



Fire Protection Solutions for Rainscreen Assemblies

Innovative intumescent products and solutions engineered to meet the latest fireblocking code requirements

Leaders in Innovation

For over 100 years, Tenmat has been a leader in the development, engineering and manufacturing of specialized non-metallic materials that offer advanced passive fire protection capabilities.

Tenmat is committed to the development of innovative fire safety products, manufactured to the latest worldwide quality standards.

Intumescent Fireblocking for Ventilated Rainscreen Systems

Tenmat's range of Intumescent Fire Blocks are engineered to maintain the functionality of ventilated rainscreen systems, allowing for air circulation and proper water management. In the event of a fire, the intumescent is activated by the heat output – sealing off the gap completely.

Other Passive Fire Protection

Tenmat's FIREFLY® range of intumescent materials is a family of technically advanced passive fire protection materials with outstanding performance that has proven to be effective in a wide range of passive fire protection applications.

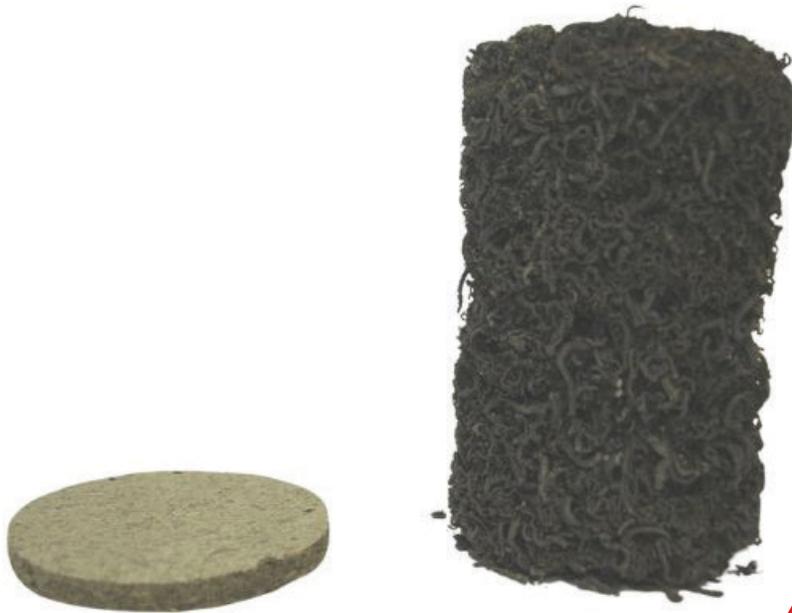
Our Technology

Tenmat manufactures a range of powerful and fast-reacting intumescent materials.

Tenmat's FF102/50 is a halogen-free graphite-based intumescent material which produces a particularly stable and resilient insulating char structure during and after expansion.

Tenmat FF102/50 starts reacting at around 390°F (200°C), quickly expanding and creating a tough char. This highly insulative tough char seals off any gaps and prevents the spread of flames and heat.

Tenmat's FF102/50 has extremely low organic content and zero halogen, achieving an ASTM E84 (UL 723) tested flame spread of 0 (zero) and smoke developed value of 0 (zero).



