



Modular Construction

Passive Fire Protection Solutions

Passive Fire Protection for modular builds.

Tenmat is a leading UK manufacturer of passive fire protection solutions and fire stopping products. We offer a wide range of products that help maintain the safety of public, private and commercial buildings.

In recent years there has been a sharp increase in demand for more effective and efficient building processes within the construction sector.

Predominantly this is due to the shortcomings of traditional building and construction practices, namely issues associated with safety, build quality and time.

The answer... Modular, or offsite construction.

At Tenmat, we've listened to our customers and answered with our range of innovative solutions. Working closely with modular manufacturing companies, we have gained a detailed insight into the requirements within the sector and have subsequently developed a range of solutions suitable for virtually all applications. By building in passive fire protection at the point of manufacture, modular buildings offer construction companies a broad range of benefits making final construction an easier task. You can view our passive fire protection solutions for modular buildings below.

What is modular construction (offsite construction)?

Offsite construction, also commonly referred to as modular construction, is a construction practice during which the primary components are assembled under controlled conditions within a factory, before being transported on-site for final assembly.

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CavGuard Roll 65

 **Tenmat**

CavGuard Roll 65

3rd Party Fire Tested for 30 and 60
Minute Applications.

Contact Tenmat.com for more info
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CAVITY FIRE BARRIER SYSTEM - DO NOT REMOVE

Product Description



Tenmat's CavGuard Roll 65 is a cavity fire barrier designed to firestop the cavity behind external walls consisting of outer substrates of masonry or brickwork. The low smoke zero halogen highly expansive intumescent material allows ventilation to be maintained in non-fire conditions.

The CavGuard Roll 65 is made from a flexible intumescent material allowing it to be provided in a roll format. With a thickness of only 6mm, the low profile design offers significant space and labour saving over traditional cavity socks, whilst also ensuring the external cavity is left unobstructed and free to ventilate. It is also covered with a protective layer of polythene for ease of handling and to protect it from water.

In the event of a fire the CavGuard Roll 65's intumescent material will expand to close the external wall cavity, providing effective fire resistance, for integrity and insulation for 60 minutes* depending upon the construction of the external wall cavity. The CavGuard Roll 65 is designed to close off a total cavity of 65mm which allows for building tolerances of up to 15mm (above the typical maximum cavity ventilation requirements of 50mm).

Product Details

Technical

- A fire rated product, providing fire resistance performance within external wall cavities, for periods up to 60 minutes
- Suitable for masonry and brickwork external substrates only
- Ventilated design – developed to allow maximum ventilation of uninsulated cavities reducing the need for cavity trays or weepholes.
- Suitable for ventilated cavities up to 65mm wide, including building tolerances of up to 15mm (50mm + 15mm)
- Provided in rolls of 6.3m long

Installation and maintenance

- Flexible and lightweight - designed to be easily and quickly installed
- No maintenance required after installation

Dimensions

6mm x 75mm x 6,300mm

FF102/50

Product Description



Tenmat's FF102/50, Ventilated Cavity Fire Barriers, are manufactured from a low smoke zero halogen high expansion intumescent material. They are designed to reinstate fire resisting performance to external wall cavities that are required to be ventilated (open-state) in non-fire conditions.

The FF102/50 is manufactured from a rigid intumescent material allowing it to be provided in a strip format, it is also covered with a protective layer of aluminium foil for ease of handling.

In the event of a fire the FF102/50 intumescent material will expand to close the external wall cavity, providing effective fire resistance, for integrity and insulation for up to 120 minutes depending upon the construction of the external walls.

The FF102/50 is designed for use within cavities of up to 50mm and once installed will close the remaining free air gap in front of the 6mm cavity barrier of up to a maximum of 44mm (depending on construction type).

Product Details

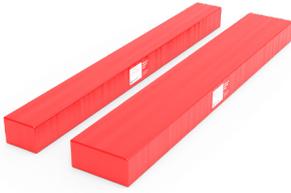
- An "open state" cavity fire barrier for use horizontally within uninsulated, ventilated and drained cavities
- Fire Rated for up to 120 minutes for both integrity and insulation when tested to the general principles of BS EN 1363-1 following ASFP TGD 19 guidance
- 3rd Party Certification - IFC Certification
- Tested for : Timber Frame, Masonry, Render Systems & External Weatherboards
- Ventilated design – developed to allow maximum ventilation and drainage of cavities reducing the need for cavity trays or weepholes
- Suitable for "open-state" ventilated cavities up to 50mm wide
- Provided in strips of 1m long, 75mm wide and 6mm thick
- Lightweight - designed to be easily and quickly installed
- No maintenance required after installation

Sizes

6mm (thick) x 75mm (wide) x 1000mm (long)

VFB Plus

Product Description



Tenmat's VFB Plus Ventilated Fire Barriers are 'open state' cavity fire barriers for ventilated cavities of up to 450mm.

Each VFB Plus 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 Plus then leaves a maximum 44mm 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 product has 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 Plus are mechanically fixed horizontally within ventilated cavities behind the external wall substrate following the fire compartment line.

