VENTILATION

FIRE STOPPING SOLUTIONS
When voids are made through fire rated walls, floors, or ceilings, for installation of ventilation service penetrations, the integrity or the structure is compromised. **TENMAT** manufactures innovative Passive Fire Protection solutions for Ventilation/ Mechanical Service Penetrations, such as ducting and ceiling air valves. The range of products utilise **TENMAT**'s advanced intumescent materials, that rapidly expand upon exposure to fire, sealing the penetration to prevent the spread of fire, smoke, and hot gases, and reinstating the fire rating of the structure.

### FF109+ Vent Duct Fire Sleeve LP
- CE Marked Low Profile Fire Sleeve for PVC Ducting
- Up to 120 minutes fire rating

More Information on Page 3-4

### FF109 Vent Duct Fire Sleeve
- CE Marked Fire Sleeve for PVC Ducting
- Up to 120 minutes fire rating

More Information on Page 5

### Vent Duct Wrap
- Intumescent Wrap for PVC Ducting
- Up to 120 minutes fire rating

More Information on Page 6

### Fire Rated Ceiling Air Valve
- Fire Rated Supply and Extract Valves for Ceilings
- Up to 60 minutes fire rating

More Information on Page 7-8

### Vent Duct Oversleeve for Semi-Rigid Ducting
- Intumescent Sleeve for Semi-Rigid Ducting
- Up to 120 minutes fire rating

More Information on Page 9

### FF102B Air Transfer Grille
- Intumescent Air Transfer Grille material
- Up to 60 minutes fire rating

More Information on Page 10
**Tenmat's** full range of Passive Fire Protection products for fire stopping ventilation service penetrations are third party fire tested and CE Marked where applicable fire test standards such as BS EN 1366-3, BS EN 1365-2, and BS 476. We test our products in a wide range of applications to cover both common and uncommon construction methods.

### FF109+ Vent Duct Fire Sleeve LP

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Certificate</td>
<td>Exova BM Trada</td>
<td>1224-CPR-0341</td>
<td>Plasterboard, Concrete walls</td>
<td>CE Approved</td>
</tr>
<tr>
<td>European Technical Approval</td>
<td>Exova BM Trada</td>
<td>ETA 12/0332</td>
<td>Plasterboard, Concrete walls</td>
<td>EI120</td>
</tr>
<tr>
<td>Classification</td>
<td>Exova Warringtonfire</td>
<td>CR13219 Rev A</td>
<td>Plasterboard</td>
<td>EI120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>BMT/FER/F13219</td>
<td>Plasterboard</td>
<td>EI120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>BMT/FEI/F15040</td>
<td>Plasterboard</td>
<td>EI120</td>
</tr>
<tr>
<td>Assessment</td>
<td>IFC Group</td>
<td>PAR/14600/01</td>
<td>Plasterboard</td>
<td>30-120</td>
</tr>
<tr>
<td>Assessment</td>
<td>IFC Group</td>
<td>PAR/15162/01</td>
<td>Ablative Coated Fire Batt</td>
<td>60-120</td>
</tr>
<tr>
<td>Aus/NZ Assessment</td>
<td>Exova Warringtonfire</td>
<td>33654700.2</td>
<td>Plasterboard, Concrete walls</td>
<td>60-120</td>
</tr>
</tbody>
</table>

