FSi

DEVELOP
MANUFACTURE
PROTECT

FIRESTOPPING & COMPARTMENTATION SYSTEMS

Linear joint seals

Service Penetration seals

Cavity barriers

Professional sealants

World class Firestopping solutions

FSi DEVELOP MANUFACTURE PROTECT

FIRESTOPPING & COMPARTMENTATION SYSTEMS

FSi Manufacture and Develop a full range of Built-In Fire Protection Systems in the United Kingdom.

FSi focus on manufacturing high quality products offering these items into markets as innovative systems. It is crucial that products are installed as a system to maintain the performance of the fire penetration seal. All systems are manufactured under ISO9001:2015 ensuring accuracy and consistency throughout our business network. FSi offer system awareness training for installers and specifiers to advise on correct installation and specification procedures. FSi also work with our partners throughout the design stage of new system solutions and product development.

FSi has an exceptional level of testing and technical expertise that has been built up through decades of experience, working with and developing test standards within industry trade associations, and the global market. The team at FSi has a wealth of experience in all aspects of the industry including technical understanding, site installation, testing and manufacturing, which allows us to develop, manufacture and supply products in the UK to (BS476 Test Standards), throughout Europe to (EN1366-3 and 4 Test Standards) and Worldwide to (BS, EN and UL Standards).

Alongside this, our products are independently 3rd party certified though Exova, Exova Trada and UL. FSi products incorporate Acoustic isolation, Dynamic capabilities, UV resistance, weathering, indoor/ outdoor use, together with air and water permeability resistance. We have partnerships with leading trade organisations such as the Association for Specialist Fire Protection (ASFP), British Adhesives and Sealants Association (BASA), Construction Product Association (CPA), Build UK, European Association of Passive Fire Protection (EAPFP) and The Royal Society for the Prevention of Accidents (RoPSA).

FSi aims to help and assist to ensure the appropriate solution and system is specified correctly, and to allow for accurate budgeting and time planning.

What is built in Fire Protection?

Passive Fire Protection is a vital component of any fire safety strategy. It is built into the structure of a building to safeguard lives and limit the financial impact of damage to buildings and their contents. It does this by:

- Limiting the spread of fire and toxic smoke by containing it in a single compartment.
- Protecting escape routes.
- Protecting the building structure thereby ensuring its sustainability.

Fire stopping is a method of compartmentation within a building that needs to be protected against the passage of fire and smoke, whilst still allowing for the penetration of services through fire resistant walls and floors.

Once installed, Passive Fire Protection provides stability, integrity, and where relevant insulation, within walls and floors to separate the building into areas of manageable risk – ‘compartments’. These areas are designed to restrict the spread of fire allowing occupants to escape, offer protection for fire fighters and control fire spread to other areas of the building.

At FSi we call this BUILT-IN Fire Protection.

NBS BIM

You can find FSi products in the NBS BIM library where our products are listed.

The Birth of the FSi Stopseal® Fire Batt

It sounds improbable, but one of the main raw ingredients for our Stopseal® Batt is stone wool which is a 200 million year old rock. Basalt is actually a base rock from when the Northern Hemisphere was first laid down. Around the Pacific Rim and Hawaii, in particular, volcanic activity produces violent eruptions of dust pumice and strands. It is formed as the molten lava falls through a cold air draft. These strands are nature's version of what we now recognise today as the fire batt board.

It was around 1900 that scientists started to look more closely at the material as a potential for a range of applications. The production process for creating the stone wool core to our Stopseal® Batt is a technological replica of the inside of a volcano that spins and cools lava in a controlled environment. The process begins with the base rock being graded and crushed along with other carefully selected ingredients, such as recycled stone wool to form a raw material.

In turn this is melted in a furnace at a temperature in excess of 1500°C. As the molten liquid rock pours from the furnace, nature's process is recreated. Lava flow is directed into a chamber where it is spun and transformed into rock strands and stone wool, the core of our Stopseal Batt system. A FSi specially designed and tested coating is applied to this core at a predetermined thickness, protecting the core form fire, thus creating the Stopseal® Batt as seen today.