The VFB Plus 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

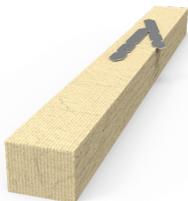
- 3rd Party Certification - IFC Certification
- Typical Fire Ratings of minimum 30 to 60 minutes Integrity and Insulation
- Higher Fire Ratings available dependent on application
- Maintains a 44mm air gap
- Up to 450mm cavities tested
- Standard thickness of 75mm
- Durability and Age Tested
- Fixing brackets included as standard

Dimensions

Thickness (Total Cavity less 44mm Air Gap) x 75mm x 1000mm

NVFB

Product Description



Tenmat's NVFB Non-Ventilated Cavity Fire Barriers, are manufactured from stone mineral wool with an A1 Reaction to Fire Rating and are designed to maintain fire resisting performance to external wall cavities.

The NVFB is capable of providing effective fire resistance, for integrity (E) and insulation (I) for up to 120 minutes (EI120) depending upon the orientation of the NVFB and the construction of the external walls.

Tenmat NVFB is supplied cut to size to suit the cavity width or can be supplied in full slabs. It is supplied as plain stone mineral wool as standard and can also be supplied with foil encapsulation or with an integral DPC.

The NVFB is designed for use within cavities up to 600mm wide and only requires 5mm of compression when fitting.

Product Details

- Cavity Fire Barrier for use at: Compartment Floor, Compartment/Party Walls & Around Openings
- UL-EU 3rd Party Certification
- Fire Resistance Classification to EN 13501-2
- A1 Reaction to Fire
- Fire Rated up to 120 minutes integrity and insulation (EI120)
- Suitable for cavities up to 600mm
- Suitable for use vertically and horizontally
- Tested for use in conjunction with masonry support brackets
- Tested with SFS Systems with calcium silicate fibre cement boards
- Provided in 1 metre lengths
- Standard thickness/depth of 100mm
- Available in a reduced thickness/depth of 82mm
- Optional integral DPC to prevent moisture migration
- Supplied plain as standard. Optional foil encapsulation available.
- No maintenance required after installation

Sizes

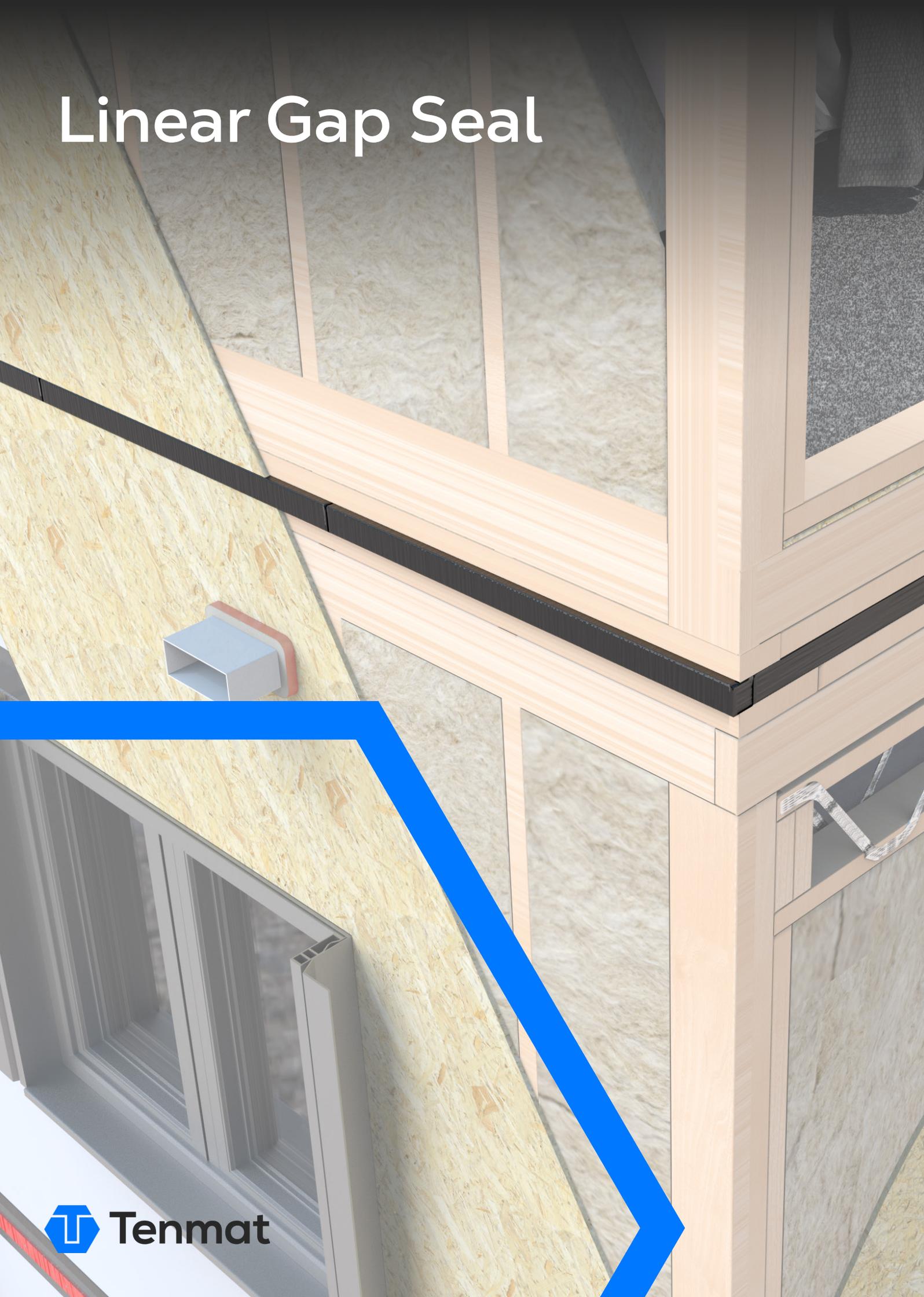
Cut to Size:

100mm Deep x Width to suit cavity
(+5mm for compression fit) x 1000mm

Full Slabs:

100mm x 605mm x 1003mm (available plain or foiled)
Non-standard 82mm thickness available upon request.

Linear Gap Seal



Product Description



Tenmat's FF108 Linear Gap Seals are fully intumescent linear firestop seals tested to EN 1366-4. The durable seals are installed under compression and can accept up to 50% movement. They are equally suited to both vertical and horizontal joints. The seals offer up to 4 hour (EI240) fire rating for joints in fire rated walls and floors.

Product Details

- Up to EI240 Fire Rating
- Compressible up to 50%
- Available to suit gap sizes up to 100mm
- Accepts joint movement
- No additional sealants required

Sizes - 1 Seal Required

Seal Size	Min Gap.	Max Gap.	Fire Rating: Floors	Fire Rating: Walls
15 x 15 mm	7.5	13	E240 / EI90	E240/EI45
25 x 20mm	13	22	E240/EI30	E240
40 x 20mm	22	35	E240/EI30	E240
60 x 45mm	35	50	E240/EI45	E240/EI30
85 x 45mm	50	70	E240/EI45	E240/EI30
120 x 60mm	70	100	E240/EI45	E240/EI30

When installing in gaps/joints in floors, product must be installed 25mm down from the top of the floor slab.
When installing in walls, the product must be installed centrally.

Minimum Floor Slab Depth: 150mm Minimum Wall Depth: 100mm Tested to EN 1366-4: 2021

NB. Test evidence does not cover applications at the Head of Wall

Sizes - 2 Seals Required

Seal Size	Min Gap.	Max Gap.	Fire Rating: Floors	Fire Rating: Walls
30 x 15 mm	15	25	E240/EI180	E240/EI180
25 x 20mm	13	22	E240/EI180	E240/EI120
40 x 20mm	22	35	E240/EI180	E240/EI120
60 x 40mm	35	50	E240/EI180	E240/EI120
85 x 40mm	50	70	E240/EI180	E240/EI120
120 x 50mm	70	100	E240/EI180	E240/EI180

When installing in gaps/joints in floors, top seal must be installed 100mm down from the top of the floor slab with an air gap of 50mm between the top and bottom seal.

When installing in walls, the 2no. seals must be installed centrally with a 50mm air gap between the seals. Butt joints in adjacent seals must be offset by minimum 500mm.

Minimum Floor Slab Depth: 250mm Minimum Wall Depth: 250mm Tested to EN 1366-4: 2006 +A1 2010

NB. Test evidence does not cover applications at the Head of Wall

In all cases:

- Substrates covered include aerated concrete, concrete, blockwork and masonry separating elements (floors and walls) of a thickness and density equal to or greater than 670kg/m³.
- All butt joints must be a very tight friction fit with no gaps.

Downlight Fire Hood



Product Description



Tenmat's Downlight Fire Hoods are manufactured from halogen free intumescent material and are designed to reinstate the fire and acoustic performance of ceilings and/or floor constructions when penetrated by downlighters or blank openings if lights are removed for maintenance.

The DFH is made from an intumescent flexible mineral wool material allowing it to be installed through the hole cut into the ceiling membrane, before springing back into shape to cover the light fitting, whilst allowing enough space between the hood and the light fitting to allow for normal operation of the light fitting.

The DFH also includes small ventilation holes, which allows hotter operating downlighters to ventilate, a small pre-cut hole for the light fitting cable to pass through and a steel clip to hold the hood in place. In the event of a fire the DFH intumescent material will expand to enclose the ceiling cut-out, cable and ventholes, providing effective fire resistance for integrity and insulation for 30, 60 or 120 minutes depending upon the ceiling and floor joist construction, even if the downlight is removed and replaced.

Product Details

Technical

- A fire rated product, reinstating ceiling fire protection up to 120 minutes
- Tested for minimal acoustic noise transfer, ideal for multi-home buildings
- Ventilated design – developed to reduce heat build-up within the Firehood
- Suitable for halogen and LED's

Installation and maintenance

- Flexible and lightweight – designed to be easily and quickly installed from below ceilings with no special tools required
- Compatible with new and retrofit solutions – does not need to be removed when changing light fittings
- No maintenance required after installation

Sizes

Available in 3 sizes:
150 x 150 mm, 200 x 200 mm, 250 x 250 mm

Vent Duct Fire Sleeve (Low Profile)



Product Description



The FF109 Vent Duct Fire Sleeve Low Profiles (VDS LPs) are a family of CE Marked fire penetration seals designed to firestop PVC ventilation ducts/ pipes when installed through fire rated constructions.

