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Application of ME220 EPDM membrane using CT113 adhesive

INSTALLATION GUIDANCE

TREMCO
Construction Products Group

illbruck ME220 EPDM membrane installed using CT113 adhesive.

This is an illustrated guide to demonstrate the correct method for installing illbruck ME220 EPDM membrane, using CT113 EPDM membrane adhesive.

This guide should be read in conjunction with the relevant illbruck product Product Data Sheets, Safety Data Sheets, and written method statements where available: https://www.illbruck.com.

The examples shown in this guide are based on a forward-facing window installed in a framed wall construction.

Actual project details, fixing support arrangements and window profiles may differ – however the same basic installation principles will apply. If project details differ significantly contact Tremco CPG UK Ltd for advice.

Further on-site toolbox training can be arranged where required by contacting Tremco CPG UK Ltd.

Where the ME220 membrane is positioned in the cold zone, a vapour tight membrane such as EPDM can increase the risk of condensation and a vapour open membrane such as illbruck ME501 Duo Window Membrane (or ME010 or ME007 FR Window & Door Sealing Membrane if applied to a relevant building) is normally a better solution.

Any deviation from illbruck's best practice installation guidance may affect the performance of the installed membrane and invalidate any warranties.

Protective Equipment

USE IN WELL VENTILATED CONDITIONS and ensure all recommended protective equipment is worn during handling and use of this product. For full recommendation, refer to safety data sheet.

Tools and accessories:

- illbruck cutting shears or scissors
- Marker or pencil
- Brushes to apply the primer and adhesive
- Stout seam roller
- illbruck ME241 EPDM Corners
- illbruck OT015 High Tack EPDM and Membrane Adhesive
- illbruck AA956 Sausage Gun 600 - Pro Combi or similar quality 600 ml applicator gun
- illbruck AT200 General Purpose Cleaner for Degreasing Metals
- illbruck AW421 Industrial Cleaner
- A clean cloth for use with AT200 General Purpose Cleaner
- A container for adhesive dilution for priming

Before commencing work:

- Ensure all surfaces are clean, dry, and free from dust, grease, and debris and free from any contaminants that may affect the adhesive bond. It is recommended to degrease the substrate (and membrane if necessary) by using isopropanol.

- Any over spills or excess cured fire rated silicone or compounds should be mechanically removed from the face of the sheathing boards where the ME220 EPDM membrane will be applied. If the overspill is excessive, please consult illbruck's Technical Department for further assistance.

- Where any silicone-based compounds remain, such as within the board joints, they will need to be treated with an illbruck primer prior to installing the ME220 membrane.

- Clean the window/door frame down with illbruck AT200 or a plain mineral spirit such as methylated spirit.

- illbruck ME220 should always be directly bonded to the substrate and must not be lapped and adhered to an existing full façade membrane.

- If a façade membrane has already been applied over the sheathing board, temporarily cut back sufficiently to allow for the application of the ME220 – this will be reinstated afterwards.

- Where the membrane interfaces with a third-party waterproofing material or similar, seek further advice on compatibility from CPG UK Ltd.

Application method:

Step 1:

- Check the compatibility of the illbruck CT113 adhesive with the nominated substrate type. Porous substrates may need to be primed.

- As a primer, dilute CT113 in ratio 1-part CT113 to 2 – 3 parts AW421 solvent (by volume).

