

Annex

Firestopping, Clipping, Trunking, Fibre Cable

Fire Stopping

Fire stopping (also known as compartmentation) refers to the process of filling openings and joints between walls and floors with fire-resistant material to stop the spread of fire, smoke, and hot gases between 'compartments' within a building.

We'll fully fire stop any holes we make to feed our cables. If our engineers are conducting cabling work over several days, we'll temporarily fire stop all holes. At the end of the cabling work, we'll permanently fire stop and seal all holes. All future upkeep of fire stopping measures are your responsibility.

Fire stopping measures will:

- Prevent the spread of fire, smoke, and hot gases by containing them where they started.
- Maintain the integrity of escape routes from a building.

We'll apply a cartridge-type fire stopping compound, in the same way as silicone sealant, on the outside of the building. This fire stopping compound is made of an intumescent material which helps prevent the spread of smoke in the event of a fire.

We'll assess each individual apartment building to understand the fire stopping requirements. All holes are secured and fitted with fire proofing using the above prescribed methods, including and not limited to:

- External wall penetration
- Riser hole and fixtures - If any asbestos is found customer will be informed as asbestos was previously during construction companies to prevent spread of fire through risers
- Distribution Point or basement box to Optical Network Terminal

Cable holes under 25mm diameter

We'll fire stop cable holes using a Fire Regulation approved sealant, incorporating 50mm depth of compound where applicable.

- For all holes we'll use a BS approved fire stopping compound

Cable holes over 25mm diameter

We won't drill any holes above 25mm in diameter. However, if we use a pre-existing hole above 25mm, which can't be sealed correctly, you (as the landlord or building owner) will be responsible for carrying out the fire stopping procedure.

In this instance, you'll need to sign a Permission to Carry out Work form and attach a photo of the sealed hole. For more information on this process (pre-existing holes only) please text 'FIRE' to 81192.

We can organise for the fire stopping procedure to be carried out on pre-existing holes, using contractors approved in the LPCB Redbook. The cost of this work will be charged to you. Please ask your engineer if you'd like a quote.

If we can't effectively fire stop a hole that we've created, we'll use LPCB Redbook approved contractors to complete the work and we'll pay for the cost.

Safety is at the heart of everything we do at Openreach and we're proud of the accreditations we've earned.

Contractors Health and Safety Assessment Scheme (CHAS)

We're accredited by this scheme, which is supported by the Health and Safety Executive. Most local authorities, housing associations, health trusts, fire services and similar public bodies look for contractors who have this.

SafeContractor

This is a health and safety accreditation scheme that shows we meet the SafeContractor Charter Standard. This means we also meet the Construction (Design and Management) regulations (CDM) stage 1 competence assessment core criteria.

Achilles

BT Group and Openreach both have Achilles UVDB (B2) Accreditations. This is an annual assessment that audits all aspects of our health and safety systems together with key aspects of business management including risk, environmental compliance, supplier and contractor management.

Please visit our website if you have any questions about our safety policies:
<https://www.openreach.com/about/our-company/health-and-safety>.





Specification of our cable

As a result of the requirements of BS 6701:2017 being placed within the IET Wiring Regulations (BS 7671:2018, a standard with a special legal standing within UK law), we reviewed our various cable types, and how we use them, to determine the required fire classification.

To get ahead of customer demands for enhanced performance in respect of droplets, BT have decided that we'll adopt the following additional classification for Cca: Smoke – s1b; Flaming droplets – d1; Acidic emissions – a2.

The minimum requirements for Cca within BS 6701 are s1d, d2, a2. All classifications adhere to the Construction Products Regulation (CPR), are certified by the relevant body EU27 NB (Notified Body) for CE marking and are UKAB (Approved Body) for UKCA marking.

When we carry out internal cabling without trunking or cable ties, our engineers use approved metal cleats, which are available in both black and white.



