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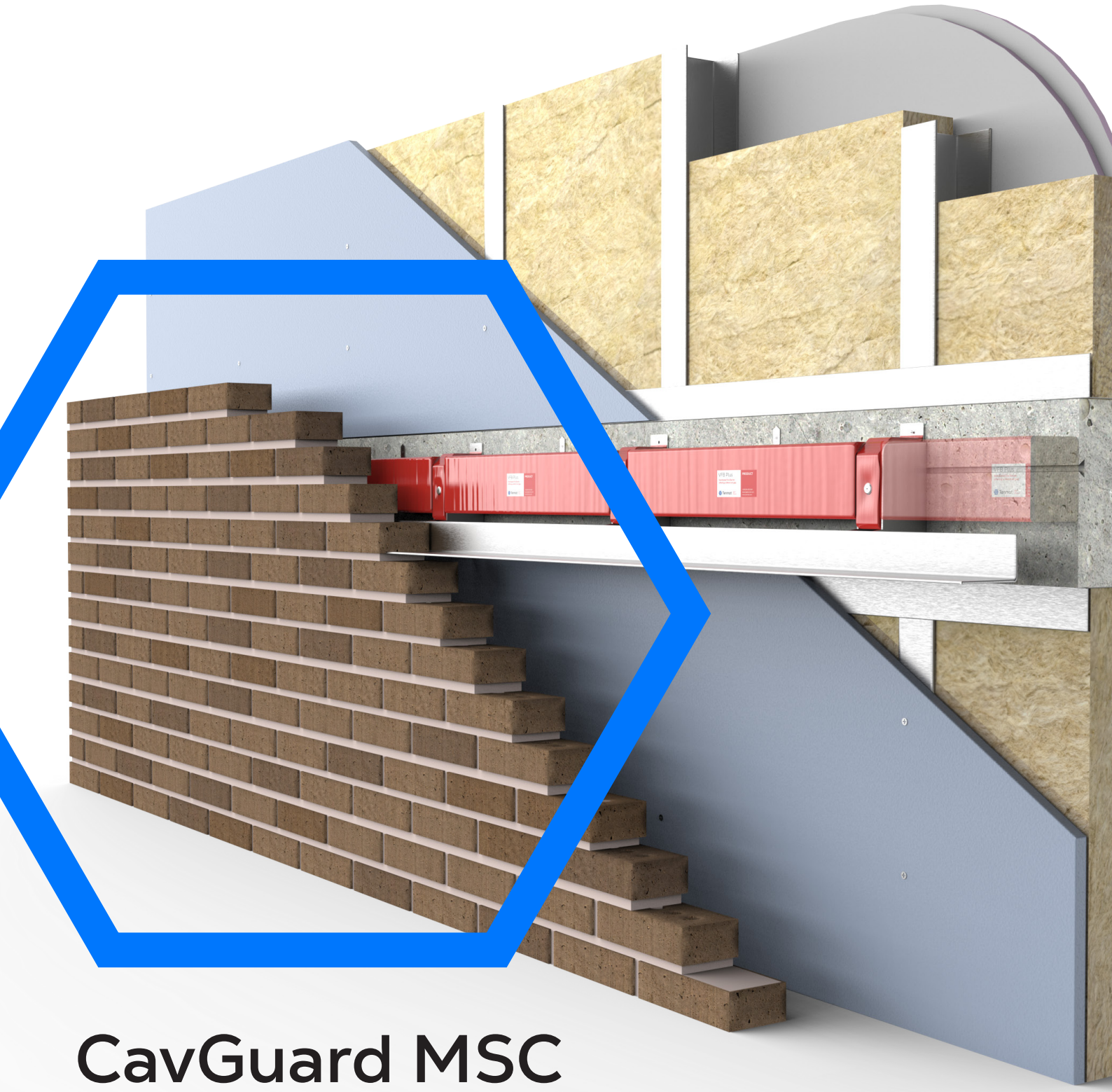


CavGuard MSC

Masonry Support Cover Plate

Tenmat's CavGuard Masonry Support Cover Plate (MSC) is a fire rated intumescent solution designed to offer fire resistance performance within external wall cavities where masonry support brackets interrupt cavity fire barrier locations.