The unique vacuum formed intumescent material design ensures that the expansion direction of the material crushes and seals the ducting in a fire situation without the need for any additional support or metal sleeving.

The lack of metal sleeving, not only makes installation easy, it also limits the risk of heat transfer through the structure as well as allowing compression to ensure a tight seal against fire and smoke or tight fitting against the ceiling soffit where needed.

The Fire Sleeves provide fire resistance ratings for Integrity (E) and Insulation (I) for up to EI120 minutes depending on the construction.

Fire Tested for both internal and external wall constructions. The Fire Sleeves are CE Marked with a European Technical Approval (ETA) based on extensive fire testing to BS EN 1366-3.

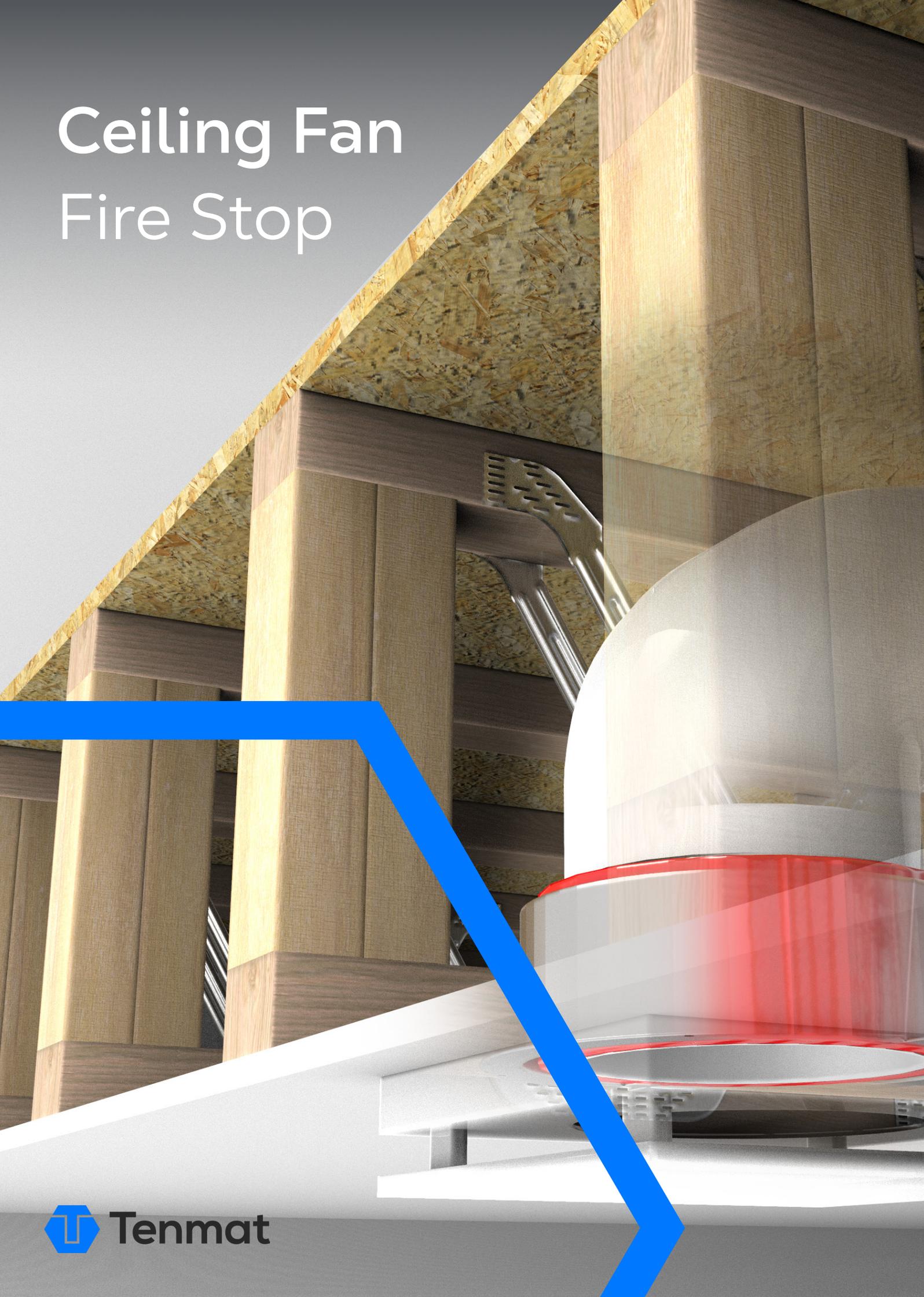
Product Details

- Fire rated product up to EI 120 minutes
- Tested for masonry, concrete and plasterboard walls
- Tested in external wall / SFS constructions
- Can be installed within Ablative Coated Fire Batts
- CE Marked
- U/U - Uncapped/Uncapped tested as required for ventilated systems
- Can be retro fitted
- Low profile design
- Available preformed and ready to install in both circular or rectangular shapes
- Compressible material, offers accommodation for deflection
- No metal sleeving or boxing out required

