

LAMATHERM RF SYSTEMS FOR RAISED ACCESS FLOORS

THE DEFINITIVE RANGE OF CAVITY BARRIER & FIRE STOP SOLUTIONS FOR RAISED ACCESS FLOORS

The new LAMATHERM RF SYSTEMS have been developed to provide a simple and easy to install method of sealing the void formed under raised access floors. The standard range has been optimised to include options of materials that are cost-effectively matched to suit the specific performance criteria for all raised access floor void requirements. Being specifically designed for this application based on the experience gained through being the premier supplier to the UK access floor market for over a decade, the new products represent an unrivalled combination of fully qualified performance, practical installation and service benefits.

Qualified performance

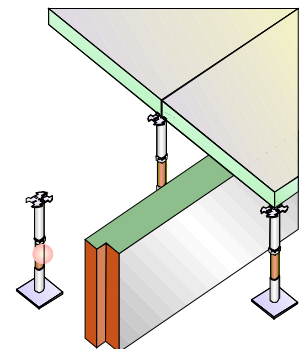
Comprehensive range to suit requirements
Options to seals voids up to 1 metre high

Easy to install

A one-piece product
Accommodates normal site tolerances

Practical, simple & thought-out

Integral foil smoke barrier
Unique fully patented construction



LAMATHERM RF-CB CAVITY BARRIERS

LAMATHERM RF-FS FIRE STOPS

Designed & tested to meet Building Regulations
- and better!

Introduction

The LAMATHERM RF SYSTEMS comprise a one-piece, close dimensioned product having a pre-compressed internal mineral fibre core. The products have integral aluminium foil facings to provide a Class O rating and excellent resistance to smoke. A unique method of manufacture (patent protected) provides a resilient lateral compression required to ensure a tight fit. As standard, the materials can be supplied with either simple butt joints or with an interlocking overlap joint to further enhance the integrity of the installation. The materials are either supplied as pre-cut units to suit a quoted void size or in sheet form for cutting on site.

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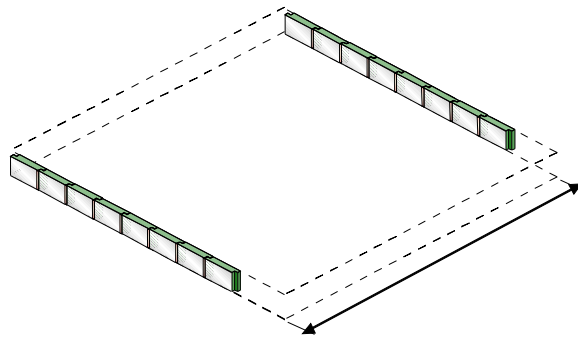
LAMATHERM RF-CB CAVITY BARRIER systems are used to subdivide uninterrupted voids in accordance with Building Regulations.

LAMATHERM RF-FS FIRE STOP systems maintain continuity of fire resistance for installations aligned with fire rated partitions and, thereby, maintain compartmentation.

Applications

The LAMATHERM RF SYSTEMS provide a certified resilient seal between the shaped underside of the access floor panel and the concrete floor slab.

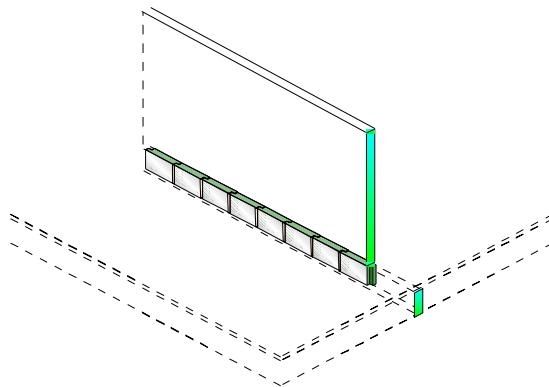
The choice of material is simply determined by the performance requirement in terms of fire resistance.



Approved Document B to the current Building Regulations stipulates maximum dimensions for concealed spaces so as to limit the spread of unseen fire & smoke. Accordingly, LAMATHERM RF-CB CAVITY BARRIERS are used to form a barrier at maximum 20 metre intervals in all directions - assuming that Class O surfaces are exposed within the cavity.

