

# Conlit® Firestop Systems

Fire protection solution at compartment joints

CONLIT® 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 are illustrated for all walls from 400kg/m<sup>3</sup> density and include both integrity and fire 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 400kg/m<sup>3</sup>
- Excellent acoustic properties
- CFC, HCFC and HFC free
- Maintenance free

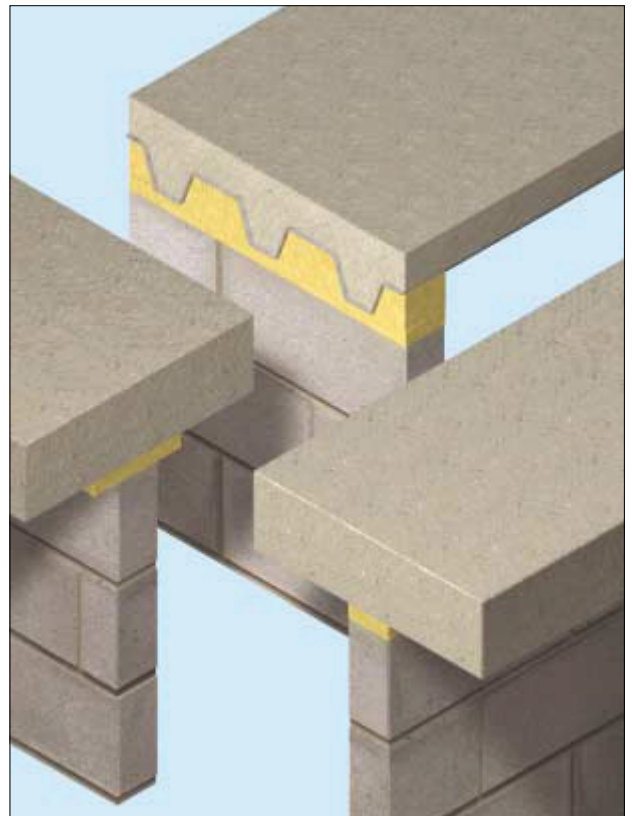
### Standards and Approvals

CONLIT® Firestop Systems comply with the requirements of BS EN 13162: 2001 'Thermal insulation products for buildings. Factory made mineral wool (MW) products specification.

CONLIT® Firestop materials have been tested to BS 476 : Part 20 : 1987 and assessed by The Loss Prevention Council, Borehamwood.

The test data applies to all gaps over walls of concrete, clay bricks or blocks with a density greater than 400kg/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'.



## Description

### Composition and manufacture

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

CONLIT® Firestop materials are made from moisture resistant rockwool, allowing adequate compression yet retaining the necessary lateral stiffness for ease of installation. Type 2 systems are semi-flexible whilst Type 3 are more rigid.

### Dimensions

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

#### CONLIT® Firestop 2

Rectangular strips, (min. 5% compression)

Thicknesses: 12.5, 20, 30, 40, 50, 60, 70, 80, 90, 100mm

Widths: 100, 150, 200, 300, 400mm

Fire resistance: 2, 3, 4 hours respectively

#### CONLIT® Firestop 3A

Rectangular strips, (tight fit required)

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

Widths: 200, 300, 400mm

#### CONLIT® 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.

#### CONLIT® Firestop dovetail infill strips

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

*Note: Dovetail Infill Strips must be installed with vertical laminations.*

## Performance

### Chemical

Rockwool mineral 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

CONLIT® 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 materials 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 HFC's are used in the manufacture of Rockwool materials.

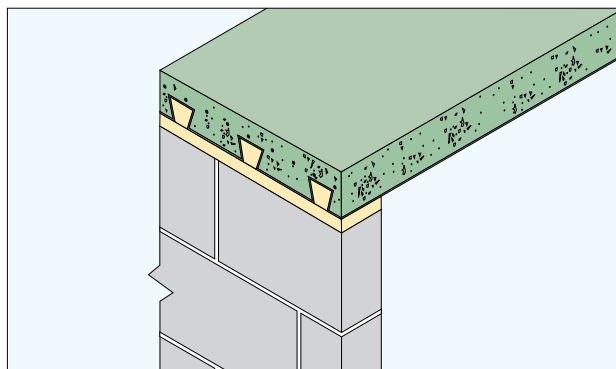
## Design and installation

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

1. CONLIT® Firestop 2 must be fitted as rectangular pieces, accurately butt jointed and compressed by at least 5% in thickness.
2. CONLIT® Firestop 3 must be fitted to give a tight and accurate fit, closely following the profile of the gap.
3. 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.
4. Gaps associated with perimeter slab/wall firestopping should be firestopped using ROCKWOOL® SP Firestop data sheet.
5. Vertical expansion gaps may be firestopped with CONLIT® Firestop materials provided the compression levels are observed with due regard to building movement.
6. Installers may find simple smooth 'slip-plates' of benefit when installing Conlit® Firestop materials across rough surfaces.
7. See Fig. 6 for mechanical fixing to asymmetrical profiles across compartment walls.

## Sealing

Small holes may be filled with FirePro Acoustic Intumescent Sealant if necessary. Evode Idenden ET150 is a suitable surface coating to exposed edges where sealing is desired to meet the client's requirements.



Pinched dovetail infill strips over firestop 2 or 3A blocks

## Applications and fire resistances

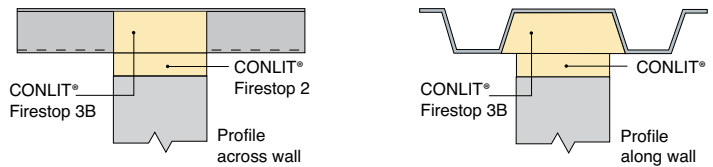
All fire ratings apply to gaps over walls constructed of dense aggregate blocks, lightweight aggregate concrete, clay bricks, or concrete blocks, which have a density of 400kg/m<sup>3</sup> or more.