Metal Cleat



Stainless steel cable ties

When installing cable ties, we use BS7671 approved stainless steel cable ties and we cut the loose ends with an approved tensioning cutter gun. When working on cable runs supported by plastic/nylon cable ties, we'll replace them with either a fireproof fixing or double cable (tied using a stainless steel compliant version next to the plastic/nylon cable tie) so the cables are supported. To meet fire regulations, we don't run externally used polyethylene cable more than 2 meters inside customer premises unless we can use special measures, such as securing via trunking.



Tensioning cutter gun

Wall and floor holes

Small holes in the wall (up to 25mm) may need fire stopping. If required, we'll place fire stopping bags in the cavity, laying them in a staggered fashion - like a running bond brick-laying pattern. In larger holes, we might need to place the bags lengthways to provide greater stability. We may do this as a temporary measure prior to completely sealing the holes.



Example of FireStopping bags



Sealed holes

Duct sealing

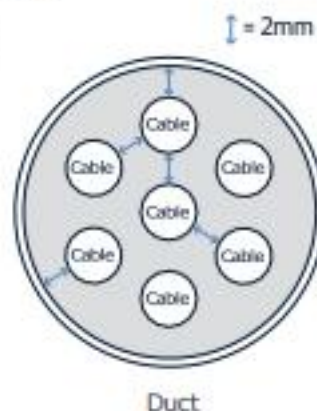
Duct sealing prevents the ingress of gas or water into buildings.

For a Multi Dwelling Unit we use a Duct Seal Silicone 1A (for internal horizontal and vertical ducts of 54 or 56 feeds).

Cable to cable Cable to duct

A minimum space of 2mm is required between cables and the internal surface of the duct.

A specification of our cable used can be found in the Appendix.



D Clips

For cabling in trunking, D Clips can be used to secure the cabling in the absence of Firefly Clips. Installation is via a 5mm pilot hole through the trunking and secured via a Wall Dog screw. The clip is then bent inward to secure the cabling at the same intervals as a Firefly Clip, for both horizontal and vertical cabling. D Clips can also be used outside of trunking.



D Clip installation sequence

Wall Dog screws



400mm gap is left between D-clip centres

Suspended ceilings and cable trays

We'll secure all installations above suspended ceilings using an approved fire-resistant fixing – we'll never leave them loose on top of the tiles. On horizontal metal cable trays with side walls, we'll use plastic cable ties - in the event of a fire, the plastic will melt but the cables won't drop. On vertical runs, we'll use stainless steel ties. Where a suspended ceiling forms part of the fire protection for the floor above, cabling in the void is not permitted.



Cable clip



Cable tray example

Trunking installation

We'll provide trunking to increase the secureness of cables, especially where they run along fire exits and fire escape routes. We'll use a fire-resistant fixing to secure all cables inside trunking. This includes both new installations and any pre-existing circuits/cables that are being worked on - we'll bring the full installation route up to current regulations.

FireFly Clip

The first choice fixing for trunking is now the FireFly Clip. These are installed inside the trunking and secured by an engineer drilling a 5mm hole through the trunking and fitting a wall dog screw with an M5 washer. We'll install these clips every 300mm on a horizontal run and every 400mm on a vertical run. We also use FireFly clips to secure cables outside of trunking, if required.



Cable held with Firefly clips



FireFly clip

Openreach Fire Stopping Accreditation

**SA030
FIRE STOPPING
INSTALLATION
SPECIFICATION**



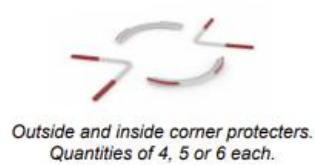
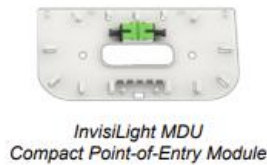
Introduction

This qualification prepares learners in fire stopping installations. It provides learners with the skills, knowledge, and understanding of how service penetration seals work and their place in the wider passive fire protection system including linear joint seals, cavity barriers, legislation, and guidance associated with fire stopping.

Accreditation

This qualification is approved and regulated by **Ofqual**. Regulated Qualifications demonstrate that the learner has attained a qualification approved by both a UK Regulator and a recognised Awarding Organisation (Smart Awards). This means that it appears on Ofqual's Register of Regulated Qualifications. Ofqual is the independent qualifications regulator for England. They regulate so that qualifications are sufficiently valid and trusted.