LAMATHERM RF-CB CAVITY BARRIERS for raised access floors have been specifically developed to meet the provisions for cavity barriers as required by current legislation. They are used to laterally subdivide large uninterrupted voids under raised access floors of 600mm height or less.

(Please note that for raised access floor voids >600mm which contain cables, the more onerous criteria stipulated within The Loss Prevention Council *Design Guide for the Fire Protection of Buildings* requires 10 metres maximum between cavity barriers.)



The vertical seals used to subdivide LAMATHERM RF-FS FIRE STOPS are used in this application to continue the line of fire protection.

The material is selected to match the rating of the partition and maintain continuity of fire resistance.

the floor voids should, wherever possible, be placed so as to coincide with the fire-resisting partitions in the compartment above the floor.

Please note that the fire resistance requirements for cavity barriers is different according to whether the installation is being contracted to the current Building Regulations or the more onerous criteria stipulated within The Loss Prevention Council *Design Guide for the Fire Protection of Buildings* where the basic aim is that a compartment in a building should be able to survive the complete burnout.

LAMATHERM RF SYSTEMS FOR RAISED ACCESS FLOORS

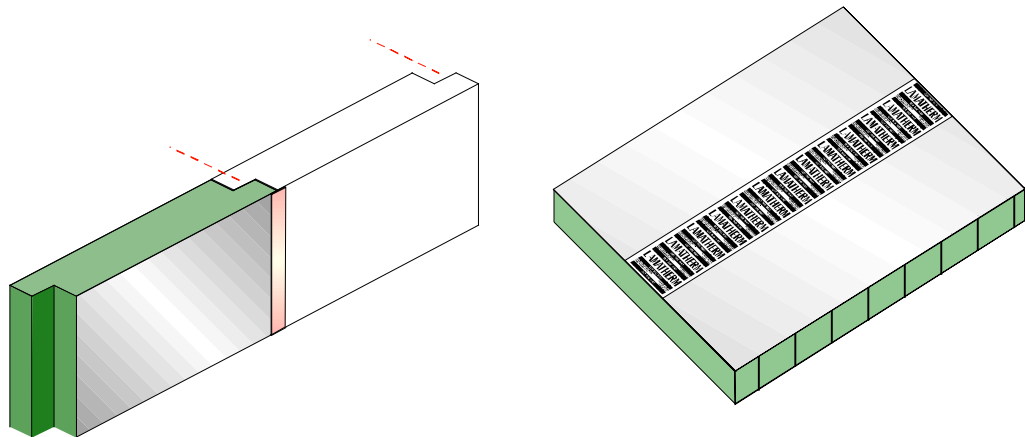
LAMATHERM RF-CB CAVITY BARRIERS and LAMATHERM RF-FS FIRE STOPS provide a cost-effective solution to suit the performance required. In addition, they can be readily be installed as plenum linings and acoustic barriers. Subject to enquiry, non-standard options are available for systems providing higher periods of fire resistance and *Between Pedestal* installation.

Fire

The design and manufacture of the range of LAMATHERM RF SYSTEMS is based on proven fire performance to BS 476 : Part 20 : 1987. Verification of fire performance is available upon request. Based on multiple tests, each material option has been have formally assessed by The Loss Prevention Council to meets the relevant performance rating given

Description

LAMATHERM RF SYSTEMS comprise a low resin content mineral fibre insulation core which is pre-compressed internally to form a resilient strip. The material is faced on two sides with a reinforced Class O aluminium foil.

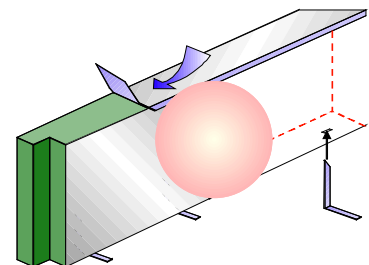


The materials can be either supplied as pre-cut units to suit a quoted void size or in sheet form for cutting on site. Standard sheet product is supplied 1200 x 1200mm and is complete with edge rebate detail where applicable. Supply in sheet form may be of benefit when the actual floor void is not known or where it varies significantly.

