



Fire Protection Solutions for Rainscreen Assemblies

Installation Instructions

Passive Fire Protection

General Design & Installation Considerations

Maximum free air gap for this intumescent fireblocking is 1.75", the space in front of the intumescent strip on the face of the fireblocking to the rear of the external wall surface.

Intumescent Fireblocking should be installed in a continuous run, (with the exception of abutting up to vertical fireblocking). Where this is not possible, details should be agreed with the project's principal designer and/or fire engineer.

Horizontal fireblocking should be installed adjacent and tightly abutted to any vertical fireblocking, the vertical fireblocking should be installed first.

Fireblocking may be cut to length as required, adjacent lengths must be tightly abutted together.

The intumescent face of the fireblocking 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 fireblocking, 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.

Fireblocking fixing brackets, both multi purpose, (MP bracket) or high performance (HP bracket) must not penetrate through the face of the fireblocking.

Screws for direct fixing and fixings to secure brackets are not supplied by Tenmat.

The brackets used to fix the fireblocking must be installed with the spike inserted centrally (horizontally) to the rock mineral wool section of the fireblocking with the bracket fixed above and not below the intumescent fireblocking.

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

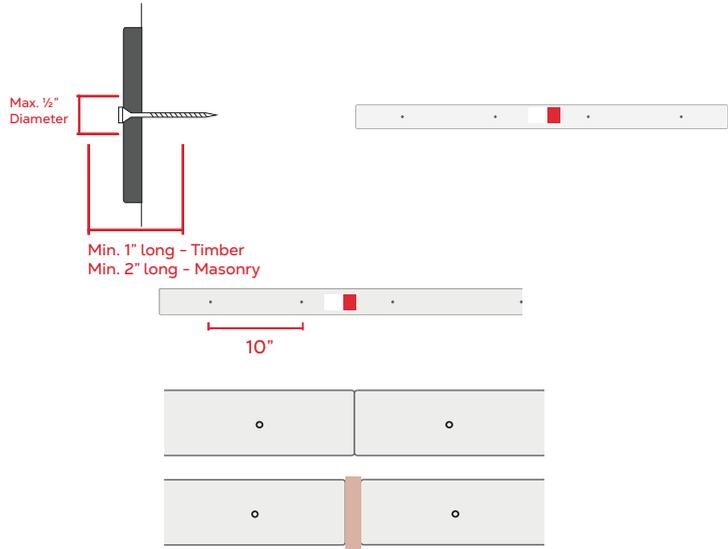
The fireblocking must be installed following the installation methods described below.

The fireblocking must not be penetrated by any other mechanical or electrical services.

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Fitting Instructions FF102/50 Fire Block

Tenmat's FF102/50 Fire Block is a particularly versatile and extensively fire tested Intumescent Fireblocking which can be installed in a wide range of construction types. The product is simply mechanically fixed in position to leave a maximum air gap of 1 ¾" between the product and the back of the cladding panel.



- Fix FF102/50 with non-combustible screws
- Fixings to have a head diameter between ¼" and ½" and suitable length and type for substrate
- Ensure label side is facing out into cavity
- Do not overdrive fixing, screw head must sit flush or slightly proud

- Each length up to 20" requires a minimum of two fasteners
- Product must be fixed at 5" from the ends
- Distance between fasteners cannot exceed 10"
- Fixings must be along center line of the Fire Block

- Adjacent lengths must be tightly abutted
- At termination or interruption by adjacent components, ensure product is tightly abutted at interface, with no gap.
- Ensure Fire Block is free to expand without obstruction

When fixing FF102/50 through existing cavity insulation, ensure fixing embeds either into a solid substrate, e.g. sheathing board, steel stud or concrete slab.

Alternatively FF102/50 can be fixed into steel Z girt.

