Rockwool supports FIRAS  
accredited installers

## Linear and Trapezoidal Firestop Systems

### Firestopping solutions at compartment junctions

As part of the comprehensive Firepro range of fire protection products, Linear and Trapezoidal Firestop Systems have been developed to provide up to 4 hours firestopping at the junctions of compartment walls and floors. The systems have been tested in accordance with BS 476: Part 20: 1987.

Solutions illustrated are for masonry walls with a density of at least 400 kg/m<sup>3</sup> and include both fire integrity and insulation criteria for concrete decks, composite decks and simple profiled sheeting.

#### Advantages

- Up to 4 hours fire stopping to meet integrity and insulation criteria
- Suitable for all walls from 400 kg/m<sup>3</sup>
- Available from 48 hours of order
- Available in small quantities
- Totally enclosed option

#### Standards and approvals

Linear and Trapezoidal Firestop products have been tested to BS 476: Part 20: 1987 and assessed by The Loss Prevention Council.

The test data applies to gaps over walls of concrete, clay bricks or blocks with a minimum density of 400 kg/m<sup>3</sup>.

Rockwool is a generically approved firestopping material and all materials conform to BS 3958: Part 5: 1986, 'Specification for bonded man made mineral fibre slabs'.



The following NBS Plus clause includes Linear and trapezoidal Firestop Systems: F30:670

## Description

### Composition and manufacture

Rockwool is manufactured primarily from a melt of volcanic rock. The molten rock is spun into wool and resin impregnated.

Linear and Trapezoidal Firestop products are made from dense moisture resistant rock wool, allowing adequate compression yet retaining the necessary lateral stiffness for ease of installation. Type 2 systems allow for a greater degree of compression than the Type 3 systems.

### Dimensions

All Firestop products are supplied in standard lengths of 1m.

#### Linear Firestop 2

Rectangular strips, (min. 5% compression)

Thicknesses: 12.5, 20, 30, 40, 50, 60, 70, 80, 90, 100mm  
Widths: 100, 150, 200mm  
Fire resistance: 2, 3, 4 hours respectively

#### Linear Firestop 3A

Rectangular strips, (tight fit required)

Thicknesses: 10, 15, 20, 25, 30, 35,  
40, 45, 50, 60, 70, 80mm  
Widths: 200, 300, 400mm

#### Trapezoidal Firestop 3B

Trapezoidal strips, (tight fit required)

Available for all profiled decks. Deck profile to be named at time of order, e.g. Ribdeck 60, Alphalok etc.

#### Linear Firestop Dovetail Infill Strips

Supplied as narrow rectangular strips for pinched installation into nominated dovetail shaped deck profiles; e.g. Holorib, Quickspan, Q51 etc.

Note: Dovetail infill strips must be installed with vertical laminations.

## Performance

### Chemical

Rockwool stone wool has a basaltic composition in which the refractory oxide components have been enhanced for stability at high temperatures.

Rockwool is chemically inert. An aqueous extract of the wool is neutral (pH7) or slightly alkaline.

### Biological

Rockwool Linear and Trapezoidal Firestop Systems are completely rot proof, do not offer sustenance to vermin and do not encourage the growth of fungi, moulds and bacteria.

### Compatibility

Rockwool products are compatible with all normal building and constructional materials with which they are likely to come into contact.

## Durability

Rockwool materials will perform effectively throughout the lifetime of the building with a minimum of maintenance unless disturbed.

### Environment

No CFCs, HCFCs or HFCs are used in the manufacture of Rockwool materials.

