

# VFB 120/120

## VFB 120/120 Ventilated Fire Barrier

Tenmat's VFB 120/120 Ventilated Fire Barriers are "open state" cavity fire barriers designed to offer fire resistance performance within external wall cavities that require permanent (open-state) ventilation in non-fire conditions.

## Product Description

Tenmat's VFB 120/120 Ventilated Fire Barriers are 'open state' cavity fire barriers for ventilated cavities of up to 450mm. Each VFB 120/120 consists of a specially formulated fire rated stone mineral wool section with an integral high expansion intumescent seal fixed to the leading edge.

The VFB 120/120 then leaves a maximum 25mm air gap to allow for drainage and maintain ventilation in normal use. In a fire situation the intumescent seal rapidly expands to seal off the air gap and prevent vertical fire spread within the external wall.

The products have undergone extensive fire testing following the principles of BS EN1363-1 and in accordance with ASFP TGD19 (Fire Resistance Test for 'Open-State' Cavity Barriers).

The VFB 120/120s are mechanically fixed horizontally within ventilated cavities behind the external wall substrate following the fire compartment line. The VFB 120/120s are used horizontally and can be installed in conjunction with Tenmat NVFB Non-Ventilated Fire Barriers which provide vertical fire separation along fire compartment party wall lines.

## Product Details

- CCPI Verified
- 3rd Party Certification - IFC Certification
- Fire Ratings of 120 Minutes Integrity and Insulation for up to 300mm cavities
- Fire Ratings of 90 Minutes Integrity and Insulation for 300mm to 450mm cavities
- Fire Tested on Timber Frame Systems
- Fire Tested on Steel Frame Systems (SFS)
- Maintains a 25mm air gap
- Up to 450mm cavities tested
- Standard thickness of 75mm
- Durability and Age Tested
- Fixing brackets included as standard

## Sizes

Thickness (Total Cavity less 25mm Air Gap) x 75mm x 1000mm



## Fire Test Evidence

### Fire Test performance to BS EN 1363-1 and to the principles of ASFP TGD19

Inner Leaf Substrate Type (facing cavity) with Appropriate minutes Fire Rating	Outer leaf Substrate Type (facing cavity) With Appropriate Fire Resistance	Orientation	Insulation Type Within Cavity (interrupted)	Maximum Cavity Width (in mm)	Maximum Open State Air Gap (In mm)	Product Dimensions (thickness x height x length in mm)	Product Fire Resistance Rating	
							Integrity	Insulation
Autoclaved Aerated Concrete	Autoclaved Aerated Concrete	Horizontal	None	40mm	25mm	15 x 75 x 1,000	180	180
12.5mm Weather Defence Board on SFS	Autoclaved Aerated Concrete	Horizontal	25mm Phenolic	60mm	25mm	35 x 75 x 1,000	120	120
12.5mm Weather Defence Board (Siniat)	Autoclaved Aerated Concrete	Horizontal	100mm PIR	300mm	25mm	275 x 75 x 1,000	120	120
Autoclaved Aerated Concrete	Autoclaved Aerated Concrete	Horizontal	100mm PIR	450mm	25mm	425 x 75 x 1,000	90	90
Timber Frame*	Autoclaved Aerated Concrete	Horizontal	None	50mm	25mm	25 x 75 x 1,000	120	120
Timber Frame*	Autoclaved Aerated Concrete	Horizontal	None	300mm	25mm	275 x 75 x 1,000	60	60

3rd Party Certification:  
IFC Certification - Certificate No. IFCC 1751  
Fire Test Evidence:  
Field of Application Report - PAR22672/02

\* Timber Frame inner substrate tested with min. 9mm thick OSB Sheathing Board with a minimum 35mm thick timber stud that must be in place directly behind the sheathing board in line with the cavity barrier

The fire rating required on Timber Frame projects would typically be expected to be 30 minutes only. The fire ratings and information provided in this document and supporting fire test evidence is not intended to be a complete specification for the proposed cavity barrier and it is the responsibility of others (the Principal Designer) to ensure that the product/ assembly is suitable for the intended purpose

The types of insulation tested do not infer generic approval for these insulation products and approval should be sought from the insulation manufacturers depending upon the particular type of construction being built. Insulation is tested interrupted to prevent the possibility of fire bypassing behind the cavity barrier.