Meet the Building Code the smart way

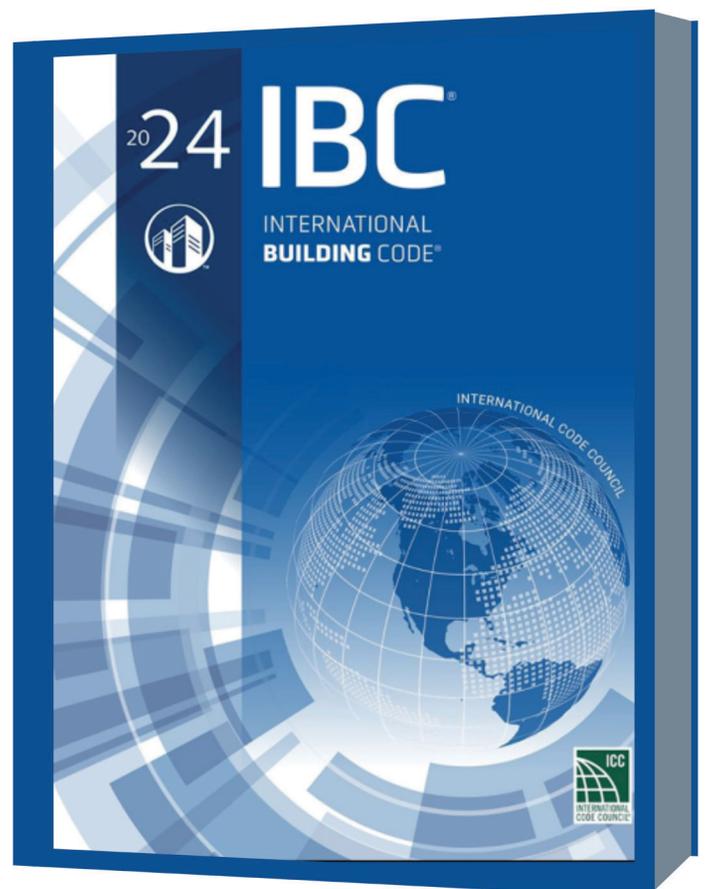
The International Building Code (IBC) contains a number of triggers that would require an exterior wall system to employ the use of fireblocking in a ventilation cavity for rainscreens and other cladding.

For example section 718.2.6 of the IBC requires fireblocking in concealed spaces of exterior wall coverings and architectural trim made with combustible construction. The intent is to restrict fire spread by dividing cavities into smaller compartments. Fireblocking must be installed so that concealed spaces do not exceed 100 square feet, with additional requirements for closure at discontinuous sections. Certain noncombustible claddings and systems are exempt, but when combustible materials are used, compliant fireblocking is essential for code-approved façade construction.

Tenmat's FF102/50 and FF102/50Plus Intumescent Fire Blocks provide a simple, proven solution to meet these requirements—delivering reliable fire protection while maintaining ventilation and design flexibility.

Local jurisdictions have also amended this section to expand the fireblocking requirement. Section 718.2.6.1 of the 2022 NYC Building Code includes additional fireblocking requirements applicable to exterior wall coverings, even for some assemblies that contain noncombustible cladding and attachments. In New York City, they also require the wall assembly to be tested with fireblocking, when NFPA 285 is required.

Tenmat's FF102/50 is the first product to be formally approved by New York City for this application and successfully passed a number of NFPA285 tests.



The Tenmat Solution

Tenmat offers Open State Intumescent Fireblocking suitable for a wide range of cavity sizes and constructions.

Modern construction often requires exterior cladding and rainscreen systems to be held away from the building structure to allow for proper air circulation and moisture dissipation - improving the building's overall performance.

The void acts like an open chimney and allows the fire to spread quickly both vertically and horizontally around the building.

Tenmat's range of Intumescent Fireblocking are NFPA 285 tested to maintain the ventilated cavity in normal conditions but will rapidly expand to seal off the gap, in the unfortunate outbreak of a fire.