### FF109 Vent Duct Fire Sleeve

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE Certificate</td>
<td>Exova BM Trada</td>
<td>1224-CPR-0341</td>
<td>Various</td>
<td>CE Approved</td>
</tr>
<tr>
<td>European Technical Approval</td>
<td>Exova BM Trada</td>
<td>ETA 12/0332</td>
<td>Plasterboard, Concrete walls</td>
<td>EI120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF05044</td>
<td>Plasterboard</td>
<td>60-90</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF05055</td>
<td>Plasterboard</td>
<td>90-120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF06016</td>
<td>Concrete/Plasterboard Floor</td>
<td>120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF09045 Rev A</td>
<td>Concrete/Blockwork</td>
<td>240</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF10066</td>
<td>Plasterboard</td>
<td>30</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>RF10167</td>
<td>Plasterboard</td>
<td>EI120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>IF11007</td>
<td>Plasterboard</td>
<td>120</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Exova Warringtonfire</td>
<td>RF12096</td>
<td>Plasterboard</td>
<td>EI30-60</td>
</tr>
<tr>
<td>Aus/NZ Assessment</td>
<td>Exova Warringtonfire</td>
<td>33654700.2</td>
<td>Plasterboard, Concrete, Floor</td>
<td>60-120</td>
</tr>
<tr>
<td>Assessment</td>
<td>Chiltern Fire</td>
<td>A03187 Rev F</td>
<td>Mineral Fibre Batt, Concrete/ Blockwork floor, Plasterboard</td>
<td>120</td>
</tr>
<tr>
<td>Assessment</td>
<td>Chiltern Fire</td>
<td>A10184</td>
<td>Plasterboard</td>
<td>30</td>
</tr>
<tr>
<td>Assessment</td>
<td>IFC Group</td>
<td>PAR/11078/01 - Rev A</td>
<td>Plasterboard, Multiple Ducts</td>
<td>30-120</td>
</tr>
<tr>
<td>Assessment</td>
<td>IFC Group</td>
<td>PAR/13814/02</td>
<td>Ablative Coated Fire Batt</td>
<td>30-120</td>
</tr>
</tbody>
</table>

For test data of products not listed here, please see the individual product pages for further details.
**TENMAT's FIREFLY 109+ Vent Duct Fire Sleeve LPs (Low Profile) provide up to 120 minutes' fire resistance to all common PVC ventilation ducts. The Low Profile Vent Duct Fire Sleeves offer industry leading fire performance with low material thickness through the use of TENMAT's expertise in high expansion intumescent technology.**

The low profile design allows tight fitting against the ceiling soffit without the need to remove the top edge, aided by the compressible nature of the FIREFLY 109 intumescent material.

The product can be slit to allow retro fitting over duct work and the unique vacuum formed shape ensures that the product expands and seals the ducting in the event of a fire without the need for any additional metal cage or sleeving.

### Key Features:
- 120 minutes Fire Rated
- CE Marked
- Low Profile design
- No metal sleeving or boxing out required
- Approved for plasterboard partitions and ablative coated fire batts

### Product Dimensions

<table>
<thead>
<tr>
<th>Duct Size</th>
<th>Nominal Thickness</th>
<th>Nominal External Width/Diameter</th>
<th>Nominal External Height</th>
<th>Length</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>204x60 mm</td>
<td>10-15 mm</td>
<td>228 mm</td>
<td>89 mm</td>
<td>180 mm*</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>220x90 mm</td>
<td>10-15 mm</td>
<td>244 mm</td>
<td>124 mm</td>
<td>180 mm*</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>110x54 mm</td>
<td>10-15 mm</td>
<td>134 mm</td>
<td>83 mm</td>
<td>180 mm*</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>100 mm (103 mm)</td>
<td>15 mm</td>
<td>134 mm</td>
<td>-</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>125 mm (127 mm)</td>
<td>15 mm</td>
<td>160 mm</td>
<td>-</td>
<td>280 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>150 mm (155 mm)</td>
<td>20 mm</td>
<td>200 mm</td>
<td>-</td>
<td>280 mm</td>
<td>Up to EI120</td>
</tr>
</tbody>
</table>

All dimensions given are nominal. To ensure required friction fit within the substrate, the Sleeve should be measured on site before cutting holes. * For longer lengths, please contact TENMAT

### Examples of Applications & Approvals

#### Independently Third Party Assessed:
- 30 Minute Partitions
  - Single Board from 72 mm upwards
- 60 Minute Partitions
  - Single & Double Board Systems
  - Single Layer Ablative Coated Fire Batt
- 120 Minute Partitions
  - Double Board Systems
  - Double Layer Ablative Coated Fire Batt

Multiple Duct Penetrations
- Up to 3No. side by side ducts
- Up to 2No. stacked ducts
- Mixed Sizes

#### CE Mark Approved:
- 3rd Party Assessed and Audited

#### BS EN 1366-3 Fire Tested
- Uncapped/Uncapped tested as required for ventilation systems

#### Fire Tested & Assessed for all common sizes of ducting
TENMAT’s Vent Duct Fire Sleeve LP is approved for a wide range of applications, outlined on page 3. All details for approved applications can be seen in the ETA and/or assessment reports, which are available to download from our website.

