Technical datasheet
FirePro Fire Barrier
Version 3.0 October 2023

FirePro® Fire Barrier

Preventing the spread of fire and inhibiting the passage of smoke in concealed spaces

ROCKWOOL Fire Barrier is a dense stone wool roll with an integral wire mesh, developed to prevent the spread of flames through concealed spaces, while also inhibiting the transfer of heat and smoke.

- Patented 'EasyFit' fixing system offers fire resistance of up to an hour
- Alternative fixing method offers up to two hours' resistance
- Provides airborne sound reduction
- Service penetration data available

ROCKWOOL Fire Barrier prevents the passage of fire and inhibits the spread of smoke within roof and ceiling voids.

Supported by an integral wire mesh, Fire Barrier is suitable for voids up to 10.5m in height.

For more information visit rockwool.com/uk

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FirePro Fire Barrier

APPLICATIONS

- Pitched roof voids
- Head of wall
- Concealed ceiling spaces
- Multiple substrates

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FirePro Fire Barrier

PERFORMANCE

Fire performance

Rating required	Maximum drop without support frame	Maximum drop with additional support frame	Max width	Integrity	Insulation	Install specification	Supporting document
30 min cavity barrier	3m	10.5m	20m	30	15	Single 50mm layer FB, vertical joints butt jointed.	116911
		-		60	15		
30 min fire barrier	6m	N/A	20m	60	30	Single 60mm layer (plain or foil face) with a minimum 100mm overlapped and stitched joints on vertical joints*.	11970
60 min fire barrier	6m	10.5m	20m	60	60	2 layers of 50mm back to back butt jointed with staggered vertical joints between the back to back layers.	116912
90 min fire barrier	3.5m		20m	90	90		51812
120 min fire barrier	3.5m	9m	20m	120	120	2 layers of 60mm (plain or foil face) butt jointed, incorporating a 40mm aircavity between the layers.	44509

N.B. All extensions in drop height must incorporate a minimum 100mm overlap between the sections and stitched with 1.5mm galvanised wire.

*All stitching must be carried out using 0.9mm annealed and galvanised wire. Continuous wire stitching (100mm minimum) or separate lengths of wire secured by twisting ends together. Wire must penetrate through thickness of barrier.

Acoustic performance

The correct use of Fire Barrier within structural cavities and voids will reduce the level of transmitted sound.

Room to room attenuation	R_w dB
Typical lay-in grid suspended ceiling	30
Ceiling and 50mm ROCKWOOL Fire Barrier	42
Ceiling and 50mm ROCKWOOL Fire Barrier Foil Faced	44
Ceiling and 2x layers of 50mm ROCKWOOL Fire Barrier Foil Faced	50

Where plasterboard ceilings are used, add 2-3dB to above performances.

Note: Values quoted are approximate.

FirePro Fire Barrier

PRODUCT INFORMATION

- One or two sided foil face options available.
- Wired mesh is available to both sides if required.

Thickness	Length	Width
50mm	3700mm	1000mm
60mm	3000mm	1000mm

STANDARDS AND APPROVALS

Certificate
Fire Barrier has been independently tested and assessed to BS 476: Part 22 by UKAS accredited laboratories.
They are third party approved for performance and quality by the Loss Prevention Council Certification board (LPCB) and are listed in their Fire and Security 'Red Book' - certificate no. 022c.
The product has been authorised for use in LUL surface and sub-surface premises when installed in accordance with this data sheet - please refer to the LUL Approved Product Register website **www.LU-apr.co.uk** for specific details – LUL ref: 2230.

FirePro Fire Barrier

INSTALLATION

½ hour cavity barrier

Figures 4-9 show typical details for Fire Barrier applied to a timber truss construction as a half hour cavity barrier within the roof section, to satisfy the requirements of building Regulation B3 - (4) i.e. 30 minutes fire integrity and 15 minutes fire insulation.

If the truss is constructed from a minimum timber size of 35 to 49mm thick, both sides of all truss members/bracing require protection from fire in order to minimise charring and retain strength. Figure 6 shows strips of 50mm Fire Barrier used on the reverse side of the truss (for this purpose). Nail plate fixings may fail prematurely in fire unless protected (see Figure 9).

The ROCKWOOL Fire Barrier Fixing System incorporates an angle support and clamping plate (Up to one hour)

For fixing to timber, the ROCKWOOL clamping plate is used, compressing the barrier to the timber, fixed at 450mm centres using No. 10 woodscrews.

To use the patented ROCKWOOL angle support system, bend tongues out to 90° and impale barrier onto them. The slotted clamping plate is then fitted by pushing the tongues through the slots, these are then bent over the face of the clamping plate completing the process.