FF102/50

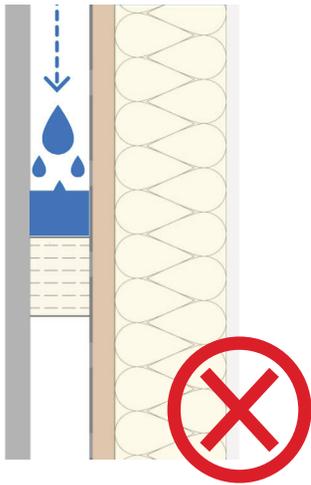


FF102/50PLUS

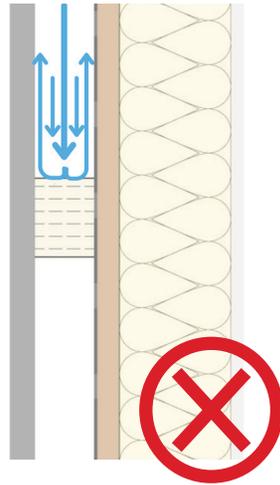


Superior Fireblocking

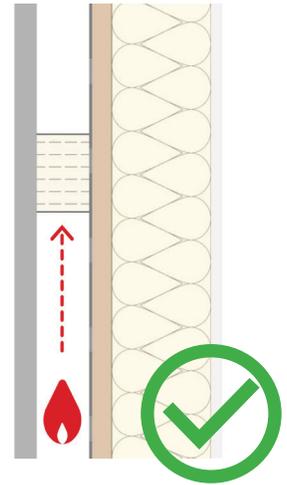
Permanent Obstruction Fireblocking



Poor Water Management

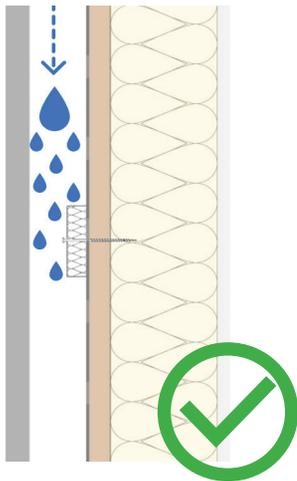


Insufficient Air Circulation

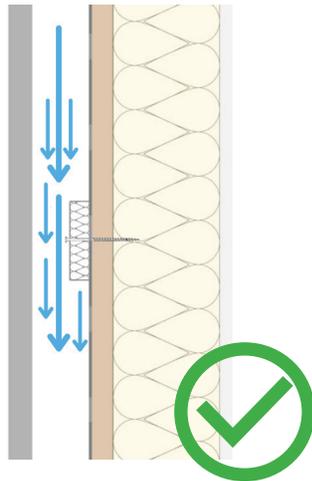


Proper Fire Protection

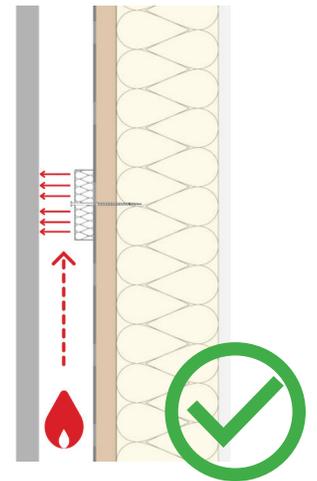
Self-Activated Intumescent Fireblocking



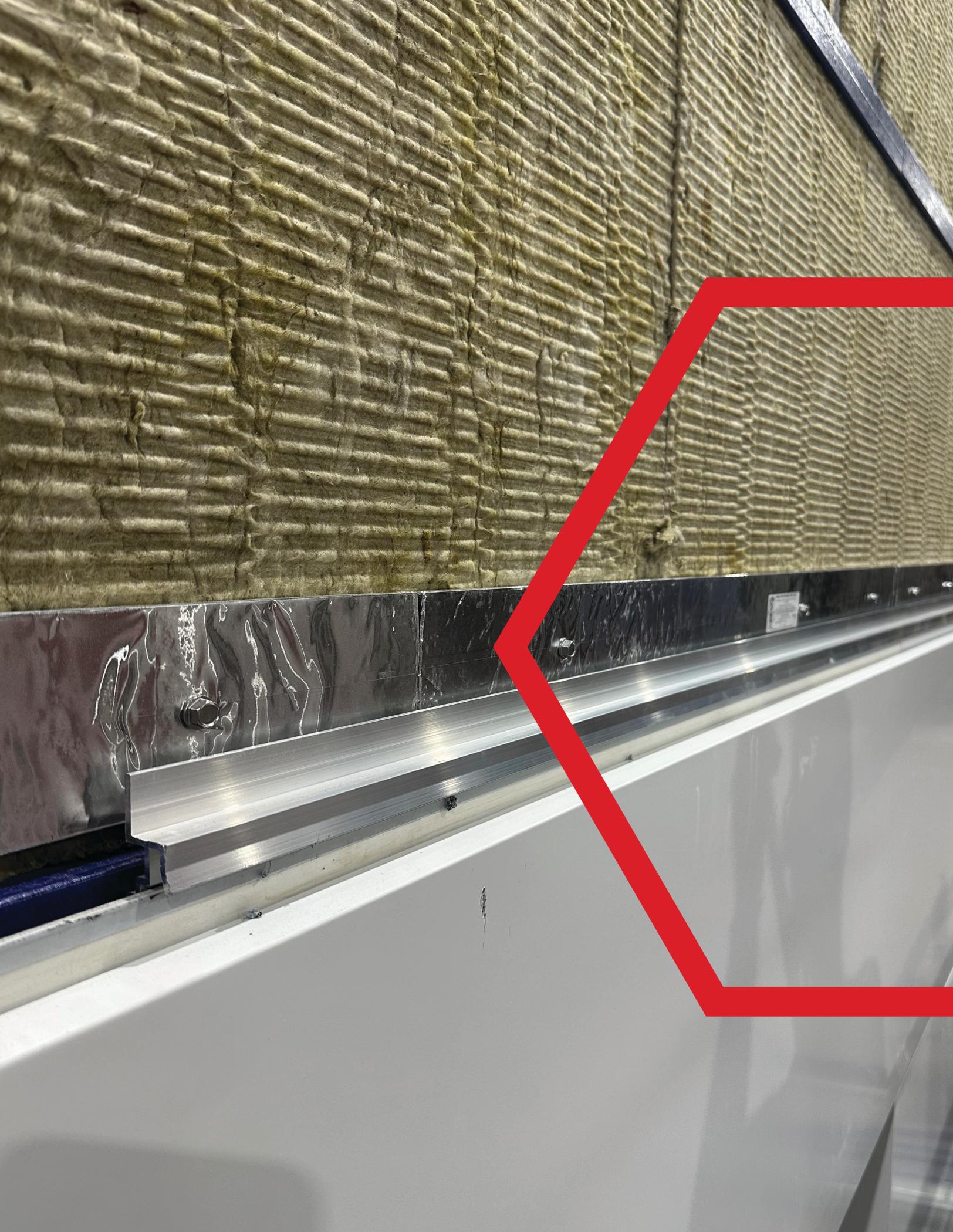
Sufficient Water Drainage



Adequate Air Ventilation



Proper Fire Protection



FF102/50

Rainscreen Intumescent Fireblocking



FF102/50



Intumescent Fireblocking for Ventilated Rainscreen Systems.

Tenmat's innovative Fireblocking for Rainscreen Systems are rigid, highly expansive intumescent strips, designed to maintain the open ventilated cavity in normal conditions to suit up to 2" (50mm) air gaps. In the event of a fire, the strips will expand to seal off the air gap cavity and serve as a fire barrier.

The FF102/50 can be mechanically fixed both horizontally and vertically within ventilated cavities behind rainscreen or cladding systems.

Key Benefits

- NFPA285 Tested in a variety of assemblies with different cladding and insulation manufacturers
- Intertek Listed (SPEC ID: 55536)
