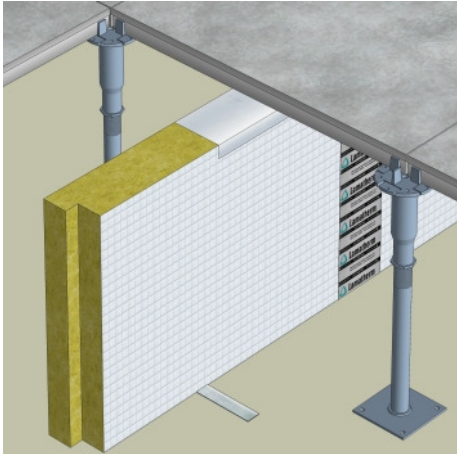


### Introduction



As part of our comprehensive range of passive fire protection products, the Lamatherm RF Access Floor system has been specifically developed to provide cavity fire stops for use in voids between raised access floors and floor slabs.

Lamatherm RF products have been designed as a one-piece system and afford easy cutting and installation.

The product also offers unique vertical compression to allow tightness of fit.

These simple to install systems have been tested for fire performance, acoustic performance and for use as a plenum liner.

### Advantages

- Tested utilising the principles of BS 476, Part 20 & BS EN 366-4:2006
- Provides up to 120 minutes fire integrity and insulation
- Provides a smoke & fire seal
- Provides excellent lateral compression
- Economical and easy to install
- Suitable for use in voids heights up to 1000mm
- Suitable for use in air plenum applications
- Offers excellent acoustic performances
- Supplied in sheet form, for cutting on site, or pre-cut in strips to suit specific void height.
- Quality assured to BS EN ISO 9001

### Description

The Lamatherm RF SYSTEMS comprise of a non combustible, rock mineral wool lamella core, which is faced on two sides with Class 'O' rated aluminium foil, offering excellent resistance to the passage of smoke.

As standard, the materials can be supplied with either simple butt joints or an interlocking rebated joint.

The rebated option, is recommended for acoustic and air plenum applications.

The product range is available in two versions, namely 'CB' & 'FS'

**1) Lamatherm RF-CB Cavity Barrier Systems** are used to subdivide uninterrupted voids in accordance with Building Regulations offering 30 minutes fire resistance.

CB barriers are designed to suit individual floor void depths between 30mm and 600mm

**2) Lamatherm RF-FS Fire Stop System** maintains continuity of fire resistance for installations aligned with fire rated partitions hence maintaining compartmentation.

The FS system offers 60 - 120 minutes fire resistance.

FS barriers are designed to suit individual floor void depths between 30mm and 1000mm

## Performance & Properties

### Dimensions

#### Square edged sheet products

1200mm x 1200mm  
Thickness: 50, 57, 90 & 120mm

The slabs are designed to be cut on site to suit individual floor void depths (plus allowance for compression fit)

#### Pre-cut Square edged:

1200mm long x void height (plus allowance for compression fitting)  
Thickness: 50, 57, 90 & 120mm

#### Pre-cut rebated edged:

1175mm long x void height (plus allowance for compression fit)  
Thickness: 50, 57, 90 & 120mm

### Product Description

**Lamatherm RF** has been successfully tested and assessed to BS 476: Part 20 for up to 120 minutes (fire integrity and insulation)

Each system option has been formally assessed by the Loss Prevention Council to meet the relevant performance ratings given in table 1 below

### Fixing Brackets

Where required, **fixing brackets** are impaled centrally into the base of the barrier from alternate sides at nom. 600mm centres to provide stability. If required, the brackets can be mechanically fixed or bonded to the floor. **See fig 1**