The ASFP-TGD19 test standard allows for insulation to be replaced with insulation that is listed as better using the hierarchy as below and must be installed interrupted. Notes on insulation from TGD19:2017-13.3 Insulation. For interrupted insulation the following hierarchy is used: Best- stone wool, glass wool, phenolic, PIR, PUR, EPS - Worst

## Technical Information

Colour	Black														
Finish	Polythene Wrap														
Cuttability	Can be cut to length														
Storage	Dry, ambient														
Transportation Storage Temperature	-20°C to +70°C														
Durability	Type X intended for use in conditions exposed to weather (UV, rain, frost)														
Fungal Resistance	Protected by polythene														
Smoke/Halogen Content	Low Smoke / Zero Halogen														
Minimum Total Working Life (Years)	Based on typical climatic conditions														
	<table> <tbody> <tr> <td>UK</td> <td>60 years</td> </tr> <tr> <td>Australia</td> <td>45 years</td> </tr> <tr> <td>France</td> <td>60 years</td> </tr> <tr> <td>New Zealand</td> <td>60 years</td> </tr> <tr> <td>Germany</td> <td>60 years</td> </tr> <tr> <td>Hong Kong</td> <td>40 years</td> </tr> <tr> <td>The Netherlands</td> <td>60 years</td> </tr> </tbody> </table>	UK	60 years	Australia	45 years	France	60 years	New Zealand	60 years	Germany	60 years	Hong Kong	40 years	The Netherlands	60 years
UK	60 years														
Australia	45 years														
France	60 years														
New Zealand	60 years														
Germany	60 years														
Hong Kong	40 years														
The Netherlands	60 years														
Dimensional Tolerances	Thickness +10/-0mm    Width +5/-0mm    Length +0/-5mm														

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

## General Design & Installation Considerations

Maximum free air gap for this cavity barrier is 25mm, the space in front of the intumescent strip on the face of the cavity barrier to the rear of the external wall surface.

Open state cavity barriers should be installed in a continuous run, (with the exception of abutting up to full fill vertical cavity barriers). 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 cavity barriers should be installed first.

Cavity barriers may be cut to length as required, adjacent lengths must be tightly abutted together. The intumescent face of the cavity barrier should be unrestricted and free to expand in a fire situation, fully filling the cavity.

An identification label is attached to the intumescent face of the cavity barrier, ensure this faces out into the open cavity. Also ensure the label is visible and legible and reads the right way up.

If the identification label is not legible please contact Tenmat, the label is important in terms of identifying the product in the future, for example during fire risk assessments or fire safety inspections.

Cavity barrier fixing brackets, both multi purpose, (MP bracket) or high performance (HP bracket) 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 horizontal cavity barrier must be installed with the spike inserted centrally (horizontally) to the rock mineral wool section of the cavity barrier with the bracket fixed above and not below the cavity barrier.

For Timber Frame constructions, a minimum 35mm thick timber stud must be in place directly behind the sheathing board following the line with the cavity barrier.

The use of tape is not required over the joints between the lengths of cavity barrier, and if used should not be applied over the face of intumescent material.

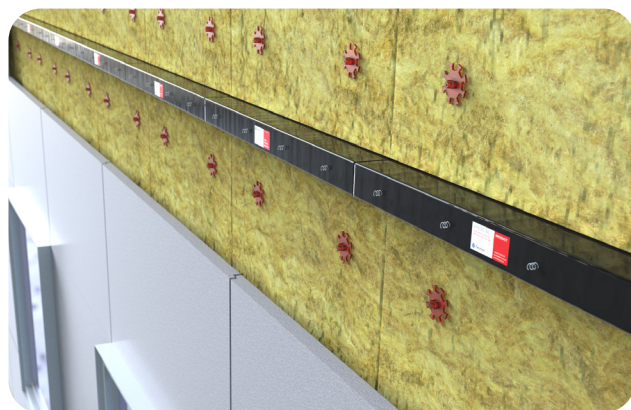
The cavity barrier must be installed following the installation methods described below. The cavity barrier must not be penetrated by any other mechanical or electrical services.

