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Application of FR Air and Vapour Control Membranes

INSTALLATION GUIDANCE

TREMCO
Construction Products Group

Illbruck FR Air and Vapour Control Membranes (AVCL)

illbruck FR Air and Vapour Control Membranes are air and vapour tight, and are used to manage moisture movement on the interior side of lightweight steel and timber frame systems.

This guide covers the use of the following illbruck FR Air and Vapour Control Membranes:

Product	Reaction to Fire in accordance with EN 13501-1	Sd value
FR AVCL (ME006)	Class B-s1,d0	>1500 m
FR AVCL (ME060)	Class A1	>2000 m

Materials required:

- illbruck ME355 FR Sealing Tape (Alu)
- illbruck ME322 Internal Tape 100
- illbruck ME480 Butyl Facade Sealing Tape
- Tremco TF448 50 mm High Performance Bonding Tape
- illbruck AT140 Primer for Porous Substrates
- illbruck SP025 FR Membrane Adhesive

Tools and Accessories:

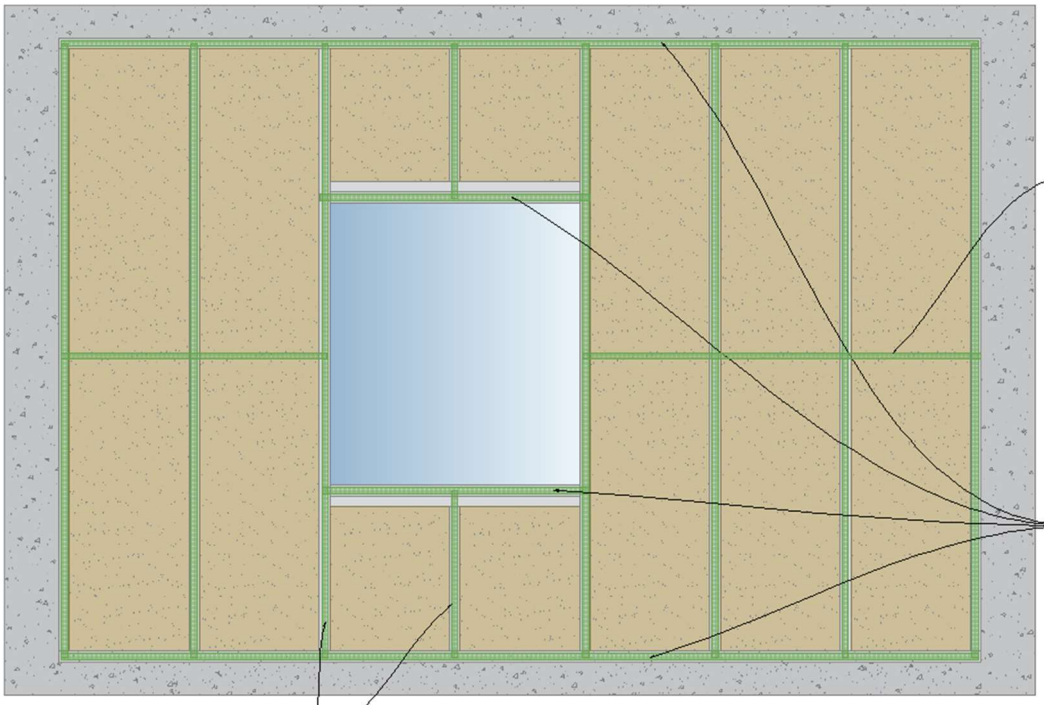
- Sharp retractable bladed knife and /or illbruck cutting shears
- Laser or chalk line to mark out 50 mm offsets
- 2” disposable paint brushes
- Pots for decanting AT140 Primer
- Stout seam roller
- Bench or table wide enough to accommodate the width of membrane and long enough to accommodate the required cut lengths
- A ‘Sharpie’ marker

Before commencing work:

Ensure the working area is dry and free from dust, debris and other obstructions including other trades.

Step 1:

ME060 is supplied in a 1200 mm width and ME006 is supplied in two width options, 1020 mm and 1500 mm. The both width options may installed vertically (similar to hanging wallpaper) or alternatively can be installed horizontally which may be preferable for the wider widths. This guide gives options for both orientations.