Figure 4

Fire Barrier traverse to rafters

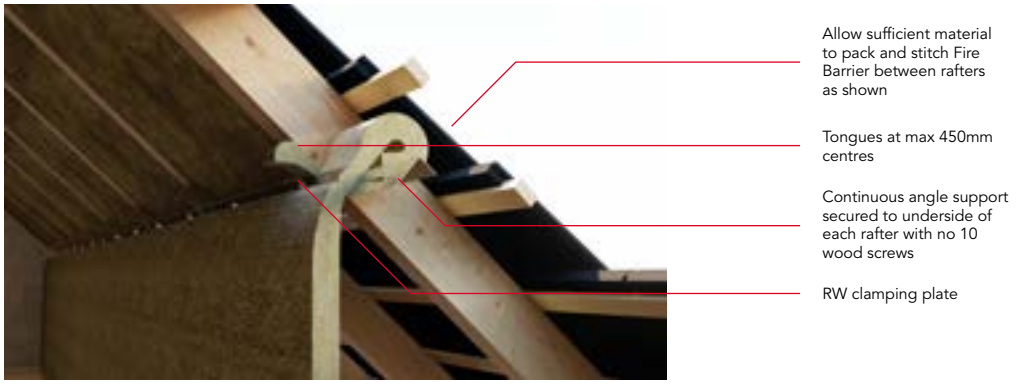
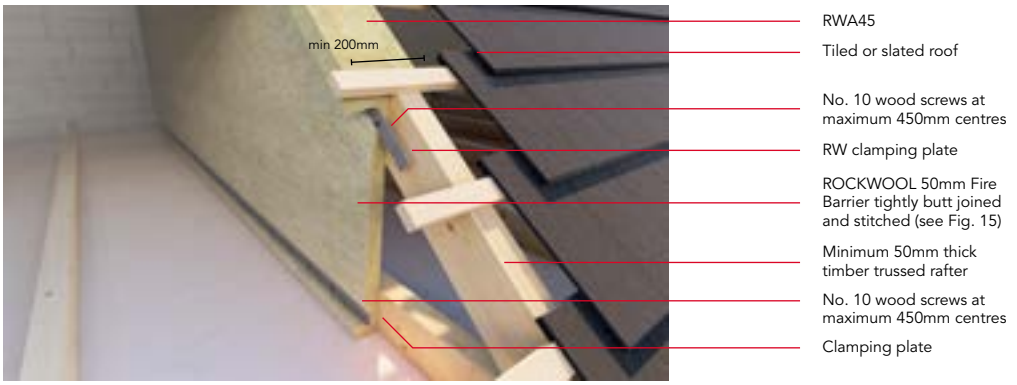


Figure 5

Half hour protection for timber truss construction 50mm thick or more.

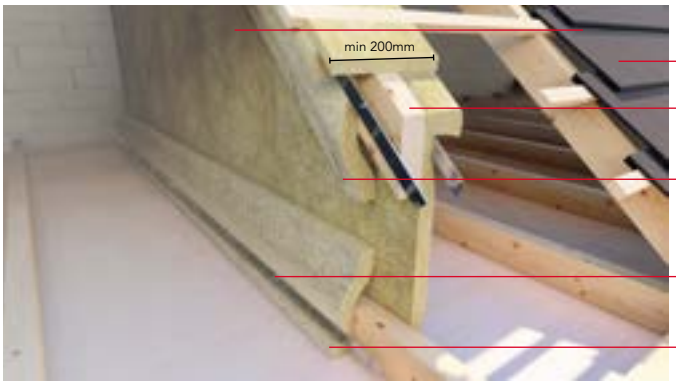
Note: nail plate protection required - see Figure 6



FirePro Fire Barrier

Figure 6

Half hour protection for timber truss construction 35 to 49mm thick.



RWA45

Tiled or slated roof

35-49mm thick timber trussed rafter

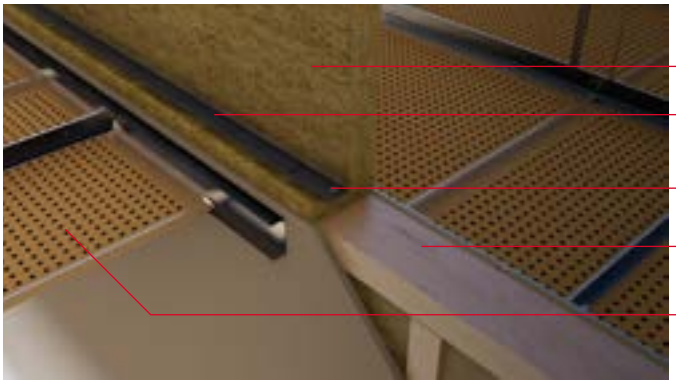
0.9mm wire stitching to secure strips to main barrier stitches typically 100mm long