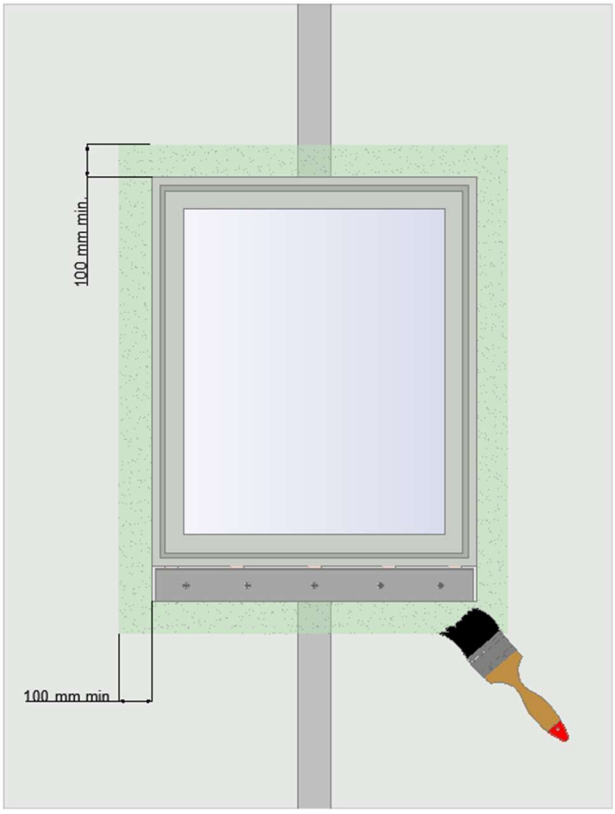

Figure 1.

- Apply the primer using a brush or roller to the whole of the final bonded area (Figure 1).
- Application of the adhesive must be delayed until after the primer is fully cured (10 – 30 min).
- Use a separate container for the primer dilution and never return the remaining mixed material into the CT113 adhesive.

Step 2:

- Determine the membrane width and length required.

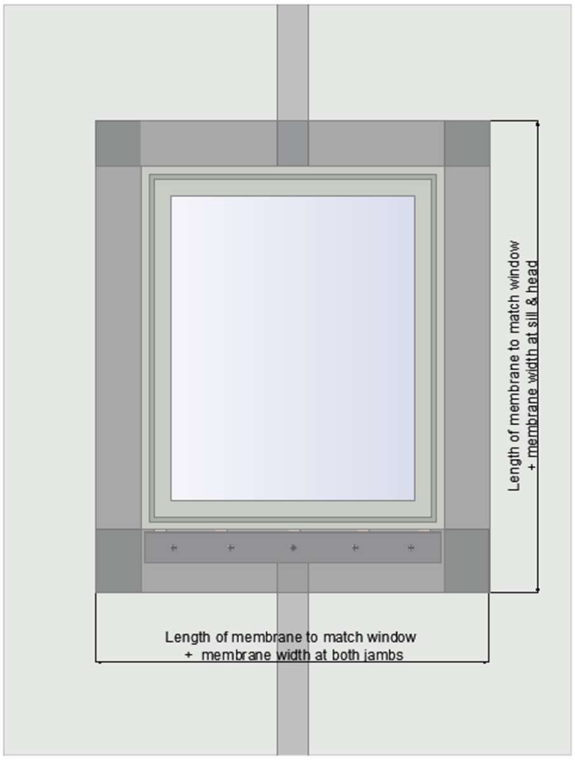

Figure 3.

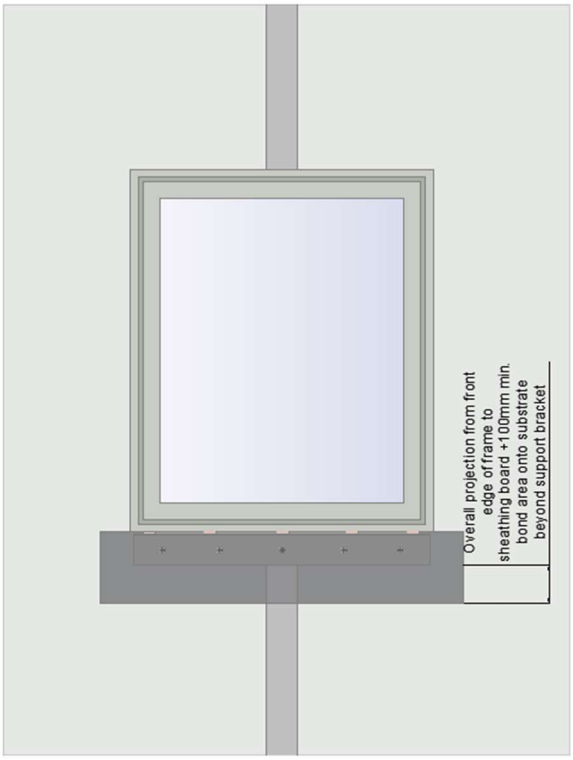

Figure 4.