Passive Fire Protection

Product Description

Tenmat's CavGuard Masonry Support Cover Plate (MSC) is a fire rated intumescent solution designed to react in a fire situation to seal within and in front of masonry support brackets that penetrate or disrupt cavity fire barrier locations.

The location of masonry support brackets can often result in them fully or partially penetrating cavity fire barrier locations. This can result in untested fire stopping solutions being employed in this location.

If cavity fire barriers and masonry support brackets are installed to fully fill the cavity in this area drainage is lost. In order to reinstate drainage to avoid damp and thermal bridging issues, additional cavity trays and weep vents must be installed in this area causing significant construction time, additional costs and complexity.

Tenmat have developed the CavGuard MSC to work in combination with Tenmat's VFB Plus 'open state' cavity fire barriers to provide an effective cavity fire barrier solution that ensures a continuous cavity barrier line that also maintains drainage in normal conditions.

In a fire situation, the integral high expansion intumescent material in the CavGuard MSC expands to seal the air gap within and in front of the masonry support bracket whilst the 'open state' cavity fire barrier seals the cavity and air gap between the masonry support brackets.

The system has been fire tested to the principles of BS EN 1363-1 and in accordance with ASFP TGD19 guidance.

The CavGuard MSC is to be used in conjunction with the VFB Plus horizontal fire barriers and the Tenmat NVFB vertically to provide a complete cavity fire barrier solution for external brickwork cavities.

Product Details

- CCPI Verified
- Fire Testing exceeded 120 minutes to allow for compartmentation continuation
- Leaves Continuous Free Air Space
- Intumescent Material expands to seal air gaps
- Reduces the need for cavity trays
- Ready to Install Solution
- To suit cavities from 112.5mm to 287mm
- Stainless Steel and Intumescent Construction
- Does not contribute to thermal bridging
- Working Life of 60 years*
- Patent Pending

CCPI
ASSESSED PRODUCT INFORMATION
002300002/0925
Cavity Barriers

Tenmat

Test Evidence

Fire Performance to the principles of EN 1363-1 and in accordance with ASFP TGD 19 guidance

Construction Type		Orientation	Tested Cavity Size Range (mm)	CavGuard MSC Width (mm)	Maximum Air Gap Range - CavGuard MSC (mm)	Maximum Air Gap Range VFB Plus (mm)	Product Fire Classification Rating		Fire Test Report Number
Inner Leaf Substrate	Outer Leaf Substrate						Integrity	Insulation	
Concrete/ Masonry/ Brick/ Blockwork	Concrete/ Masonry/ Brick/ Blockwork	Horizontal	112.5 - 287	42/50/58/64	25 - 37	25 - 37	120	120	WF436590 & WF510753

Maximum air gaps refer to maximum permissible open air gap from the front face of the CavGuard MSC or VFB Plus to the back of the outer leaf substrate.

Technical Information

Colour	Red
Finish	Stainless Steel / Polythene
Storage	Dry, ambient (see Safety Data Sheet)
Weight	Bespoke sizes ranging from 0.25kg to 1kg dependent on size to suit cavity width.
Reaction to Fire	The intumescent/reactive seal is Class 'E' to EN 13501-1. This is permitted where intumescent and fire stopping materials are necessary to meet the requirements of Approved Document B as per Building Regulations section 7(3)(f).
Fire Resistance	See Fire Test Evidence table.
Durability to EOTA TR024 (Intumescent/Reactive Seal)	Type X - intended for outdoor use or exposed to free weathering - rain, UV, high temperatures in summer, frost and frost-thaw in winter.[1]
Smoke Generation - BS EN 45545-2	Low Smoke Generation in intumescent material testing[2] Tenmat FF107 Results Ave. Ds(max)20 value = 4
Halogen Content	Halogen-free Tested Max. Values Fluorine = 0.0006% / 6ppm Bromine = 0.0001% / 1ppm Chlorine = 0.0007% / 7ppm Iodine = 0.0006% / 6ppm Max. limit 0.5% / 5000ppm[3]
Working Life	60 years[4]

The product is not subject to any warning or ban under Section 26 of the NZ Building Act 2004.