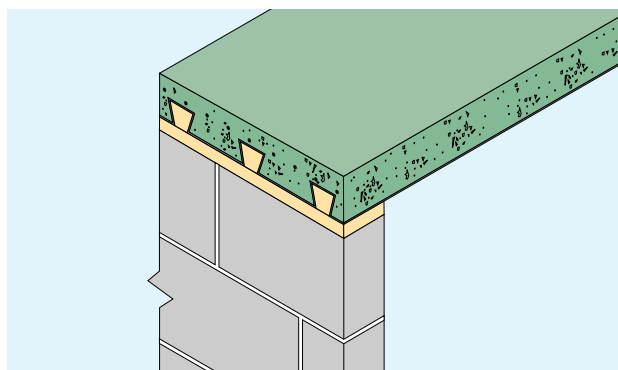
## Design and Installation

The following installation requirements must be met in order to reliably achieve the stated fire resistances.

- i Linear Firestop 2 must be fitted as rectangular pieces, accurately butt jointed and compressed by at least 5% in thickness.
- ii Linear Firestop 3 must be fitted to give a tight and accurate fit, closely following the profile of the gap.
- iii 1 or 2 layers may be used. Single layer firestopping will always be preferred, with double layer methods limited to those occasions where building tolerances demand practicality. 2 layers should be installed simultaneously. The height of void should not exceed the width of the firestop.
- iv Gaps associated with perimeter floor slab/wall firestopping should be firestopped using SP Firestop Systems.
- v Installers may find simple smooth 'slip-plates' of benefit when installing Linear Firestop materials across rough surfaces.
- vi See Fig. 6 for mechanical fixing to asymmetrical profiles across compartment walls.
- vii The roof/floor deck must be capable of maintaining the necessary compression on the firestop for the required fire resistance period.

### Sealing

Small holes may be filled with Rockwool Corofil Acoustic intumescent sealant if necessary (see data sheet for more details).



Pinched dovetail infill strips over firestop 2 strips or 3A blocks

## Applications and fire resistances

All fire ratings apply to gaps over walls constructed of dense aggregate blocks, lightweight aggregate concrete, clay bricks, or concrete blocks, which have a density of 400 kg/m<sup>3</sup> or more.

## Fire resistance periods

Fire resistance includes integrity and insulation criteria to BS 476: Part 20: 1987

Figure 1

Min Wall/Firestop width (mm)	Fire resistance (hrs)
100	2
150	3
200	4



Figure 1 Profiled metal deck over blockwork wall

Figure 2

Min Wall/Firestop width (mm)	Fire resistance (hrs)	
100	a) 2	b) 2
150	3	3
200	4	4

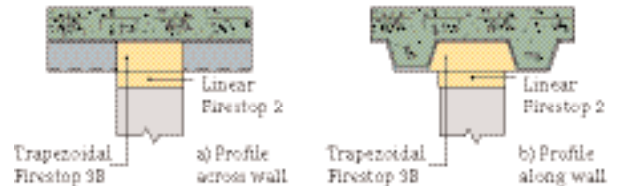


Figure 2 Profiled metal deck under lightweight concrete cover

Figure 3

The fire resistance of the Firestop will be the same as that achieved by the fire protection of the beam.

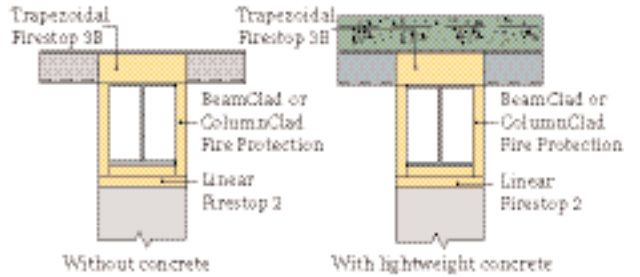


Figure 3 Profiled metal deck with or without lightweight concrete over universal beam

Figure 4

Min Wall/Firestop width (mm)	Fire resistance (hrs)
100	2
150	3
200	4



Figure 4 Concrete deck over blockwork wall

Figure 5

In some constructions the fire resistance of a deck horizontally over the top of a wall may be lower than that achieved by the wall itself. In such cases an extended Firestop 3A is required.