- The lengths of the membrane shall match the window frame + the width of the bonded membrane to the substrate on both sides. (Figure 3).

- The widths of the membrane = overall projection from the front edge of the window frame to the face of the sheathing board + 100 mm bond area onto the substrate beyond the support bracket. (Figure 4).

Step 2 cont:

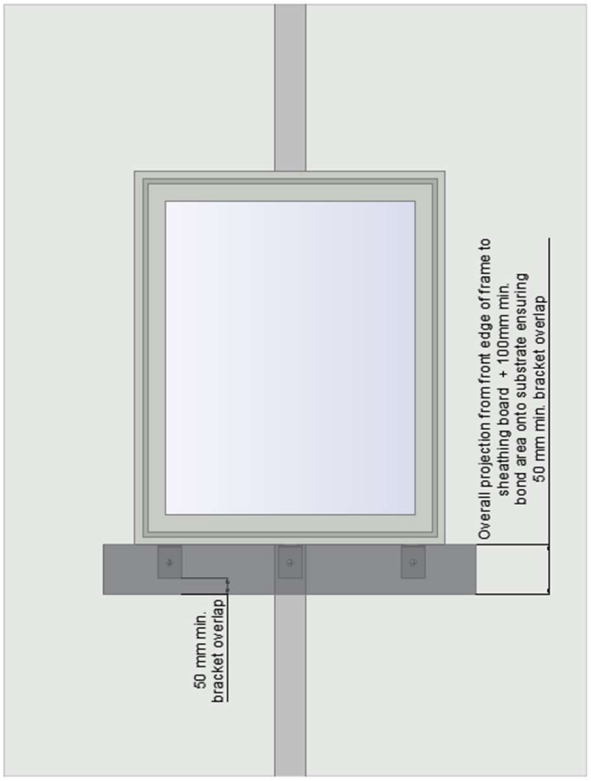

Figure 5.

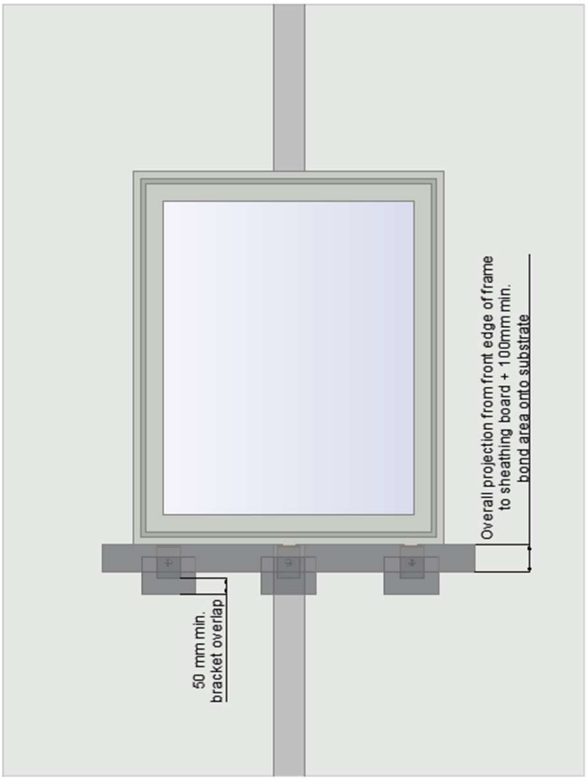

Figure 6.