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Fitting Instructions

FF102/50Plus

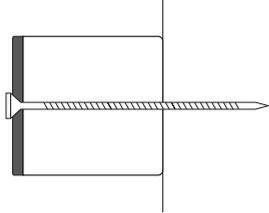
Product Depth (in)	Fitting Option Number	Fireblocking Support Type	No. of supports per piece	Maximum Centers (in)
1/2"-4" (12-101 mm)	1	Screw	4	10" * (250mm)
4"-8"* (101-203 mm)	2	MP Bracket	2	20" * (500mm)
8"-10"* (203-254 mm)	3	MP Bracket	3	14" * (350mm)
10"-15"* (254-381 mm)	4	HP Bracket	2	20" * (500mm)



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Option 1

FF102/50Plus- Ranging from ¼" up to 4" directly faced fixed



- Fix FF102/50Plus with non-combustible screws
- Fixings to have a head diameter between ¼" and ½" and suitable length and type for substrate
- Ensure label side is facing out into cavity
- Do not overdrive fixing, screw head must sit flush or slightly proud

- Each length up to 20" requires a minimum of two fasteners
- Product must be fixed at 5" from the ends
- Distance between fasteners cannot exceed 10"
- Fixings must be along center line of the Fire Block



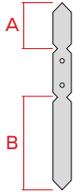
- Adjacent lengths must be tightly abutted
- At termination or interruption by adjacent components, ensure product is tightly abutted at interface, with no gap.
- Ensure Fire Block is free to expand without obstruction

When fixing FF102/50Plus through existing cavity insulation, ensure fixing embeds either into a solid substrate, e.g. sheathing board, steel stud or concrete slab.

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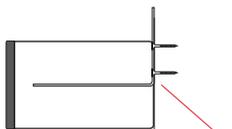
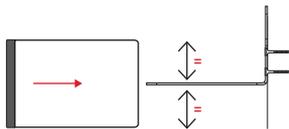
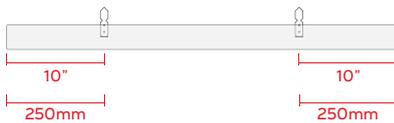
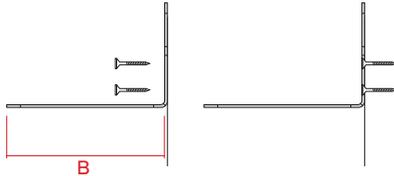
Option 2

FF102/50Plus- Ranging from 4" - 8" * fixed using 2 multi purpose (MP) brackets.



MP brackets are supplied with **two fixing spikes**:

- Spike **A**: approximately **2 ½" long** (65 mm)
- Spike **B**: approximately **6 ¼" long** (160 mm)



Fix through the mid barrier depth

Both are attached to a central mounting section for securing the bracket to the substrate. For fire blocks **4" to 8" wide** (91–215 mm across the cavity), use **2 MP brackets** and the **6 ¼" (B) spike**. The **6 ¼" spike** must be cut to length to ensure it does not pierce through the face of the intumescent material.

The bracket should be cut to provide:

- A projection into the fire block of **at least ¾ of the barrier width**, and
- A minimum **¾" (10 mm)** of spike extending **behind** the face of the intumescent strip.

Use **#10 stainless steel screws** (approx. ¾"-¼" diameter) of a length and type suitable for the substrate. Fix through **both** mounting holes. Fixings must achieve minimum embedment depth of (unless otherwise specified by the fastener manufacturer):

- **2" into masonry** (50 mm)
- **1" into timber** (25 mm)

Install **2 MP brackets per full piece** (1 linear meter) of fire block.

- Brackets must be placed **within 10" (250 mm)** of each end of the fire block.
- Maximum spacing between brackets: **20" (500 mm)**.

For fire block sections **less than full length**, MP brackets must still be positioned **within 10" of each end**.

For fire block sections **8" or less** (≤200 mm), **1 MP bracket** may be used.

Push the fire block fully onto the bracket spike. The spike should impale the FF102/50Plus to **approximately mid-depth** and must **not penetrate** the intumescent material.

Ensure the fire block sits **flush against the substrate** with **no gaps** behind it.

For timber-frame construction, a **minimum 1 ¾" thick** (35 mm) timber stud must be present directly behind the sheathing board along the fire block line.

Cut Sections

Each **full piece** of fire block is supplied with **4 face fixings** (beneath the polythene outer layer) that secure the intumescent strip to the stone wool backing.

If fire blocks are cut:

- Sufficient face fixings **must** remain to hold the intumescent strip in place.
- **No cut piece may be left without at least one face fixing.**

Fixing requirements:

- **Sections 8" or less** (≤200 mm):
 - Minimum **1 fixing**, centered
 - **2 fixings recommended**
- **Sections 8" to 20" (200–500 mm)**:
 - Minimum **2 fixings**
- **Sections 20" to 30" (500–750 mm)**:
 - Minimum **3 fixings**
- **Sections 30" to 40" (750–1000 mm)**:
 - Minimum **4 fixings**, equally spaced

Spacing limits:

- No more than **10"** between face fixings
- No more than **5"** from either end

Slitting

If the intumescent face must be slit to accommodate vertical rails:

- Every slit section must have **face fixings through the intumescent material**.
- Slits must be kept as **small as practical**, with **no gaps**.
- Slit depth must be **at least the depth of the rail** and no more than **¾" deeper** (10 mm).