No. 10 wood screws (or large washer and screws) at maximum 450mm centres

50mm Fire Barrier

Figure 7

Head of partition



ROCKWOOL Fire Barrier

RW clamping plate

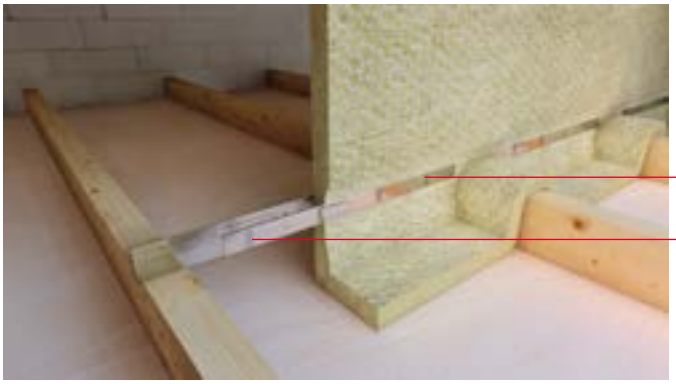
No.10 wood screws at max 450mm centres

Head plate

Ceiling board

Figure 8

Barrier fitted transversely to timber joisted ceiling



Tongues fixed at max 300mm centres

Angle support fixed to ceiling joists

Figure 9

Nail plate protection

25mm thick ROCKWOOL BeamClad® fixed with FirePro Glue and nailed, or 50mm Fire Barrier secured with screws and large square washers. Use 50mm nails for BeamClad and 70mm screws for Fire Barrier.

FirePro Fire Barrier

For fixing to concrete soffits (Figure 10-12), the pre-punched angle support is fixed using Hilti DBZ or Ejot ECL 35 hammer set anchors at max. 750mm centres. For fixing to steel purlins, use Hilti SMD 02Z (5.5 x 70mm) self-tapping screws at maximum 450mm centre.

Figure 10

50mm Fire Barrier fixed to concrete soffit.

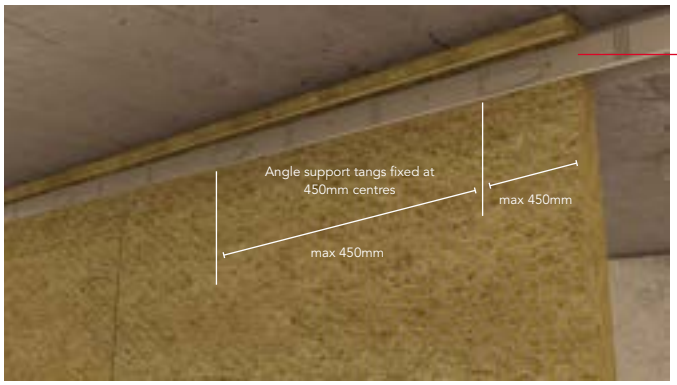


Figure 11

50mm Fire Barrier running across ribbed soffit - Section

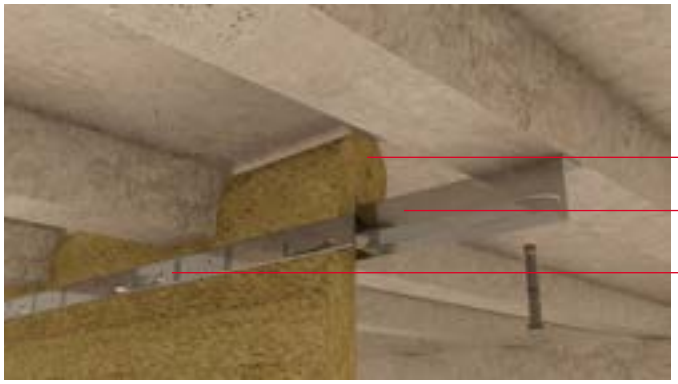
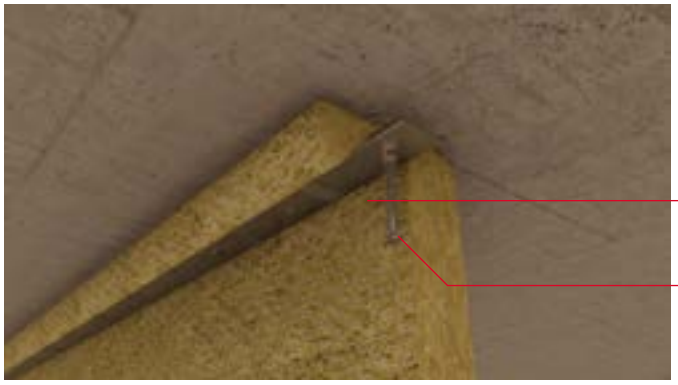


Figure 12

Alternative fixing to flat s offit or perimeter, appropriate to barriers with a shallow drop



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60-30 Fire Barrier

If 30 minutes insulation is required, use 1 layer of 60mm plain or foil-faced fire barrier with 100mm vertical over lapped joints (Figure 13 & 14). The barrier is otherwise fixed for timber construction as previously shown on Figures 4-9.