KIT COMPONENTS AND TOOLS



*Tools Sold Separately
(not shown)*

Dispensing Tool
(Adhesive in tubes sold separately)

Inside corner protection installation tool

Through-hole tool
(to push connector through holes)

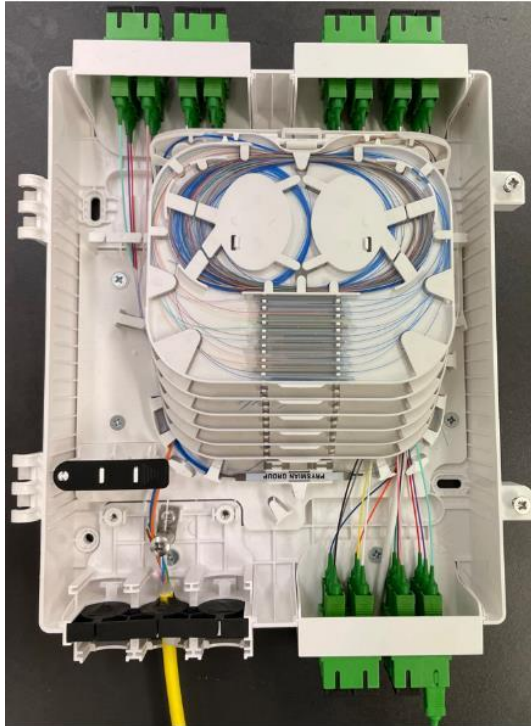
6 | www.ofsoptics.com

Product Specifications	InvisiLight ILU Solution	InvisiLight MDU Solution
Size	One 900 µm EZ-Bend Optical Fiber 10X smaller than 2.9 mm cordage 5 to 20X smaller than tape-based cables	Twelve 250 µm EZ-Bend Optical Fibers in a 2 mm unit 15X smaller than tape-based cables
Application	Indoor living unit (home or flat)	Building/MDU hallways or risers if in OFNR (or equivalent national standard) duct
Install Process	Quick, simple and low-cost installation process to adhere fiber to wall or ceiling surfaces	
Install Tools	Adhesive applicator tool for quick installation; through-wall application tool; and optional extender tool to apply adhesive without a ladder	
Install Materials	adhesive (in tubes) with precision pre-cut tip (fits in applicator tool)	
	Inside and outside corner protectors, wall plugs and caps	Inside and outside corner protectors, wall plugs and caps
	Indoor unit surface-mounted wall module	Mechanical connector or pigtail POE wall module outside tenant unit
Connectors	Plug-and-play, factory-terminated connectors	Factory-terminated connectors for closet - Mechanical connectors or spliced pigtails for point of entry
Surface Mounting	Adheres to most common types of painted and unpainted indoor wall, molding and ceiling surfaces	
Aesthetics	Minimum disruption to owner or tenants	
	Virtually invisible and blends into the décor	
	Can be caulked and painted with latex and oil-based indoor paint	
	Can be repositioned or removed and reapplied if required without damage	
	Easily installed around corners, obstacles and on textured surfaces	
Corners	Supports maximum 30 outside corners and 30 inside corners*	Supports maximum 40 outside corners and no limit on inside corners*
Spool Lengths	Available in various spool lengths	
Slack Management	Built-in auto-slack manager	POE module has storage space for slack
Install Conditions	Temperature $\geq 50^{\circ}\text{F}$ ($\geq 10^{\circ}\text{C}$) for adhesive installation - No humidity restriction or preconditioning required	
Operating Conditions	-41°F to 110°F (5°C to 43°C)	
Safety	Does not require entry into single-family home attics	Does not require entry into MDU attics
Standards	UL-1651 compliant fiber and adhesive	InvisiLight Multifiber Cord: OFNR/FT4 For in-between floors, in risers or through fire walls, it may be placed inside OFNR-rated conduits or ducts.
Environmental	Environmentally friendly, free of heavy metals, RoHS compliant and not hazardous to human touch. Minimal scrap/waste remains after installation process is complete.	