## Fitting Instructions

### VFB 120/120

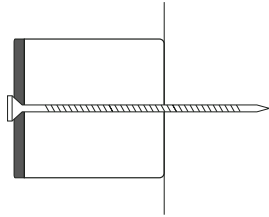
#### Fire Barrier Support Details

Cavity Size (mm)	Product Width (mm)	Fitting Option Number	Barrier Support Type	No. of support (brackets) fixings per metre	Maximum (brackets) Centres (mm)	Front Face / Intumescent Fixing	No. of (Face) Fixings per metre	Front Face Fixing Centres (mm)
40-100	15-75	1	Screw	NA	NA	Screw	4	250
101-115	76-90	2	MP Bracket	2	500	Pigtail Screws	4	250
116-240	91-215	3	MP Bracket	2	500	Pigtail Screws	4	250
241-300	216-275	4	MP Bracket	3	350	Pigtail Screws	4	250
301-450	276-425	5	HP Bracket	2	500	Pigtail Screws	4	250



## Option 1

VFB 120/120- Product width across cavity 16mm up to 75mm wide, directly faced fixed, no additional pigtails required.



Use stainless steel countersunk head screws, with a maximum head diameter of 16mm and with a length suitable for the size of cavity barrier and sufficient fixing depth into the substrate.

Fixings must have an appropriate fixing depth for the substrate (with a minimum of 50mm for masonry fixings and minimum 25mm for timber unless otherwise specified by the fixing manufacturers guidance for their fixing type).

Ensure that the countersunk screw head does not fully penetrate the face of the cavity barrier, the screw head should sit flush or slightly proud.

Care should be taken not to over tighten as this may affect the performance of the intumescent seal.



Position the first screw fixing through the centre line of the face of the cavity barrier at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 screws per linear meter), ensuring that the final fixing is a maximum 125mm from the end of the cavity barrier. This will ensure that face fixings are positioned at 250mm centres across the continuous run of cavity barrier.

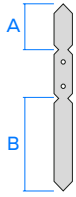
Where sections of cavity barrier are less than 1 linear meter in length, ensure that face fixings are positioned at a maximum 125mm from each end with additional fixing being positioned at maximum 250mm centres between the end fixings.

For cut sections of cavity barrier less than or equal to 250mm in length only one fixing is required.

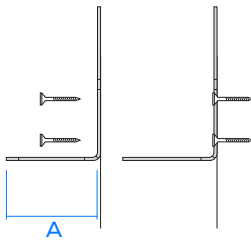
For installations in Timber Frame constructions, a minimum 35mm thick timber stud must be in place directly behind the sheathing board following the line with the cavity barrier.

## Option 2

VFB 120/120 - Product width across cavity from 76mm up to 90mm wide, fixed using 2 multi purpose (MP) 65mm brackets and 4 number pigtail screws (per linear meter).



MP brackets are supplied with 2 fixing spikes, one spike is 65mm long (A), the other is 160mm long (B), with a central pre drilled section for securing the bracket to the substrate.



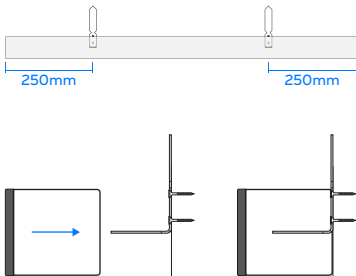
For cavity barriers 76mm-90mm wide (across cavity) use 2 MP brackets and the 65mm (A) long spike.

To secure the bracket use nom. 5mm Ø stainless steel screws/fixings, 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.

Fix through both of the fixing holes.

Fixings must have an appropriate fixing depth for the substrate (with a minimum of 50mm for masonry and minimum 25mm for timber unless otherwise specified by the fixing manufacturers guidance for their fixing type).

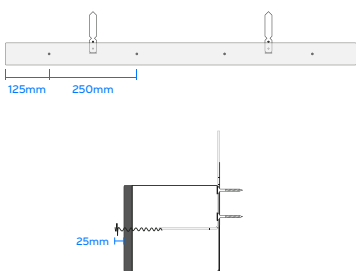


Fix 2 number MP brackets, per linear meter, to the substrate at maximum 250mm from the end of the cavity barrier, with a maximum spacing between brackets of 500mm.

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.

Push the cavity barrier onto the bracket spike, the brackets should impale the VFB 120/120 to mid barrier depth and must not protrude through the intumescent element.

