

NVFB-LD

Non Ventilated Fire Barrier - Low Density

Tenmat's NVFB-LD (low density non-ventilated fire barrier) is a highly compressible cavity barrier designed to maintain fire resistance performance within external wall cavities.

Product Description

Tenmat's Non-Ventilated Fire Barrier (NVFB-LD) is a full fill cavity fire barrier manufactured from a Euroclass A1 Reaction to Fire classified 100mm thick low density stone wool.

The product is installed between the inner and outer substrates of a masonry façade to reinstate the fire resistance performance of the cavity. The lighter density allows greater scope for compression when installing within brickwork cavities when using wet mortar.

The Tenmat NVFB-LD has been tested to EN1366-4:2021 and can provide up to 120 minutes integrity and 60 minutes insulation fire resistance performance (please see the tables on page 3 for the full fire resistance performance based on cavity widths and orientation).

Intended Use

Tenmat's NVFB-LD is designed and tested for installation within masonry cavities up to 300mm wide to reinstate the fire resistance performance of the cavity.

The lower density design allows the 5mm compression requirement to be more easily achieved. This results in greatly reduced risk of pushing out bricks when installing in masonry cavities using wet mortar. This can in turn significantly speed up installation and progress on site.

For fire test data and the tested applications please review the performance tables in this data sheet.

Please contact Tenmat with any further questions on suitability of the product for specific applications.

Product Details

- CCPI Verified
 - Fire Tested to EN1366-4 : 2021
 - A1 Reaction to Fire
 - Low density design
 - Allows ease of compression when installing in cavities with wet mortar
 - Only 5mm compression required
 - Suitable for masonry cavities up to 300mm
 - Tested both vertically and horizontally
 - Supplied as plain mineral fibre as standard
 - Provided in 1.2 metre lengths
 - Standard thickness of 100mm
 - No maintenance required after installation
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Sizes

100mm deep/thick x width to suit cavity (+5mm for compression fit) x 1200mm long

Approved Applications

Non-Ventilated Cavity Fire Barriers for external wall cavities



Fire Test Evidence

Inner Leaf Substrate Type (facing cavity) with appropriate fire resistance	Outer Leaf Substrate Type (facing cavity) with appropriate fire resistance	Orientation	To suit cavity widths (in mm)	Compression required	Minimum Thickness of NVFB-LD (mm)	Product Fire Resistance Rating	
						Integrity	Insulation
Rigid Walls - min. 100mm thick							
100mm Masonry or Concrete walls	100mm Masonry or Concrete walls	Vertical	10-100	5mm	100	120	60
100mm Masonry or Concrete walls	100mm Masonry or Concrete walls	Vertical	101-300	5mm	100	60	15
Rigid Floors - min. 150mm thick							
150mm Masonry or Concrete Floors	150mm Masonry or Concrete Floors	Horizontal	10-100	5mm	100	120	15
150mm Masonry or Concrete Floors	150mm Masonry or Concrete Floors	Horizontal	101-300	5mm	100	60	15

Technical Information

Property	Units	Value
Reaction to Fire Classification EN 13501-1		A1

Sizes

Cavity Size (mm)	Product Width (mm) including 5mm compression	Orientation	Fitting Option Number	Barrier Support Type	No. of brackets / fixings per 1.2m length	Maximum Bracket Centres (mm)	Face Fixed Fixing Centres (mm)
10-75	15-80	Vertical or Horizontal	1	Screw	3	N/A	450
76-300	81-305	Vertical or Horizontal	2	MP Bracket	3	450	N/A

Substrates

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

Rigid walls: Minimum 100mm thick and comprised of concrete, aerated concrete or masonry, with a minimum density of 650kg/m³.

The supporting construction must be classified in accordance with EN13501-2 for the required fire resistance period.

Pre Installation

The principal designer must approve the use of any cavity barrier, whether open state or full fill, in conjunction with the products fire test evidence, taking full account of the whole construction of the external wall systems and components, including any requirements of Building Regulations and/or NHBC Standards.

Before a Tenmat NVFB-LD cavity barrier is recommended by Tenmat, the following information is required to ensure that the suggested product is considered suitable for the intended application by Tenmat, within the construction as indicated by the client.