- UL Classified under the Exterior Wall System Component category (FWFX)
- ASTM E84 (UL 723): Flame Spread: 0 Smoke Developed: 0
- Continuous Free Air Space up to 2" (50mm)
- Allows for ventilation and moisture dissipation
- Expands up to 25x of its thickness in case of a fire
- Age & Durability Tested

Approvals

NYC OTCR/DOB approved material in accordance with the 2022 NYC Building Code Section 718.2.1

ETL Recognized Component

UL Classified for use in exterior walls
EXTERIOR WALL SYSTEM COMPONENTS (FWFX)

Up to 2 hour fire tested to standards including: ASFP TGD19 'open state cavity barriers' to ASFP standards for ventilated façades



FF102/50*Plus*

Intumescent Fireblocking for Large Cavities in Ventilated Rainscreen Systems



FF102/50Plus



Intumescent Fireblocking for large cavities in Ventilated Rainscreen Systems

The FF102/50Plus Intumescent Fire Block is an ‘open state’ cavity fireblocking system for ventilated cavities and air gaps ranging from 2” up to 19.6” (500mm). Its main application is in façade systems incorporating combustible insulation, where it provides critical fire-stopping performance without impeding necessary ventilation.

The FF102/50Plus employs Tenmat’s high expansion FF102/50 intumescent material fixed to a high-density mineral wool backing, enclosed in a protective polythene wrap.