Working life, durability, smoke generation and halogen content data refers to the active intumescent component.

[1] Type X testing to EOTA TR024 detailed in Report - (2300/522/18) - 1/2018 - Br/Mü dd. 2018/03/19.

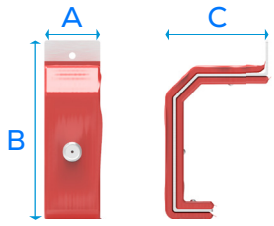
[2] Testing for Ds(max)20 records the greatest smoke density generated during twenty minutes, it is a logarithmic expression relating to how much light can be transmitted through the smoke. In the EN45545-2 standard, a maximum value of 300 must be demonstrated for the most demanding applications, typically underground passenger rail with autonomous vehicles. Tenmat's intumescent material can therefore be considered to be low-smoke. Test evidence in Doc. Ref. 396264.

[3] According to the IEC 60754-1 standard, halogen-free equates to less than 0.5% / 5000ppm hydrogen halide gas release on combustion. This means materials must contain below these levels for fluorine, chlorine, bromine, or iodine. Doc. Ref. 411109.

[4] Independent 3rd party review of test data confirmed the intumescent would be expected to be capable of performing its function for a period of at least 60 years in an environment which is protected from the elements for normal temperature range of -5C to +30C but can reasonably be expected to cope with intermittent extremes in the range of -20C to +50C. KIWA Technical Report TN/24332/01 Rev A.

Fire test evidence, safety data sheets and previous versions of product information are all available upon request by contacting Tenmat, please click here

Sizes



Sizes to suit Masonry Support Brackets for cavities up to 275mm**

(**Cavities can be up to a max. of 12mm larger than stated cavities to accommodate shimming out for building tolerance).

Masonry Support to suit cavity size (mm)	Masonry Support External Width Options (mm)	CavGuard MSC Size	Width A (mm)	Height B (mm)	Depth C (mm)	VFB Plus Dimensions
112.5**	50/60/70/80*	112 x Width (A)	42/50/58/64*	135	87.5	88x75x1000mm
125**	50/60/70/80*	125 x Width (A)	42/50/58/64*	135	100	100x75x1000mm
150**	50/60/70/80*	150 x Width (A)	42/50/58/64*	135	125	125x75x1000mm
175**	50/60/70/80*	175 x Width (A)	42/50/58/64*	135	150	150x75x1000mm
200**	50/60/70/80*	200 x Width (A)	42/50/58/64*	135	175	175x75x1000mm
225**	50/60/70/80*	225 x Width (A)	42/50/58/64*	135	200	200x75x1000mm
250**	50/60/70/80*	250 x Width (A)	42/50/58/64*	135	225	225x75x1000mm
275**	50/60/70/80*	275 x Width (A)	42/50/58/64*	135	250	250x75x1000mm

* The width of CavGuard MSC relates to the Masonry Support external widths as follows:

Masonry Support External Width (mm)	CavGuard MSC Width (mm)
50	42
60	50
70	58
80	64

Before Installation

Before a CavGuard MSC is installed the following information is required to ensure that the selected product is approved for use in the actual construction being utilised.

1) The type of construction being utilised, eg concrete floor slab leaf and masonry outer leaf.

2) The required fire resisting performance of cavity barriers is typically 30 minutes for integrity and 15 minutes for insulation (30/15) as per Approved Document B in England and Wales.

3) The orientation of the cavity barriers, horizontal for the CavGuard MSC and Open State Cavity Barrier or a vertical full fill cavity barrier.

4) The cavity size and the building tolerances of the cavity. (for example 113mm cavity and building tolerance 6-12mm).

5) Take account of any insulation within the cavity.

When the above information is obtained then this can be cross referenced with the CavGuard MSC approvals table to ensure that the product selection is correct. The product selected should be confirmed as being approved with the persons responsible for design, for example the principal designer and/or project fire engineer.

