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CavGuard CWFB - Curtain Wall Fire Barrier

Tenmat's CavGuard CWFB Curtain Wall Fire Barrier is a fire resistant stone wool product, pre-coated with CavGuard Coating that provides fire resistance performance behind curtain wall systems

Passive Fire Protection

Product Description

Tenmat's CavGuard CWFB Curtain Wall Fire Barrier is a fire resistant stone wool product pre-applied with fire resistant CavGuard Coating and designed to reinstate the fire resistance performance between external curtain wall systems and compartment floors of a building.

The CavGuard CWFB has been tested to EN1364-4 and will provide up to 120 minutes fire integrity and insulation performance.

Tenmat's CavGuard CWFB Curtain Wall Fire Barrier is supplied as 150mm wide x 100mm deep x 1000mm long sections with Tenmat CavGuard Coating factory applied to the top surface. The product can be cut to size (width/length) on site as required.

Intended Use

The CavGuard CWFB has been designed and tested to be installed horizontally within building voids of up to 225mm wide between curtain walling and the concrete slab edge.

Please check fire test data and technical information contained within this document for full details.

Key Points

- Suitable for gaps/apetures up to 225mm
- Can be installed horizontally against masonry substrates to a spandrel panel with 25mm thick calcium silicate board
- Supplied with Tenmat CavGuard Coating factory applied
- Provides up to 120 minutes fire integrity and insulation performance
- Compressible

Size

- CavGuard CWFB
  150mm wide x 100mm deep x 1000mm
- CavGuard Coating
  5 litre pails

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Rigid Floors minimum thickness 150mm

Fire Test Evidence: Tenmat CavGuard CWFB Curtain Wall Fire Barrier

Overall Cavity width (mm)	Thickness of barrier (mm)	Orientation	Coating Location	Minimum Seal Depth (mm)	Backing Material	Fire resistance performance
10 - 225	100	Horizontal	On top face of backing material. Overlapping floor and curtain wall by minimum 15mm	1 (DFT[1])	Stone mineral wool compressed by 20%	EI120

[1] DFT = Dry Film Thickness (1mm DFT will require minimum 2.5mm WFT (wet film thickness)

Fire Test Evidence:

UL-EU 3rd Party Certification

CavGuard CWFB Properties

Properties	CavGuard CWFB
Colour	White top face only/Buff-beige other faces
Finish	Coated Top Face/Plain Fibre other faces
Density	80kg/m3
Cuttability	Can be cut to length and width
Long Term Storage Conditions	Well ventilated, dry, cool environment
Application Temperature Ranges	Recommended +5°C - +35°C. Protect against exposure to sunlight
Durability	Type Z1 intended for use at internal conditions with high humidity, excluding temperatures below 0°C (durability rating relates to CavGuard Coating element of the CavGuard CWFB)
Chemical Resistance/Limitations	Not to be used where areas are to be constantly immersed in water. Do not use on sub-strates that are likely to release solvents, oils or plasticizers. Not resistant to water, strong acids, strong bases, oxidizing agents (i.e. hydrogen peroxide), alcohols, hydrocarbon solvents.

CavGuard Coating Properties

Properties	CavGuard Coating
Colour	White
Finish	Water based acrylic / vinyl acetate coating
Weight	~1.35g/cm3
Long Term Storage Conditions	Well ventilated, dry, cool environment (unopened)
Shelf life	18 months if stored in accordance with storage conditions
Application Temperature Ranges	Recommended +5°C - +35°C. Protect against exposure to sunlight
Skin Time	~6 hours (23°C/50% r.h)
Coverage	~2.8kg/m², 2.24L/m
Durability	Type Z1 intended for use at internal conditions with high humidity, excluding temperatures below 0°C
Chemical Resistance / Limitations	Not to be used where areas are to be constantly immersed in water. Do not use on sub-strates that are likely to release solvents, oils or plasticizers. Not resistant to water, strong acids, strong bases, oxidizing agents (i.e. hydrogen peroxide), alcohols, hydrocarbon solvents.

