

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.

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



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

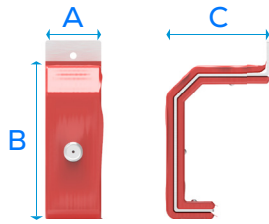
Maximum air gaps refer to maximum permissible open air gap from the front face of the CavGuard MSC or VFB Plus to the back of the outer leaf substrate.

Technical Summary

Colour	Red
Finish	Stainless Steel/Polythene
Transportation Storage Temperature	-20°C to +70°C
Durability	Type X intended for use in conditions exposed to weather (UV, rain, frost)
Halogen Content	Zero
Smoke Emission	Low
Minimum Total Working Life*	Based on typical climatic conditions
	UK 60 years
	Australia 45 years
	France 60 years
	New Zealand 60 years
	Germany 60 years
	Hong Kong 40 years
	The Netherlands 60 years

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

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*	116	87.5	88x75x1000mm
125**	50/60/70/80*	125 x Width (A)	42/50/58/64*	116	100	100x75x1000mm
150**	50/60/70/80*	150 x Width (A)	42/50/58/64*	116	125	125x75x1000mm
175**	50/60/70/80*	175 x Width (A)	42/50/58/64*	116	150	150x75x1000mm
200**	50/60/70/80*	200 x Width (A)	42/50/58/64*	116	175	175x75x1000mm
225**	50/60/70/80*	225 x Width (A)	42/50/58/64*	116	200	200x75x1000mm
250**	50/60/70/80*	250 x Width (A)	42/50/58/64*	116	225	225x75x1000mm
275**	50/60/70/80*	275 x Width (A)	42/50/58/64*	116	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

Packaging

50 per box

Tools

- Fixings
- Drill
- Screw Driver
- Tape Measure
- PPE
- Sharp Knife
- Fine Bladed Handsaw

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 the cavity barrier, typically 30 minutes for integrity and 15 minutes for insulation (30/15 EI). Table B3 item 17 of Approved Documents (Fire Safety) B1+B2:2019 (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.

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.

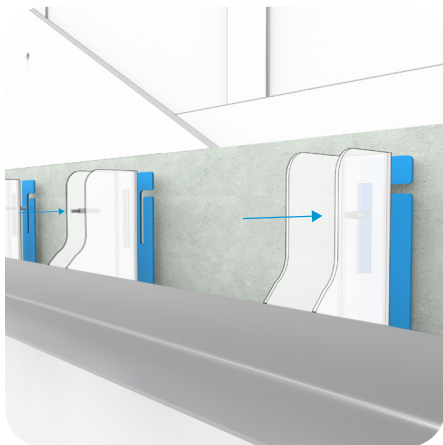
Positioning, Obstructions and Insulation

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.

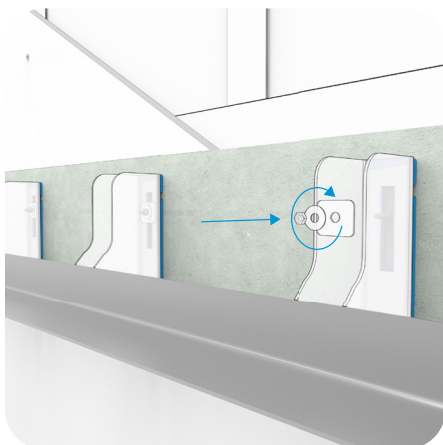
Note - The Open State Cavity Barriers, VFB Plus and CavGuard MSC should be installed in such a way that ensures the cavity is left open, allowing the barriers to expand freely in a fire situation.