- If single angle brackets are being used in lieu of a continuous bracket as shown in Figures 3 & 4, as long as there is a minimum of 100 mm bond area between brackets, the bracket overlap can be reduced to 50 mm. (Figure 5).

- Alternatively, the membrane width can be calculated to accommodate a 100 mm min. width between the brackets only, with cut patches of membrane applied over the brackets protruding underneath the membrane. The membrane patches shall overlap on to the membrane and substrate by 50 mm min. (Figure 6).

Step 3:

- Installation of the membrane shall start at the sill.

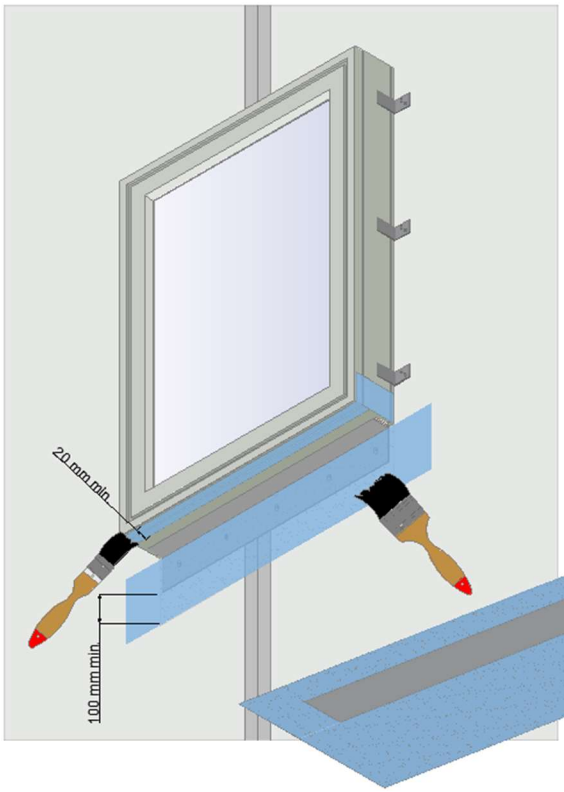

Figure 7

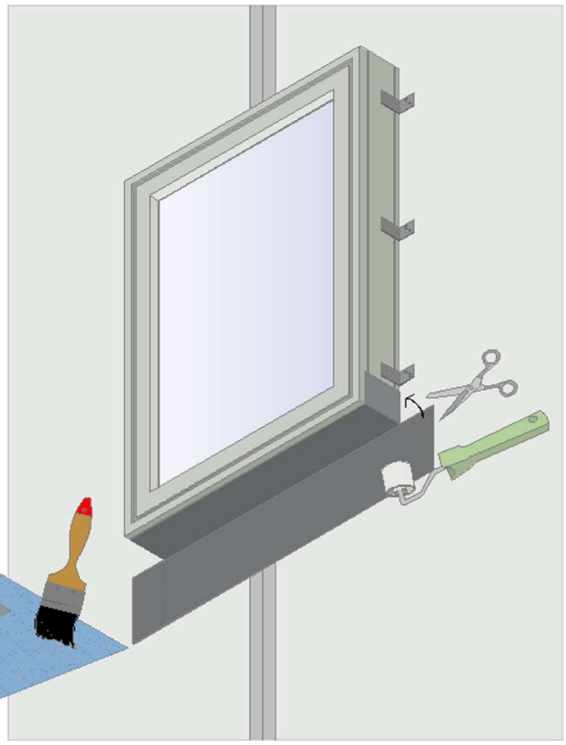

Figure 8

- CT113 adhesive must be mixed thoroughly before application.
- In the case of unwanted thickening of the adhesive, dilute with AW421 solvent and mix until homogeneous. The amount of solvent added must not exceed 10%.
- Apply CT113 using a brush or roller evenly to both surfaces to be bonded. A minimum of 20 mm is recommended to non-porous surfaces such as the window frame and a minimum of 100 mm to porous surfaces (Figure 7).
- Also apply CT113 to the membrane to achieve the appropriate cover to window and sheathing board substrate.
- After applying the adhesive, allow to flash off (approx. 10 – 15 minutes using finger touch test). This is very important to ensure good adhesion.
- After flashing off, both bonded surfaces must be connected. Carefully press into position. The edges of the membrane will need to be cut towards the corners of the frame to allow the top edge of the membrane to fold upwards and bond on to the window jamb. (Figure 8).
- When in position consolidate thoroughly using a seam roller (Figure 8).