*See InvisiLight Optical Solutions Data Sheet for further guidance.

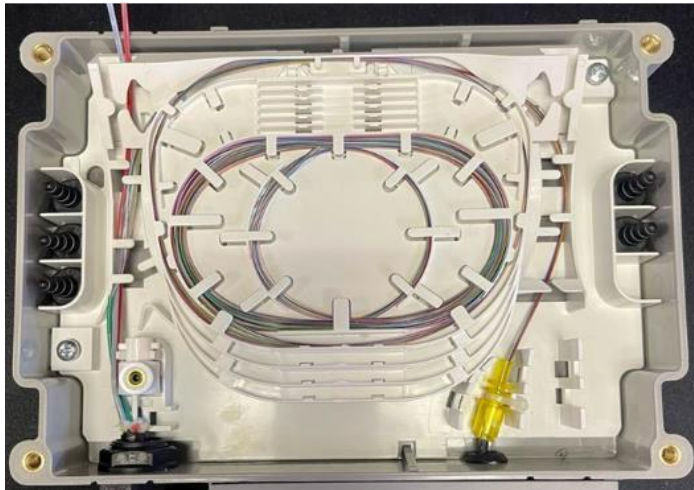
Equipment Sizes

UFS2 Connection Box



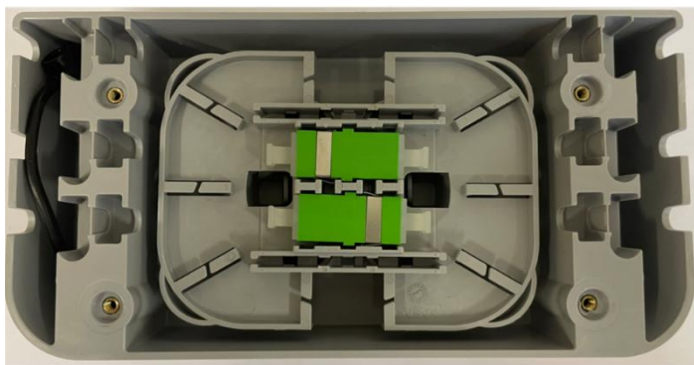
300mm x
235mm

External Transition Box



210mm x
150mm

External POE



190mm x
100mm

Basement Box



210mm x
150mm

Position of Entry (POE)



60mm x 130mm

Firestopping Product Technical Specification Displayed Below

Technical Data Sheet



General description

Pyrocoustic® Fire Resistant Sealant is a water based, acrylic, ablative sealant used to reinstate the fire resistance of wall and floor constructions in linear gap seals and where apertures are penetrated by single or multiple services.

Packaging

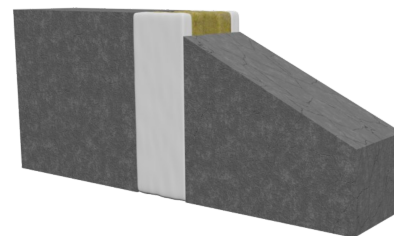
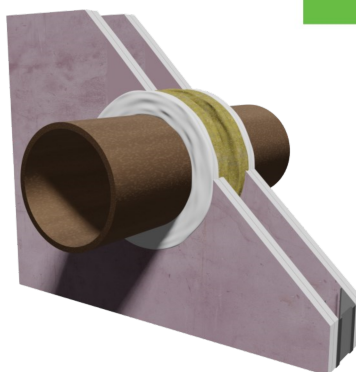
- 310ml cartridge - 25 cartridges per box
- 600ml foils - 15 foil packs per box
- 5kg Pails

Application and use

- To reinstate fire resistance through rigid floors
- To reinstate fire resistance through rigid and flexible walls
- Linear construction joints
- Single service penetrations
- Multi-service penetrations
- Blank openings
- In conjunction with other FSi Promat products
- Working Life—25 years (ETA-21/0050—ETA-21/0049)