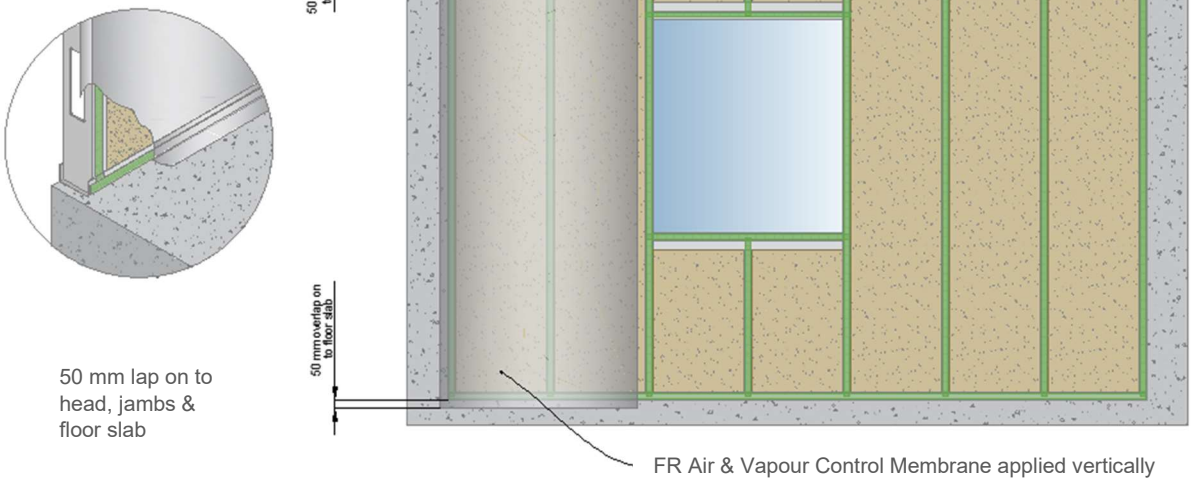


Apply a continuous strip of Tremco TF448 High Performance Bonding Tape to the head, base track and vertical studs. Apply further continuous strips to the head and base of openings and to the studs inside of the openings. If the membrane is being installed horizontally, an additional strip of tape will be required to bond the top edge of the membrane as shown above.

Note: 6 mm diameter continuous beads of SP025 FR Membrane Adhesive may be used as an alternative to TF448 High Performance Bonding Tape.

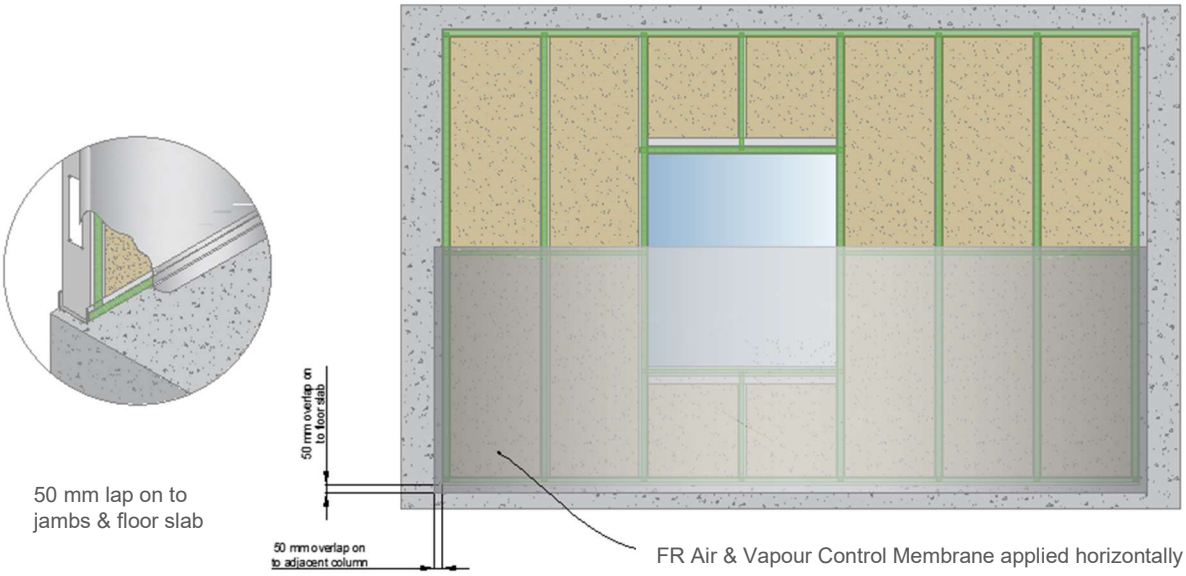
For applications to timber framed open panels or timber stud-work, the membrane may be secured to the vertical and horizontal members with stainless steel staples instead of TF448 or SP025 FR Membrane Adhesive. Staples should not be used excessively, recommended vertical or horizontal centres are a minimum of 250 mm and a maximum of 450 mm.