Figure 13

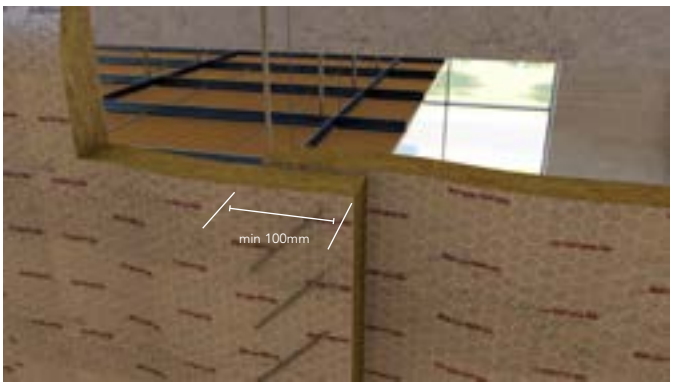
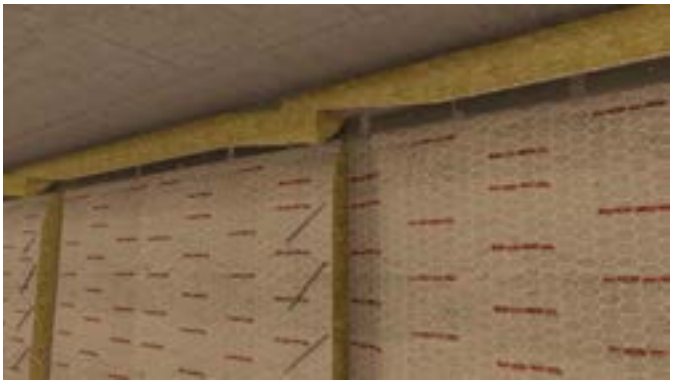


Figure 14



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Common details

Extended drops

ROCKWOOL 50mm Fire Barrier single and double layers, can be extended from a 3.5m drop to a maximum 6m drop by fixing an additional 2.5m section, stitched with overlapped joints as per Figure 16. For additional guidance and drops in excess of 6m, please refer to Figure 31 and associated guidance.

Wire stitching of butt joints in ROCKWOOL Fire Barrier

Adjacent barriers must be closely butt jointed, or overlapped, and through stitched with 0.9mm galvanised annealed wire (see Figure 15). It is essential that the barrier provides a good seal at its head, perimeter and at all joints. Where the barrier abuts a profile such as a trapezoidal deck, the material must be cut to suit and secured to fire stop the gap (see Figure 17). For extended drops, 1.5mm diameter galvanised and annealed wire is used (see Figure 16).

Figure 15

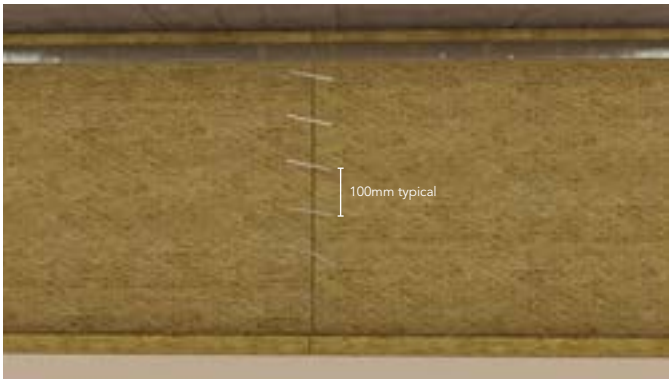
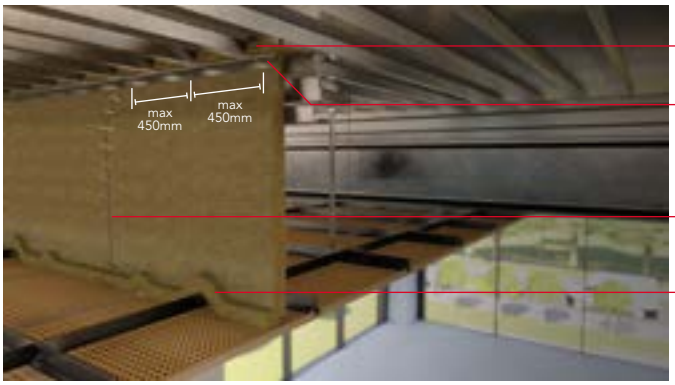


Figure 16

Figure 17



Fire Barrier cut and pushed up into profile as fire stopping

Angle or clamping plate fixing Fire Barrier to purlin with self tapping screws at 450mm centres (Hilti SMD 02Z 5.5 x 70mm)

Adjacent Barriers butt jointed and wired tightly together as Fig15

Fire Barrier draped over suspended ceiling and wired to grid, min 100mm lap. If not wired, overlap is min 150mm

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Penetration details

It is regarded as good practice to adequately support or reinforce services penetrating compartment walls and cavity barriers, to prevent displacement. It is recommended that such supports should be no greater than 500mm from each face of the Fire Barrier.

To maintain the integrity of the barrier when penetrated by services with a high melting point (such as steel or copper pipes, beams or trusses) the barrier is first cut locally to accommodate the service or structural member and then re-stitched as neatly as possible. The penetration is then lightly sleeved each side of the barrier to a minimum length of 300mm, using the same barrier material. Each sleeve should be securely stitched to the main barrier to produce a tight seal and prevent future detachment (see Figures 18 and 19). Where access is only available from one side, the double seal solution may be replaced by a single 'collar' detail - please contact our Technical Fire Team for further advice.

If the penetrating service is manufactured from a low melting point material such as plastic or aluminium, then sleeving should be extended to at least 1000mm either side of the barrier.

This guidance applies to services such as pipes, sheathed cables and conduits, including those carried on steel trays.