Pyrocoustic® Sealant

Fire Resistance Sealant



Product Details	
Material	Water based acrylic sealant
Weight	Range 1.56-1.66 g/cm ³
Finish / Colour	White, Grey.
Chemical properties/ COSHH statement	See SDS, latest version is available at www.fsiltd.com or available on request from technical.fsi.uk@etexgroup.com
Size/dimensions (product & installation spacial requirement)	For linear joint seals see , penetrations seals, annular space and depth as per requirements of UL-EU-00500-CPR.
Shelf life	18 months if stored in accordance with storage conditions
Sag Flow	~0 mm
Cure Rate	~3mm/24h (23°C/50% r.h)
Skin Time	~40 minutes (23°C/50% r.h)
Determination of change in mass	12 - 15% (ISO 10563:2005)
Determination of change in volume	2 - 4% (ISO 10563:2005)
Shore A Hardness (28 Days)	66/31 (1 Second/5 Seconds) (BS ISO 7619-1:2010)
Durability	Type X - intended for use in conditions exposed to weathering.
Chemical Resistance / Limitations	Not to be used where joints are to be constantly immersed in water. Do not use on substrates that are likely to release solvents, oils or plasticizers. Not resistant to water, strong acids, strong bases, oxidizing agents (i.e. hydrogen peroxide), alcohols, hydrocarbon solvents

Product Certification / Approvals

Approval	Reference number
ETA	ETA-21/0049, ETA-21/0050
CE Mark	2531-CPR-CX010120
UL ML	XHBN7.HW-S-0103
UL-EU	UL-EU-00500-CPR
Ecode	EC 1+
UAE CoC	ENCG.R38118 UL-EU-00500-CPR
UKCA	0843-CPR-1149

Testing / Classification

Standard	Description	Result
BS EN 1366-3:2009	Fire resistance tests for service installations Penetration seals	See UL-EU-00500-CPR for fire resistance performance
BS EN 1366-4:2006	Fire resistance tests for service installations Linear joint seals	See UL-EU-00500-CPR for fire resistance performance
BS EN 1026:2000	Windows and doors. Air permeability Test method	Tested at 600 Pa (contact technical.fsi.uk@etexgroup.com for details)
ASTM E84	Standard Test Method for Surface Burning Characteristics of Building Materials	Contact technical.fsi.uk@etexgroup.com for details
ASTM E2923:14	Longevity of Fire Stop Materials	30 years
BS EN 13501-2:2016	Fire classification of construction products and building elements	See UL-EU-00500-CPR for fire resistance performance
BS EN ISO 10140-2:2020	Laboratory measurement of sound insulation of building elements. Measurement of airborne sound insulation	Up to 63dB achievable. Contact technical.fsi.uk@etexgroup.com for details

Installation & Operation

FSi Ltd. recommend installation of FSi Ltd. products is carried out by 3rd party certified installers.

The substrate must be clean, dry, sound and homogeneous, free from oils, grease, dust and loose particles. The product does not require a primer on most common surfaces, although adhesion tests are recommended prior to full scale application.

Adequate space and accessibility should be provided for applying and tooling the sealant. A suitable backing material to control the sealant depth may be required, please refer to UL-EU-00500-CPR.

The sealant should be gunned firmly into the joint ensuring that it is in full contact with the sides of the joint.

Failure to carry this out may result in poor adhesion of the sealant and ultimate failure of the joint. Tooling of the sealant may be necessary to achieve an acceptable appearance. This is accomplished by drawing a flat tool over the surface of the sealant to produce a smooth neat finish. Tooling also compresses the sealant into the joint enhancing the adhesion to the joint sides.

Clean all tools and application equipment with water immediately after use.

Competence records should be kept for all individuals installing this product(s). Installations should be suitably recorded and logged.

Maintenance

Recorded inspection should be conducted in line with the maintenance and inspection schedule defined for the building/project.

These inspections should be completed and recorded by suitably competent individuals at intervals outlined in the operation and maintenance manual relevant to the building.

Ensure Safe Access and Egress when carrying out maintenance or inspection.