Before installing essential smoke detectors, smoke control devices, fire alarms and sprinkler systems in public and industrial buildings, choose FSi Fire Stopping Systems and build in the first step to effective fire protection. FSi systems such as Stopseal® Batt and Cavity Barrier can be used as an effective barrier in a range of building applications such as a compartmentation in between rooms and roof spaces, cavity void/barriers for concealed spaces to provide acoustic and air seal solutions.

FSi systems help specialist fire stopping contractors conform to current fire regulations throughout the world. Careful design and planning at an early stage will ensure safe buildings delivered cost effectively, and on time.

All service penetrations will allow for various combinations of plastic and metallic pipes, ducts, power and data cables, and each element will react very differently to fire, this requires that the fire stopping systems are designed, manufactured and installed to cope with the individual needs of the project.

We suggest that all parties involved with the construction of buildings look for FSi Fire Stopping systems which have been awarded the highest possible European approval standard in the CE Marking process.

CE

FSi Firestopping Products

FSi products and systems are leaders in the industry, with FSi having the ability to continue to develop the product range, ensuring that we can offer the best tested, practical and cost effective solutions in the worldwide market. FSi products offer many features such as:

- ✓ CE Marked complete systems in accordance to CPR.
- ✓ UL (US & C) Listed Products.
- ✓ EN Tested Products.
- ✓ UL-EU Listed Products.
- ✓ 3rd Party Accreditation (Certifire)
- ✓ BSi tested products.
- ✓ AS (Australian Standards) tested products
- ✓ UAE CoC Listed
- ✓ ASTM Tested Products.
- ✓ ISO 9001:2015 Certified.
- ✓ ISO Environmental Testing
- ✓ LEED VOC Tested
- ✓ Spears & Lubrizol Authorized
- ✓ London Underground Approved

Our products also offer the client:

- ✓ Ease of use.
- ✓ A specialist technical team with an excellent wide range of knowledge to offer support in the use of products and solutions.
- ✓ A vast library of test data to back up all systems.
- ✓ Over 30 year's technical development of products.
- ✓ Proven compartmentation systems.
- ✓ Customised customer solutions.
- ✓ In house development and test facilities.
- ✓ Competitively priced, consistent excellent product quality and regulated quality.

PENETRATION SEALS

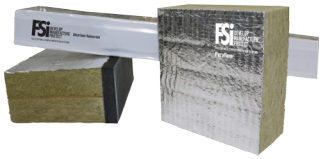
FSi develop systems used to maintain the fire resistance of a separating element at the position where one or more services pass through or where there is provision for services to pass through a separating elements such as flexible and rigid walls and rigid floors.

LINEAR GAP SEALS

FSi Linear Gap Seals range provide fire protection systems designed to maintain the fire separating function and, if relevant, to accommodate a specified degree of movement within the linear joint, the products FSi offer are Stopseal LGS, Pyropro LST, Pyrocoustic Sealant and Pyrolastic.

CAVITY BARRIERS

FSi Cavity Barriers are developed to protect the voids between the outer rainscreen cladding / facade and the inner construction element of the building. The products are developed by FSi depending on the building requirements, these products are Paraflam SEB, Silverliner Rainscreen Cavity Barrier (ventilated and non-ventilated), and Tecnica SEB.



These products have aluminium foil faces thus providing a class ‘O’ rating and excellent resistance to smoke. A unique method of manufacture provides a resilient lateral compression required to ensure a tight fit.

PROFESSIONAL CONSTRUCTION SEALANTS

FSi Tenco-Sil 619 is a one-part, neutral-curing, low modulus silicone sealant with excellent adhesion and shelf life for perimeter sealing and glazing applications.

Tecno-Sil 619 cures at room temperature under the action of atmospheric moisture to give a permanently flexible silicone rubber.