For protected steel ductwork with a tested fire resistance performance (stability, integrity and insulation) at least the same as the Fire Barrier, 300mm sleeves should be applied either side of the main barrier, as for high melting point services above.

For information on achieving fire protection to steel ductwork, please refer to the ROCKWOOL Fire Duct System data sheet.

For non-fire protected ductwork, or that with a fire resistance performance less than the barrier, two sleeves should be applied to each side of the barrier, an inner sleeve of 1000mm and an outer sleeve of 300mm. All sleeves should be stitched to the main barrier.

The duct should also include an independently supported fire damper, located in the line of the main barrier. Reference should also be made to Approved Document B of England & Wales Building Regulations - Volume 1, Requirement B3, Section 7 and Volume 2, Requirements B3, Section 10.

Figure 18

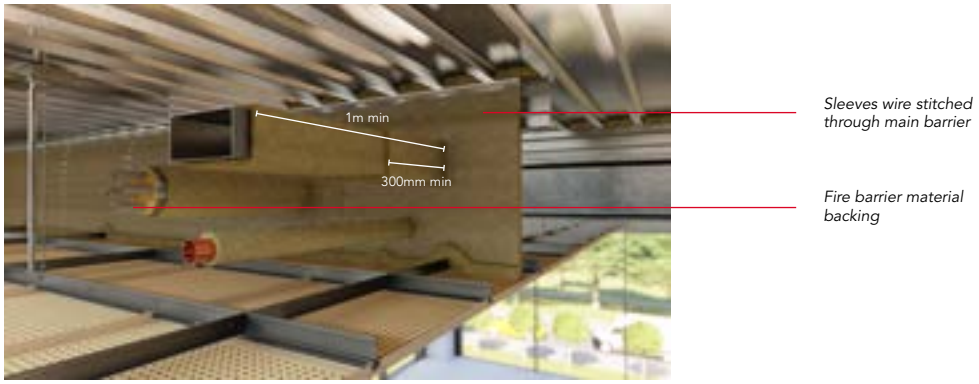

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Figure 19

1 hour Fire Barrier

The unique, patented ROCKWOOL support angle and clamping plate is used to fasten two 50mm Fire Barrier curtains with one support angle without the need for a cavity.

The ROCKWOOL support angle has tongues that are pushed out from opposite sides at 300mm max. centres. A layer of Fire Barrier is impaled onto the tongues on each side, with joints staggered, then fixed in place using ROCKWOOL clamping plates. The clamping plates are secured by bending the support angle tongues.

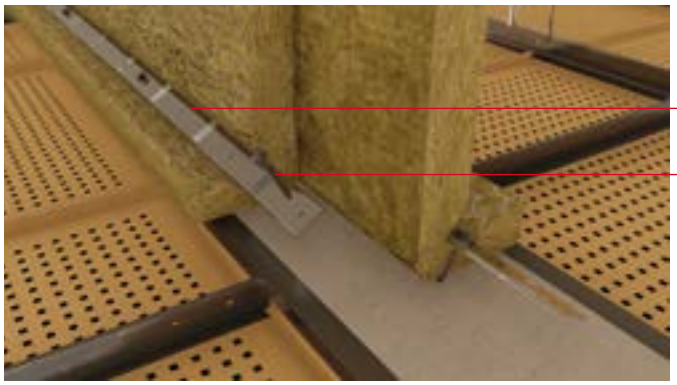
Note that the wire-reinforced sides should face outwards.

Figure 20

Figure 21

FirePro Fire Barrier

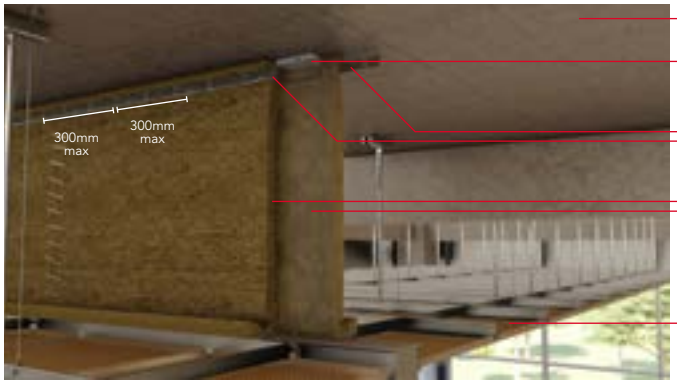
Figure 22



Clamping plate

Hilti hammer screws at max. 450mm centres

Figure 23



Concrete soffit

Support angle fixed to soffit at max 750mm centres

Clamping plate fixed at 300mm centres

Two layers of 50mm Rockwool Fire Barrier, vertical joints staggered and stitched and clamped to head of wall