Where product(s) is damaged or tampered, new product should be installed in line with installation guidance.

Handling & Storage

For unopened material, store in a well-ventilated, dry, cool environment. Recommended temp ranges +5°C - +35°C. Protect against exposure to direct sunlight. Always ensure that safe manual handling procedures are followed at all times.

For information and advice on the safe handling, storage and disposal of chemical products, please refer to the most recent Safety Data Sheet (SDS) available at www.promat.com/en-gb

Technical Data Sheet

Disposal

Removal and disposal of cured product must be done in a way that limits, as much as possible, the formation of dust. Adequate PPE must be worn including suitable respiratory equipment in the case of insufficient ventilation.

European Waste Catalogue code: 08 04 10 (Waste Sealant – 08 04 10 - waste adhesives and sealants other than those mentioned in 08 04 09). You must classify your own waste, the information given above is guidance only. Waste must be classified on a case-by-case basis.

The product is classified as non-hazardous, however, every care must be taken to avoid release to the environment. Take up liquid spill with absorbent material, dam if necessary to prevent access to water course. Material in paste form may be taken up by shovel.

Disposal of waste sealant must be done according to official regulations and in accordance with a licensed collector's sorting instructions.

The product cannot currently be recycled or incinerated for energy capture.

Legal Notes

FSi Ltd. products are manufactured to rigid standards of quality. Any product which has been applied in accordance with FSi Ltd.'s written instructions and in any application recommended by FSi Ltd., but which is proved to be defective in product quality, will be replaced free of charge. No liability can be accepted for the information provided in this document although it is published in good faith and believed to be correct at time of issue. Any drawings provided are for illustrative purposes only. FSi Ltd. reserves the right to alter product specifications without prior notice, in line with our Company policy of continuous development and improvement. Changes due to new findings are possible, errors and misprints are not excluded. No liability whatsoever will be accepted for any loss, damage or injury arising from the use of the information given. FSi Ltd. have no control over the methods of installation, competence of operatives or suitability of site conditions, no warranties, expressed or implied, are intended to be given as to the actual performance of the product/system mentioned within this document.

SKU CODES

Item code	Description	Size	Colour	Box Qty
FS310CGFP	Pyrocoustic® Sealant	310ml Cartridge	Grey	25
FS310CW25FP	Pyrocoustic® Sealant	310ml Cartridge	White	25
FS600CGFP	Pyrocoustic® Sealant	600ml Foil	Grey	15
FS600CWFP	Pyrocoustic® Sealant	600ml Foil	White	15
FSI5TFP	Pyrocoustic® Sealant—Trowel Grade	5kg Pail	White	1

FSi Limited

Westminster Industrial Estate
 Tamworth Road
 Measham
 DE12 7DS
 Tel: +44 (0)1530 515130
 Email: technical.fsi.uk@etexgroup.com
 Web: www.promat.com/en-gb

Number of the declaration of performance: DoP05-LGS-21

1. Unique identification code of product-type: PYROC-21

2. Intended use/es: For fire compartmentation and / or fire protection or performance, ETA 21/0050 and EAD 350141-00-1106

3. Manufacturer: FSi Limited, Westminster Industrial Estate, Tamworth Road, Measham, DE12 7DS, UK.

4. Not applicable

5. System/s of AVCP: AVCP - System 1

6b. European Assessment Document: EAD 350141-00-1106 - September 2017

European Technical Assessment: ETA 21/0050

Technical Assessment Body: ETA Danmark

Notified Body/ies: 2531

7. Declared performance:

Essential Characteristics	Performance/Harmonised technical specification
Reaction to Fire	Class F According to EN13501-1
Resistance to Fire	Resistance to fire performance & field of application in accordance with EN13051-2 See ETA 21/0050 clause 3.2 - Annex C
Air Permeability	Tested in accordance with EN 1026, See ETA 21/0050 Clause 3.3
Dangerous Substances	See ETA 21/0050 Clause 3.5
Airborne Sound Insulation	Tested in accordance with EN ISO 10140-2:2010 & EN ISO 140-3 & EN ISO 717-1 See ETA 21/0050 Clause 3.9 - Rw (C;Ctr) = 63 (G;-2) dB & Rw (C;Ctr) 38dB
Service & Durability	Type: X Intended for use in conditions exposed to weathering in accordance with EOTA technical documents TR024
Movement Capability	According to ISO 11600 : ISO 11600 - F - 7.5 - P
Other	Not applicable/No performance determined