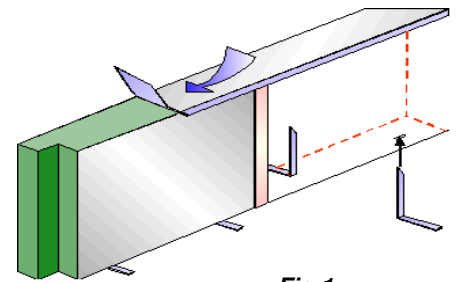


Fig 1

Table 1: Test report ref LPC 93001

Product Type	Barrier Size			Fire Performance		Void Height Limitation / Brackets			
	Thickness (mm)	Length (mm)	Rebated	Integrity (mins)	Insulation (mins)	Void Height 30-300mm	Void Height 301-400mm	Void Height 401-600mm	Void Height 601-1000mm
CB 15 BJ	50	1200	none	30	15	No brackets	2 no B110	2 no B355	n/a
CB 15 RJ	50	1175	25mm	30	15	No brackets	2 no B110	2 no B355	n/a
CB 30 BJ	57	1200	None	30	30	No brackets	No brackets	2 no B355	n/a
CB 30 RJ	57	1175	25mm	30	30	No brackets	No brackets	2 no B355	n/a
FS 30 BJ	57	1200	None	30	30	No brackets	No brackets	2 no B355	n/a
FS 30 RJ	57	1175	25mm	30	30	No brackets	No brackets	2 no B355	n/a
FS 60 BJ	90	1200	None	60	60	No brackets	No brackets	2 no B355	n/a
FS 60 RJ	90	1175	25mm	60	60	No brackets	No brackets	2 no B355	n/a
FS 60HV BJ	120	1200	None	60	60	n/a	n/a	n/a	2 no B355
FS 60HV RJ	120	1175	50mm	60	60	n/a	n/a	n/a	2 no B355
FS 120 BJ	120	1200	None	120	120	3 no B110	3 no B110	n/a	n/a
FS 120 RJ	120	1175	25mm	120	120	3 no B110	3 no B110	n/a	n/a

## Installation

For all installations, the void height should be measured and a +10mm compression factor allowed. The single components are simply laid end to end on the structural floor to form a continuous barrier to fire and smoke. The correct size units are placed in position ensuring that the joints are pushed tightly together.

The height of the material can be trimmed on site using a sharp serrated knife providing the compression allowance is maintained. To assist in installation and maintain the integrity of the smoke barrier vertical joints can be taped with Lamatherm self adhesive foil.

It is further recommended that self-adhesive foil tape is applied continuously along the top of the run of fire barriers and at each vertical end joint. This will effectively secure the individual RF barriers to form one stable unit.

## Acoustics

The installation of RF SYSTEMS substantially enhances the 'room-to-room' sound reduction of raised access floors which form a continuous common void under adjacent areas. This invariably results in improved speech privacy and greater control of disturbance from intrusive noise.

### Tested material performance

The excellent acoustic performance of the RF material is attributable to the unique internal construction of the mineral fibre lamella board core. Also, the rebated joints, foil facings and the additional sealing of joints with foil tape all serve to provide improved air tightness.

Based on laboratory tests to determine airborne sound transmission in accordance with BS EN ISO 140-3 : 1995, BS 2750 : Part 3 : 1995 on a variety of RF SYSTEMS the following Weighted Sound Reduction Index (Rw) values can be used: as shown in **table 2 above**.

**Table 2: RF Weighted Sound Reduction Index**

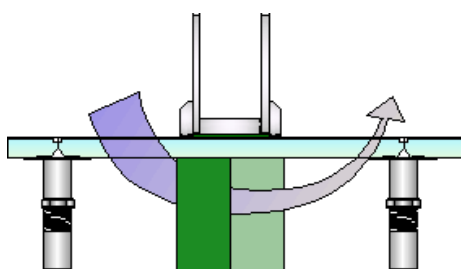
System	Thickness	Rw (dB)
CB 15 RJ	50mm	17 dB
CB 30 RJ	57mm	19 dB
FS 60 RJ	90mm	22 dB
FS 60HV RJ	120mm	25 dB
FS 120 RJ	120mm	25 dB

**Sound Research Laboratories Limited test report no. C/99/5L/7743/1**

*Please note that the actual performance will be dependent on a number of factors including the design, choice of materials and degree of fit between components.*

For raised access floor systems requiring higher 'cross-talk' values i.e. approx. 45+dB, the improvement in 'cross-talk' value may be limited by other factors, including flanking transmission, leakage through M&E systems etc.

However, for installations offering a reduced 'cross-talk' performance, such as installations with frequent service openings, larger improvements can be effected by the installation of the RF before reaching limiting values. In such instances, improvements up to 20dB may be possible.



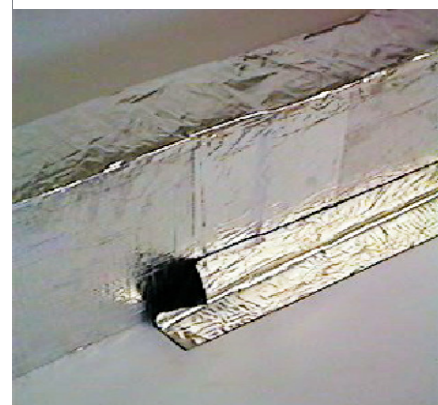
## Plenum Application

Being impervious, the integral reinforced Class 0 foil facings act as an effective barrier to air leakage. When the RF-FS product is in place, the vertical joints between the products and interfaces with floors can be sealed with Lamatherm self adhesive foil tape (RFT 120/45) presenting an effective sealed construction suitable for plenum lining applications.

A high specification tape, RF/SFT100/10, is also available which may be required to seal the edges of the product to the associated floor elements for high pressure conditions.

