



TECHNICAL DATA SHEET

General Product Description

The Protecta® FR Service Transit has been designed to maintain the fire resistance of walls and floors when these are breached by continuous cables, pipes and ducts.

The Service Transit consists of a circular or rectangular high temperature shell containing a graphite based intumescent lining material, which expands upon heating to seal spaces or voids around service penetrations, thus preventing the passage of flames, smoke and gases.

After installation of the Service Transit, services can be retrofitted without having to install a new fire seal.

The Service Transit is available in three different lengths, 150mm, 250mm and 400mm. The selection of which to use depends on the thickness of the supporting construction and the required use.

A plug and cap set is also available to attach Service Transit's firmly to shuttering boards before pouring concrete.

Properties

- Safe, easy and quick to fire stop service penetrations
- Ideal for installations where it is likely that services will be inserted or replaced later on
- Ideal for installations in tight spaces where it will be difficult to install a normal fire seal at a later stage in the building construction
- Ideal for installation onto shuttering boards using the plug and cap set to keep the service transits in place when pouring concrete
- A plug in the middle prevents penetration of cold smoke (see air permeability tests on the next page) Note: FD transits does not require plugs
- Patented fast expanding graphite material
- For cables, conduits, plastic pipes, steel pipes and plastic ducts
- Classified for fire sealing all types of constructions; drywalls, masonry or concrete walls, timber walls, concrete floors and timber floors
- Can be fitted several ways; cast in concrete, friction fitted in concrete, masonry or gypsum, or inserted in larger apertures with Protecta FR Acrylic, FR Board or EX Mortar
- Very high fire classifications up to 240 minutes for both integrity and insulation
- Certified for PVC-U, PVC-C, PE, LDPE, MDPE, HDPE, ABS, SAN+PVC and PP pipes plus all kinds of cables
- No emissions - environmentally and user friendly
- Unlimited storage time (under correct conditions)
- 30 years working life guarantee



Sizes, Types and Intended Use

The FR type service transits were originally designed to be positioned central within walls, but can also be positioned central within floors.

The FF type service transits were designed specifically for floors, where they are positioned flush with the soffit side considering they may be fixed to shutters before the concrete is cast. The plastic tube extending beyond the upper side of the floor may also be trimmed flush (optional).

The FD type service transits were specifically designed for plastic rectangular ducts, and are the only products with a steel casing instead of plastic tubes.

| Pno. | Size | Type | Intended Use |
|------|-------------------------|------|--|
| P249 | OD Ø40 ID 33.8 x 150mm | FR | Flexible and rigid walls from 75mm to 150mm thick |
| P250 | OD Ø63 ID 53.4 x 150mm | FR | |
| P251 | OD Ø90 ID 75.8 x 150mm | FR | |
| P252 | OD Ø110 ID 95.0 x 150mm | FR | |
| P253 | OD Ø40 ID 33.8 x 250mm | FR | Flexible, rigid and timber walls from 100mm to 210mm thick, or rigid and timber floors from 150mm to 210mm thick |
| P254 | OD Ø63 ID 53.4 x 250mm | FR | |
| P255 | OD Ø90 ID 75.8 x 250mm | FR | |
| P256 | OD Ø110 ID 95.0 x 250mm | FR | |
| P257 | OD Ø40 ID 33.8 x 400mm | FR | Flexible, rigid and timber walls, or rigid and timber floors from 211mm to 400mm thick |
| P258 | OD Ø63 ID 53.4 x 400mm | FR | |
| P259 | OD Ø90 ID 75.8 x 400mm | FR | |
| P260 | OD Ø110 ID 95.0 x 400mm | FR | |
| P336 | OD Ø40 ID 33.8 x 150mm | FF | Rigid and timber floors 150mm thick |
| P337 | OD Ø110 ID 95.0 x 150mm | FF | |
| P338 | OD Ø40 ID 33.8 x 250mm | FF | Rigid and timber floors from 151mm to 250mm thick |
| P339 | OD Ø110 ID 95.0 x 250mm | FF | |
| P340 | OD Ø40 ID 33.8 x 400mm | FF | Rigid and timber floors from 251mm to 400mm thick |
| P341 | OD Ø110 ID 95.0 x 400mm | FF | |
| P332 | OD 126 x 68 x 250mm | FD | Flexible, rigid and timber walls from 100mm to 250mm thick |
| P333 | OD 240 x 108 x 250mm | FD | |



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Air Permeability

FR Service Transit, without services

| Positive Pressure (Pa) | Leakage (m³/h) | Negative Pressure (Pa) | Leakage (m³/h) |
|------------------------|----------------|------------------------|----------------|
| 25 | 0.08 | 25 | 0.18 |
| 50 | 0.14 | 50 | 0.29 |
| 100 | 0.35 | 100 | 0.46 |
| 200 | 0.62 | 200 | 0.88 |
| 300 | 1.44 | 300 | 1.33 |
| 450 | 2.18 | 450 | 1.82 |
| 600 | 3.24 | 600 | 2.66 |