Example Approved Applications
For details of further applications please contact TENMAT.

Single or double layer plasterboard. Approved with or without cavity insulation for all duct sizes listed

Multiple duct penetrations, including side by side and stacked, approved for partitions and fire batt applications (rectangular ducting only)

General Fitting Instructions
For detailed fitting instructions for various applications please contact TENMAT

• Installation requirements detailed in fire test evidence must be followed in addition to below:
• Use the Fire Sleeve as a template when cutting the plasterboard to provide a snug fit around the Fire Sleeve
• Make a slit along sleeve length to allow fitting around pre-installed ducts

• Fit sleeve around duct
• Slit should be resealed with Aluminium Foil Repair Tape provided
• Slide Fire Sleeve until central within wall

• The Fire Sleeve must protrude each side of the wall by min 25 mm (partitions)/40 mm (single fire batts)/75 mm (for 125 and 150 mm ducts)
• Plasterboard should be a snug fit, however any gaps (up to 5mm) should be sealed with intumescent sealant
**FF109 Vent Duct Fire Sleeve**

**Key Features:**
- Up to EI120 Fire Rating
- CE Marked
- Can be retrofitted
- No metal sleeving required
- Assessed for installation in walls and floors*
- Can accommodate deflection

*For approved applications through floors please contact TENMAT.

**TENMAT**’s FF109 CE Marked Vent Duct Fire Sleeves provide 30 minutes, 1 hour, 2 hours and in certain applications up to 4 hours Fire Resistance to rectangular PVC vent duct penetrations, and are suitable for all common sizes of vent duct.

The compressible 25-30 mm thick material offers excellent fire performance combined with accommodation for deflection. The Sleeves do not require any additional metal sleeving and are held in place by the plasterboard/batt only. The unique intumescent material is vacuum formed to shape which ensures controlled sealing of the duct. In addition, the material swells externally to provide a fire and smoke seal around the sleeve.

The Fire Sleeves have been full scale fire tested to EN 1366-3:2009 & BS 476. The EN fire testing included all ducts tested with Uncapped/Uncapped (U/U) duct end configuration as required for ventilation ducts. The European Technical Approval (ETA-12/0332) and EC Certificate 1224-CPR-0341 enables the range to be CE Marked and used throughout the EU.

**Product Dimensions**

<table>
<thead>
<tr>
<th>Duct Size</th>
<th>Nominal Thickness</th>
<th>Nominal External Width/Diameter</th>
<th>Nominal External Height</th>
<th>Length</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>204x60 mm</td>
<td>25 mm</td>
<td>254 mm</td>
<td>110 mm</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>220x90 mm</td>
<td>30 mm</td>
<td>270 mm</td>
<td>150 mm</td>
<td>180 mm</td>
<td>Up to EI60</td>
</tr>
<tr>
<td>110x54 mm</td>
<td>25 mm</td>
<td>160 mm</td>
<td>104 mm</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>234x29 mm</td>
<td>25 mm</td>
<td>284 mm</td>
<td>79 mm</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>308x29 mm</td>
<td>25 mm</td>
<td>358 mm</td>
<td>79 mm</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>100 mm (103 mm)</td>
<td>30 mm</td>
<td>164 mm</td>
<td>-</td>
<td>150 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>125 mm (127 mm)</td>
<td>30 mm</td>
<td>190 mm</td>
<td>-</td>
<td>280 mm</td>
<td>Up to EI120</td>
</tr>
<tr>
<td>150 mm (155 mm)</td>
<td>35 mm</td>
<td>222 mm</td>
<td>-</td>
<td>180 mm</td>
<td>Up to EI120</td>
</tr>
</tbody>
</table>

All dimensions given are nominal. To ensure required friction fit within the substrate, the Sleeve should be measured on site before cutting holes.

