the ME007 FR Window & Door Sealing Membrane as shown below.

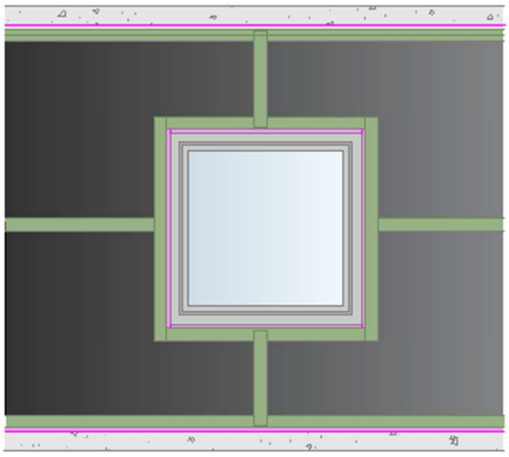


Seal all overlaps with the correct illbruck tape, ensuring a smooth, wrinkle-free application, and consolidate the bond using a seam roller.

Completion

On completion of installation, verify that all overlaps are correctly formed in accordance with this guidance document and sealed with the correct illbruck tape.





Support

Here at Tremco CPG UK Ltd, we have technical experts and field support teams who can help you – from specification to application, we're on hand.

If you're looking for more information about fire rated membranes, or how to pick the right membrane for your application, please contact our team: **hello@tremcocpg.com.**

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