Step 2:



Lay the membrane down on a flat surface, e.g. a makeshift table or similar, measure and cut a length of membrane allowing for a 50 mm excess at the top and bottom to be turned inwards at the head and floor slab. (Also a 50 mm excess shall be returned on to the jamb or column). The excess will be sealed to the floor slab, head and column in a later step.

Align the section of the membrane vertically and press the membrane on to the TF448 double sided adhesive tape to secure it in place.

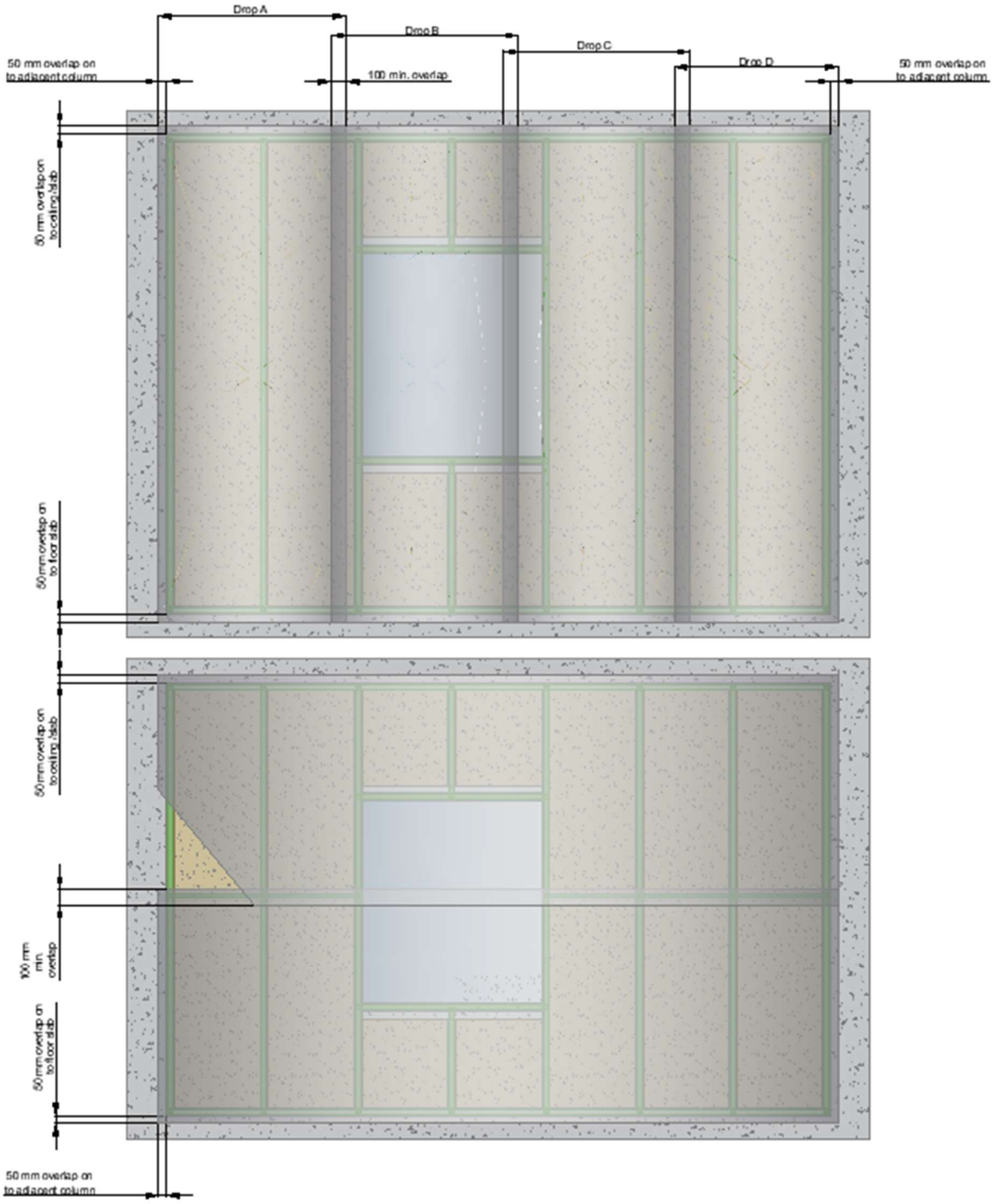


For horizontal applications, the bottom layer is installed first, with the same 50 mm excess at the jambs and base. The membrane will cover windows or other openings at this stage.

If using beads of SP025 FR Membrane Adhesive in lieu of tape, consolidate all bonds with a seam roller.

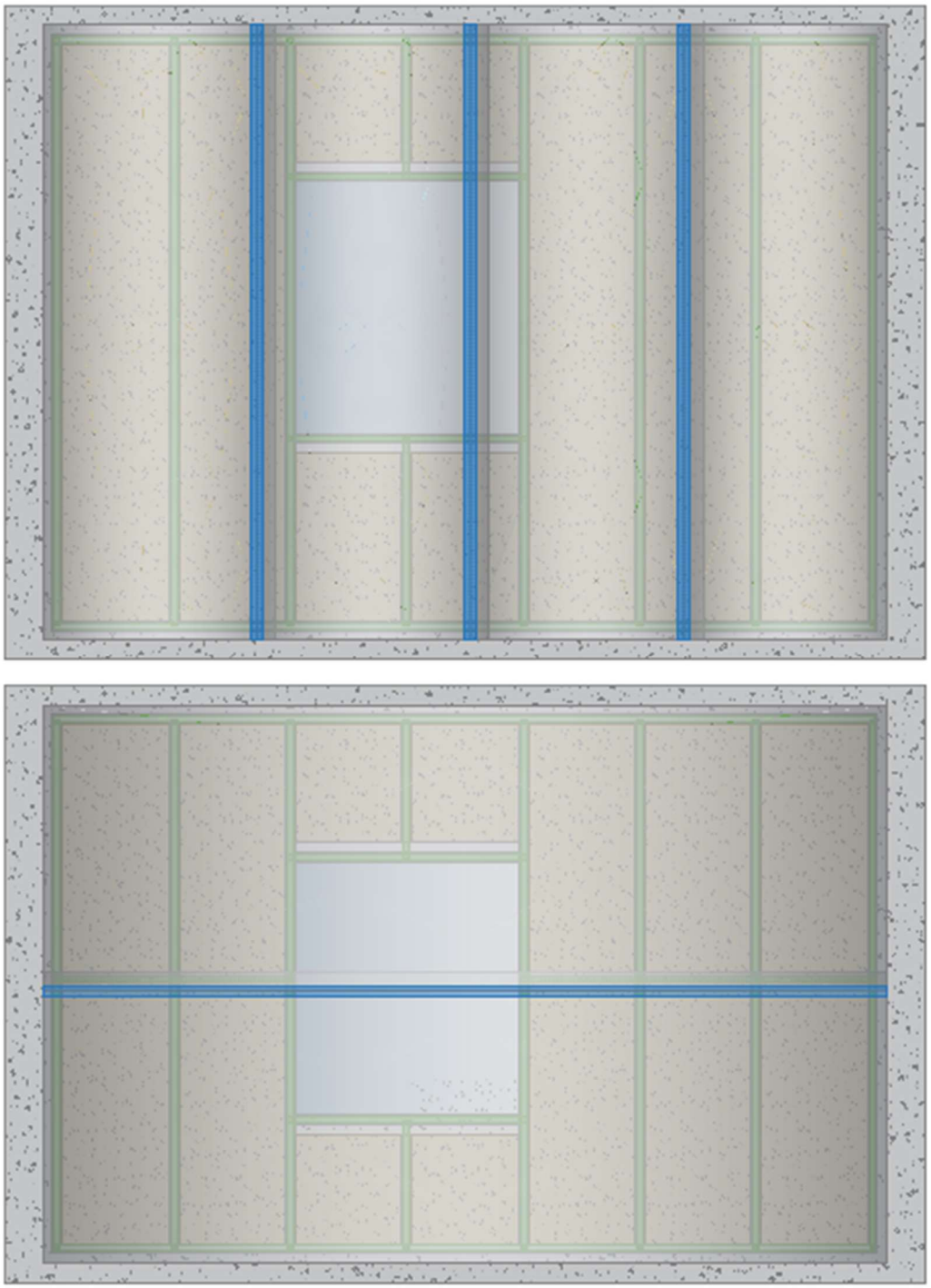
Step 3:

Repeat Step 2 for the remaining sections of membrane by forming overlaps with the preceding layer by a minimum of 100 mm. During the initial installation, cover all openings with the membrane.

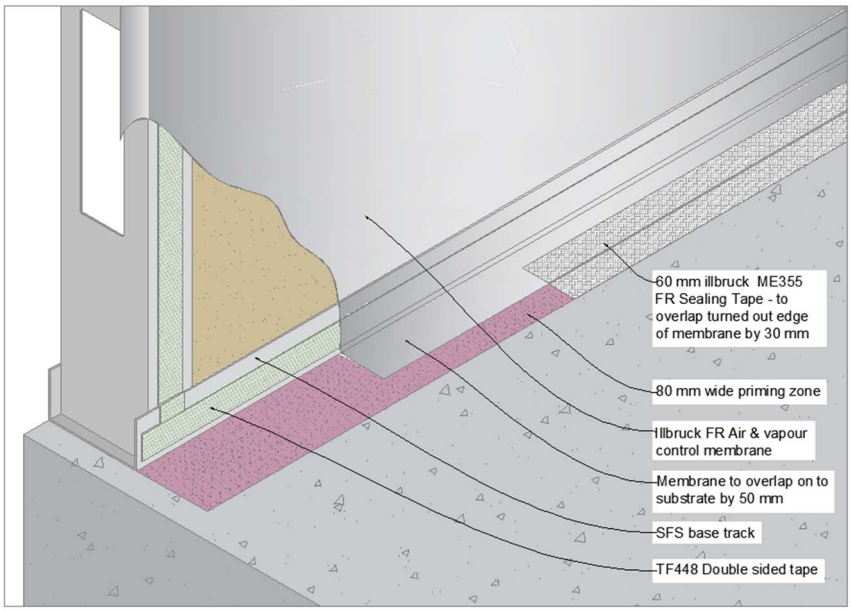


Step 4:

Apply 75 mm wide continuous strips of illbruck ME355 FR Sealing Tape (Alu) to the overlapping seams of the membrane. Ensure that the tape is firmly bonded and is free of wrinkles or bubbles.



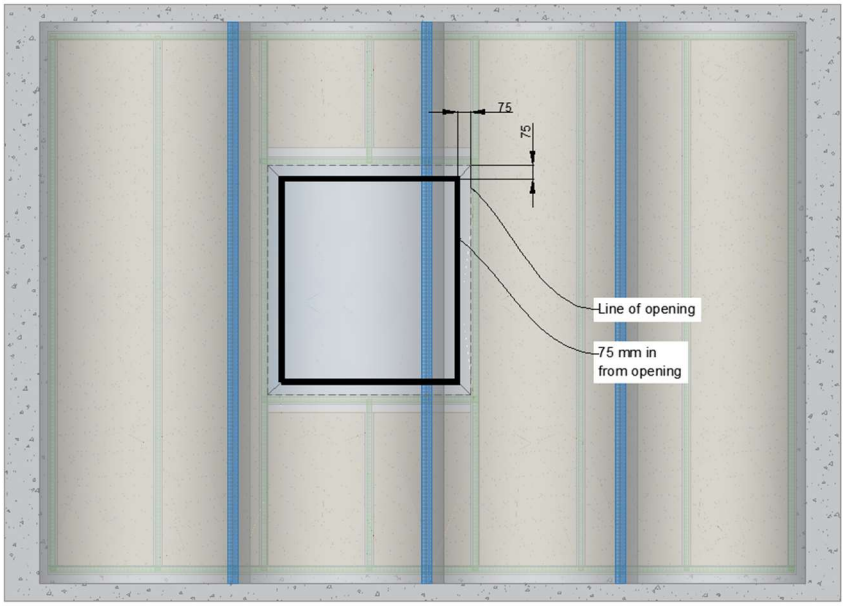
Step 5:



Under the turned in section of the membrane, apply a thin coat of illbruck AT140 Primer for Porous Substrates with a 2” wide brush to any concrete interfaces to aid bonding. Apply to the soffit, top of slab and columns in an 80 mm wide band and allow to flash off (approximately 10 mins in warm weather).