Install:

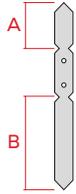
- Additional face fixings **within 5"** (125 mm) of each side of every slit.
- Ensure factory-installed fixings are **no more than 10"** (250 mm) from any additional fixing.

Suitable face fixings for cut or slit sections are **2 ½" stainless steel pig-tail screws**.

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Option 3

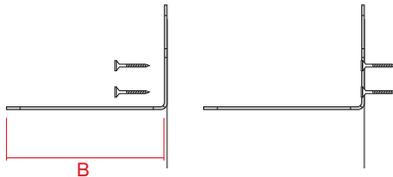
FF102/50Plus -Product ranging from 8"-10"* fixed using 3 multi purpose (MP) brackets.



MP brackets are supplied with **two fixing spikes**:

- One spike is **approximately 2 ½" long**,
- The other is **approximately 6 ¼" long**,

with a central section for securing the bracket to the substrate.



For fire blocks **8" to 10" wide** (across the cavity), use **3 MP brackets** and the **6 ¼" spike**. Use **#10 (≈3/16") stainless steel screws/fixings** with a **maximum head diameter of ½"**, with a length and type suitable for the substrate.

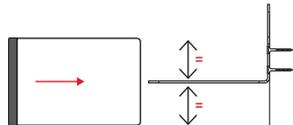
Ensure the screw head sits as flush as possible with the substrate.

Fix through both pre-drilled holes.



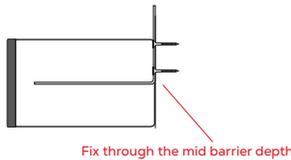
Fixings must have an appropriate embedment depth for the substrate, unless otherwise specified by the screw manufacturer.

- **Minimum 2" into masonry**
- **Minimum 1" into timber**



Install **3 MP brackets per full piece of fire block**, attached to the substrate **within 6"** of each end, with a **maximum spacing of 14"** between brackets.

For fire block sections **less than full length**, ensure MP brackets are still positioned **within 6"** of each end. Where the fire block is **14" or less**, a **single MP bracket** may be used.



Push the fire block onto the bracket spike. The spike should impale the FF102/50Plus to **approximately mid-depth** and must **not** protrude through the intumescent element. Push the fire block fully onto the spike so it sits flush against the rear substrate, ensuring **no gaps** behind it.

For **timber-frame installations**, a **minimum 1 ¾" thick** timber stud must be present directly behind the sheathing board along the line of the fire block.

Cut Sections

Each **full piece** of fire block is supplied with **4 face fixings** (beneath the outer polythene) to hold the intumescent strip in place.

If the fire block is cut to length, sufficient face fixings must remain to secure the intumescent strip to the stone wool backing. **No cut piece may be left without at least one face fixing.**

Fixing requirements:

- **Sections 8" or less:** Minimum **1 face fixing**, centered.
- **Sections 8" to 20":** Minimum **2 face fixings**.
- **Sections 20" to 30":** Minimum **3 face fixings**.
- **Sections 30" to 40":** **Minimum 4 face fixings**, equally spaced, with:
 - No more than **10"** between fixings, and
 - No more than **5"** from either end.

Slitting

If the front intumescent face of the fire block must be slit to fit around vertical rails:

- Every slit section must have face fixings installed through the intumescent material.
- Vertical slits must be as small as practical, with **no gaps**.
- Slit depth must be:
 - **At least the depth of the rail**, and
 - **No more than 3/8"** deeper than the rail.

Install **additional face fixings within 5"** of each side of every slit.

Ensure factory-installed face fixings are **no more than 10"** on center from the added fixing.

Suitable face fixings for cut or slit sections are **2 ½" stainless steel pig-tail screws**.

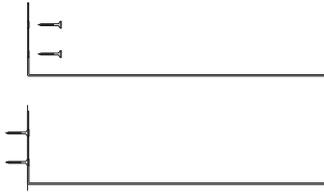
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Option 4



FF102/50Plus- Ranging from 10" - 16" wide (across cavity) fixed using 2 high performance (HP) brackets.