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.



If necessary the height of the material can be trimmed on site using a sharp serrated knife providing the



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. Further application of tape to the top and along the base of the unit presents an effectively sealed construction which is suitable for plenum lining applications.

LAMATHERM RF-CB CAVITY BARRIERS for raised access floors

Definition of a cavity barrier,

"A construction provided to close a concealed space against penetration of smoke or flame, or provided to restrict the movement of smoke or flame within such a space."

RF-CB15

Approved Document B to the current Building Regulations requires that cavity barriers must have a minimum standard of fire resistance of 30 minutes with regard to integrity and 15 minutes with regard to insulation.

The LAMATHERM RF-CB15 CAVITY BARRIER meets all relevant current provisions for cavity barriers.

Specifically, these include:-

In England and Wales, Approved Document B3 to the Building Regulations 1991.

In Scotland, Part D4 of the Building Standards (Scotland) Regulations 1990.

In Northern Ireland, Technical Booklet E, Section 3.27, The Building Regulations (Northern Ireland) 1994.

In Eire, Technical Guidance Document B, Section 3.3, The Building Regulations 1991 Platform Floors (Raised Access Floors) Performance Specification Ref. No: MOB PF2 PS/SPU, Part P6.06.

RF-CB15 is 50mm thick and provides 15 minutes insulation and 30 minutes integrity criteria when installed in the voids under raised platform floors up to 600mm.

It may be used to seal floor voids up to 300mm without the use of any additional fixings. However, for voids between 301-600mm it is supplied complete with 2No. fixing brackets per unit as part of the system. The fixing brackets (RFB355) are supplied in galvanised mild steel in flat-notched form to be folded on site.

The RF-CB15 BJ is available with a simple butt joint and provides a 1200mm unit length.

Alternatively, RF-CB15 RJ is available complete with an edge rebate detail to provide an overlap joint and, thereby, enhance the integrity of the installation. This may be of particular benefit in areas of increased exposure to accidental disturbance. The presence of the 25mm edge rebate detail reduces the effective cover-length to 1175mm.

RF-CB30

Developed in recognition of the more demanding requirements of the *'Design Guide for the Fire Protection of Buildings'* as issued by The Loss Prevention Council.

RF-CB30 is 60mm thick and provides 30 minutes insulation and 30 minutes integrity criteria when installed in the voids under raised platform floors up to 600mm.

It may be used to seal floor voids up to 400mm without the use of any additional fixings.

For voids between 401-600mm it is supplied complete with 2No. fixing brackets (RFB355) per unit as part of the system.

RF-CB30 BJ offers a simple butt joint and provides a 1200mm unit length.

RF-CB30 RJ is rebated and provides 1175mm cover.

LAMATHERM RF-FS FIRE STOPS for raised access floors

Definition of fire stopping,

"Sealing an imperfection of fit or design tolerance between fire rated elements of a building to restrict the passage of fire and smoke for the same period of fire resistance."

For the purposes of our product terminology, the *'imperfection of fit'* is considered to be the discontinuity between the bottom of a fire rated partition and the compartment floor i.e. the raised access floor void.

RF-FS30

(Comprises the same material as RF-CB30)

Is suitable for installation under a 30 minute fire rated partition to provide continuity of fire resistance.

RF-FS30 is 60mm thick and provides 30 minutes insulation and 30 minutes integrity when installed in the voids under raised platform floors up to 600mm.

It may be used to seal floor voids up to 400mm without the use of any additional fixings.

For voids between 401-600mm it is supplied complete with 2No. fixing brackets (RFB355) per unit as part of the system.

RF-FS30 BJ offers a simple butt joint and provides a 1200mm unit length.

RF-FS30 RJ is rebated and provides 1175mm cover.

RF-FS60

Is suitable for installation under a 60 minute fire rated partition to provide continuity of fire resistance.