Key Benefits

- NFPA285 Tested in a variety of assemblies with different cladding and insulation manufacturers
- Intertek Listed (SPEC ID: 55536)
- UL Classified under the Exterior Wall System Component category (FWFX)
- ASTM E84 (UL 723): Flame Spread: 0 Smoke Developed: 0
- Continuous Free Air Space from 2” (50mm) up to 19.6” (500mm)
- Allows for ventilation and moisture dissipation
- Expands up to 25x of its thickness in case of a fire
- Age & Durability Tested

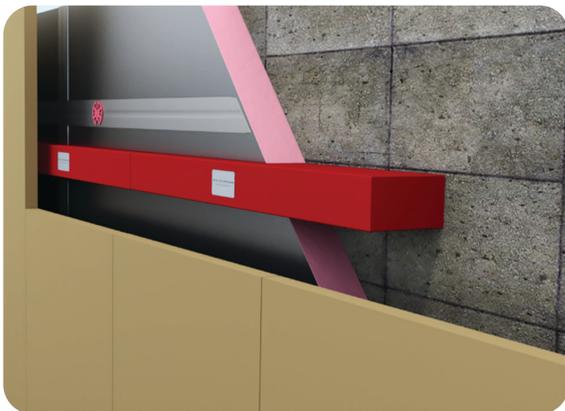
Approvals

NYC OTCR/DOB approved material in accordance with the 2022 NYC Building Code Section 718.2.1

ETL Recognized Component

UL Classified for use in exterior walls
EXTERIOR WALL SYSTEM COMPONENTS (FWFX)

Up to 2 hour fire tested to standards including: ASFP TGD19 ‘open state cavity barriers’ to ASFP standards for ventilated façades

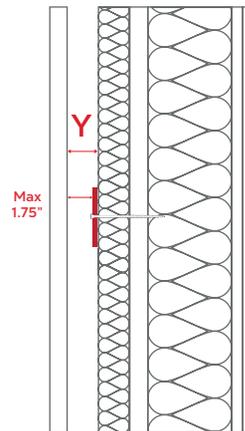


Product Guide



FF102/50

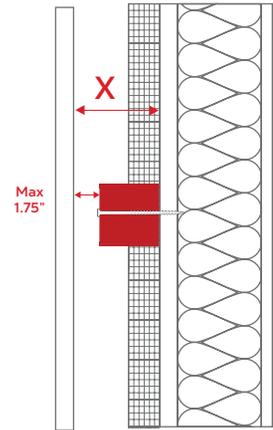
For use with non-combustible insulation



Product Name	Suitable Insulation Thickness	Overall Cavity Width (Y)	Fixing/Support Method
FF102/50 1102ML00600075100001	Installed on top of mineral wool	Up to 2" (Up to 50 mm)	4 Stainless Steel Screws

FF102/50Plus

For use with combustible insulation and/or cavities, up to 19.6"



Product Name	Suitable Insulation Thickness	Overall Cavity Width (X)	Fixing/Support Method
FF102/50Plus-¾" I102MP02600100100026	¾"	1¼" - 2¾" (32-69 mm)	4 Stainless Steel Screws
FF102/50Plus-1" I102MP03200100100026	1"	1½" - 3" (38-76 mm)	
FF102/50Plus- 1 ½" I102MP04600100100026	1½" (30 mm and 40 mm)	2" - 3½" (51-88 mm)	
FF102/50Plus-2" I102MP05700100100026	2" (50 mm)	2½" - 4" (63-101 mm)	
FF102/50Plus-2 ½" I102MP07000100100026	2½" (60 mm)	3" - 4½" (76-114 mm)	
FF102/50Plus-3" I102MP08300100100026	3" (70 mm)	3½" - 5" (88-127 mm)	
FF102/50Plus-3 ½" I102MP09600100100026	3½" (80 mm and 90 mm)	4" - 5½" (101-139 mm)	
FF102/50Plus-4" I102MP10800100100026	4" (100 mm)	4½" - 6" (114-152 mm)	
FF102/50Plus-6" I102MP15900100100026	6"	6½" - 8" (165-203 mm)	MP Brackets
FF102/50Plus-8" I102MP21000100100026	8"	8½" - 10" (216-254 mm)	

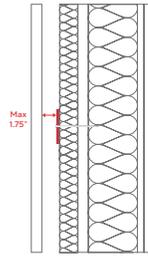
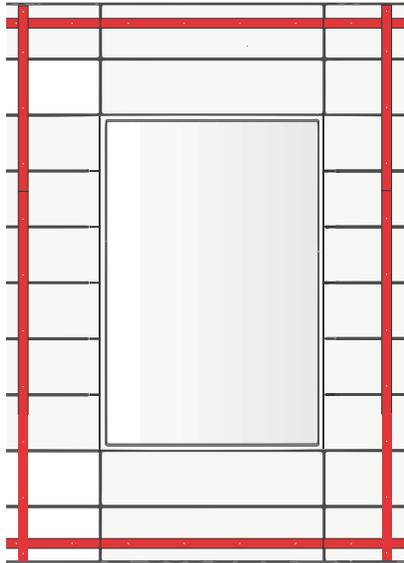
Not sure what product is right for your project?