**See fig 2**

When a two part, 1m<sup>2</sup> section was tested in an air tight box, the l/min/m<sup>2</sup> air leakage was proved to be within all known guideline figures for pressures up to 250Pa. (**Test report number IT0109**).



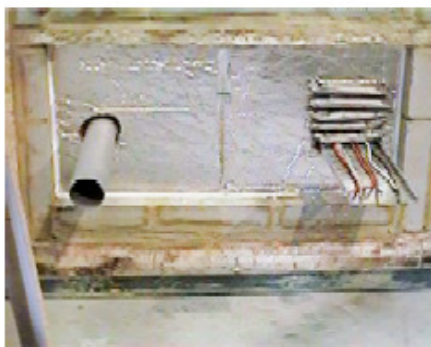
**Fig 2**

## Service Penetrations

Fire spread and limitation of damage is principally achieved by compartmentation. These compartments are bounded by fire resistant elements - including Lamatherm RF-FS Fire stops. However, in practice, the many services required for buildings use and operation mean that these elements are breached to permit access for services. The gaps around the penetrations must therefore be sealed so that the fire integrity of the element is retained.

LAMATHERM have tested the compatibility of their range of fire stopping systems, within the RF SYSTEMS. **Ad-hoc test FC 149**

A comprehensive range of complementary sealing systems are available which can be readily installed to provide appropriate sealing methods according to the type of penetration.



## Treatment of Service Penetrations

Standard RF systems can be readily treated to accommodate small to large obstructions such as PVC pipes, cable trays and ductwork.

### Limitations:

It is recommended that services are fitted through the system only if they have been shown by test to be suitable for this type of vertical seal system and for the required rating.

The services may occupy no more than 50% of the barrier face area and must not be closer than 50mm to any edge of the RF seal.

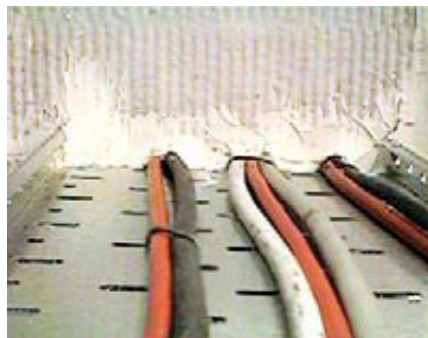
The services must be supported adjacent to the seal on both sides so that the weight of the services is not taken by the RF system.

Irrespective of the void height, wherever the RF barrier is penetrated by services, fixing brackets must be used.

These must be mechanically secured or bonded to the structural floor to maintain the stability of the assembly.

### Typical examples:

#### Penetration by cable trays, permanent seal



#### Lamatherm FB-FS60 Coated Batt Fire Stops

Will maintain integrity of installed RF systems. Carefully cut out aperture to suit. Apply Lamatherm Fire & Acoustic Sealant to perimeter edges of the coated batt infill as well as edges of service penetrations. Additionally seal around all penetrations with same sealant



#### Lamatherm PC-FS120 Intumescent Collars

Cut RF - overize diameter by 10mm max. Position & secure collar with tab fastening. Fix through RF with metal pin & non-return washer fixings. Make good with Lamatherm Fire & Acoustic Gap Sealant

### Technical Advice

For further information please contact our technical department at the address below.

## Health and Safety

Current HSE 'CHIP' Regulations and EU directive 97/69/EC confirm the safety of rock wool mineral wool. The fibres are not classified as a possible human carcinogen.

A Material Safety Data Sheet is available upon request.

## Ordering

Lamatherm RF product options:

### Sheet products (Square edged)

**sizes:** 1200mm x 1200mm

Thickness: 50, 57, 90 & 120mm to suit required fire rating. These slabs are designed to be cut on site to suit individual floor void depth (plus allowance for 10mm compression fit)

### Pre-cut Square edged:

1200mm long x void height (plus allowance for 10mm compression fitting)

Thickness: 50, 57, 90 & 120mm to suit required fire rating.

### Pre-cut rebated edged:

1175mm long x void height (plus allowance for 10mm compression fit)  
Thickness: 50, 57, 90 & 120mm to suite required fire rating.

*The rebated option, is recommended for acoustic and air plenum applications.*

## Lamatherm CW-RS ordering Procedure

- Indicate contract title and location of project.
- Specify product type required e.g sheet form, square edged or rebated edged.
- Specify fire rating or thickness required.
- Specify void height or schedule of sizes for each product type.
- Confirm total linear metres required for each size:
- Specify bracket type and quantity required
- Specify foil tape quantity requirement. RFT 120/45 (or RF/SFT100/10 for a high specification tape)
- Lamatherm Fire & Acoustic gap sealant 310ml cartridge