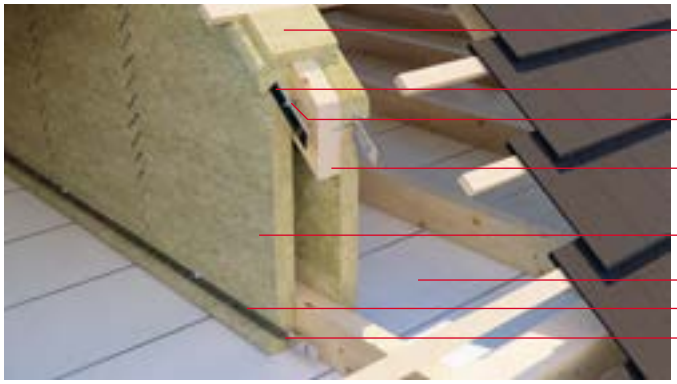
Suspended ceiling

Fire-resisting wall

Fixing to timber structure (1 hour)

When a 1 hour Fire Barrier is supported on structural timber (for example a trussed rafter), and the thickness of timber is 35-49mm, one layer of 60mm ROCKWOOL Fire Barrier must be placed on each side of the timber (see Figure 24). Where timber thickness is 50mm or greater, 2 layers of 50mm Fire Barrier are sufficient.

Figure 24



Fill space between battens with 300mm wide RWA45

RW clamping plate

No.10 wood screws at maximum 450mm centres

35mm thick timber trussed rafter

60mm ROCKWOOL Fire Barrier tightly butt joined and stitched (see Fig.15)

1 hour fire rated ceiling

Clamping plate

No.10 wood screws at maximum 450mm centres

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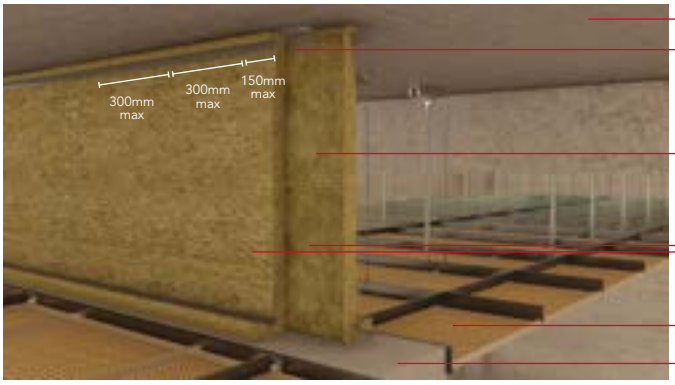
1.5 & 2 hour Fire Barrier

1.5 hour Fire Barrier

The 1.5 hour solution requires 2 layers of 50mm Fire Barrier with staggered joints fixed as Figures 25-27. Note that wire reinforced faces should face outwards.

Figure 25



Concrete soffit

2mm tested angle fixed to soffit at max 750mm centres (see Fig. 26).

Clamped at max 300mm centres with M6 bolts and nuts

Two layers of 50mm ROCKWOOL Fire Barrier, vertical joints staggered and stitched

Suspended ceiling

Fire-resisting wall

Figure 26

Concrete soffit

2mm tested angle fixed to soffit at max 750mm centres

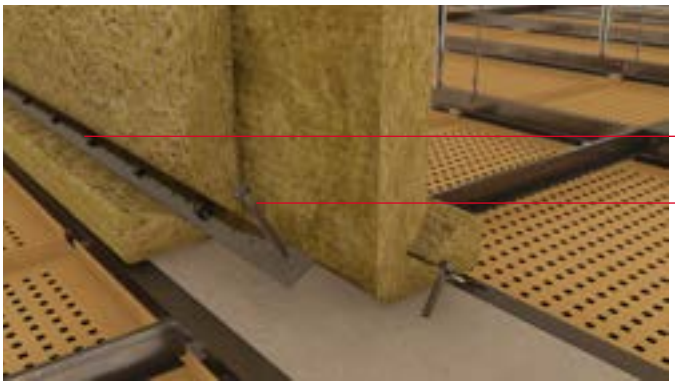
M8 expanding bolt anchors at max. 750mm centres

M6 bolts and nuts staggered each side

2mm tested punched strap

Two layers of 50mm Fire Barrier with vertical joints staggered

Figure 27



2mm tested punched strap

Hilti HUS universal Screw System max. 300mm centres

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2 hour Fire Barrier

The 2-hour solution (see Figures 28-30) requires two layers of 60mm Fire Barrier with staggered vertical joints, separated by a nominal 40mm air space. The base or perimeter to which the barrier is fixed must be capable of remaining in place for 2 hours.