Sizes

Duct Size	Nominal Thickness	Nominal External Width / Diameter	Nominal External Height	Length
110x54mm	10-15mm	134mm	83mm	180mm
204x60mm	10-15mm	228mm	89mm	180mm
204x60mm	10-15mm	228mm	89mm	360mm
220x90mm	10-15mm	244mm	124mm	180mm
220x90mm	10-15mm	244mm	124mm	360mm
100mm (103mm)	15mm	244mm	-	180mm
125mm (127mm)	15mm	160mm	-	280mm
150mm (155mm)	20mm	200mm	-	280mm

Ceiling Fan Fire Stop



Product Description



The Tenmat Ceiling Fan Firestop has been developed to provide fire protection for penetrations made in floor/ceiling systems for 100mm and 125mm ceiling fans.

In a fire situation, the intumescent lining in the product expands to seal off the opening in the ceiling and creates an effective fire barrier and therefore reinstates the fire rating of the ceiling.

Recessed ceiling fans are widely used in both domestic and commercial buildings. Once a hole is made in the ceiling for a fan, the integrity of the construction and its ability to perform in a fire is reduced significantly.

The penetration must be fire stopped in order to reinstates the original fire rating of the ceiling/floor construction as required within Building Regulations.

The Ceiling Fan Firestop incorporates a steel mounting ring with integral intumescent lining and duct connector which is fixed into the ceiling lining and allows the ceiling fan to be installed as normal.

Please check with Tenmat for compatibility with different Ceiling Fan Types.

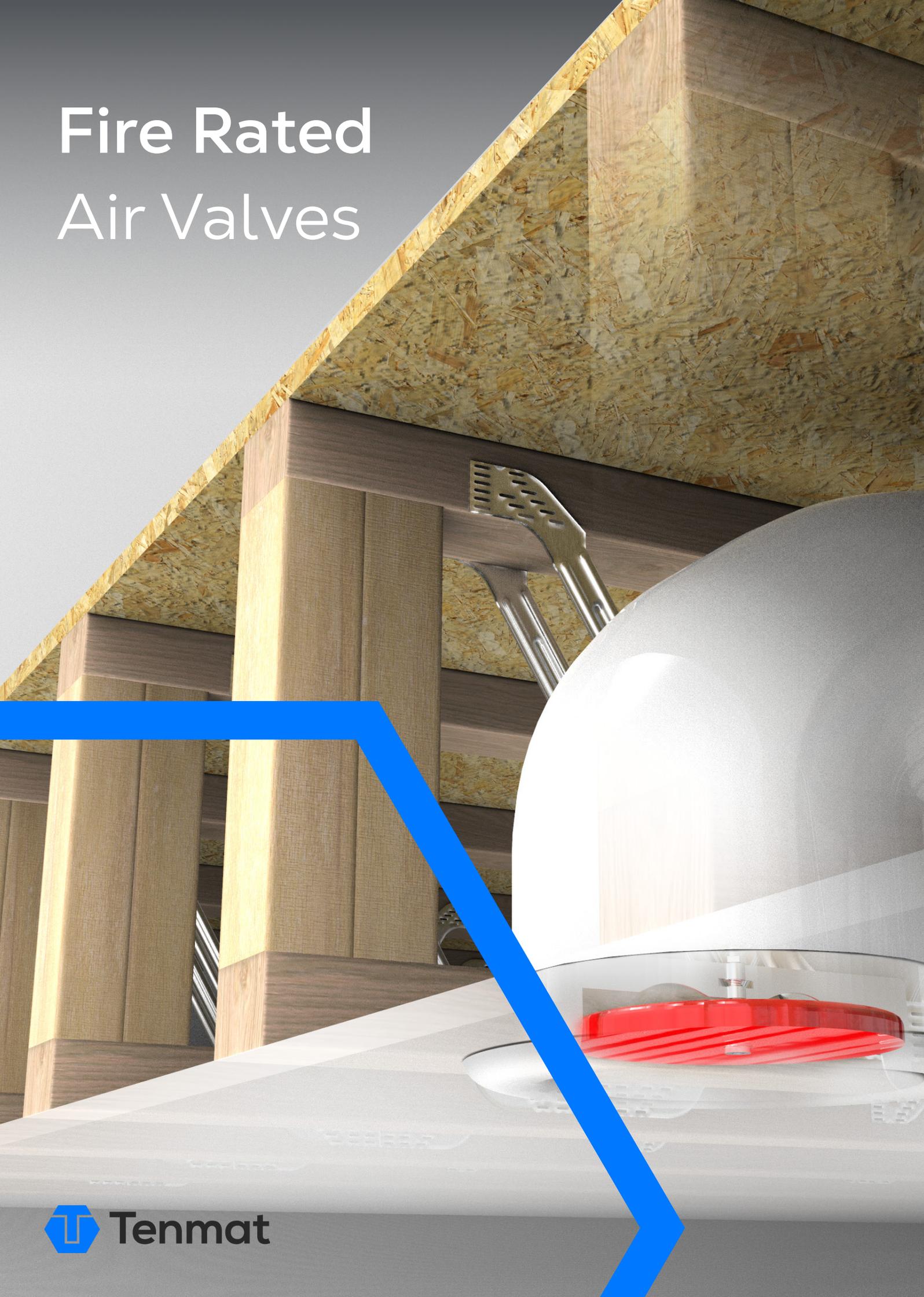
Product Details

- Fire Protection solution for 100mm & 125mm Ceiling Fans
- Full Scale Fire Tested to BS EN 1365-2 on a loaded floor
- 30 minute fire rating
- Test evidence for use in Solid Timber, Metal Web Joist and Engineered I-Beam Floor/Ceiling Systems