For custom parts, please contact our technical sales department at **800-821-3436** or email us at **info@tenmatusa.com**.

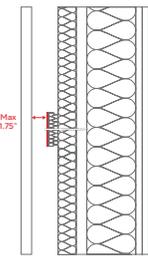


FF102/50 Applications

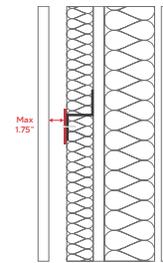
IBC 718.2.6 (Examples)



FF102/50 on mineral wool thru-fixed to sheathing board

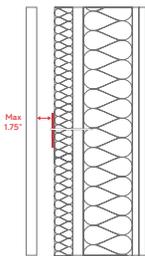
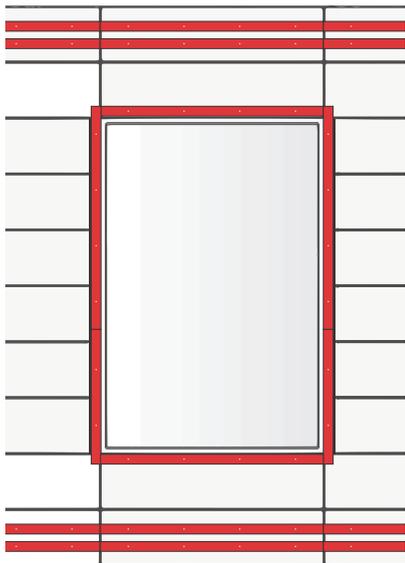


FF102/50 on additional mineral wool packer

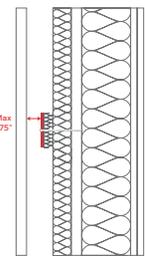


FF102/50 fixed directly to Z Girt

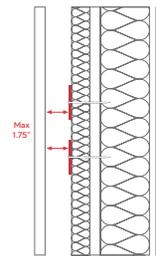
NYC BC 718.2.6.1 (Examples)



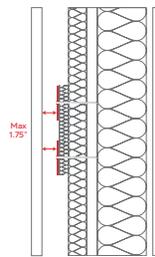
FF102/50 on mineral wool thru-fixed to sheathing board



FF102/50 on additional mineral wool packer



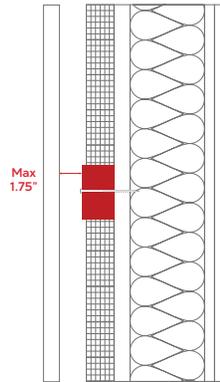
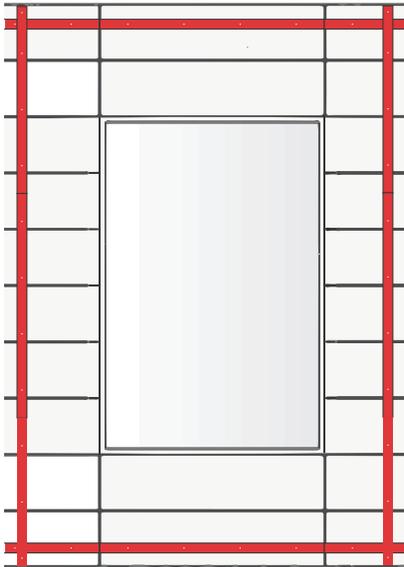
2x FF102/50 to form 8" high fireblocking zone



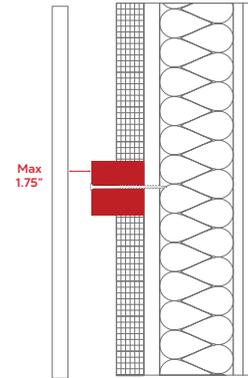
2x FF102/50 to form 8" high fireblocking zone on additional mineral wool packer