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.



Screw the pigtail screws through the face of the intumescing material on the face of the cavity barrier (the face with the label).

Position the first pigtail screw fixing through the face of the cavity barrier at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 pigtail screws per linear meter), ensuring that the final pigtail fixing is a maximum 125mm from the end of the cavity barrier.

This will ensure that pigtail fixings are positioned at 250mm centres across the continuous run of cavity barrier.

The pigtails should be screwed in to the face of the cavity barrier to a depth which leaves 25mm of the pigtail proud of the intumescing face of the cavity barrier.

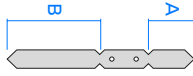
Where sections of cavity barrier are less than 1 linear meter in length, ensure that pigtails are positioned at a maximum 125mm from each end with additional fixing being positioned at maximum 250mm centres between the end pigtails.

Where the space between the end pigtails exceeds 250mm additional pigtails will be required. Where the cavity barrier is less than 250mm in length only 1 pigtail will be required. All sections of cavity barrier require pigtail screws unless directly faced fixed through the cavity barrier, as per option 1.

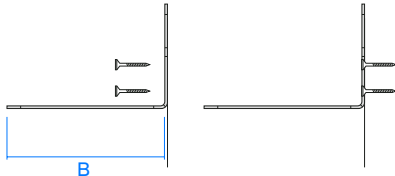
For installations in Timber Frame constructions, a minimum 35mm thick timber stud must be in place directly behind the sheathing board following the line with the cavity barrier.

## Option 3

VFB 120/120 - Product width across cavity from 91mm up to 215mm wide, fixed using 2 multi purpose (MP) 160mm brackets and 4 number pigtail screws (per linear meter).



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.

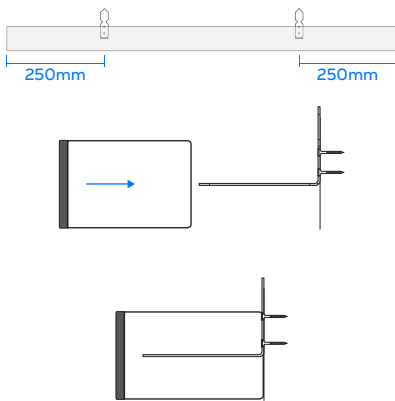


For cavity barriers 91mm–215mm wide (across cavity) use 2 MP brackets and the 160mm (B) long spike. To secure the bracket use nom. 5mm Ø stainless steel screws/fixings, with a maximum head diameter of 13mm and with a length and type suitable for the substrate.

Ensure that the screw head sits as flush as possible with the substrate.

Fix through both of the fixing holes.

Fixings must have an appropriate fixing depth for the substrate (with a minimum of 50mm for masonry and minimum 25mm for timber unless otherwise specified by the fixing manufacturers guidance for their fixing type).



For cavity barriers 91mm–215mm wide (across cavity) use 2 MP brackets and the 160mm long spike. The 160mm spike will require cutting to size, if used in barriers less than 185mm wide, to ensure that the spike does not pierce through the face of the intumescent material, the bracket should 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 intumescent strip.

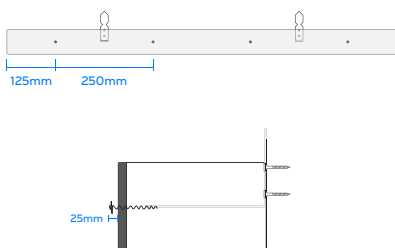
Fix 2 number MP brackets, per linear meter, to the substrate at maximum 250mm from the end of the cavity barrier, with a maximum spacing between brackets of 500mm. Where sections of cavity barrier are less than 1 linear meter in length, ensure that MP brackets are positioned at a maximum 250mm from each end. Where the cavity barrier is less than or equal to 500mm in length 1 MP bracket may be used.

Push the cavity barrier onto the bracket spike, the brackets should impale the VFB 120/120 to mid barrier depth and must not protrude through the intumescent element.

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.

Screw the pigtail screws through the face of the intumescent material on the face of the cavity barrier (the face with the labels).

Position the first pigtail screw fixing through the face of the cavity barrier at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 pigtail screws per linear meter), ensuring that the final pigtail fixing is a maximum 125mm from the end of the cavity barrier.