Sizes

100mm and 125mm diameter.

Fire Rated Air Valves



Product Description



Tenmat’s Fire Rated Air Valves are a unique and cost effective fire rated solution where recessed ceiling air valves are to be installed in fire rated floor/ceiling constructions. In a fire situation, the integral intumescent material rapidly expands to seal off the air valve to help maintain the fire resistance rating of the ceiling. This limits the risk of fire and heat spread throughout the building.

The Fire Rated Air Valves are available in all common sizes for both Extract and Supply. The Fire Rated Air Valve is installed as normal with air flow through the air valve unaffected. The product requires no maintenance after installation. The Fire Rated Air Valves suitable for domestic homes, as well as apartments, hotels and other multiple occupancy buildings where fire ratings exist.

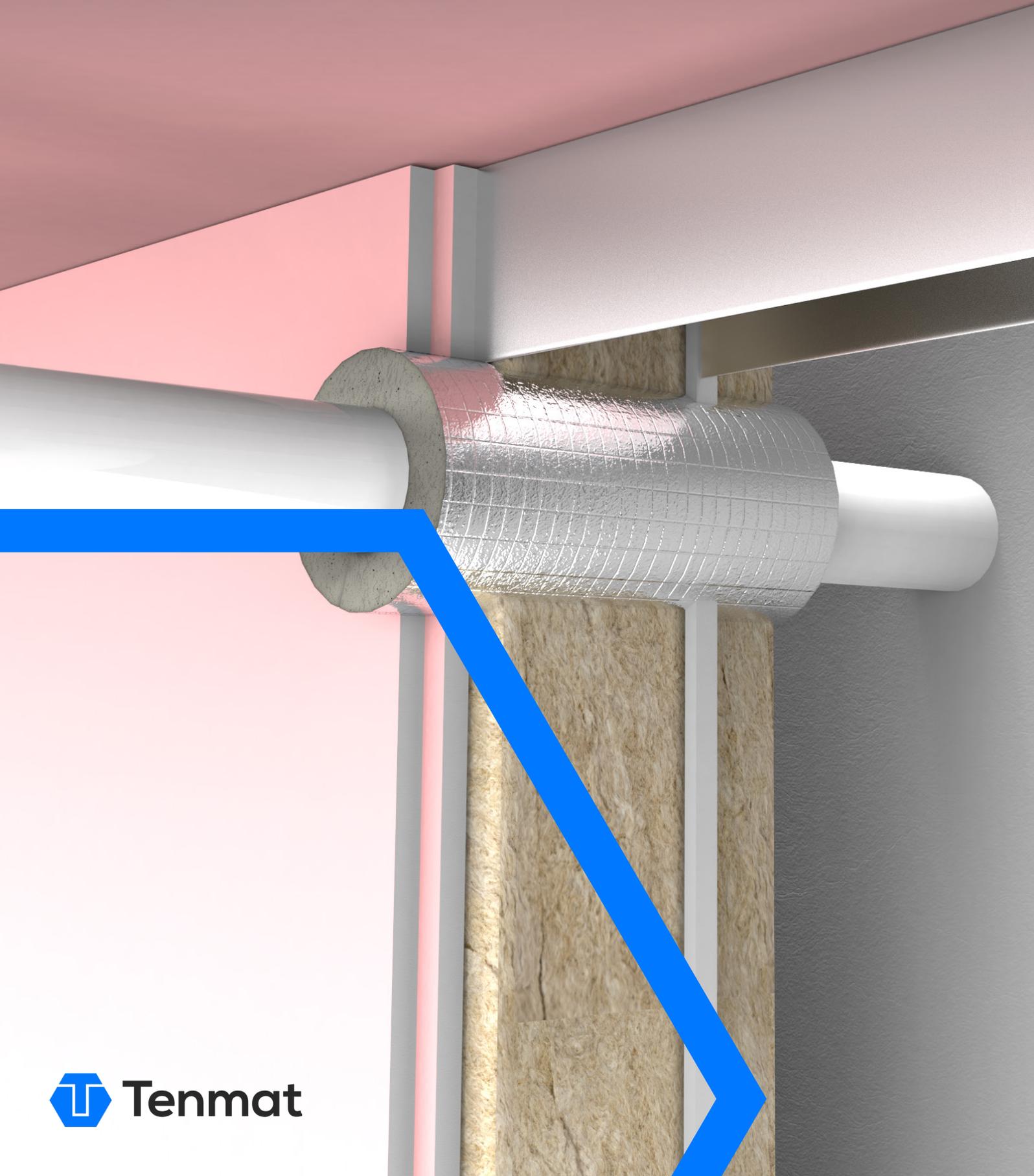
Product Details

- Extract and Supply versions
- 60 Minutes Fire Rating in Solid Timber Joist Floor/Ceilings Constructions
- 30 Minutes Fire Rating in Metal Web Joist and I-Beam Timber Joist Floor/Ceiling Constructions
- No maintenance required
- Meets requirements of Approved Document B
- Simple to install