Min Wall width (mm)	Fire resistance (hrs)
100	3
150	4
200	4

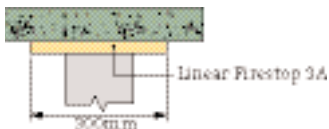


Figure 5 With extended firestopping

Figure 6

In addition to limiting thermal transmission along the soffit of a deck (Figure 5), Firestop 3A can be used to provide support to the Firestop 3B in those cases where the profiles are positioned asymmetrically in relation to the wall (Figure 6).

Min Wall width (mm)	Fire resistance (hrs)
100	3
150	4
200	4

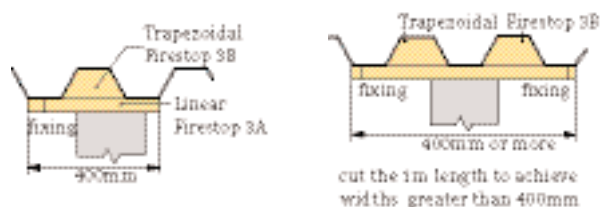


Figure 6 Metal deck with profiles positioned asymmetrically to wall

Note: Extended firestopping may need to be supported by fire resistant fixings to soffits to avoid edge sag, depending on overhang and soffit flatness. Supports are essential for extensions beyond wall line greater than 100mm (Building Regulations 1991, Approved Document B, para 10.13.a).

## Typical specification

All firestopping over compartment walls and similar construction gaps to be made using Rockwool Linear and Trapezoidal Firestop Systems, supplied by Rockwool Ltd, Pencoed, Bridgend CF35 6NY, to meet the requirements of BS 476: Part 20: 1987 for the evaluation criteria of stability, integrity and insulation performance in accordance with Loss Prevention Council Assessment No. CC 82633/RHE 10/7/92.

All joints of Linear and Trapezoidal Firestopping materials to be closely butted and the installation to be carried out in accordance with the manufacturer's recommendations.

## Work on site

### *Handling and storage*

Rockwool Linear and Trapezoidal Firestop materials are light and easy to handle and should be cut using a sharp bladed knife. Store in dry conditions.

### *Maintenance*

Once installed, Linear and Trapezoidal Firestop materials will need no maintenance unless disturbed.

## Shrink Wrapping

For areas such as clean rooms, Firestop systems are available totally enclosed in shrink wrap.

## Health and safety

A COSHH Data sheet is available from Rockwool's Marketing Services Department.

Current HSE 'CHIP' Regulations and EU Directive 97/69/EC confirm that Rockwool fibres are not classified as a possible carcinogen.

## Ordering

For rectangular strips please state type (Firestop 2 or 3A), thickness, width and total length required.

For trapezoidal strips (Firestop 3B), please state:

- 1 Proprietary name for profiled deck
- 2 Whether upper or lower profile filling
- 3 Dimensions if available
- 4 Total length required

For dovetail infill strips, please state:

- 1 Proprietary name for profiled deck
- 2 Dimensions of dovetail if available
- 3 Total length required

Order Fax number for Linear and Trapezoidal Firestops is 01656 865649

## Technical Helpline

For technical advice relating to Linear and Trapezoidal Firestop Systems, call the Rockwool Technical Helpline on 0871 222 1780.

**ROCKWOOL**  
F I R E S A F E I N S U L A T I O N

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Rockwool Limited reserves the right to alter or amend the specification of products without notice as our policy is one of constant improvement.

The information contained in this data sheet is believed to be correct at the date of publication. Whilst Rockwool will endeavour to keep its publications up to date, readers will appreciate that between publications there may be pertinent changes in the law, or other developments affecting the accuracy of the information contained in this data sheet.

The above applications do not necessarily represent an exhaustive list of applications for Rockwool Linear and Trapezoidal Firestop Systems. Rockwool Limited does not accept responsibility for the consequences of using Linear and Trapezoidal Firestop Systems in applications different from those described above. Expert advice should be sought where such different applications are contemplated, or where the extent of any listed application is in doubt.