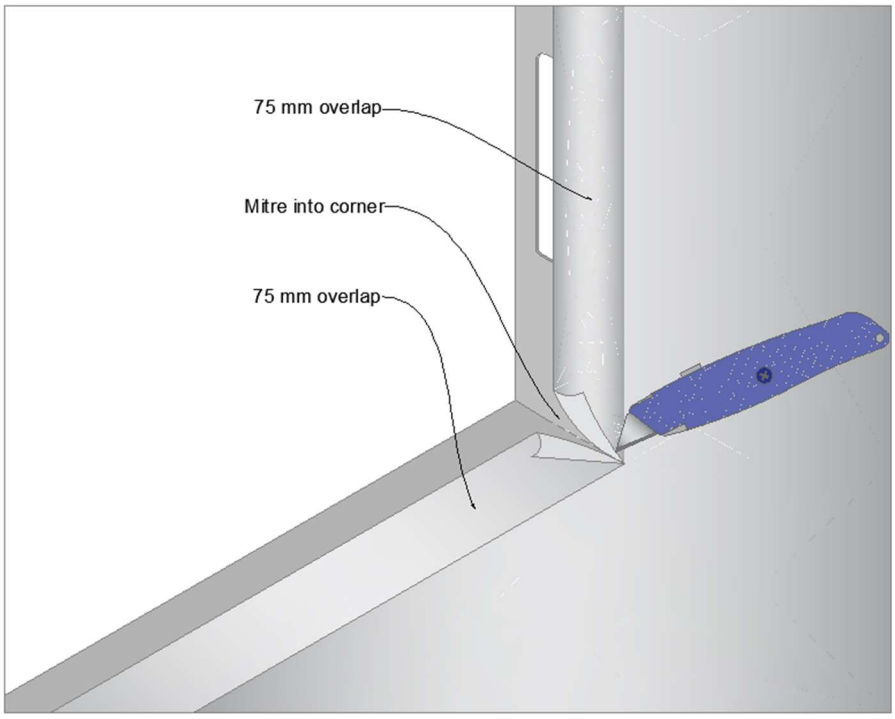
When the primer is touch dry, apply a continuous length of 60 mm wide ME355 FR Sealing Tape (Alu) to the turned inwards 50 mm section of the membrane with a 50/50 lap to the membrane and structure to seal the terminated edge of the installation. Apply the tape so it is firmly bonded and bubble and wrinkle free.

Step 6:



Mark out a square/rectangle with a ‘Sharpie’ where the window or door opening occurs. Create a further mark inside of the structural opening offset by 75 mm on all sides. Taking care, use a retractable bladed knife, cut a hole where you have created the mark inside the opening and discard the section of redundant membrane.

Step 7:



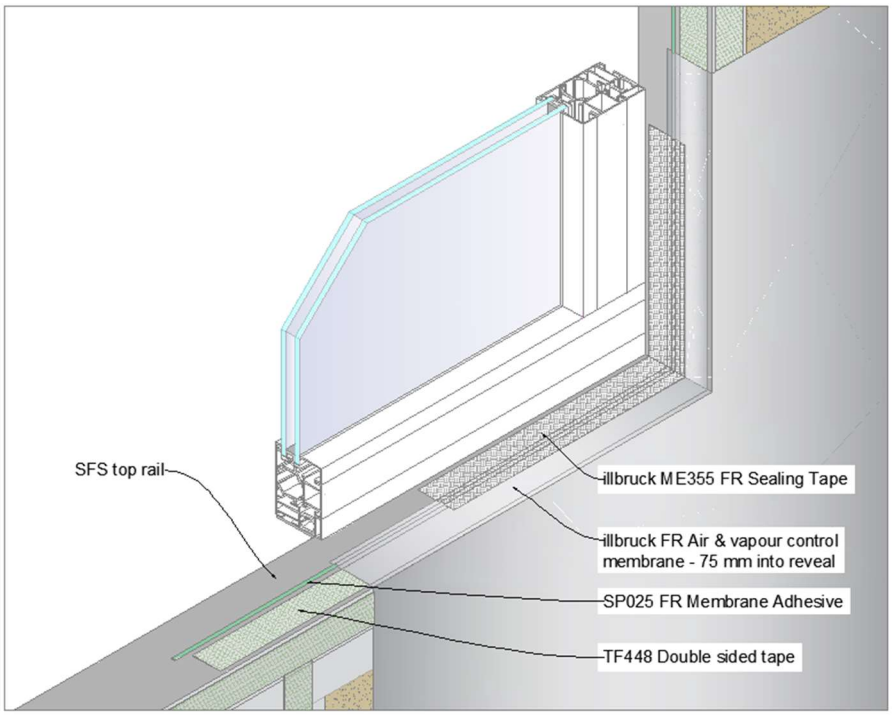
Using a sharp retractable knife or shears, cut a 45 degree mitre at the corners to enable the ‘flaps’ to be turned inwards in to the reveal.