Sizes

Extract (Diameter)	Supply (diameter)
80mm	80mm
100mm	100mm
125mm	125mm
150mm	150mm
200mm	200mm

Pipe Fire Sleeve



Product Description



The FF109 Pipe Fire Sleeves (PFS) are a range of passive fire protection penetration seals designed to firestop insulated metal and combustible plastic pipes.

The Fire Sleeves offer Fire, Acoustic, Thermal and Vapour seal performance to a range of pipes passing through various wall or floor constructions.

The CE Marked range are fire tested in accordance with EN 1366-3 with additional testing and assessments to BS 476 Part 20.

The FF109 Pipe Fire Sleeves (PFS) are manufactured from a unique, low smoke, zero halogen intumescent material. The Fire Sleeves are supplied pre-formed and ready to install to suit a variety of pipe diameters.

With a nominal thickness of 25mm, the compressible intumescent sleeve is supplied wrapped in a reinforced aluminium foil allowing it to be cut down its length and retro-fitted around the pipes. This provides an effective fire, smoke and acoustic seal whilst also allowing for some thermal movement. Fire Ratings of EI30, EI60, EI90, EI120 or even up to EI240 minutes are offered depending on the construction type.

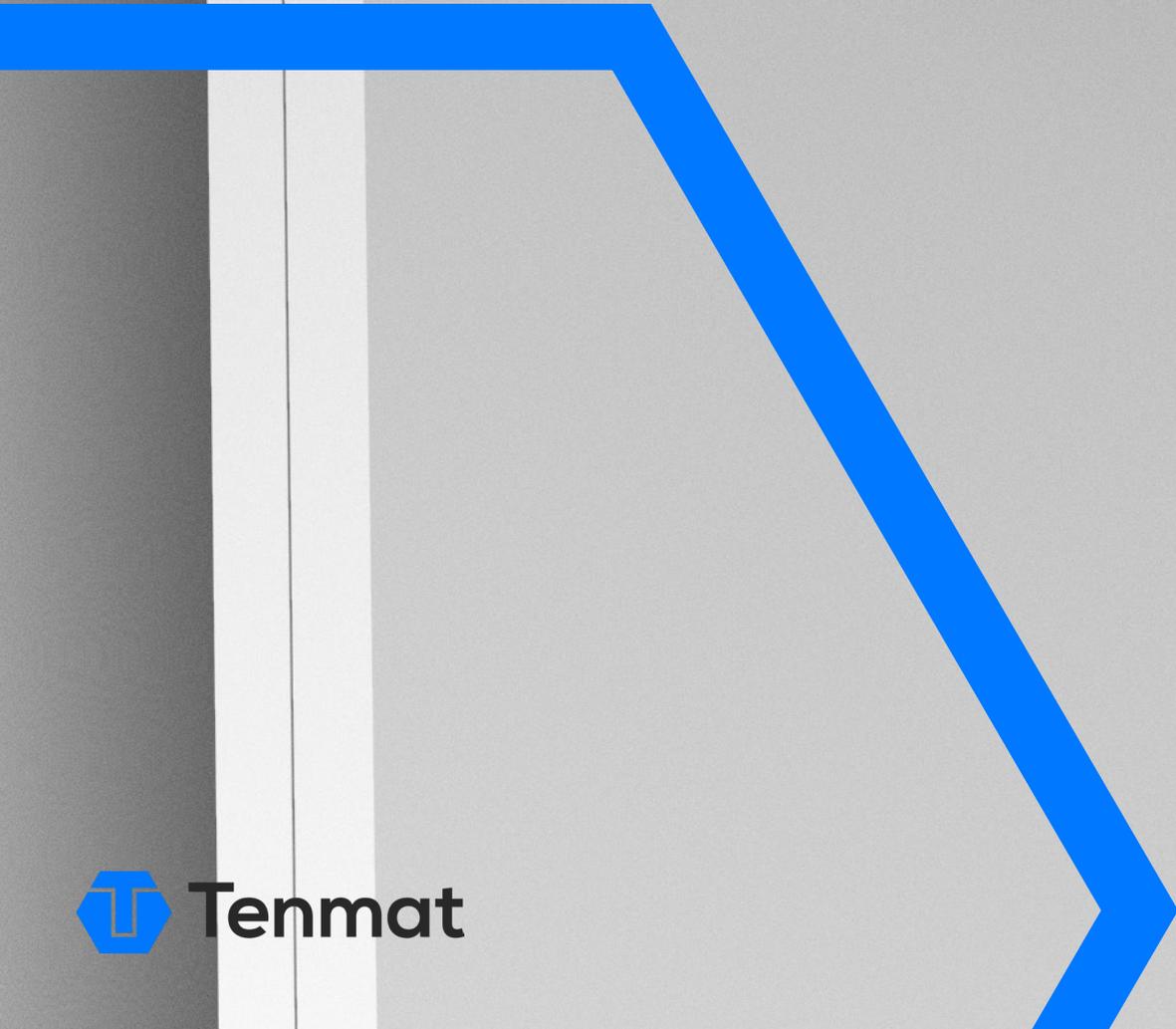
Product Details

- CE Marked
- 4-in-1 Solution - Fire, Acoustic, Thermal and Vapour Seal
- Up to EI120 Minutes Fire Rating in Gypsum Walls and Solid Floors
- Up to EI240 Minutes Fire Rated in Solid Walls
- Suitable for both Metal and Plastic Pipes
- Assessed for use in Ablative Coated Mineral Wool Boards/Batts
- Simple & quick to install, no fixings or sleeving required
- Available to suit pipe diameters of 15mm to 169mm
- 1 length of Fire Sleeve can replace two fire collars
- Lubrizol Approved
- FBC™ System Compatible

Sizes

Nominal Thickness of Sleeve - 25mm
Internal Diameters ranging from 17mm to 169mm
Standard Fire Sleeve Length - 300mm

OverSleeve



Product Description



The Tenmat FIREFLY OverSleeve is a universal, one-product-fits-all solution for the firestopping of combustible plastic pipes and insulated non-combustible metal pipes.

The thin and flexible intumescent is quickly and simply wrapped directly around the pipe or directly on top of the pipe insulation. With insulated pipes, there is no need to cut back the insulation, ensuring that thermal and vapour seal performance is maintained.

The red branded foil can be easily checked and identified on site to confirm that firestopping is in place, unlike other solutions which are often buried and hidden from view and so difficult to check.