HP brackets are supplied with a single fixing spike, **approximately 13" long** with $\frac{1}{4}$ " diameter pre-drilled fixing holes and a **90° return angle** for securing the bracket to the substrate.



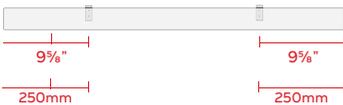
The **13" spike** will require cutting to size if used in fire blocks **less than 14" wide**, to ensure that the spike does not pierce through the face of the intumescent material.

The bracket should be cut to provide:

- A projection through the fire block of **at least $\frac{3}{4}$ of the fire block width**, and
- **A minimum of $\frac{3}{8}$ "** behind the face of the intumescent strip

To secure the bracket, use **#10** ($\approx \frac{3}{16}$ " - $\frac{1}{4}$ ") **stainless steel screws** of a length and type suitable for the substrate.

Fix through both pre-drilled holes.

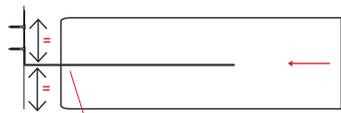


Fixings must have an appropriate embedment depth for the substrate; unless otherwise specified by the fixing manufacturer for their product.

- **Minimum 2" into masonry**
- **Minimum 1" into timber**

Fix **2 HP brackets per full piece (1 linear meter)**, attached to the substrate **no more than 10" from the end** of the fire block, with **maximum spacing of 20" between brackets**.

Where sections of fire block are **less than full length**, ensure HP brackets are positioned **no more than 10" from each end**. Where the fire block is **less than 8" long**, a single HP bracket may be used.



Fix through the mid barrier depth

Push the fire block onto the bracket spike. The brackets should impale the FF102/50Plus to **approximately mid-depth** and must **not** protrude through the intumescent element. Push the fire block fully onto the spike so it sits flush with the rear substrate.

Cut Sections

Each **full piece** of fire block is supplied with **4 face fixings** (pre-installed beneath the outer polythene) to hold the intumescent strip in place.

If fire blocks are cut to shorter lengths, ensure sufficient face fixings remain to secure the intumescent strip to the stone wool backing.

No cut section may be left without at least one face fixing.

- Fixing requirements:
- **Sections 8" or less:** Minimum **1 face fixing**, centered (2 recommended).
- **Sections 8" to 20":** Minimum **2 face fixings**
- **Sections 20" to 30":** Minimum **3 face fixings**
- **Sections 30" to 40":** Minimum **4 face fixings**, equally spaced, with:
 - No more than **10" between fixings**, and
 - No more than **5" from either end**.

Slitting

If the intumescent face on the fire block is slit to fit around vertical rails:

- Every slit section must have face fixings installed through the intumescent material.
- Vertical slits must be kept as small as possible with **no gaps**.
- Slit depth must be **at least the depth of the rail and no more than $\frac{3}{8}$ " deeper**.

Install **additional face fixings within 5" of each side of every slit**, and ensure factory-installed face fixings are **no more than 10" on center** from the added fixing.

Suitable face fixings for cut or slit sections are **2 1/2" stainless steel pig-tail screws**.

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Scope

FF102/50 has undergone extensive fire testing, including **NFPA285** at **Intertek** and **Underwriter Laboratories (UL)** and is suitable for use within a wide range of construction types, enabling the highly customizable system to be specified with confidence and provide the installer with a simple, time saving and site friendly solution. FF102/50 intumescent fire blocks are a **NYC OTCR/DOB approved** material in accordance with the 2022 NYC Building Code Section 718.2.1 (item #8) when required in concealed spaces of exterior wall coverings as specified in accordance with **BC 718.2.6.1**.

Limitations

To ensure compliance to the relevant test evidence detailed within this Data Sheet, the FF102/50 and FF102/50*Plus* must be installed as per the fitting instructions by competent installers.

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.

Tools Required

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

PPE Required

- Hand protection
- Eye protection

Fire Protection Solutions

Tenmat is a global leader in advanced passive fire protection solutions. With decades of expertise in high-performance intumescent materials, we design and manufacture innovative firestopping products that safeguard buildings and save lives.

Our systems are trusted worldwide in façades, mechanical and electrical penetrations, and other critical applications. Backed by rigorous testing, certification, and a commitment to quality, Tenmat delivers reliable solutions that ensure safety without compromising design or performance.

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Fire
Protection**