General Preparation

Suitable to provide free air drained cavities. Can account for building tolerances up to 12mm e.g. when shims are used behind masonry support brackets. Tested cavity range of 112.5mm to 287mm.

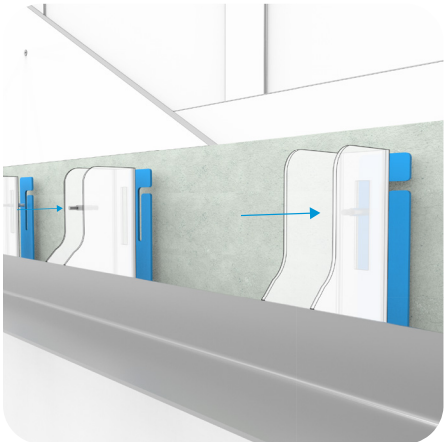
Positioning, Obstructions and Insulation

The intumescent leading edges / front faces of the VFB Plus and CavGuard MSC are clearly marked and should freely face into the cavity.

The CavGuard MSC and Open State Cavity Barrier must be installed horizontally in a continuous band across the floor level of the building in line with the compartment floors. The correct positioning should be confirmed with the persons responsible for the design of the project.

Note - The Open State Cavity Barriers, VFB Plus and CavGuard MSC should be installed in such a way that ensures the cavity is left open, allowing the barriers to expand freely in a fire situation.

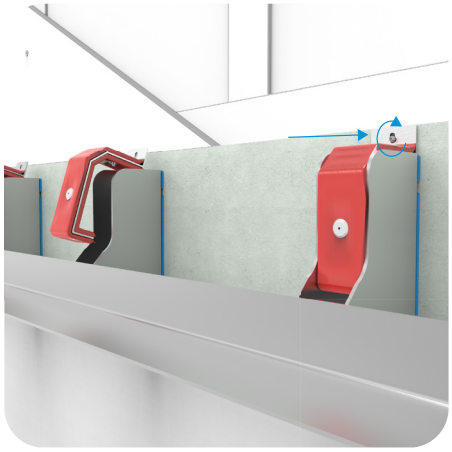
Fitting Instructions

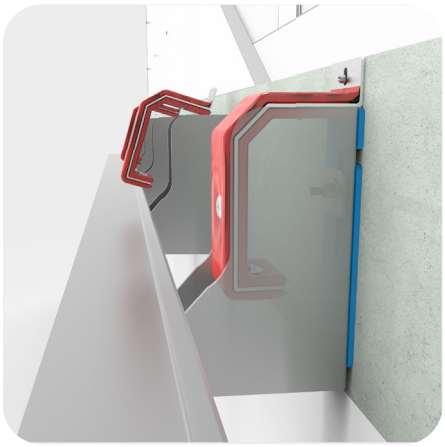


STEP 1

Fix the Masonry Support Bracket (MSB) to the slab edge, following the MSB manufacturer specific instructions. If required maximum shimming of 12mm as per manufacturer's instructions to ensure line, level and plumb. Shims must not protrude above the MSB support brackets so as not to interrupt the fitting of the Masonry Support Cover Plate.

Fitting Instructions





STEP 2

Fixing the CavGuard MSC

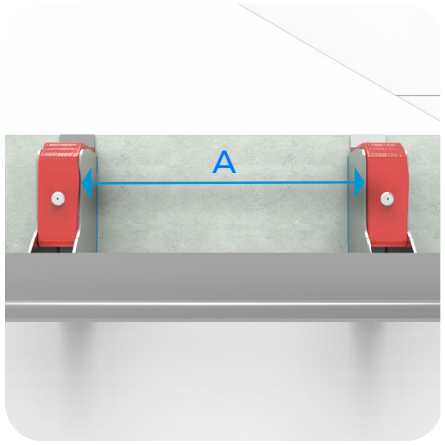
Insert the CavGuard MSC within the hollow of the masonry support bracket. The CavGuard MSC is sized to suit the internal width of the MSB support bracket, plus up to a 2mm tolerance for ease of insertion. The steel top arm of the CavGuard MSC must be positioned to sit directly above the top of the MSB support bracket (see image).