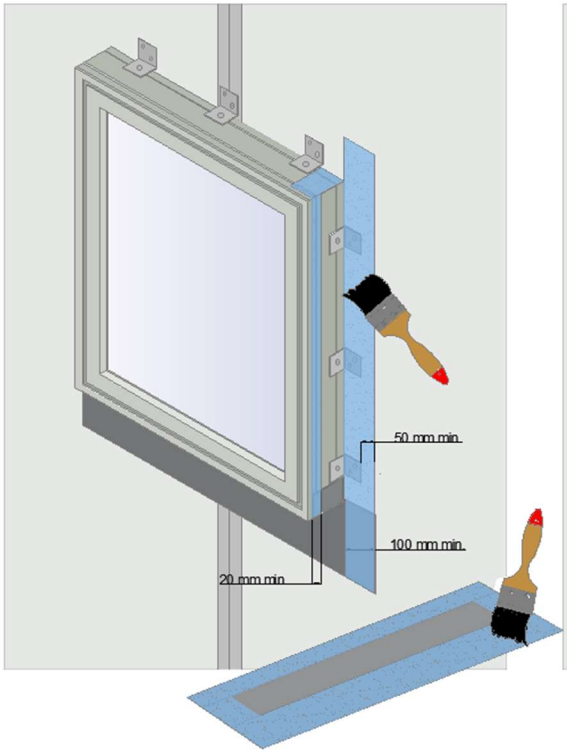

Figure 9

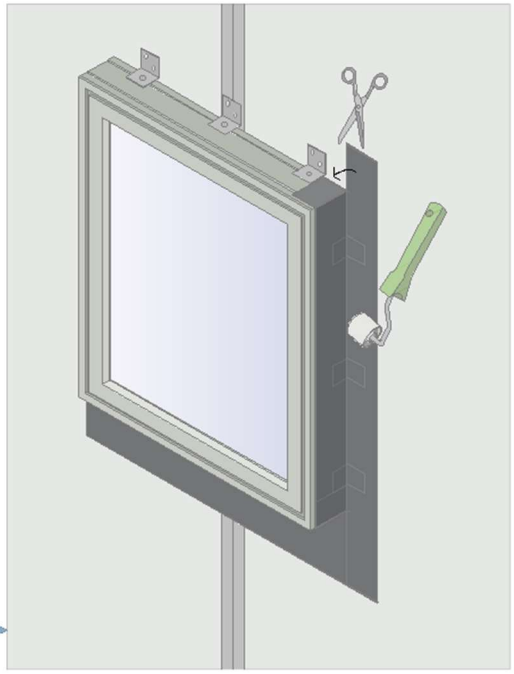

Figure 10

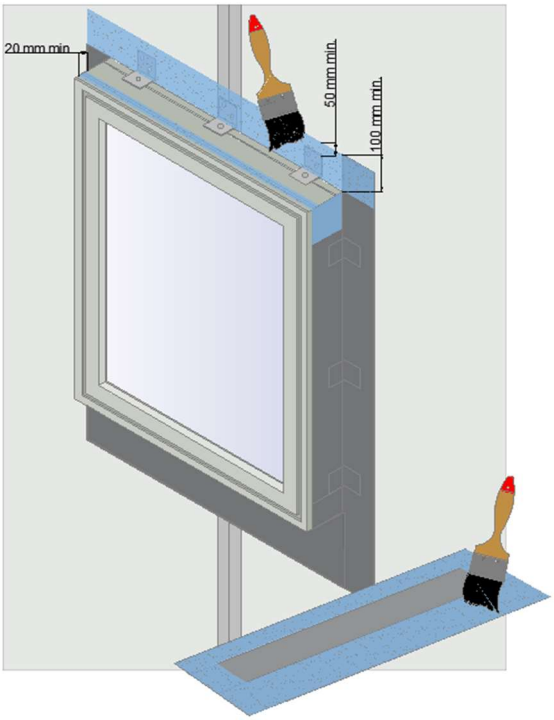

Figure 11

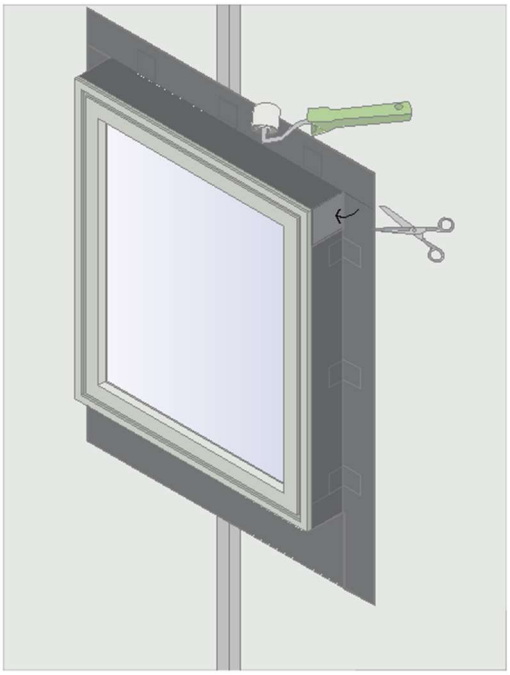

Figure 12

- The same procedure applies for the window jambs and head, with the membrane being installed at the window head last.
- Note: the ME220 membrane to membrane overlaps as detailed in Step 3 may be bonded with OT015 using the method below and as described in Step 5 – membrane patch application, if required.

Step 4:

- Small gaps in the membrane joints should be sealed with illbruck OT015 membrane adhesive.
- For ensuring robust air and weathertight seals at the membrane corner joints, illbruck ME241 corners can be used.