This will ensure that pigtail fixings are positioned at 250mm centres across the continuous run of cavity barrier.

The pigtails should be screwed in to the face of the cavity barrier to a depth which leaves 25mm of the pigtail proud of the intumescent face of the cavity barrier.

Where sections of cavity barrier are less than 1 linear meter in length, ensure that pigtails are positioned at a maximum 125mm from each end with additional fixing being positioned at maximum 250mm centres between the end pigtails.

Where the space between the end pigtails exceeds 250mm additional pigtails will be required.

Where the cavity barrier is less than 250mm in length only 1 pigtail will be required.

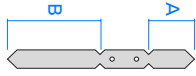
All sections of cavity barrier require pigtail screws unless directly faced fixed through the cavity barrier, as per option 1.

For installations in Timber Frame constructions, a minimum 35mm thick timber stud must be in place directly behind the sheathing board following the line with the cavity barrier.

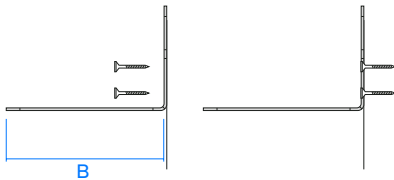


## Option 4

VFB 120/120 – Product width across cavity from 216mm up to 275mm wide, fixed using 3 multi purpose (MP) 160mm brackets and 4 number pigtail screws (per linear meter).



MP brackets are supplied with 2 fixing spikes, one spike is 65mm long, the other is 160mm long, with a central section for securing the bracket to the substrate.

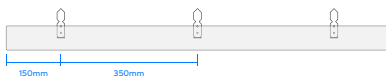


For cavity barriers 216mm–275mm wide (across cavity) use 3 MP brackets and the 160mm (B) long spike. To secure the bracket use nom. 5mm  $\varnothing$  stainless steel screws/fixings, with a maximum head diameter of 13mm and with a length and type suitable for the substrate.

Ensure that the screw head sits as flush as possible with the substrate.

Fix through both of the fixing holes.

Fixings must have an appropriate fixing depth for the substrate (with a minimum of 50mm for masonry and minimum 25mm for timber unless otherwise specified by the fixing manufacturers guidance for their fixing type).



Fix 3 number MP brackets, per linear meter, to the substrate at maximum 150mm from the end of the cavity barrier, with a maximum spacing between brackets of 350mm.

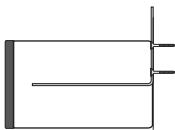
Where sections of cavity barrier are less than 1 linear meter in length, ensure that MP brackets are positioned at a maximum 150mm from each end.



Where the cavity barrier is less than or equal to 350mm in length 1 MP bracket may be used.

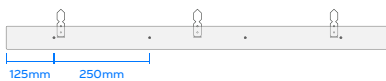
Push the cavity barrier onto the bracket spike, the brackets should impale the VFB 120/120 to approximately mid barrier depth and must not protrude through the intumescent element.

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.



Screw the pigtail screws through the face of the intumescent material on the face of the cavity barrier (the face with the labels).

Position the first pigtail screw fixing through the face of the cavity barrier at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 pigtail screws per linear meter), ensuring that the final pigtail fixing is a maximum 125mm from the end of the cavity barrier.



This will ensure that pigtail fixings are positioned at 250mm centres across the continuous run of cavity barrier.

The pigtails should be screwed in to the face of the cavity barrier to a depth which leaves 25mm of the pigtail proud of the intumescent face of the cavity barrier.



Where sections of cavity barrier are less than 1 linear meter in length, ensure that pigtails are positioned at a maximum 125mm from each end with additional fixing being positioned at maximum 250mm centres between the end pigtails.

Where the space between the end pigtails exceeds 250mm additional pigtails will be required.

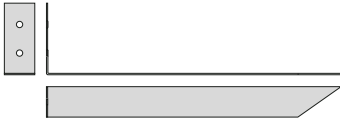
Where the cavity barrier is less than 250mm in length only 1 pigtail will be required.

All sections of cavity barrier require pigtail screws unless directly faced fixed through the cavity barrier, as per option 1.

For installations in Timber Frame constructions, a minimum 35mm thick timber stud must be in place directly behind the sheathing board following the line with the cavity barrier.