- 1) Project name, location and postcode.
- 2) Building height and use (as per ADB V1/2 2020).
- 3) Fire resistance period/rating required. Integrity and Insulation (EI).
- 4) Composition and construction of external walls, both inner and outer substrates.
- 5) Total external wall cavity size. (Maximum distance from outer face of inner substrate to inner face of inner substrate including tolerances/profiles).
- 6) Type and thickness of cavity insulation if present.
- 7) What ventilation gap is required horizontally? (Note: NVFB/NVFB-LD does not maintain a ventilation gap, if this is required then a Tenmat VFB / Open State Cavity Barrier should be considered)
- 8) Are non-vented cavity barriers required vertically and horizontally?
- 9) Quantity required to complete project?
- 10) When will materials be required?
- 11) Name and role of person completing form.

When the above information is obtained then this can be cross referenced with the full range of Tenmat cavity barriers to ensure that the product recommended, by Tenmat, is considered suitable for consideration by the principal designer.

Installation Considerations

Cut back any insulation fixed to the inner substrate prior to installation of the NVFB-LD.

NVFB-LD cavity barriers should be installed in a continuous run. Where this is not possible, details should be agreed with the projects principal designer and/or fire engineer.

Horizontal cavity barriers should be installed adjacent and tightly abutted to any vertical cavity barriers, the vertical NVFB-LD cavity barriers should be installed first.

Any cutting of the NVFB-LD on site to suit tolerances, shall be done accurately and kept to a minimum. Ensure that the minimum 5mm extra for the compression is maintained. NVFB-LD cavity barriers may be cut to length as required, adjacent lengths must be tightly abutted together.

Cavity barrier fixing brackets must not penetrate through the face of the cavity barrier. Screws for direct fixing and fixings to secure brackets are not supplied by Tenmat.

The brackets used to fix the NVFB-LD cavity barrier must be installed with the spike inserted centrally (horizontally) to the rock mineral wool. The use of tape is not required over the joints between the lengths of NVFB-LD.

The NVFB-LD must be installed following the installation methods described below. The NVFB-LD must not be penetrated by any other mechanical or electrical services.

Ensure surfaces are clean, dry and free from dirt, dust, mortar and other contaminants.

Installation Instructions

Option 1

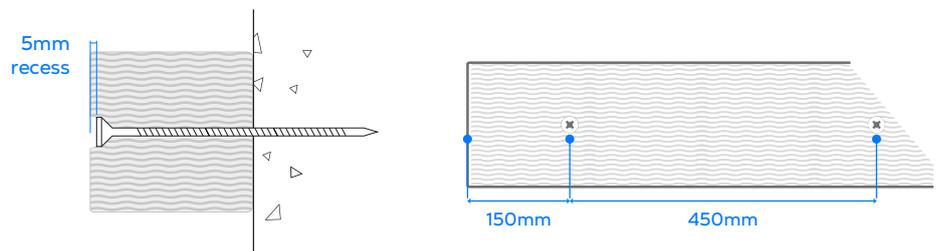
NVFB-LD - Vertical and Horizontal
Cavity Sizes 10mm up to 75mm Product Sizes 15mm up to 80mm
(including 5mm compression) Directly faced fixed.

Position the first screw fixing through the centre line of the face of the cavity barrier at a maximum 150mm from one end, continue to face fix through at maximum 450mm centres (3 screws per 1.2 metre length), ensuring that the final fixing is a maximum 150mm from the end of the cavity barrier.

This will ensure that face fixings are positioned at 450mm centres across the continuous run of cavity barrier.

Use stainless steel screws, with a maximum head diameter of 16mm and with a length suitable for the cavity barrier and the substrate.

Ensure that the screw head fully penetrates the face of the cavity barrier, the screw head should sit at least 5mm behind the face of the cavity barrier. Care should be taken not to compress the surface more than 10mm as this may effect the performance of the cavity barrier.



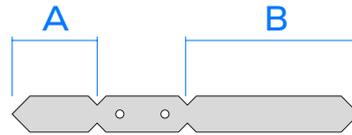
Fixing Detail for Shorter Lengths

Where sections of cavity barrier are less than 1.2 metres in length, ensure that face fixings are positioned at a maximum 150mm from each end. For cut sections of cavity barrier less than or equal to 300mm in length only one fixing is required. For cut sections 301 to 500mm then 2 fixings should be used distanced equally from each end.

Option 2

NVFB-LD - Vertical and Horizontal
 Cavity Sizes 76mm up to 300mm. Product Sizes 81mm up to 305mm
 (including 5mm compression). Fixed using 3 Multi Purpose (MP) brackets.

MP brackets are supplied with 2 fixing spikes, one spike is 65mm long (A), the other is 160mm long (B), with a central section for securing the bracket to the substrate. The compression allowed for is 5mm, care should be taken to ensure that the end of the bracket will not come into contact with the outer substrate when compression is applied to the NVFB-LD.