Fitting Instructions

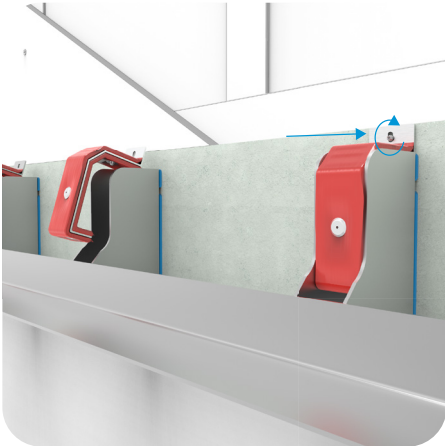


STEP 1

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

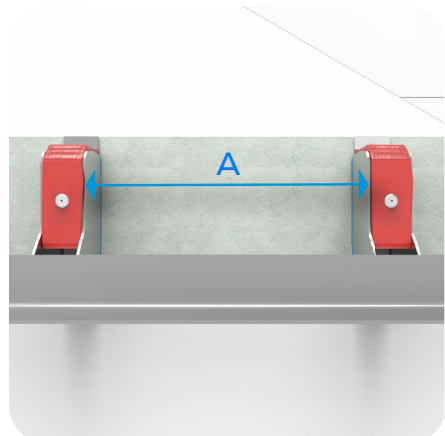
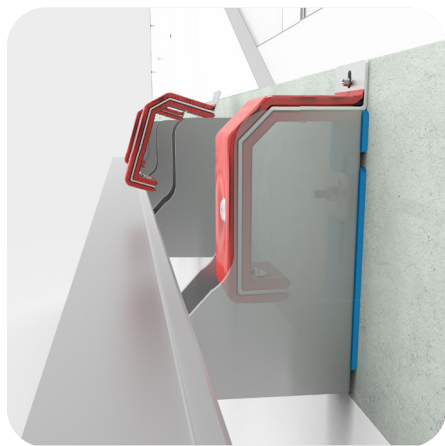
Insert the CavGuard MSC within the hollow of the masonry support bracket. The CavGuard MSC is sized to suit the internal width of the MSB support bracket, plus up to a 2mm tolerance for ease of insertion. The steel top arm of the CavGuard MSC must be positioned to sit directly above the top of the MSB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



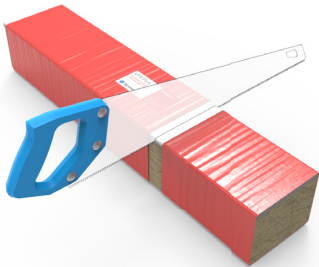
STEP 3

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.

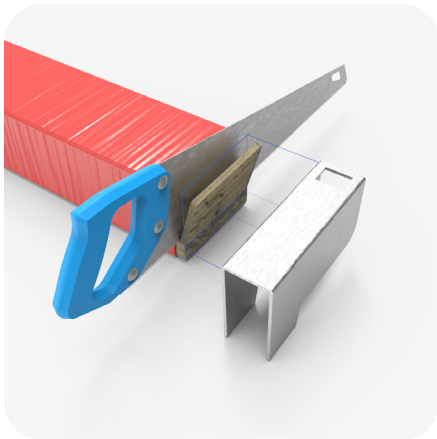
Fitting Instructions



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 intumescent 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



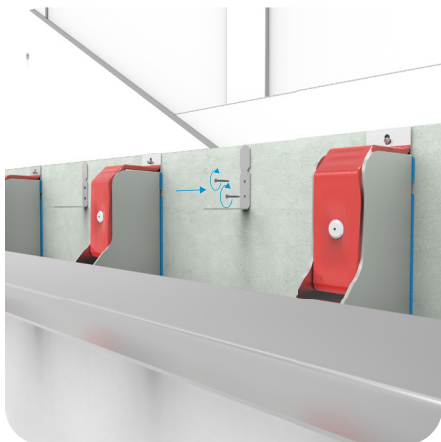
STEP 6

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 intumescent 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 intumescent strip to secure the intumescent strip to the rock mineral wool.

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



STEP 7

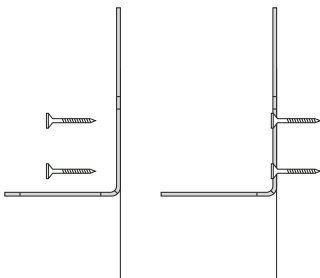
MP brackets are supplied with 2 fixing spikes, one spike is 65mm long, the other is 160mm long, with a central predrilled section for securing the MP bracket to the substrate. For cavity barriers 76mm-90mm wide (across cavity) use MP brackets and the 65mm long spike.

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.

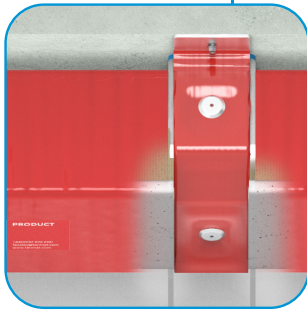
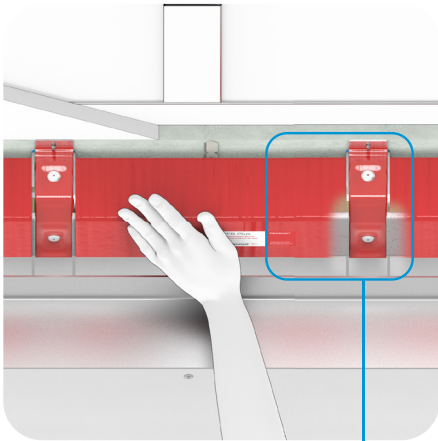
Where sections of cavity barrier are less than 1 linear meter in length, ensure that MP brackets are positioned at a maximum 250mm from each end.

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 intumescent 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 intumescent 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.

Notes

Dotted lines for notes.

Notes

A series of horizontal dashed lines for taking notes.

CavGuard MSC

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