RF-FS60 is 90mm thick and provides 60 minutes insulation and 60 minutes integrity criteria when installed in the voids under raised platform floors up to 600mm.

It may be used to seal floor voids up to 400mm without additional fixings.

For voids between 401-600mm it is supplied complete with 2No. fixing brackets (RFB355) per unit as part of the system.

RF-FS60 BJ offers a simple butt joint and provides a 1200mm unit length.

RF-FS60 RJ is rebated and provides 1175mm cover.

RF-FS60HV

Is suitable for installation under a 60 minute fire rated partition to provide continuity of fire resistance in 'high voids' 601 - 1000mm.

RF-FS60HV is 120mm thick and provides 60 minutes insulation and 60 minutes integrity. The stability of the assembly is ensured by the use of 3No. fixing brackets (RFB355) per unit which are supplied as part of the system.

RF-FS60HV BJ offers a simple butt joint and provides a 1200mm unit length.

RF-FS60HV RJ is rebated and provides 1175mm cover.

RF-FS120

Is suitable for installation under a 120 minute fire rated partition to provide continuity of fire resistance in applications requiring a high period of fire resistance for voids up to 400mm. Typically this might include use in voids adjacent to protected shafts or compartmentation between different occupancy.

RF-FS120 is 120mm thick and provides 120 minutes insulation and 120 minutes integrity. 2No. fixing brackets (RFB110) per unit are supplied as part of the system.

RF-FS120 BJ offers a simple butt joint and provides a 1200mm unit length.

RF-FS120 RJ is rebated and provides 1175mm cover.

LAMATHERM RF SYSTEMS FOR RAISED ACCESS FLOORS

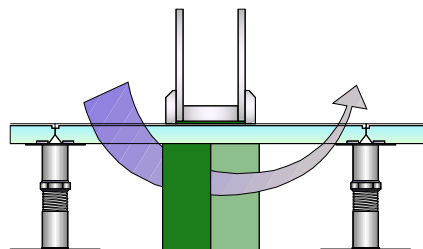
PRODUCT RANGE		Void Limitation (mm)		Size		BS 476 Pt 20	
RF SYSTEM	Fire Rating	No Brackets	Brackets supplied	Thickness (mm)	Cover (mm)	Integrity (mins.)	Insulation (mins.)
RF-CB15 BJ	15 mins.	300	301-600	50	1200	30	15
RF-CB15 RJ	15 mins.	300	301-600	50	1175	30	15
RF-CB30 BJ	30 mins.	400	401-600	60	1200	30	30
RF-CB30 RJ	30 mins.	400	401-600	60	1175	30	30
RF-FS30 BJ	30 mins.	400	401-600	60	1200	30	30
RF-FS30 RJ	30 mins.	400	401-600	60	1175	30	30
RF-FS60 BJ	60 mins.	400	401-600	90	1200	60	60
RF-FS60 RJ	60 mins.	400	401-600	90	1175	60	60
RF-FS60HV BJ	60 mins.	-	601-1000	120	1200	60	60
RF-FS60HV RJ	60 mins.	-	601-1000	120	1175	60	60
RF-FS120 BJ	120 mins.	-	401	120	1200	120	120
RF-FS120 RJ	120 mins.	-	401	120	1175	120	120

PRODUCT SELECTOR			
<i>Where is the product required?</i>	<i>What performance is needed?</i>		<i>Which system do I need to specify?</i>
Subdivision of large uninterrupted cavity	To comply with Building Regulations requirements for cavity barriers.		RF-CB15BJ or RF-CB15RJ
	To comply with LPC Design Guides requirements for cavity barriers.		RF-CB30BJ or RF-CB30RJ
Alignment Under partition	To match fire resistance	30 minutes	RF-FS30BJ or RF-FS30RJ
		60 minutes	RF-FS60BJ or RF-FS60RJ
		120 minutes	RF-FS120BJ or RF-FS120RJ
Please note void height limitations for individual systems.			

LAMATHERM RF SYSTEMS FOR RAISED ACCESS FLOORS

Acoustics

The LAMATHERM RF range additionally provides an effective sound barrier as the material construction and inherent properties of the mineral fibre core afford the RF excellent acoustic performance.