Figure 28

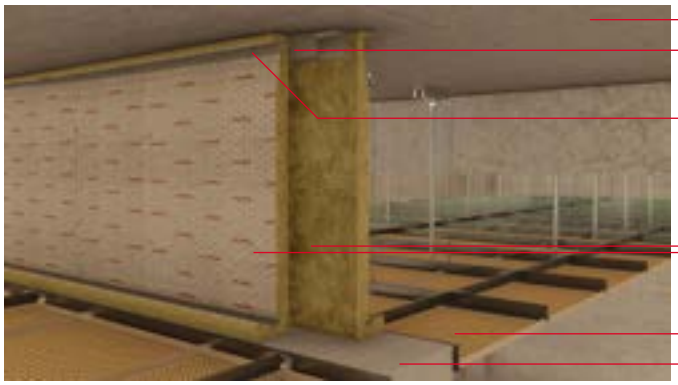
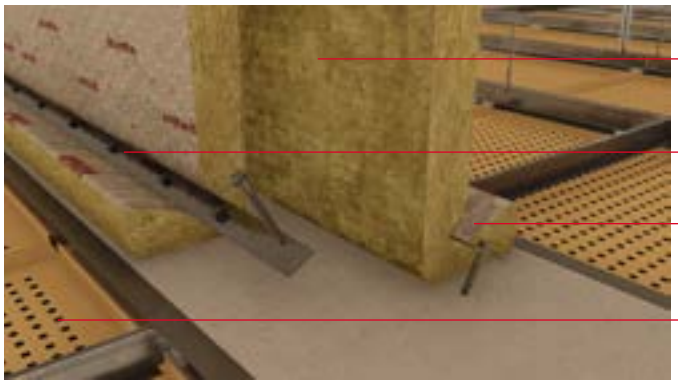


Figure 29

Figure 30



Angle and strap for 1.5 and 2 hour Fire Barrier

The following specification for slotted angles and straps is suitable for supporting ROCKWOOL Fire Barrier for 1.5 and 2 hours when tested to BS 476: Part 22. Slotted angles (62 x 41 x 2mm) and straps (38 x 2mm) manufactured from mild steel conforming to BS 1449: Part 1.1: 1991 and cold reduced to provide a minimum of 0.2% proof stress of 417 Mpa (27 tons/ in^2) and conforming to BS 4345: 1968 (1986) - Specification for slotted angles (inc. flat strap).

OTHER INSTALLATION INFORMATION

General design considerations

A cavity fire barrier must be designed to restrict the passage of both hot smoke and flames for the minimum specified period, as listed in Approved Document B in support of the Building Regulations. In addition, it must be fixed in such a way that:

- It will remain effective in the event of structural movement
- There are no gaps where it abuts other elements of construction
- It complies with the requirements of Approved Document B of the Building Regulations

Extended drops

For periods of up to 60 minutes, ROCKWOOL Fire Barrier can be used for extended void heights between 3.5 and 6m without the need for a supported frame - see Figure 16 for joining barriers with overlap. For periods of up to 90 minutes, this drop height can be increased to 10.5m (9m for 120 minutes), by the use of a simple frame system constructed from slotted angles and straps (see Figure 31).

Further details are available from ROCKWOOL Technical Solutions Team.

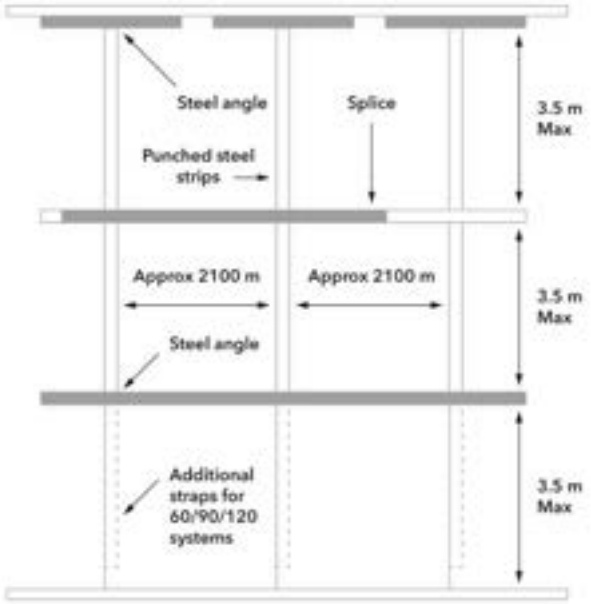
Fire barriers and dampers

Where ROCKWOOL Fire Barrier is installed in conjunction with fire dampers, the dampers must be supported independently of the fire barrier. HVCA or ASFP publications may be helpful.

Access through barriers

Where regular access is required through the barriers for maintenance purposes etc, this should be achieved by the inclusion of an independently supported fire rated door set and frame. Fire Barrier should be clamped to the door frame with the RW clamping plate and appropriate fixings at 450mm centres.

Figure 31



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FirePro Fire Barrier

ROCKWOOL ancillaries

ROCKWOOL Fire Barrier support angle and clamping plate are specially manufactured for ROCKWOOL.

Clamping Plate:

3m x 40mm, 10 lengths per pack

Fire Barrier Support Angles:

3m x 34mm x 75mm, 10 lengths per pack

Proprietary fixings

All steel hammer set expansion anchors for soffit fixings are available from Hilti, or Ejot. For perimeter fixings to concrete or masonry, use Hilti HUS Universal Screw system. For fixings to timber, use standard No. 10 steel wood screws 100mm long.

Durability

For durability, we recommend that the finish should be capable of withstanding at least 200 hours salt spray and 400 hours humidity corrosion resistance testing to BS 3990: Part F. Slotted angles and straps conforming to this specification are available from the following suppliers: JB Products Tel: 01384 240234 Link 51 Tel: 01952 682251 Romstor Tel: 01442 242261

If other hardware is used to support the barriers, we recommend that the respective specifier, supplier or installer should be certain that the chosen fixing system has been both tested and approved, for the required period of fire resistance and drop height.