Use the single 15mm fixing slot to the head of the CavGuard MSC to mechanically fix through the plate directly to the concrete slab edge. The slot is provided to allow for fixing the CavGuard MSC whilst avoiding any reinforcement bars. The CavGuard MSC must remain in the correct position tight to the top of the MSB support bracket.

A stainless-steel fixing must be used to secure the CavGuard MSC, minimum 6mm diameter masonry/concrete self-tapping screw with a minimum length of 40mm is required to secure the CavGuard MSC to the concrete slab edge.

Note:

A suitable (no bracket needed) fixing for example SFS TI-S-Z10-6,3mm x 45mm which requires a pilot hole 5mm-5.2mm diameter at a depth of at least 45mm with a drill bit at least 100mm long to avoid damaging the face of the intumescing material on the cover plate.



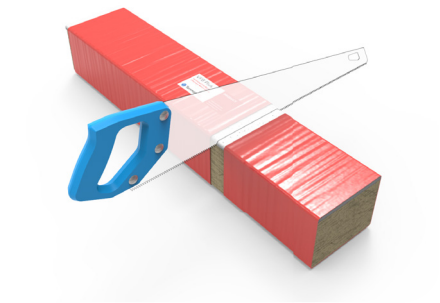
STEP 3

Fixing the Open State Cavity Barriers -

It is necessary to maintain correct compression and oversizing of the Open State Cavity Barrier in relation to the MSB support brackets. Measure the distance between the MSB support brackets, dimension A, not the MSB support bracket hollow e.g. 300mm.

Add an additional 20mm to dimension A, for example 300mm width + 20mm = 320mm.

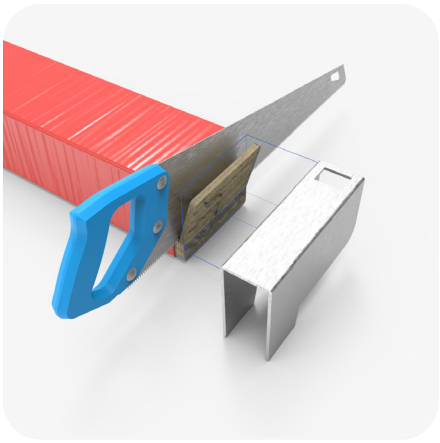
Fitting Instructions



STEP 4

Using a fine bladed hand saw, cut the VFB Plus to the dimension measured in Step 3, total width between MSB support brackets plus 20mm.

The oversizing is to ensure the intumescent face of the VFB Plus as a minimum meets, or slightly oversails, the front face of the CavGuard MSC to ensure a continuous intumescent seal.



STEP 5

Turn the VFB Plus over so that the intumescing material is face down on a clean and level surface.

Trim each end of the rock mineral wool of the VFB Plus to match thickness and depth of MSB Support Bracket, see image (left), to ensure a tight friction fit with no gaps between the MSB Support Brackets.

Ensure the profile of the cut VFB Plus allows tight fitting either side of the support bracket and allows a continuous intumescent seal formed by the VFB Plus and CavGuard MSC.

Fitting Instructions

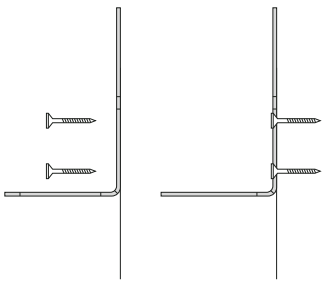
STEP 6

Behind the polythene covering to the face of the cavity barrier (the red face with the white label on) a steel screw is provided at the point of manufacture. This screw holds the intumescing strip mechanically to the rock mineral wool section of the cavity barrier.

These screws are spaced at 250mm intervals, when running fingers over the face of the VFB Plus, the position of the screw can be identified. For cut sections, it must be ensured that at least one screw is provided within the cut section of the VFB Plus.

If no screw is present, either select another section of VFB Plus or use one CSK stainless wood screw, with a 5mm shaft, 50mm long and a head diameter no larger than 10mm to screw through the face of the polythene covering and then through the intumescing strip to secure the intumescing strip to the rock mineral wool.