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, when selected, 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 lamella board constructions, the following Weighted Sound Reduction Index (R_w) values can be used:

Weighted Sound Reduction Index		
RF SYSTEMS	Thickness	R_w
RF-CB15 RJ	50mm	17dB
RF-CB30 RJ	60mm	19dB
<i>RF-CB RJ</i>	<i>75mm</i>	<i>21dB</i>
RF-FS60 RJ	90mm	22dB
RF-FS60HV RJ	120mm	25dB
RF-FS120 RJ	120mm	25dB

* = R_w value interpolated from test results.

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

~ = Specification tested for material information only.

General consideration of platform floor assembly

Commercial grade access floor systems generally comprise tiles of a high surface mass and are capable of providing reasonable levels of sound separation.

However, in some installations, the need for service penetrations (such as diffusers, cable entry points etc) may degrade the separation value according to a number of factors (size of openings, frequency, proximity to partitions etc).

Consideration of improvement to 'cross-talk' by addition of RF

Subject to the type of RF SYSTEM adopted, the installation of the RF-CB / RF-FS systems will provide an expected additional improvement to the 'cross-talk' by 10-22dB.

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

In such instances, the improvement to 'cross-talk' may be as low a 10dB.

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 22dB can be reasonably expected.

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.

Specific advice is available on a project basis. Please contact the technical helpline for further information.

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 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 refers.



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

TREATMENT OF SERVICE PENETRATIONS

In the absence of specific requirements for the treatment of service penetrations through cavity barriers, the following information is based on good building practice and is given in good faith.

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.

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.

This is of particular importance where the void to be sealed is high and/or likely to be subject to frequent access.

Treatment of details:

Penetration by cable trays : Permanent Seal

LAMATHERM FB-FS120 COATED BATT FIRE STOP See *Data Sheet No. 11/01/FB*

Carefully cut in RF aperture to suit. Cut batt to suit.

Perimeter of batt / interface with RF plus perimeter of service penetrations all additionally sealed with:

LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP See *Data Sheet No. 12/01/FM*

Or, LAMATHERM GA-FS120 GAP SEALANT FIRE STOP See *Data Sheet No. 12/02/GA*

Coat back on cable / cable tray not required.

Penetration by cable trays : Temporary Seal

LAMATHERM AP-FS120 ADAPTABLE PILLOWS See *Data Sheet No. 13/01/AP*

Cut RF to suit.

Install intumescent pillows

Typically used for temporary seals prior to commissioning of systems or whilst in construction or where additional cables will be installed by following trades etc.

Penetration by plastic pipes

LAMATHERM PC-FS120 INTUMESCENT COLLARS See *Data Sheet No. 13/02/PC*

(Note: Intumescent Pipe Wraps are not suitable for use within RF)

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 either:

LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP See *Data Sheet No. 12/01/FM*

LAMATHERM GA-FS120 GAP SEALANT FIRE STOP See *Data Sheet No. 12/02/GA*

Penetration by metal pipes

For metal pipes up to 25mm diameter no separate pipe closure system is necessary as the RF has sufficient material thickness to maintain the seal. If combustible lagging is present on existing pipework, this must be stripped local to the RF prior to sealing.

'V' notch the RF so as to tightly receive the pipe diameter. There must be no remaining gaps through the barrier. To ensure the Integrity of the construction, all joints around the perimeter of the pipe must be sealed with either:

LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP See *Data Sheet No. 12/01/FM*

LAMATHERM GA-FS120 GAP SEALANT FIRE STOP See *Data Sheet No. 12/02/GA*

For metal pipes between 60 - 100mm diameter proprietary closure systems must be used. Please contact the technical helpline.

**LAMATHERM
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FOR RAISED
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FLOORS****Penetration by fire rated ducts**

Carefully cut RF to suit duct perimeter.

Apply LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP to duct and mating edge of RF.

Tightly abutt. Additional seal edges with:

LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP See *Data Sheet No. 12/01/FM*

It is recommended that all service penetration details are recorded for maintenance purposes as, typically, the company who undertakes the installation may be invited to carryout subsequent alterations as necessary.