**General Fitting Instructions**

For detailed fitting instructions for various applications please contact TENMAT.

Please see FF109+ Vent Duct Fire Sleeve LP for similar Fitting Instructions on page 4.
**Vent Duct Wrap**

**Key Features:**
- EI120 Fire Rating
- Simple to install
- Low profile design
- High expansion intumescent material
- Only one wrap per penetration

**Product Dimensions**

All Vent Duct Fire Wraps are 100 mm wide.

<table>
<thead>
<tr>
<th>Duct Size</th>
<th>110x54 mm</th>
<th>215x25 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>150x70 mm</td>
<td>234x29 mm</td>
<td></td>
</tr>
<tr>
<td>180x90 mm</td>
<td>308x29 mm</td>
<td></td>
</tr>
<tr>
<td>204x60 mm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TENMAT**'s Vent Duct Fire Wraps provide up to 2 hours Fire Resistance to rectangular PVC ventilation ducting penetrations. The Vent Duct Fire Wraps have been fire tested to the most onerous requirements of EN 1366-3, the ducts having been tested in an uncapped/uncapped pipe/duct end configuration.

The Vent Duct Fire Wraps are suitable for penetrations through plasterboard partitions only when fitted within a galvanised steel outer sleeve.

The Fire Wraps are easily wrapped around the vent duct due to the four segment design and slid into the wall construction. In a fire situation the high expansion intumescent material will rapidly expand to effectively seal off the vent duct to prevent the passage of fire and hot gases.

**Test Data**

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Test</td>
<td>Chiltern Fire</td>
<td>RF10167</td>
<td>Plasterboard</td>
<td>120</td>
</tr>
</tbody>
</table>
The **TENMAT** FIREFLY Fire Rated Ceiling Air Valves are a unique and cost effective fire rated solution where recessed ceiling air valves are to be installed in fire rated ceilings. In a fire situation, the integral intumescent material rapidly expands to seal off the air valve and reinstate the fire resistance rating of the ceiling. This limits the risk of fire and heat spread throughout the building. The **TENMAT** Ceiling Air Valves are available in all sizes for both Extract and Supply.

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

### Key Features:
- Extract and Supply versions
- 60 minutes Fire Rating
- No maintenance required
- Meets requirements of Approved Document B
- Simple to install

### Product Dimensions

<table>
<thead>
<tr>
<th>Extract (⌀)</th>
<th>Supply (⌀)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 mm</td>
<td>80 mm</td>
</tr>
<tr>
<td>100 mm</td>
<td>100 mm</td>
</tr>
<tr>
<td>125 mm</td>
<td>125 mm</td>
</tr>
<tr>
<td>150 mm</td>
<td>150 mm</td>
</tr>
<tr>
<td>200 mm</td>
<td>200 mm</td>
</tr>
</tbody>
</table>
Fitting Instructions

- Cut hole in ceiling to suit the outside diameter of the air valve mounting ring
- Attach ducting onto the air valve mounting ring
- Fix the air valve to the ceiling via the screw holes in the valve
- Fit the body of the valve into the mounting ring with a quarter turn twist
- Set inner cone clearance to provide required airflow rate (max. 12 mm)
- Ensure the air valve is fitted snugly within the ceiling with no gaps or voids
- The penetration is then sealed against the spread of fire and the fire rating of the ceiling construction is maintained.

Test Data

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Test</td>
<td>The Building Test Centre</td>
<td>BTC 18074F</td>
<td>Timber Joist/GTEC Fire Board Floor</td>
<td>60</td>
</tr>
<tr>
<td>Fire Test</td>
<td>Chiltern Fire</td>
<td>IF10090</td>
<td>Plasterboard</td>
<td>60</td>
</tr>
</tbody>
</table>
**TENMAT’s Vent Duct OverSleeve offers 120 Minutes Fire Rating to Semi Rigid Ducting.** The low profile (4 mm thick) OverSleeve is supplied flat and simply wrapped around the ducting and resealed with the reinforced foil backing layer. Its design allows the product to be retrofitted.