FR Service Transit, with one single service penetration

| Positive Pressure (Pa) | Leakage (m³/h) | Negative Pressure (Pa) | Leakage (m³/h) |
|------------------------|----------------|------------------------|----------------|
| 25 | 0.05 | 25 | 0.14 |
| 50 | 0.13 | 50 | 0.24 |
| 100 | 0.36 | 100 | 0.40 |
| 200 | 0.75 | 200 | 0.63 |
| 300 | 1.50 | 300 | 1.40 |
| 450 | 2.64 | 450 | 1.97 |
| 600 | 3.60 | 600 | 2.72 |

FR Service Transit, with services in a bundle, approx. half filled

| Positive Pressure (Pa) | Leakage (m³/h) | Negative Pressure (Pa) | Leakage (m³/h) |
|------------------------|----------------|------------------------|----------------|
| 25 | 0.14 | 25 | 0.35 |
| 50 | 0.26 | 50 | 0.47 |
| 100 | 0.66 | 100 | 0.72 |
| 200 | 1.30 | 200 | 1.38 |
| 300 | 2.46 | 300 | 2.52 |
| 450 | 3.89 | 450 | 3.53 |
| 600 | 4.80 | 600 | 4.27 |

FR Service Transit, with services in a bundle, fully filled

| Positive Pressure (Pa) | Leakage (m³/h) | Negative Pressure (Pa) | Leakage (m³/h) |
|------------------------|----------------|------------------------|----------------|
| 25 | 1.43 | 25 | 1.43 |
| 50 | 1.87 | 50 | 2.29 |
| 100 | 3.59 | 100 | 3.84 |
| 200 | 6.19 | 200 | 6.51 |
| 300 | 8.63 | 300 | 9.00 |
| 450 | 11.70 | 450 | 11.60 |
| 600 | 14.43 | 600 | 14.15 |

Protecta® FR Service Transit - tested at Warringtonfire Testing and Certification Ltd (UKAS accredited); according to EN 1026: 2016.

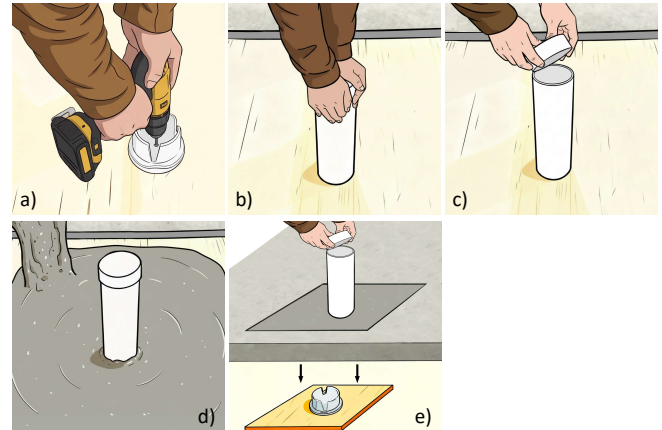
Sound Insulation

| Description | Sound reduction |
|--------------------------------|-----------------|
| Service Transit's in all sizes | Rw 64 dB |

The sound insulation value is only valid for the Service Transit and not for other elements in the building construction. The sound insulation has been tested by the accredited laboratory Warringtonfire in Great Britain according to EN ISO 10140-2. Test report is available upon request.

Plug & Cap

The FF type service transits have a 20 mm gap to the inlay graphite material to allow for the locating plug. The locating plug can be screwed onto the shuttering board, and by attaching the service transit on top, it firmly holds the service transit in position whilst concrete is poured. The cap is fitted on the top side to prevent ingress of concrete or other debris into the service transit. Plugs and caps are supplied in boxes with 18 sets each.



- Using a screw, attach the plug onto the shutter board.
- Attach the service transit firmly on top of the plug.
- Fit the cap on top of the service transit.
- Concrete is poured.
- Remove the cap. The plug follows the shutter board when it comes off. Both the plug and the cap can be reused.

Technical Data

| | |
|------------------------------------|---|
| Technical Approval | EAD 350454-00-1104 |
| Durability according to ETAG 026-2 | Z ₂ intended for use in internal conditions with humidity classes other than Z ₁ , excluding temperatures below 0 °C. |
| Tube | High temperature resistant plastic, or steel |
| Middle plug | AES fibre 128 kg/m ³ |
| Conditioning procedure | EN 13238:2010 |
| Expansion ratio | 17:1 |
| Expansion pressure | 65.4 N |
| Colour | White tube or rectangular steel with anthracite inlay |
| Graphite weight | 1.4 kg/m ² per mm thickness |
| Graphite density | 1409 kg/m ³ |
| Normal expansion time | Approx. 1 minute |
| Minimum expansion temperature | 105 °C |
| Storage | Store in temperatures between 5 °C and 30 °C |
| Life | Under normal conditions; 30 years + |