Specific advice is available on a project basis.

Properties

Chemical

The base mineral fibre is chemically inert. An aqueous extract of the rock wool is neutral (pH7) or slightly alkaline. Resistant to most acids and weak alkaline solutions.

Biological

Vermin and rot proof and does not encourage the growth of fungi, moulds or bacteria.

Thermal conductivity $\lambda = 0.037$ w/m.K at mean temp. 10 deg. C.

Effect of water

Non-hygroscopic. Unaffected by humid atmosphere.

Environmental

No CFC's or HCFC's are used in the manufacture of the base materials. Ozone depletion potential is zero. Non-toxic. No known health hazards.

Compatibility

Compatible with all normal building materials.

Durability

To the lifetime of the building unless disturbed.

Maintenance

No maintenance required unless disturbed. Annual inspections are desirable to recognise any mechanical damage and the necessary repairs made. Must be properly reinstated when penetrating services are re-routed.

Packaging

Standard pre-cut strip product is supplied in cardboard cartons. Maximum carton weight is nom. 35kg. Sheet product can either be supplied in cardboard cartons and/or on dedicated pallets as required.

Handling

Easy to handle but should be treated with due care to ensure material integrity and shape are maintained.

Storage

Store in dry conditions.

LAMATHERM RF SYSTEMS FOR RAISED ACCESS FLOORS

Ancillary materials

Lamatherm offers a full range of ancillary products to complement the RF range. These include:-

Fixing Brackets

RFB355

RFB110

Supplied in flat-notched form to fold on site.

Self-adhesive foil tape

RFT120/45 (120mm wide x 45m rolls)

For vertical end-joint sealing to maintain smoke barrier : all RF systems

For barrier enclosing along top of system : RF-CB15, RF-CB30, RF-FS30, RF-FS60

RFT150/45 (150mm wide x 45m rolls)

For barrier enclosing along top of system : RF-FS60HV, RF-FS120

RF/SFT100/10 (100mm wide x 10m rolls)

For plenum linings along base of system

Complementary systems

LAMATHERM FB-FS240 COATED BATT FIRE STOPS See *Data Sheet No. 11/01/FB*
Coated Fire Batts

LAMATHERM FM-FS240 TROWEL GRADE FIRE STOP See *Data Sheet No. 12/01/FM*
Trowel Grade Fire Mastic

LAMATHERM GA-FS240 GAP SEALANT FIRE STOP See *Data Sheet No. 12/02/GA*
Fire & Acoustics Gap Sealant

LAMATHERM GS-FS240 GAP SEALANT FIRE STOP See *Data Sheet No. 12/03/GS*
Fire Rated Silicone Gap Sealant

LAMATHERM AP-FS120 ADAPTABLE FIRE STOPS See *Data Sheet No. 13/01/AP*
Intumescent Pillows

LAMATHERM PC-FS120 INTUMESCENT COLLARS See *Data Sheet No. 13/02/PC*
Intumescent Collars for PVC Pipes

Information on the above is available upon request.

Other supporting information available includes:-

LAMATHERM RF SYSTEMS Verification of fire performance

LAMATHERM RF SYSTEMS Material Safety Data Sheet

Sheet Cutting instructions

Plenum Lining Application Sheet

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FOR RAISED
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Lamatherm have a national distribution network enabling fast delivery to site directly from stock.

Information regarding the following customer service delivery options is available direct from Lamatherm Sales Dept.:-

Standard *3 -5 working day delivery from receipt of the order*

Optional *Next-Day* delivery service

Optional *Next-Day a.m.* delivery service

Optional *Next-Day 10 a.m.* delivery service

Optional *Timed* delivery service

All are subject to confirmation at time of ordering

When ordering, the following information should be provided:-

The fire rating required

The height of the void to be sealed

The number of lengths or linear metres required, or,

The number of sheets required.

Requirement for additional fixing brackets.

Requirement for foil tapes

For further information including advice on suitability for specific applications, please contact:

**Technical Support Department
technical helpline: 01656 812511**