Passive Fire Protection Range
TECHNICAL DATA SHEET

The Ritherdon Passive Fire Protection Range was developed to upgrade and reinstate the fire protection rating of high-rise and multi-occupancy buildings such as blocks of flats by preventing fires and smoke from spreading through compartment walls and risers. The fire protection these products provide have been assessed according to standards BS EN 1363-1, BS EN 1364-1 and BS EN 1366-3 as recommended in the BS 9991: 2015 Code of Practice, providing 30-90 minutes of passive fire protection. All products are made from 1.2mm Steel.

Table 1 - Dimensions and Properties of Product Range

Model	Height mm	Width mm	Depth mm	Fire Rating [1]	Material
FireSeal	Up to 1500	Up to 1000	Up to 152	E 30 – E 60	4003 Stainless Steel
FireSeal Riser	Up to 2595	Up to 763[2]	27.4	E 60	Zintec Steel
FireSeal Vented	Up to 1231	Up to 730	Up to 82.2	E 30	4003 Stainless Steel
R22	545	470	240	E 90	4003 Stainless Steel
R5 Small	582	415	180	E 60	Zintec Steel
R5 Medium	657	470	180	E 60	Zintec Steel
R5 Large	732	555	180	E 60	Zintec Steel

[1] Fire rating according to BS EN 1351-2.
[2] Unit width, covering a maximum opening size of 625mm.

Product Range and Options

FireSeal – Fire Rated Access Panel

The FireSeal is an access panel designed to cover existing meter boxes or other apertures in compartment walls. They are very quick and easy to fit and prevent fire and smoke from spreading through compartments and propagating throughout a building. FireSeals are rated from E 30 – E 60 according to the table below:

Table 2 - Fire Rating allowances for Access Panel range

Height mm	Width mm	Fire Rating
Up to 925	Up to 450	E 60
925 - 1500	450 - 1000	E 30

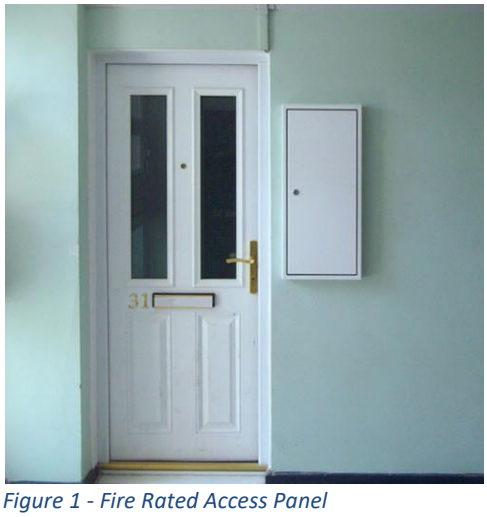

Figure 1 - Fire Rated Access Panel

The largest tested FireSeal achieving 60 minutes integrity was 925mm x 450mm, and the largest FireSeal tested was 1500mm x 1000mm, and achieved 30 minutes integrity. These FireSeals qualify for the S_a smoke leakage rating as tested to BS EN 1634-3: 2004, which means that they have a leakage rate not exceeding 3m³/m/hour when tested at 25 Pa.

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FireSeal – Riser
The FireSeal Riser is an alternative to horizontal compartmentalisation**.** It is fitted over the front of risers in multi-occupancy buildings and uses intumescent sealing to prevent fire and smoke from passing between floors, rated to E 60. Risers can be fitted with an inspection door panel, vented panels, and can be made to size matching any colour scheme.

Figure 2 – FireSeal Riser

FireSeal – Vented
The FireSeal Vented is a variation of the FireSeal incorporating louvres in the door for ventilation. These louvres are sealed by an intumescent material when exposed to a fire preventing the passage of smoke and fire. The FireSeal Vented is very easy to fit taking from 10 to 15 minutes and provides 30 minutes of fire protection.

FireSeal – R22


Figure 3 - R22 FireSeal

The R22 FireSeal is a modification of the R22 meter box repair unit capable of providing up to 90 minutes of fire protection, incorporating a high temperature lock and using intumescent sealing to prevent the passage of fire and smoke. It is designed to be retrofitted and replace existing GRP surface mounted gas meter boxes. Standard gas meter boxes do not provide adequate fire protection, causing issues during fire assessments in multi-occupancy buildings. The R22 FireSeal is available in one size, intended to fit the most common type of gas meter box.

FireSeal – R5
The R5 FireSeal is a fire rated alternative to the standard R5 electric meter box incorporating a high temperature lock and fire-resistant backboard. The R5 FireSeal comes in the same standard sizes as the standard version and is rated to provide 60 minutes of fire protection.

FireSeal products are made in white as standard but can be made in any colour. Contact Ritherdon to specify fire rated products to suit your requirements

Figure 4 - R5 FireSeal

Testing

Currently there exists no standard test specifically for the evaluation of systems such as the FireSeal that reinstate the fire resistance of walls, however the BS 9991: 2015 Code of Practice for Fire Safety states that elements in a multi-storey block provide between 30 and 60 minutes of fire resistance, depending on the element. Section 24.3 states that access panels provide the same fire resistance as the element into which it is fitted. These elements must be tested in accordance with the relevant parts of BS EN 1363, 1364 and 1366 as per Section 16.2.1, and therefore our FireSeal products have been tested to the same standards.

The standards used for testing were BS EN 1363-1, BS EN 1364-1 and BS EN 1366-3. Test reports have been re-validated to account for superseded standards. Selected products have also been smoke-tested in accordance with BS EN 1634-3: 2004.

Fire Resistance Testing

Three tests were performed by Chiltern International Fire/BM TRADA/Exova Warringtonfire covering the whole fire rated product range. (Chilt/RF12153, BMT/FEP/F15263, BMT/FEP/F14180)

- Specimens were fixed to a supporting construction and an industrial furnace was used to simulate the effects and conditions of a fire.
- Two of each specimen were tested – one facing the furnace and the other facing away.
- Furnace was controlled to follow temperature-time relationship as specified in BSEN 1363: Part 1: 2012 Section 5.1.1.
- Vented FireSeals and XL FireSeals (1500mm x 1000mm) maintained integrity for over 30 minutes, achieving E 30 rating.
- Riser FireSeals and R5 meter-boxes maintained integrity for over 60 minutes, achieving E 60 rating.

Figure 5 - Fire testing of various FireSeal products front and rear facing

- FireSeal Access Panels up to 925mm x 450mm also achieved E 60 rating.
- R22 meter-boxes maintained integrity for over 90 minutes, achieving E 90 rating.

Smoke Resistance Testing

These tests were carried out by Exova in accordance with BS EN 1634-3: 2004 and encompassed the FireSeal Access Panels range up to the maximum size produced. (WYC402759/01 & 02)

- Specimens fixed to support structure and exposed to positive and negative pressures
- Leakage measured in $m^3/m/hr$ and was required to be below $3m^3/m/hr$ at 25 Pa
- Specimens tested ranged from 0.09 – 0.29, well below the requirement.
- FireSeal Access Panels qualify for S_a rating according to BS EN 1634-3: 2004 for fire doorsets.

Please contact our technical team if you require a more detailed report of the testing, or if you have any other questions and would like to discuss any aspect of this data sheet.