- ✓ Certified under the harmonized European standard EN 15651 for façade, glazing, cold climate, sanitary and pedestrian walkway applications in compliance with the Construction Product
- ✓ Regulation
- ✓ Long shelf life
- ✓ Primerless adhesion to most materials
- ✓ Non-corrosive to metals
- ✓ Suitable to alkaline substrates such as concrete, mortar and fibrous cement

PENETRATION SEALS

Key Product Points

- ✓ Fire resistance testing to EN 1366-3 EI 120, EN 1366-4 EI 240 and BS 476 300mins.
- ✓ Fire resistance testing to ASTM-E 1966, UL 2079.
- ✓ CAN/UL 115-11 - ULus & ULc Listed.
- ✓ Resistance to Fire Classification EN 13501-2.
- ✓ Reaction to Fire Classification EN 13501-1
- ✓ VOC Tested - ASTM D2369-10, LEED 2009-EQ041 SCAQMD.
- ✓ Acoustic Isolation to EN 10140 to 48dB.
- ✓ Air Permeability testing to EN 1026 to 600Pa - 100Pa 0.0/0.0 $m^3/h/m^2$.
- ✓ Mechanical Adhesion, Tensile testing & Shore Hardness to ISO 9046:2005, ISO 8339:2005 & ISO 7619-1:2011.
- ✓ Fire resistance tested in flexible walls, rigid walls and floors.
- ✓ Tested in Linear Joints up to 50mm wide.
- ✓ Tested in large service openings up to 490 x 150mm.
- ✓ Tested with Metallic Pipes, Cables, Cable Bunches, Cable Trays and Cable Ladders.
- ✓ Causes no known effects to plastic pipes, plastic cables, sheathing or metallic components.
- ✓ For use in low movement joints, remains flexible.
- ✓ Halogen free, resists fungi and vermin.

LINEAR GAP SEALS

Key Product Points

- ✓ Fire resistance testing to EN 1366-4 E 120, EI 120.
- ✓ Upto 240mins available.
- ✓ Certifire 3rd Party Certification CF 507.
- ✓ IET (IEE) 17th Edition Fire Stop Compliant to Regulation 527.1-3 - Electrical Installations.
- ✓ BS 7671-2008 Chapter 42 & 52 - Electrical Installations Fire Resistance.
- ✓ Acoustic Isolation to EN 10140 to 22dB.
- ✓ Air Permeability testing to EN 1026 to 600Pa - 100Pa 3.3/1.7 $m^3/h/m^2$ with Flexi-Coat.
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CAVITY BARRIERS

Intended Use

- ✓ Ideal for Historical Building Upgrades
- ✓ Voids up to 300mm wide
- ✓ Air and Water Permeability Tested
- ✓ Moisture Resistance
- ✓ Up to 120 minutes Fire Resistance
- ✓ Suitable to close up to 25mm ventilation gap (50mm gap is available).
- ✓ Voids up to 450mm wide.
- ✓ Dynamic movement testing 500 cycles per 30 minutes (non ventilated).
- ✓ Free of halogens, asbestos, fibres and silica and is non toxic.
- ✓ Life expectancy of over 25 years.
- ✓ Contributes to Green Building.

Key Product Points

- ✓ High speed installation
- ✓ Single component
- ✓ No VOC
- ✓ No Curing time required
- ✓ Easy low maintenance system
- ✓ Excellent Acoustic Isolation Properties
- ✓ Suitable for use in irregular applications
- ✓ Brackets included in the pack
- ✓ Long Life and ease of installation for minimum waste
- ✓ Softer feel, Odourless and Easy to Cut
- ✓ Superior Level of Sustainability

PROFESSIONAL CONSTRUCTION SEALANTS

Key Points

- ✓ Non-sag
- ✓ Ready gunnable at low (+5°C) and high (+40°C) temperatures
- ✓ Rapid crosslinking - quickly becomes tack-free
- ✓ Flexible at low (-40°C) and high temperatures (+150°C)
- ✓ Excellent weatherability
- ✓ Low dirt pick up
- ✓ Anti-fungal to prevent mould growth

Area of Use

- ✓ Sealing of connecting and expansion joints in the building industry
- ✓ Sealing of perimiter joints
- ✓ Sealing around PVCu profile, trim and cladding
- ✓ Perimeter pointing to PVCu, timber and metal window and door frames
- ✓ Weathersealaing to pre-formed panels and formwork
- ✓ Glass to glass and glass to aluminium weathersealaing
- ✓ Cap glazing and remedial glazing sealing
- ✓ General draftproofing

We group our fire stopping systems into 3 main categories for ease of use, specification and understanding.