For cavity barriers 81mm–95mm wide (across cavity) use 3 MP brackets and the 65mm long spike (A).

For cavity barriers 96mm–305mm wide (across cavity) use 3 MP brackets and the 160mm long spike (B).

The 160mm spike will require cutting to size if used in barriers less than 175mm wide.

To ensure that the spike does not pierce through the face of the cavity barrier, the bracket can be cut to provide a minimum projection through the barrier to 3/4 of the cavity barrier width and to a maximum of 25mm behind the face of the cavity barrier.

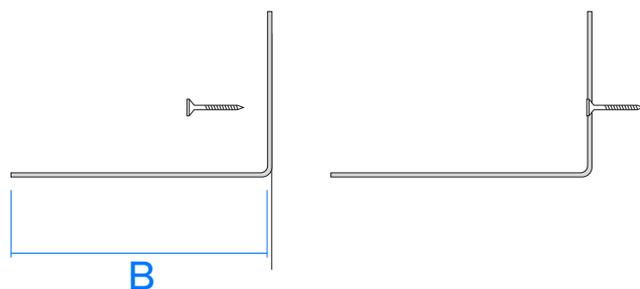
For cavity barriers greater than 175mm wide, the MP bracket 160mm long spike (B) is tested and approved and of sufficient length for all NVFB-LD sizes up to the max. 305mm

To secure the bracket use 5mm Ø stainless steel screws, with a maximum head diameter of 13mm and with a length and type suitable for the substrate. Ensure that the screw head sits as flush as possible with the substrate so that the NVFB-LD sits tight against the substrate leaving no gaps. Minimum one screw required per bracket.

To secure the bracket use 5mm Ø stainless steel screws, with a maximum head diameter of 13mm and with a length and type suitable for the substrate.

Ensure that the screw head sits as flush as possible with the substrate so that the NVFB-LD sits tight against the substrate leaving no gaps.

Minimum one screw required per bracket.



Option 2 (continued)

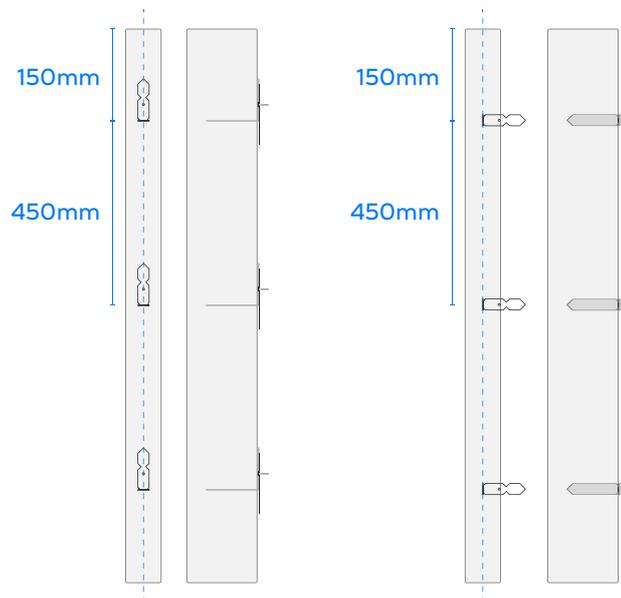
Fix 3 number MP brackets, per 1.2 metre length, to the substrate at maximum 150mm from the end of the cavity barrier, with a maximum spacing between brackets of 450mm.

Where sections of cavity barrier are less than 1.2 metres in length, ensure that MP Brackets are positioned at a maximum 150mm from each end.

For cut sections of cavity barrier less than or equal to 300mm in length only one bracket is required.

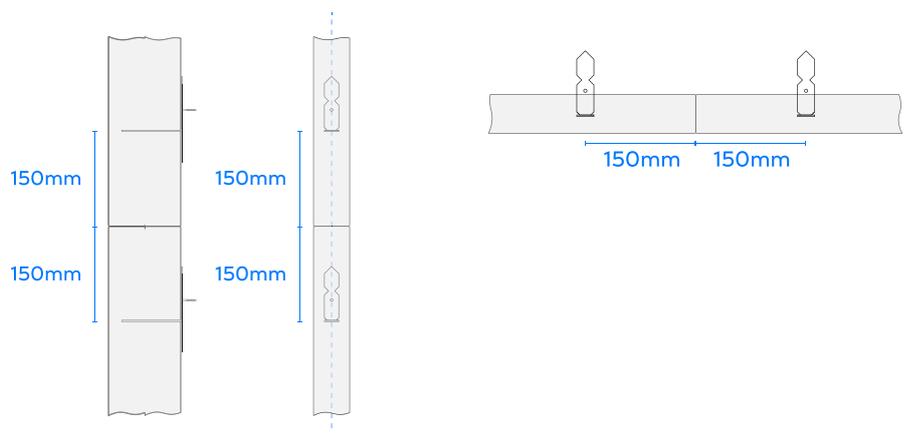
For cut sections 301 to 500mm then 2 brackets should be used distanced equally from each end.