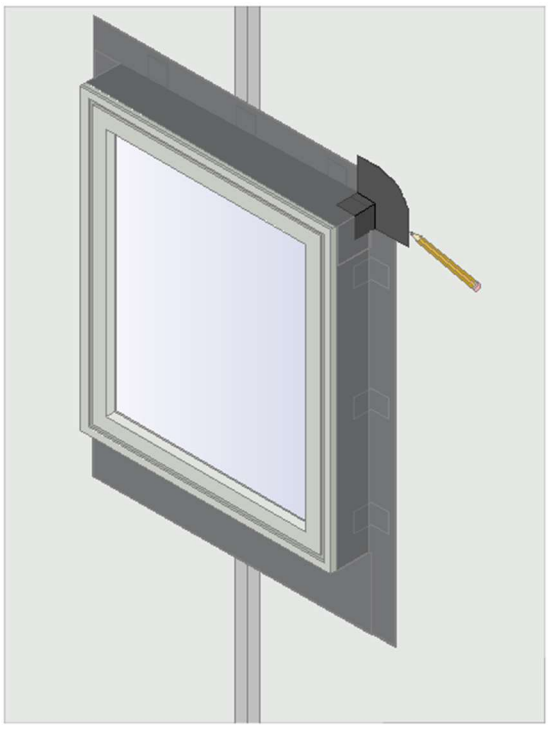

Figure 13

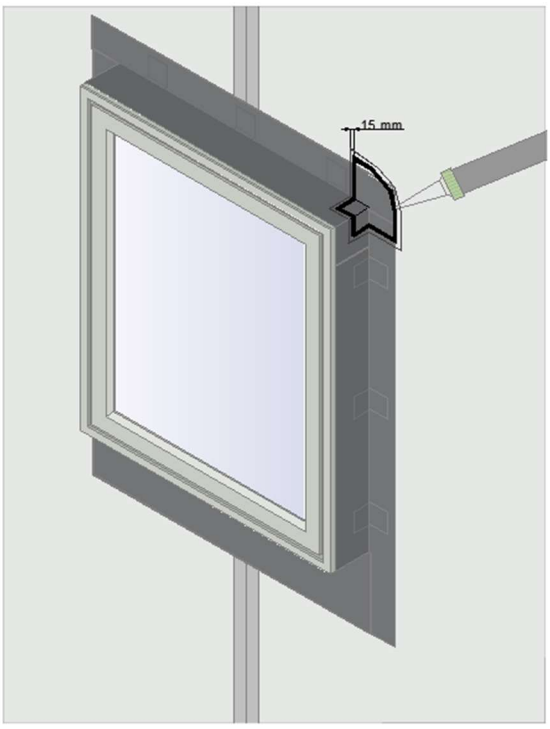

Figure 14

- Following full membrane application, place the ‘dry’ corner in position and use a marker to indicate the proposed location (Figure 13).
- ME241 corners are bonded using illbruck OT015 High Tack Membrane Adhesive. Apply a 10 mm diameter continuous bead of OT015 15 mm inside of the line indicating the proposed location of the corner. (Figure 14).