CavGuard Coating: Air Permeability according to BS EN 1314-1

Pressure (Pa)	Results under positive chamber pressure		Results under negative chamber pressure	
	Leakage (m3/h)	Leakage (m3/m2/h)	Leakage (m3/h)	Leakage (m3/m2/h)
50	0.1	0.1	1.0	1.4
100	0.3	0.4	1.1	1.5
150	0.6	0.8	1.5	2.1
200	0.8	1.1	0.9	1.3
250	1.1	1.5	1.3	1.8
300	1.2	1.7	1.7	2.4
450	2.4	3.3	3.5	4.9
600	4.5	6.3	5.3	7.4

CavGuard Coating: Analytical VOC Results

Solid content % mass	Water content % mass	Exempt compounds, % mass	VOC less water less exempt compounds, g/l	VOC limit g/l
66.2	7.7**	0***	380	750*

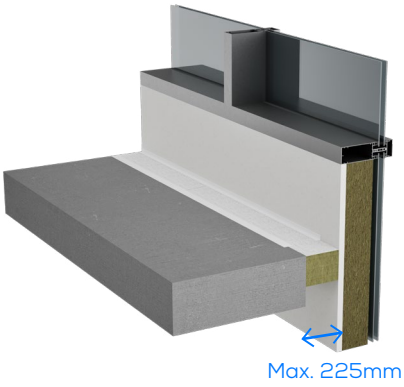
*VOC limit for other sealants
**Given by client
***No information about exempt compounds. Set to zero.

CavGuard Coating: Water Permeability according to BS EN 1027*

Pressure (PA)	Duration	Observations
50	15 minutes	No Leakage Observed
100	5 minutes	No Leakage Observed
150	5 minutes	No Leakage Observed
200	5 minutes	No Leakage Observed
250	5 minutes	No Leakage Observed
300	5 minutes	No Leakage Observed
450	3 minutes 50 seconds	At a total duration of 3 minutes 50 seconds the right hand edge of the sample joint to subframe separated and began to allow water leakage off the sample

*Exposure from coated side

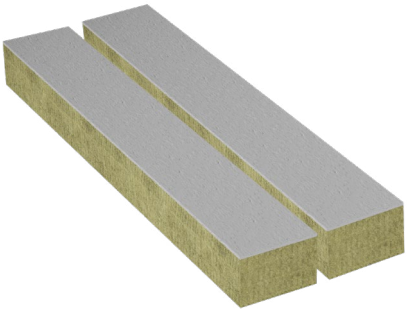
Installation Instructions



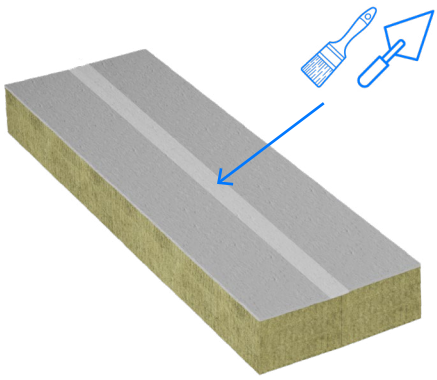
Ensure substrates are clean, dry, sound and homogeneous, free from oils, grease, dust and loose particles.

Ensure the opening to be filled has been tested with and is suitable for the product being installed.

For gaps/apertures up to 120mm wide, install Tenmat CavGuard CWFB as a single section compressed by 20% of the overall aperture width.



For gaps /apertures over 120mm wide up to max. 225mm, install Tenmat CavGuard CWFB as two sections abutted together side by side compressed by 20% of the overall aperture width.

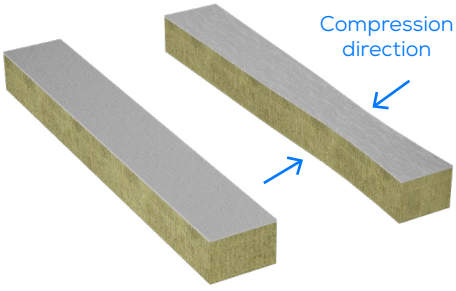


When installing Tenmat CavGuard CWFB as two sections friction fitted side by side, ensure the joint at the abutments of the two sections is coated with CavGuard Coating.

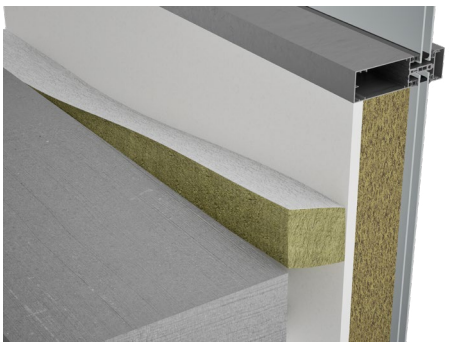
Any cutting of the Tenmat CavGuard CWFB on site to suit tolerances, shall be done accurately and kept to a minimum. Ensure correct compression is maintained.

Ensure a tight butt joint and no gaps.

The coating can be applied with brush or trowel.