Brackets may be installed in either orientation



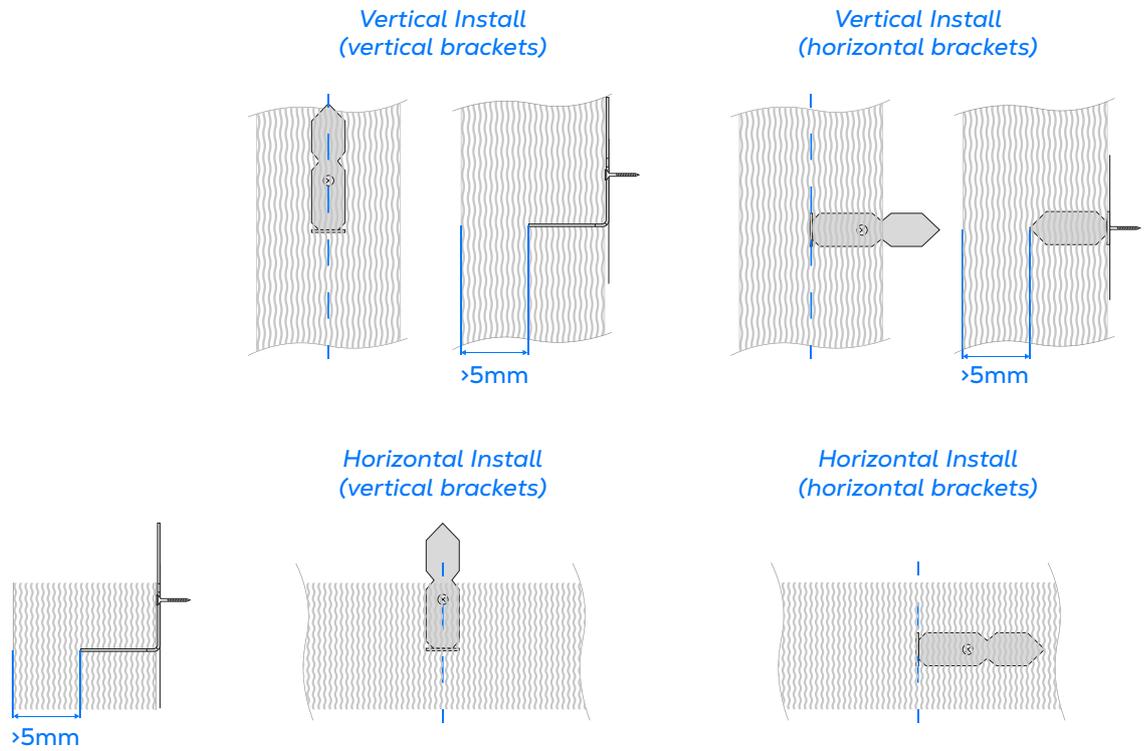
Vertical Install

Horizontal Install



Option 2 (continued)

Push the cavity barrier onto the bracket spike, the brackets should impale the NVFB-LD to approximately mid barrier depth and must not protrude through the face of the cavity barrier, remembering to allow for the final compression against the outer substrate also. The cavity barrier should be pushed fully onto the bracket spike and sit flush with the substrate at the rear of the cavity barrier, ensuring that there are no gaps behind the cavity barrier.



Tools / Fittings

- PPE as required by installers employer
- Masonry drill
- Screwdriver
- Saw/Knife for cutting product
- Measuring tape
- Access equipment as required
- Stainless steel fixings suited to the substrate

Intended Use

As a cavity barrier, within external wall cavities at the junction of compartment floors, compartment/party walls and around openings, to maintain fire resistance performance of cavities of up to 300mm, in fire conditions.

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.

Storage

- To be stored in a dry location
- Take care not to exceed safe working loads and heights for storage shelves and racks

NVFB-LD

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Advanced materials.
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