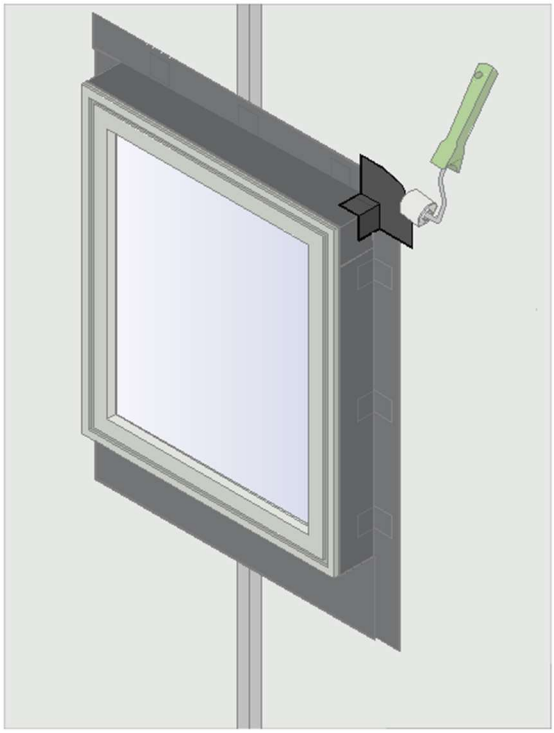

Figure 15

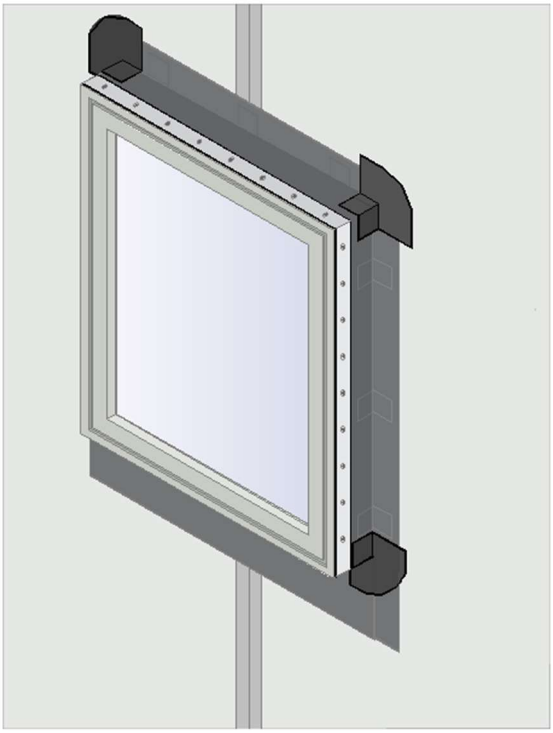

Figure 16

- Gently press the corner on to the adhesive ribbon. The corner should overlap the centre of the adhesive ribbon by 15 mm.

- Apply firm pressure with an illbruck seam roller and roll over the top of the corner where the adhesive is located underneath. The adhesive will begin to visibly ooze out from under the corner's edge. When the visible ooze is a uniform 2 – 3 mm wide along the perimeter of the corner, the adhesive is consolidated. (Figure 15).

- Do not smooth or scrape away the excess 'ooze', this must be left intact as a visual indicator that the adhesive has been applied correctly and has been fully consolidated.

- Repeat for the remaining 3 No corners.

- Your installation is now complete, however if the membrane is being installed with membrane patches over the fixing brackets, please continue to Step 5.

- A mechanically fixed metal clamping strip sealed with OT015 adhesive may be installed as an option to enhance the fixing of the membrane to the frame for reduced bond areas. (Figure 16). Should the bond area reduce to below 20 mm please consult Tremco CPG UK Ltd.