Packaging of Fire Barrier

Shrink wrapped in polyethylene

Handling

ROCKWOOL Fire Barrier is easy to handle and cut to shape. The product should be stored indoors or under a weatherproof covering.

Maintenance

Once installed ROCKWOOL Fire Barrier should require no maintenance. It should be ensured during routine inspections that the product has not been damaged or disturbed.

FirePro Fire Barrier

SPECIFICATION CLAUSES

ROCKWOOL Fire Barrier is associated with the following NBS clauses:

K10: Gypsum board dry linings/partitions/ceilings
530 – Cavity fire barriers within partitions/wall linings
545 – Cavity fire barriers within suspended ceilings

KK40: Demountable suspended ceilings
287 – cavity barriers
425 – Installing cavity barriers
431 – Installing sound barriers

P10: Sundry insulation/proofing work
410 – Flexible cavity barriers
430 – Wired mineral wool small cavity barriers
440 – Fire protection

BUILDING SAFETY AND PRODUCT USE

LEGAL NOTICES

General safety requirements – Building Safety Act 2022

ROCKWOOL Limited is committed to supporting specifiers, resellers and users of ROCKWOOL products for the full life cycle of the product to comply with the obligations and responsibilities set out in the Building Safety Act 2022. With regard to the general safety requirements of the Act, ROCKWOOL Limited cannot control or foresee every situation where its products might be used. We therefore strongly advise that specifiers, resellers and users contact us where use of ROCKWOOL products is contemplated in applications different from those explicitly described in the latest, relevant ROCKWOOL product datasheets; especially in applications that can be reasonably foreseen as critical to safety.

ROCKWOOL Limited reserves the right to amend the specification of its products without notice. Changes to the ROCKWOOL manufacturing process, or to pertinent regulations, may be reflected in changes to tested and certified product performance. Whilst ROCKWOOL Limited endeavours 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 our publications.

ROCKWOOL Limited does not accept responsibility for the consequences of using (including testing or certifying) its products in applications different from those explicitly described in the relevant ROCKWOOL product datasheets. Expert advice should be sought, and ROCKWOOL Limited should be contacted, where such different use is contemplated, or where the extent of any use described by ROCKWOOL Limited is in doubt.

The ROCKWOOL Trademark

ROCKWOOL® - our trademark

The ROCKWOOL trademark was initially registered in Denmark as a logo mark back in 1936. In 1937, it was accompanied with a word mark registration; a registration which is now extended to more than 60 countries around the world.

The ROCKWOOL trademark is one of the most important assets of the ROCKWOOL Group, and is therefore well-protected and defended by ROCKWOOL throughout the world.

If you require permission to use the ROCKWOOL logo for your business, advertising or promotion, you must apply for a Trade Mark Usage Agreement.

To apply, write to:
marketcom@rockwool.com

Trademarks

Registered trademarks of the ROCKWOOL Group include but are not limited to:

ROCKWOOL®, RockClose®, RainScreen Duo Slab®, HardRock®, RockFloor® Flexi®, RockFall®, FirePro®, DuctRock®, BeamClad®, NyRock®

Photography and illustrations

The product illustrations are the property of ROCKWOOL Limited and have been created for indicative purposes only.

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If you require permission to use ROCKWOOL images, you must apply for a Usage Agreement.

To apply, write to:
marketcom@rockwool.com

HEALTH & SAFETY

A Material Safety Data Sheet is available and can be downloaded from **www.rockwool.com/uk** to assist in the preparation of risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH)

ROCKWOOL stone wool - safe to install and live alongside

There are no hazardous classifications associated with stone wool insulation manufactured by ROCKWOOL-UK according to EU REACH and UK REACH regulations on health and the environment.

ROCKWOOL safe use instruction sheets and material safety data sheets (where applicable) can be downloaded **here**.

Sustainability

ROCKWOOL products are used to enrich modern living, creating safer, healthier and more climate-resilient communities.

We transform abundant, natural volcanic rock into stone wool insulation products that are used to reduce energy demand, lower fuel bills and help address society's climate change challenges.

ROCKWOOL stone wool insulation is recyclable and can be transformed into new ROCKWOOL products. Please contact us for details of how we can work together to recycle waste ROCKWOOL stone wool material that may be generated during on-site installation.

Our annual sustainability reports, which set out progress against our sustainability goals, and further details of the positive impacts of using our products can be found on our website.

Environment

ROCKWOOL takes a fact-based, auditable approach to documenting our progress in maximising our products' positive impact and minimising the effect our operations have on the environment, backed by third-party references and methodologies. Further details can be found online in our annual sustainability report.

Our high-tech production process uses filters, pre-heaters, after-burners and other cleaning and collection systems that help to reduce the effects of our manufacturing operations on the environment.

ROCKWOOL stone wool insulation does not contain (and has never contained) gases that have ozone depletion potential (ODP) or global warming potential (GWP).