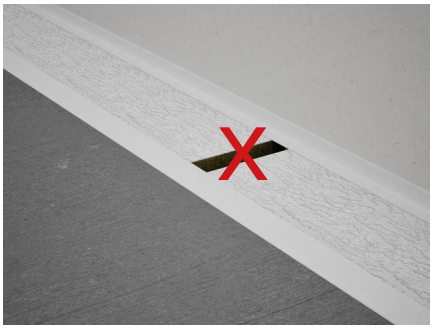
The CavGuard CWFB can be compressed in width to allow it to be installed into the aperture.



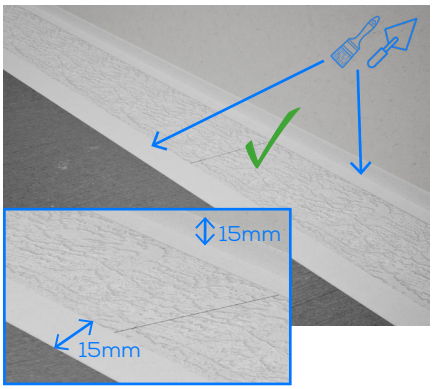
Compress the Tenmat CavGuard CWFB and push/lower into the aperture.

Ensure the CavGuard CWFB is level with the top of the floor slab.

Any cutting of the Tenmat CavGuard CWFB on site to suit tolerances, shall be done accurately and kept to a minimum. Ensure correct compression is maintained.



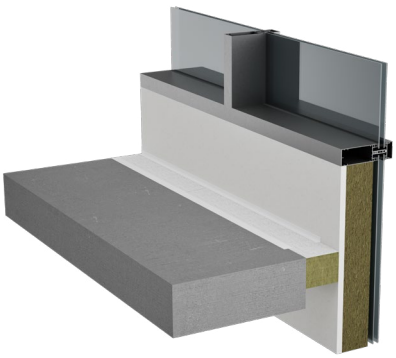
Ensure that there are no gaps between adjacent lengths.



Apply CavGuard Coating to the top edges of the Tenmat CavGuard CWFB, overlapping onto the floor and curtain wall to a minimum 15mm wide.

The aperture temperature when applying the CavGuard Coating needs to be at 5°C or above.

Ensure all joints are tightly abutted with no gaps.



When extending the length of the Tenmat CavGuard CWFB, ensure the adjacent lengths have their joints tightly abutted together and are aligned flush with each other to give the appearance of a continuous strip with no gaps. CavGuard Coating can be applied to the joints if desired.

Tenmat recommends that the installation is carried out by 3rd party certified installers.

Substrates

Rigid Floors: Minimum 150mm thick and comprise of concrete, aerated concrete or masonry with a minimum density of 650kg/m3.

Curtain Wall: Aluminium profile system of mullions and transoms with 1 x 25mm thick layer of calcium silicate board mounted on the inside of a spandrel panel system and stonewool based core within the spandrel panel.

Terminology

Fire resistance classes:

E = Integrity

Integrity refers to the ability of a product to maintain its physical integrity and prevent the passage of flames and hot gases through to the non-fire side.

I = Insulation

Insulation refers to the ability of a material to resist the transfer of heat from one side to another. Giving occupants and the fire service more time to evacuate and control the fire.

Maintenance

- Recorded inspection should be conducted in line with the maintenance and inspection schedule defined for the building/project.
- These inspections should be completed and recorded by suitably competent individuals at intervals outlined in the operation and maintenance manual relevant to the building.
- Ensure Safe Access and Egress when carrying out maintenance or inspection.
- Where product(s) is damaged or tampered, new product should be installed in line with installation guidance.

Disposal

- Removal and disposal of cured product must be done in a way that limits, as much as possible, the formation of dust. Adequate PPE must be worn including suitable respiratory equipment in the case of insufficient ventilation.
- European Waste Catalogue code: 08 01 12 (WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS); Wastes from MFSU and removal of paint and varnish; 08 01 12 - waste paint and varnish other than those mentioned in 08 01 11
- You must classify your own waste, the information given above is guidance only. Waste must be classified on a case-by-case basis.

- The product is classified as non-hazardous, however, every care must be taken to avoid release to the environment. Take up liquid spill with absorbent material, dam if necessary to prevent access to water course.
- Disposal of waste coating must be done according to official regulations and in accordance with a licensed collector's sorting instructions.
- The product cannot currently be recycled or incinerated for energy capture.
- Please see SDS for more information.

CavGuard CWFB Curtain Wall Fire Barrier

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