These are:

- ✓ Penetration Seals
- ✓ Linear Gap Seals
- ✓ Cavity Barriers

FSi Limited manufacture Professional Sealants for non-fire resistant sealing requirements which have superior technical specifications built into them as standard, raising the bar with regards to sealant manufacture in the industry. Visit www.fsiltd.com for further information on the new innovative range of products.

Quality through care and innovation

FSi's systems are manufactured with care and are produced by people who understand that quality is not a compromise.

Our staff enjoy the work and this is reflected through to the quality of products we provide. -Our comprehensive in-house testing facility ensures the products continue to meet the highest possible quality standards with the highest levels of uniformity and performance.

All incoming raw materials and finished products at tested in our own facility, saves time, keeping ultimate control and allows us to test to our rigorous audited standards.

Some of the many tests and standards we perform include:

- ✓ Compositional testing.
- ✓ Functional viscosity analysis.
- ✓ Microbiological analysis
- ✓ Physical analysis.
- ✓ Chemical analysis.
- ✓ Expansion & pressure analysis

FSi's Technical Team have invested in a new 1.2m³ fire resistance indicative test furnace which is situated on the premises. We utilize the facilities ourselves to monitor the existing range of products and innovate for the future within the industry, leading to longevity of the product range.

The facility offers great opportunities for our clients, as it enables testing of multiple fire stopping products during one testand is a cost effective way of ensuring newly developed products meet the required standards before the expense of testing at a UKAS accredited laboratory.

The 1.2m³ furnace is designed to comply with all relevant standards, such as BS 476: Part 20, EN 1363-1 and ANSI/UL standards. The results from testing are recorded electronically on our custom-built data logging system, then transformed in to a usable in-house report

Being committed to being Green

FSi is fully committed to effectively managing and improving our environmental performance and minimising the impacts of the business on the environment. We do this through proactively looking at our impacts throughout project lifespans and through the services we offer to clients.

FSi Limited is committed to minimising the impact of its activities on the environment by.

•Giving consideration to recycled components where possible

• Reducing waste levels and actively recycling waste materials for re use.

• Carefully monitoring scrap materials in accordance with quality procedures.

• Making sure energy use is monitored through a programme of improvement to ensure maximum efficiency.

• Training employees and raising awareness with procedures and responsibilities.

• Ensuring activities are carried out with minimal impact on local communities and not creating a nuisance to our neighbours.

• Carefully vetting our suppliers to ensure their commitment and standards are equal to ours.

• Actively promote recycling both internally and amongst our customers and suppliers.

• Promote a product range to minimise the environmental impact of production, distribution and end user use.

• Meet or exceed all the environmental legislation that relates to the company.

Projects with FSi

FSi have worked with key partners over the past 16 years on some of the most iconic buildings in the world today. We have worked with lead designers, structural contractors and installers to be able to provide vital support at key stages enabling a successful project. We work closely with independently 3rd Party certified or accredited installers to ensure that our systems are installed correctly.

FSi produce in excess of 250,000 cartridges of Pyrocoustic® Acrylic Sealant per week and around 7000 Stopseal® Batts.

For the past 16 year's our FSi products have been installed on 1000's of projects globally. Some key projects include:

The Burj Khalifa Dubai UAE, Dubai Ski Dome UAE, New Wembley Stadium UK, Media City Manchester UK, Trump Tower Istanbul, T6 Building Kingscross London UK, T2 and T4 Heathrow Airport London UK and The Royal Marsden Hospital London UK

FSi are a brand you can trust

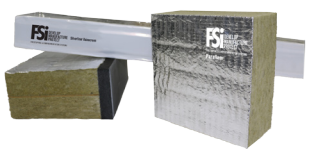
Intelligently delivering Fire Stopping, Acoustic, Dynamic and Compartmentation solutions to meet our global partner's needs.

If you feel that you would benefit from more information about the products we manufacture please feel free to visit www.fsiltd.com or contact your local agent or FSi directly.

Linear joint seals	Service Penetration seals	Cavity barriers	Professional sealants

Supplied by / Distributed by

CAVITY BARRIER



PENETRATION SEALS

LINEAR GAP SEALS

PROFESSIONAL SEALANTS

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