**TENMAT’s Vent Duct OverSleeve has been independently tested in accordance with EN1366-3 and achieves a fire resistance classification of EI120 (according to EN13501). This means that the product is able to prevent the spread of fire for 120 minutes. It was tested in partition walls without additional metal sleeving.**

**Product Dimensions**

<table>
<thead>
<tr>
<th>Duct Size</th>
<th>Thickness</th>
<th>Width</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>75 mm (Ø)</td>
<td>4 mm</td>
<td>260 mm</td>
<td>250 mm</td>
</tr>
</tbody>
</table>

All dimensions given are nominal. To ensure required friction fit within the substrate, the Sleeve should be measured on site before cutting holes.

**Fitting Instructions**

- Simply wrap sleeve flush around the duct, peel back backing tape, and press adhesive to the wrap to seal
- Cut 86 mm diameter hole in partition, & slide duct with OverSleeve into partition
- Seal edges with intumescent sealant
- Ensure OverSleeve protrudes minimum 50 mm on both sides of partition

**Test Data**

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Test</td>
<td>Chiltern</td>
<td>RF13219</td>
<td>Plasterboard</td>
<td>120</td>
</tr>
<tr>
<td>Assessment</td>
<td>IFC Group</td>
<td>PAR 1643401</td>
<td>Plasterboard</td>
<td>30 - 60</td>
</tr>
</tbody>
</table>
TENMAT’s FF102B Air Transfer Fire Grille matrix maintains ventilation within a building whilst also maintaining the fire rating of fire resistant elements (fire doors) for up to 1 hour fire resistance. The FF102B Air Transfer Fire Grilles have been tested in accordance with the general requirements of EN1634-2.

The FF102B Air Transfer Grille Material is supplied in 2.3 mm thick x 38 mm wide strips which are pre-slotted to allow simple assembly into an Air Grille Matrix. When assembled the intumescent core offers 25 x 25 mm openings to provide high air flow and limit blockages. The intumescent core can then be fitted into a steel frame with wire mesh to form finished Air Transfer Grilles.

### Assembly Instructions
- Start by assembling the four side pieces
- Slot the remaining pieces on one side
- Slot in the final pieces from the opposite side
- The assembled Air Transfer Grille material can then be fitted into a steel frame.

### Test Data

<table>
<thead>
<tr>
<th>Report Type</th>
<th>Fire Test Lab</th>
<th>Report Number</th>
<th>Construction</th>
<th>Fire Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire Test</td>
<td>Chiltern Fire</td>
<td>IF05088</td>
<td>Fire Door</td>
<td>30-60</td>
</tr>
</tbody>
</table>

Please contact TENMAT for steel frame and mesh specifications, or to check suitability for specific applications.
TENMAT is committed to the highest standards in customer service and our international staff is looking forward to assist you.

CORPORATE HQ
TENMAT Ltd.
Ashburton Rd West
Trafford Park
Manchester M17 1TD
England
Tel.: +44(0)161 872 2181
Fax: +44(0)161 872 7596
Email: info@tenmat.com
Web: www.tenmat.com

NORTH AMERICA
TENMAT Inc.
23 Copper Drive
Newport, DE 19804
USA
Tel.: +1 302-633-6600
Fax: +1.302-633-6838
Email: info@tenmatatus.com
Web: www.tenmatus.com

Visit us on the web at www.TENMAT.com

ITALY
TENMAT
Via Dante, 2/48
16121 Genova
Italy
Tel.: +39 (0) 10 5451343
Fax: +39 (0) 10 5760553
Email: info@tenmat.it
Web: www.tenmat.it

FRANCE
TENMAT
56 Avenue Foch
77370 Nangis
France
Tel.: +33 (0) 1 60 585656
Fax: +33 (0) 1 64 083617
Email: info@tenmat.fr
Web: www.tenmat.fr

GERMANY
TENMAT
Tel.: +49 (0) 7151 1338468
Fax: +49 (0) 161 872 7596
Email: info@tenmat.de
Web: www.tenmat.de

iss. 08/17