FF102/50Plus Applications

IBC 718.2.6 (Examples)

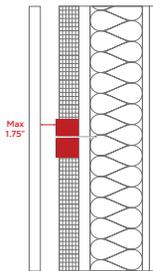
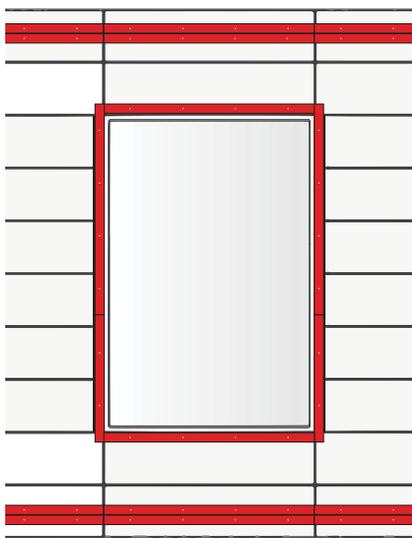


FF102/50Plus directly attached to external sheathing

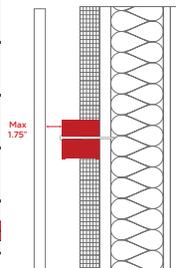


FF102/50Plus, up to (measurement) for extended internal cavities.

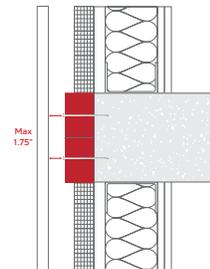
NYC BC 718.2.6.1 (Examples)



FF102/50Plus directly attached to external sheathing



FF102/50Plus, up to (measurement) for extended internal cavities.



Floor Assembly with 8" fireblocking zone

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.

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

Intumescent Technology in Other Applications



Innovative Passive Fire Protection Solutions

Tenmat FIREFLY® Intumescent materials are technologically advanced fire protection materials used in a wide variety of fire-stopping applications throughout the world. The materials are available in a wide range of sizes, thicknesses, and shapes with expansion ratio and pressure generation criteria to suit even the most demanding applications.



Intumescent Strips & Sheets

Tenmat FF102 and FF107 are exceptionally powerful intumescent materials which combine fast reaction with high expansion and pressure generation. The materials are suitable as fireblocking in ventilated rainscreen systems, as well as for head-of-wall joint seals, pipe wraps, pipe collars, gap seals and other construction joints. Available as sheets or strips lengths up to 80" - 0.1" up to 0.23" thicknesses available.



Vacuum Formed Intumescent

Tenmat FF109 is a highly compressible intumescent material which expands to form a resilient and stable char. The material is available in sheets or alternatively in vacuum formed shapes. Applications for this lower density material include cast-in devices, pipe sleeves, cable baskets, vent duct sleeves, or recessed light enclosures.

Engineers in Fire Safety



Tenmat has changed the way architects, builders, and contractors deal with the problem of fire protection.

Tenmat offers a unique range of flexible, lightweight and ready-to-use products and solutions for the most demanding applications.

Our state-of-the-art, in-house R&D Laboratory and ISO 9001:2015 accredited production facilities have been developing and manufacturing technically superior products for over 100 years and are capable of designing custom-made solutions for all your fire stopping needs.

Tenmat's ongoing commitment to the development of new products and solutions to meet the latest fire protection standards and applications worldwide has been recognized in 2012 and 2019 by receiving the highest official award in Great Britain, the prestigious Queen's Award for Enterprise in the innovation category.

Tenmat Passive Fire Protection Products are used in various applications throughout the United States, Canada and the rest of the world: from multi-story apartment buildings, over single-family homes to multi-family dwellings, college dormitories, hotels and assisted living facilities.

Tenmat is the market leader in the production of Fire Rated Light Covers which meet the International Building Code, NFPA, as well as the Uniform Building Code.

All Tenmat products have been fire tested by independent third party labs, such as UL and Intertek.



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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For further information please contact our Customer Service Department on 1-800-821-3436.



Tenmat

**Passive
Fire
Protection**