The unique FIREFLY intumescent material rapidly expands to crush and seal off the pipes or the pipe insulation to provide up to EI120 minutes fire resistance.

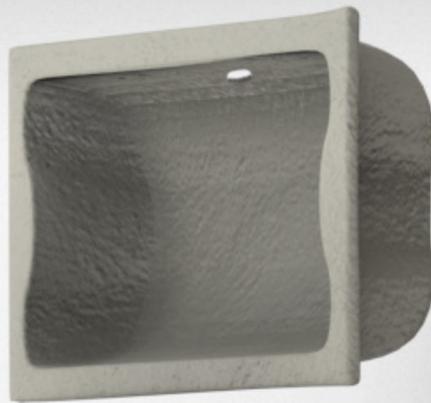
Product Details

- Up to EI120 Minutes Fire Rating in Walls
- Up to EI240 Minutes Fire Rating in Floors (combustible pipes only)
- Low Profile
- Can be retrofitted
- Tested on Plastic Pipes from 40-160mm
- Tested on Insulated Non-Combustible Pipes ranging from 15mm up to 219mm diameter
- One Product Solution—suits a wide range of insulation types, pipe materials, and diameters
- No cut back of insulation— maintains vapour seal

Sizes

Length	Width	Thickness	Contents of Pack as Supplied
1,000mm	180mm	3mm	5 metre strips, plus repair tape

Socket Box Inserts



Product Description



Tenmat's Socket Box Inserts, are manufactured from halogen free, low smoke, fire resistant, mineral fibre material and are designed to maintain the fire performance of partition (stud) wall constructions when penetrated by steel or plastic electrical back boxes. The insert will also provide resistance to the passage of sound and air movement.

In the event of a fire the Socket Box Inserts mineral fibre material will prevent the fire passing through the electrical back box aperture, providing effective fire resistance, for integrity (E) and insulation (I) from 30 to 120 minutes (EI30 to EI120) depending upon the wall construction.

Product Details

Technical

- BS EN 1366-3 Fire Tested
- Fire Ratings of EI30, EI60, EI90 and EI120
- Tested in Single Layer & Double Layer Partition Systems
- Tested in 75mm thick walls and greater
- Tested in "Twin Wall" Fire & Acoustic Partitions
- Acoustically Tested / Limits Air Leakage
- Back to Back tested in many applications
- Suitable and tested for both plastic pattress boxes and metal back boxes
- Available for single and double boxes (35mm and 47mm Depths available)
- Tested with multiple cable penetrations

Installation and maintenance

- Pre-formed for easy installation – can be installed in seconds without assembly or adhesives
- No maintenance required
- Mess free installation – no need for adhesives, screws or drilling
- Can be retrofitted

Sizes

Available for both single or double socket back boxes, to suit back-boxes of the following dimensions:

- Single (35mm) Insert - Width 70mm x Height 70mm x Depth 35mm
- Single (47mm) Insert - Width 70mm x Height 70mm x Depth 47mm
- Double (35mm) Insert - Width 140mm x Height 70mm x Depth 35mm
- Double (47mm) Insert - Width 140mm x Height 70mm x Depth 47mm

SBI-Switch Box Insert nominal, Insert thickness 4mm

Modular Construction

Passive Fire Protection



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