The turned in flaps need to be fully sealed to the SFS around the perimeter of the opening. There are three options:

Option 1. (*Good*). Apply strips of ME355 FR Sealing Tape (Alu) overlapping 50/50 with the membrane and the light steel substrates.

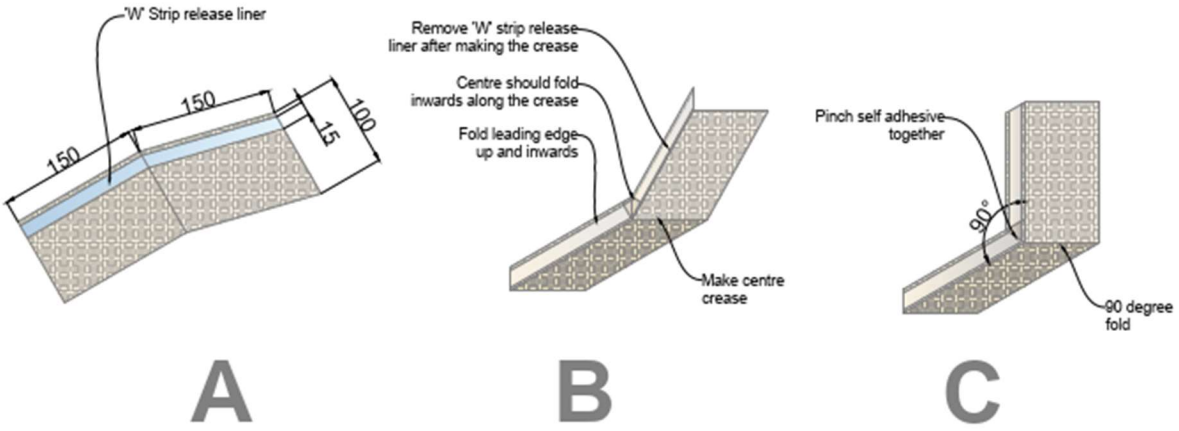
Option 2. (*Better*). Apply a continuous 6 mm diameter bead of SP025 FR Membrane Adhesive 15 mm inside of the terminated edge. Bed the membrane on to the adhesive bead and consolidate the bond by applying pressure with a seam roller until 2-5 mm of squeeze out is visible along the whole run.

Option 3. (*Best*). Apply a 50 mm wide strip of TF448 High Performance Bonding Tape to the perimeter of the opening 15-20 mm from the terminated edge and then seal the loose edge with SP025 FR Membrane Adhesive as described above.