## Option 5

VFB 120/120 - Product width across cavity from 276mm-425mm wide, fixed using 2 high performance (HP) 328mm brackets and 4 number pigtail screws (per linear meter).



HP brackets are supplied with a single fixing spike, at 328mm long with two pre drilled fixing holes and a 90° return angle for securing the bracket to the substrate.

The 328mm spike will require cutting to size, if used in barriers less than 350mm wide, to ensure that the spike does not pierce through the face of the intumescent material.

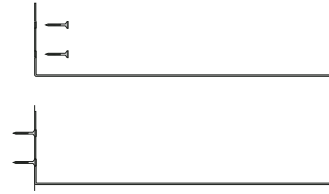
The bracket should be cut to provide a minimum projection through the barrier to 3/4 of the cavity barrier width and to a maximum of 25mm behind the face of the intumescent strip.

To secure the bracket use nom. 5mm Ø stainless steel screws/fixings, 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.

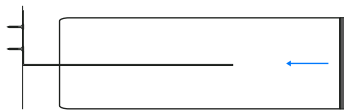
Fix through both of the fixing holes.

Fixings must have an appropriate fixing depth for the substrate (with a minimum of 50mm for masonry and minimum 25mm for timber unless otherwise specified by the fixing manufacturers guidance for their fixing type).



Fix 2 number HP brackets, per linear meter, to the substrate at maximum 250mm from the end of the cavity barrier, with a maximum spacing between brackets of 500mm.

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. Where the cavity barrier is less than or equal to 500mm in length 1 HP bracket may be used.



Push the cavity barrier onto the bracket spike, the brackets should impale the VFB 120/120 to approximately mid barrier depth and must not protrude through the intumescent element. 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.



Screw the pigtail screws through the face of the intumescent material on the face of the cavity barrier (the face with the labels).

Position the first pigtail screw fixing through the face of the cavity barrier at a maximum 125mm from one end, continue to face fix through at maximum 250mm centres (4 pigtail screws per linear meter), ensuring that the final pigtail fixing is a maximum 125mm from the end of the cavity barrier.



This will ensure that pigtail fixings are positioned at 250mm centres across the continuous run of cavity barrier.

The pigtails should be screwed in to the face of the cavity barrier to a depth which leaves 25mm of the pigtail proud of the intumescent face of the cavity barrier.

Where sections of cavity barrier are less than 1 linear meter in length, ensure that pigtails are positioned at a maximum 125mm from each end with additional fixing being positioned at maximum 250mm centres between the end pigtails.

Where the space between the end pigtails exceeds 250mm additional pigtails will be required.

Where the cavity barrier is less than 250mm in length only 1 pigtail will be required.

All sections of cavity barrier require pigtail screws unless directly faced fixed through the cavity barrier, as per option 1.

Notes

A series of horizontal dashed lines for taking notes.

# VFB 120/120

---

Tenmat Ltd.  
Northbanks Industrial Park,  
Irlam, Frank Perkins Way,  
Greater Manchester,  
M44 5EW

+44 161 872 2181  
fpsales@tenmat.com

tenmat.com



Advanced materials.  
tenmat.com



Part of the  
Diamorph Group

Tenmat warrants the materials it produces will conform to Tenmat specifications and approved drawings where applicable. It is entirely the customer's responsibility to make the final product choice and satisfy themselves of the suitability of the product for the intended application, carrying out testing where required. For construction projects, all products which the customer is intending to use on a particular project must be approved in writing by the customer's building designer, system designer or design control professional, to ensure compliance with the latest regulations.

The information contained in Tenmat data sheets is presented in good faith. Tenmat Limited makes passive fire protection product suggestions based solely upon and limited to the information made available to Tenmat. Tenmat possesses knowledge of fire test data and offers manufacturers installation advice. Within reason, Tenmat is skilled at offering opinion concerning the installations in question, and can comment on interfaces with other construction materials, but this is not a recommendation or decision. Decisions on overall building fire strategy are not made by Tenmat. Tenmat products have been tested for a wide range of construction types, and they must be only used in accordance with Tenmat test evidence. Each specific Tenmat product must be installed into a construction that matches the corresponding test report. Tenmat product performance requires safe and proper handling and correct installation.