### Fire resistance periods

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

**Figure 1**

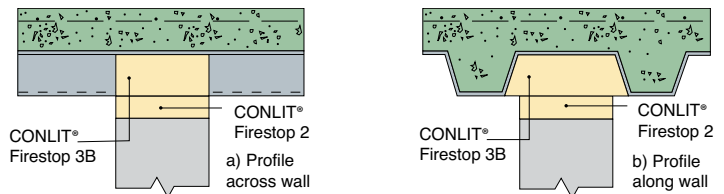
| Wall/Firestop Width (mm) | Fire Resistance (hrs) |
|--------------------------|-----------------------|
| 100                      | 2                     |
| 150                      | 3                     |
| 200                      | 4                     |



**Figure 1** Profiled metal deck over blockwork wall

**Figure 2**

| Wall/Firestop Width (mm) | Fire Resistance (hrs) |      |
|--------------------------|-----------------------|------|
| 100                      | a) 2                  | b) 2 |
| 150                      | 3                     | 4    |
| 200                      | 4                     | 4    |



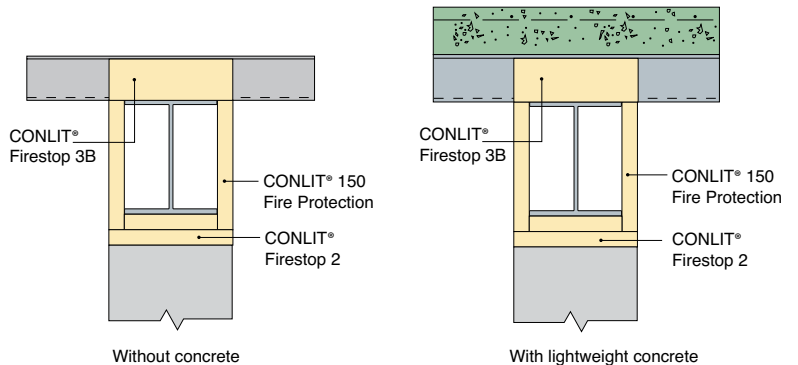
**Figure 2** Profiled metal deck under lightweight concrete cover

**Figure 3**

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

**Figure 4**

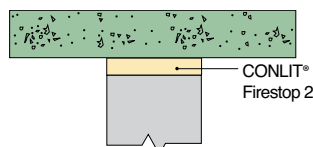
| Wall/Firestop Width (mm) | Fire Resistance (hrs) |
|--------------------------|-----------------------|
| 100                      | 2                     |
| 150                      | 3                     |
| 200                      | 4                     |



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

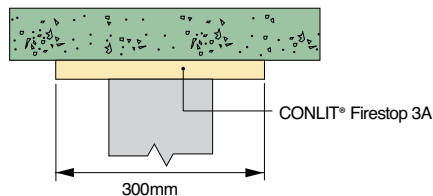
**Figure 5**

| Wall Width (mm) | Fire Resistance (hrs) |
|-----------------|-----------------------|
| 100             | 3                     |
| 150             | 4                     |
| 200             | 4                     |

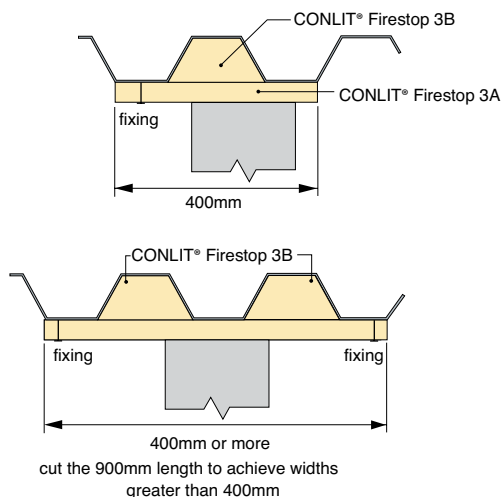


**Figure 4** Concrete deck over blockwork wall

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.



**Figure 5** With extended firestopping



**Figure 6** Metal deck with profiles positioned asymmetrically to wall

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).

| Wall Width (mm) | Fire Resistance (hrs) |
|-----------------|-----------------------|
| 100             | 2                     |
| 150             | 3                     |
| 200             | 4                     |

*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 greater than 100mm.*

*The "overhang" of the CONLIT® Firestop 3A should be supported with steel self-tapping screws or "hammer fix" anchors into deck/concrete soffit at 350mm maximum centres (minimum of 3 fixings per 1m length of fire stop).*

*Where the CONLIT® Firestop 3A is required to be fixed to the deck at distances in excess of 400mm, turn the 1m length of fire stop 90° and cut to required size to suit profile spacing. In such cases, secure each length of fire stop to the soffit using at least 2 fixings at both ends.*

### Typical Specification

All firestopping over compartment walls and similar construction gaps are to be made using CONLIT® Firestop Systems, supplied by Wilhams Insulation Far East Sdn Bhd, to meet the requirements of BS 476 : Part 20 : 1987 for the evaluation criteria of stability, integrity and insulation performance.

All joints of CONLIT® firestopping materials to be closely butted and the installation to be carried out in accordance with the manufacturer's recommendations. For details refer to Wilhams Insulation Far East Sdn Bhd.

### Work on site

#### Handling and storage

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

#### Maintenance

Once installed, CONLIT® Firestop materials will need no maintenance unless disturbed.

#### Health and Safety

A Material Safety Data Sheet is available from Wilhams Insulation Far East Sdn Bhd.

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

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**Wilhams Insulation Far East Sdn Bhd**

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