Window sealing options – Step 7

Fabricating an internal 3D corner section



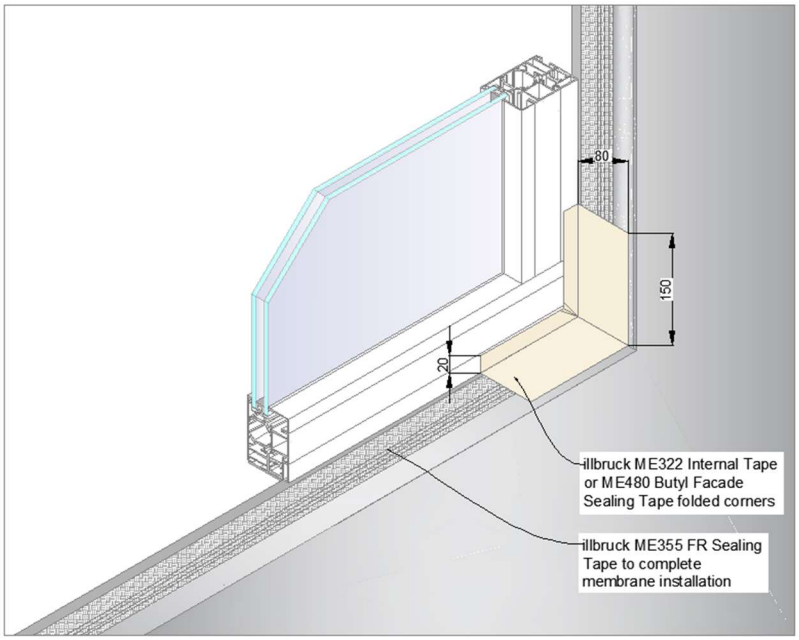
Stage A - Cut 4 No lengths of illbruck ME322 Internal Tape @ 300 mm long. Fold the two ends of each piece together and make a crease down the centre. Apply pressure along the fold with a seam roller to define the crease. Note – the foil face should be face down, the off-white texture should be facing upwards with the 'W' self-adhesive strip visible.

Stage B - Open up the folded and creased lengths and re-fold pinching the centre of the self-adhesive strip inwards to make further creases to enable a 90 degree L shape. Assign a section of each corner and dry fit the formed corner to check that it comfortably sits tightly in each of the corners. You will need to invert the top corner sections ensuring that the ‘E’ strip on the foil face is aligned with the frame.

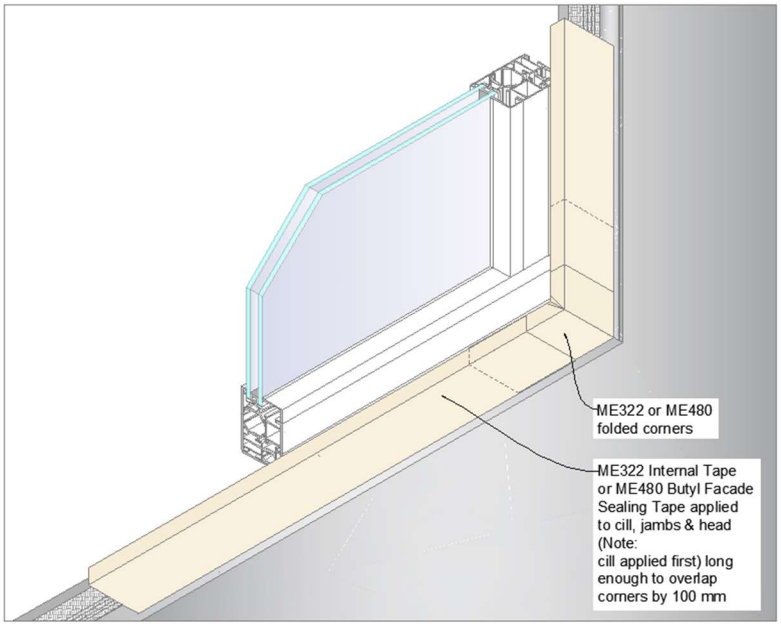
Stage C - Unfold each length once again and remove the ‘W’ strip. Reform the 90 degree ‘L’ shape and pinch the now active ‘W’ self-adhesive strip to connect and hold the profile at 90 degrees.

A similar method is employed when illbruck ME480 Butyl Facade Sealing Tape has been specified in lieu of ME322 Internal Tape – seek advice from the CPG Field Service Team or your local Area Sales Manager.

Final connection to window frame:



Self-adhere the preformed corner sections to cill, jambs and head. Ensure the corner sections sit flush at 90 degrees. The leading edge ‘E’ self-adhesive strip is removed and a 20 mm connection to the face of the frame is required. Remove the main release liner and adhere to the membrane. Once adhered, apply pressure and consolidate in place with a seam roller.



Cut sections of ME322 Internal tape (or ME480 Butyl Facade Sealing Tape) for cill, jamb and head, long enough to allow a 100 mm overlap with the pre-applied formed corners.

Apply the cill section first, followed by the jambs, with the head section applied last.

Your application is now complete.

Support

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

If you are 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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