Step 5:

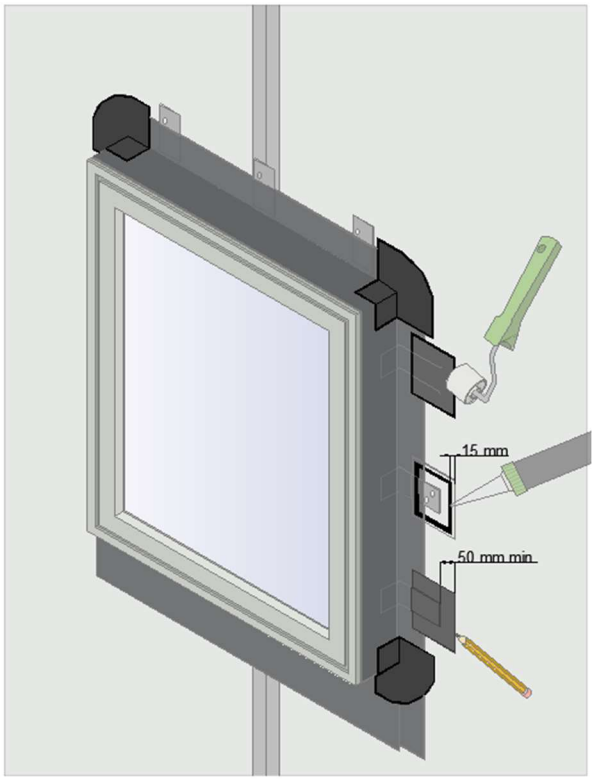

Figure 17

- The ME220 membrane patch must be sized to allow a 50 mm min. adhesive bond area to the substrate plus 50 mm minimum overlap over the installed perimeter membrane.
- Place the ‘dry’ patch in position and use a marker to indicate the proposed location (Figure 17).
- ME220 patches are bonded using illbruck OT015 High Tack Membrane Adhesive. Apply a 10 mm diameter bead of OT015 adhesive 15 mm inside of the line indicating the proposed location of the membrane patch. (Figure 17).
- Gently press the patch in place on to the adhesive ribbon and consolidate with a seam roller until there is a visible uniform 2 – 3 mm wide ooze around the perimeter of the patch. (Figure 17).
- Do not smooth or scrape away the excess ‘ooze’.
- Your installation of the ME220 membrane patch 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'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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