The screw should sit slightly proud of the surface of the intumescing strip.



STEP 7

MP brackets are supplied with 2 fixing spikes, one spike is 65mm long, the other is 160mm long, with a central predrilled section for securing the MP bracket to the substrate. For cavity barriers 76mm-90mm wide (across cavity) use MP brackets and the 65mm long spike.

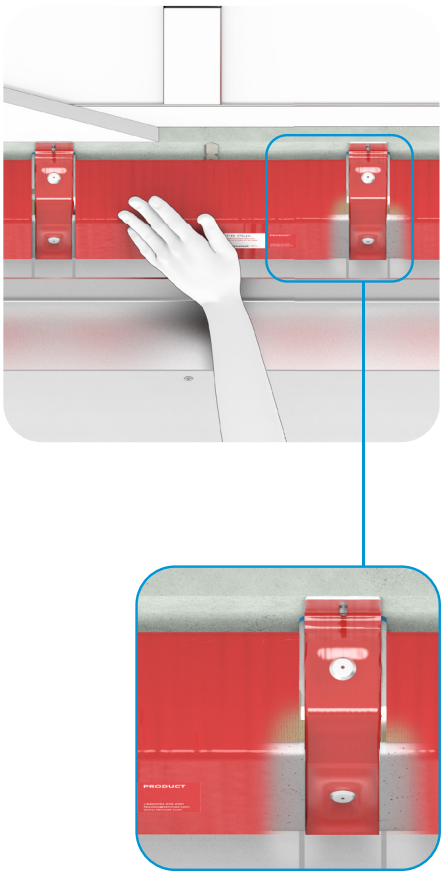
To secure the MP bracket use 5mm Ø stainless steel screws, with a maximum head diameter of 13mm and with a length and type suitable for the substrate, including wall plugs as may be required. Ensure that the screw head sits as flush as possible with the substrate. Fix through both fixing holes.

Where sections of cavity barrier are less than 1 linear meter in length, ensure that MP brackets are positioned at a maximum 250mm from each end.

For cut sections of cavity barrier less than or equal to 500mm in length only one MP bracket is required and should be fitted centrally to the length of cavity barrier.

Where sections of cavity barrier exceed 500mm, fix 2 number MP brackets, to the substrate at maximum 250mm from the end of the cavity barrier, with a maximum spacing between MP brackets of 500mm.

Fitting Instructions



STEP 8

Push the cut section of VFB Plus firmly and centrally in between the MSB bracket/arms and onto the fixing spike, ensuring that the top of the VFB Plus (the rock mineral wool section) sits flush with the top of the Masonry Support Cover Plate intumescing strip.

The rock mineral wool must be in tight compression against the sides of the MSB bracket/arms.

The VFB Plus should be oversized for the gap between MSBs (refer to step 5). This is to ensure that intumescing strip projects past the side of the MSB bracket/arm to maintain a continuous fire seal.

Note: Ensure that the air gaps from the front of the CavGuard MSC and the VFB Plus to the back of the outer substrate do not exceed the maximum permissible air gaps as given in fire test evidence table.

Limitations

To ensure compliance to the relevant test evidence detailed within this Data Sheet, the product must be installed as per the fitting instructions by competent installers. The product must only be used in a horizontal orientation.

Maintenance

- No active maintenance required.
- Where alterations are made around the product it should be checked visually to ensure that the product is still installed as per the approved original design and fitting instructions at the time of original installation.
- Where product(s) is damaged or tampered, new product should be installed in line with installation guidance.

Storage Conditions

- See Safety Data Sheet

Tools Required

- Sharp Knife
- Measuring Tape
- Appropriate drill
- Stainless steel fixings

PPE Required

- Hand protection
- Eye protection
- Follow project site requirements

Disposal

- Outer packaging can be cleaned and recycled.
- Intumescent and stone wool insulation is non hazardous waste and is categorised as “waste accepted at landfill for non-hazardous waste” and local regulations should be followed.

Please see Safety Data Sheet for more information.

Notes

CavGuard MSC

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