8. Appropriate Technical Documentation and/or Specific Technical Documentation: ETA 21/0050

Link to the online copy of the declaration of performance: www.fsilttd.com

Signed for and on behalf of the manufacturer by:



07/04/2022

.....
L.Peach - Technical Director



07/04/2022

.....
M.Metcalfe - Firestop Manager

Number of the declaration of performance: DoP05-PS-21

1. Unique identification code of product-type: PYROC-21

2. Intended use/es: For fire compartmentation and / or fire protection or performance, ETA 21/0049 and EAD 350454-00-1104

3. Manufacturer: FSi Limited, Westminster Industrial Estate, Tamworth Road, Measham, DE12 7DS, UK.

4. Not applicable

5. System/s of AVCP: AVCP - System 1

6b. European Assessment Document: EAD 350454-00-1104 - September 2017

European Technical Assessment: ETA 21/0049

Technical Assessment Body: ETA Danmark

Notified Body/ies: 2531

7. Declared performance:

Essential Characteristics	Performance/Harmonised technical specification
Reaction to Fire	Class F According to EN13501-1
Resistance to Fire	Resistance to fire performance & field of application in accordance with EN13051-2 See ETA 21/0049 clause 3.2 - Annex C
Air Permeability	Tested in accordance with EN 1026, See ETA 21/0049 Clause 3.3
Dangerous Substances	See ETA 21/0049 Clause 3.5
Airbourne Sound Insulation	Tested in accordance with EN ISO 10140-2:2010 & EN ISO 140-3 & EN ISO 717-1 See ETA 21/0049 Clause 3.9 - Rw (C;Ctr) = 63 (G;-2) dB & Rw (C;Ctr) 38dB
Service & Durability	Type: X Intended for use in conditions exposed to weathering in accordance with EOTA technical documents TR024
Movement Capability	According to ISO 11600 : ISO 11600 - F - 7.5 - P
Other	Not applicable/No performance determined

8. Appropriate Technical Documentation and/or Specific Technical Documentation: ETA 21/0049

Link to the online copy of the declaration of performance: www.fsilttd.com

Signed for and on behalf of the manufacturer by:



07/04/2022

L.Peach - Technical Director



07/04/2022

M.Metcalfe - Firestop Manager

UL-EU CERTIFICATE

Certificate No.
UL-EU-00500-EN

Issue date
25-04-2014

Issue No.
7

Re-Issue date
2026-01-26

Expiry date
17-06-2034



4705

This is to acknowledge that:
FSi Limited

Address:
Westminster Industrial Estate
Tamworth Road
Measham
DE12 7DS

Has had the product:
Pyrocoustic®

evaluated and meets the requirements of the standards:

EAD 350454-00-1104, September 2017/ EAD 350141-00-1106,
September 2017 / EN 13501-2

Places of production:
As above & S/001

Authorised Signatory:

A handwritten signature in blue ink, appearing to read 'Chris Johnson'.

Chris Johnson
Issued by UL International (UK) Ltd

This is to certify that representative samples of the Certified Product listed above have been investigated by Underwriters Laboratories to the Standard(s) indicated on this Certificate, in accordance with the UL Global Services Agreement and the UL-EU Mark Service Terms and Conditions ("Agreement"). The Certificate Holder is entitled to use the UL-EU Mark for the Certified Product listed on the certificate and manufactured at the production site(s) listed, in accordance with the terms of the Agreement. Only those products bearing the UL-EU Mark for Europe should be considered as being covered by UL's UL-EU Mark Service. This Certificate shall remain valid through the Expiration date, unless a Standard identified on this Certificate is amended or withdrawn prior to that date or there is a non-compliance with the Agreement.

