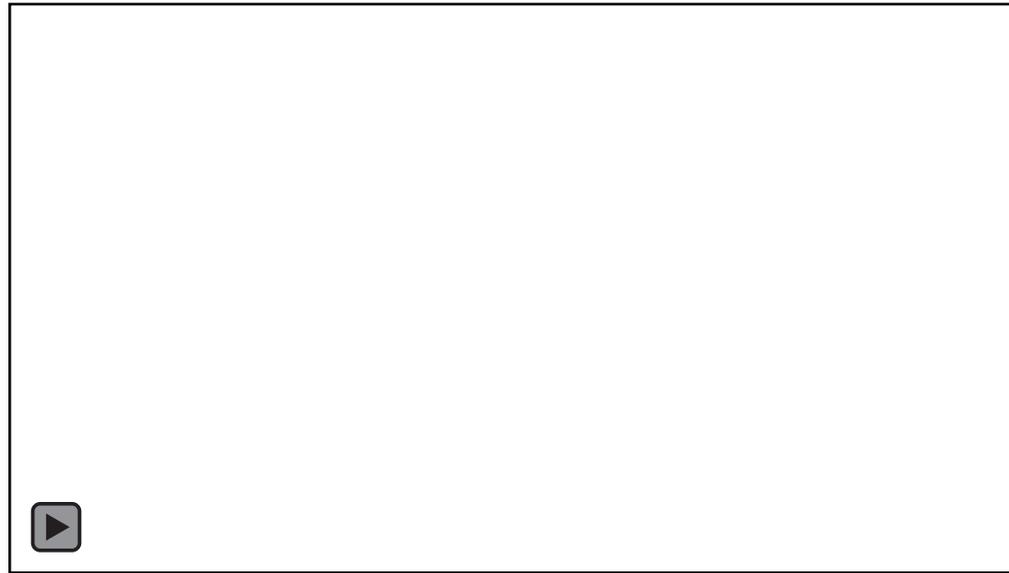


# Welcome

Implications of disaster on competency of Marketing,  
Specification and Installation of FR products



***“Market leaders in passive  
fire protection”***

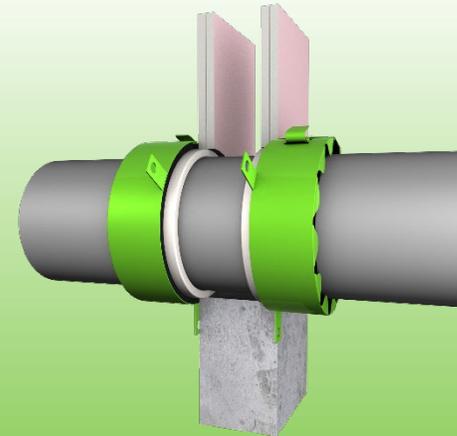
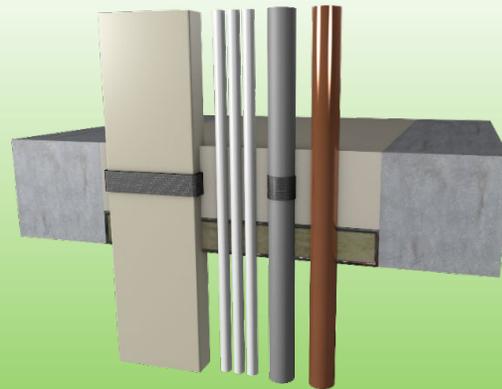
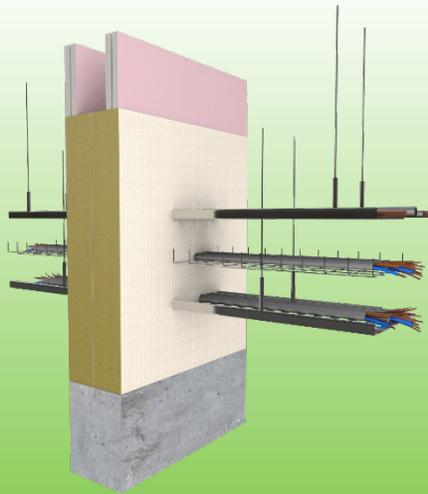


- We're a **UK based company** with all products manufactured in UK
- We have an **80,000<sup>2</sup> ft Production Facility** in the UK and an FSi Group distribution hub in **LONDON FSS (Fire Safe and Sound)**.
- **Vast Industry knowledge** in our Production, Sales, Admin and Technical Staff.
- We have an **In-House** Indicative Fire Testing Furnace 1m<sup>3</sup>.
- We provide installation training at our fully functional training facility.
- We have Full **CE Marked** Products tested to European Standard including **UL – EN – BS – AS – ASTM** approved products and **Certifire & UL** Independent 3<sup>rd</sup> Party Certification.
- We are members of **ASFP, BASA and BCF**.
- We have UK, EU and Worldwide Shipping Capabilities.
- We **100% Recycle or re-use & have 0% Landfill Product waste**.

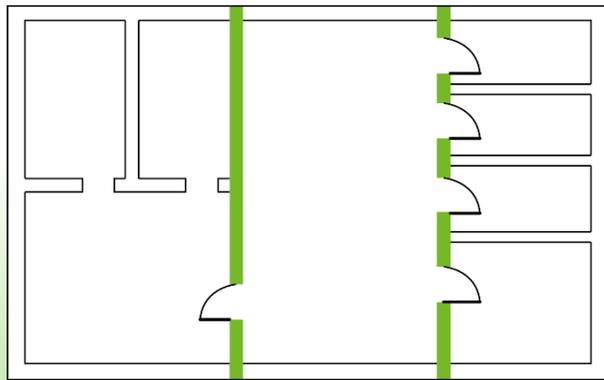


# Passive Fire Protection

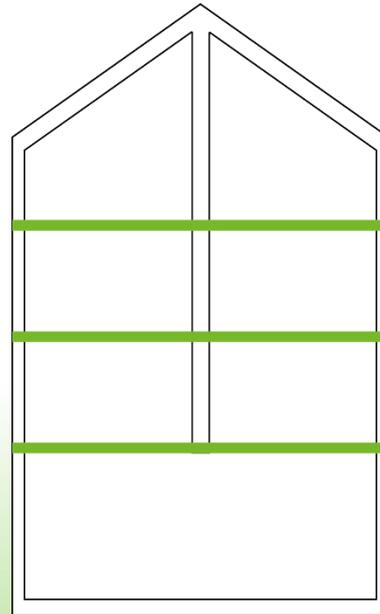
Passive Fire or Built-in fire protection is a method of **compartmentation** within a building that protects against the passage of fire while still allowing for penetration of services through fire rated walls and floors.



# Compartmentation



**Fire Rated Walls**



**Fire Rated Floors**

## Compartmentation (Compartments)

Compartmentation is the division of a building into cells.

It is used to contain fire in a room or area (cell) of a building with a view to stop the spread of fire from causing damage, injury or death whilst allowing safe passage to escape fire.

Where services penetrate separating elements and/or compartment walls or floors, there is also a clear potential for compartment breach unless specific tested measures and systems are installed to prevent it.

# Effective Compartmentation



Grenfell Tower, May 2017



14 June 04:00 BST



05:27 BST



06:12 BST



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Source: <https://www.bbc.co.uk/news>

# Passive Fires Protection Systems



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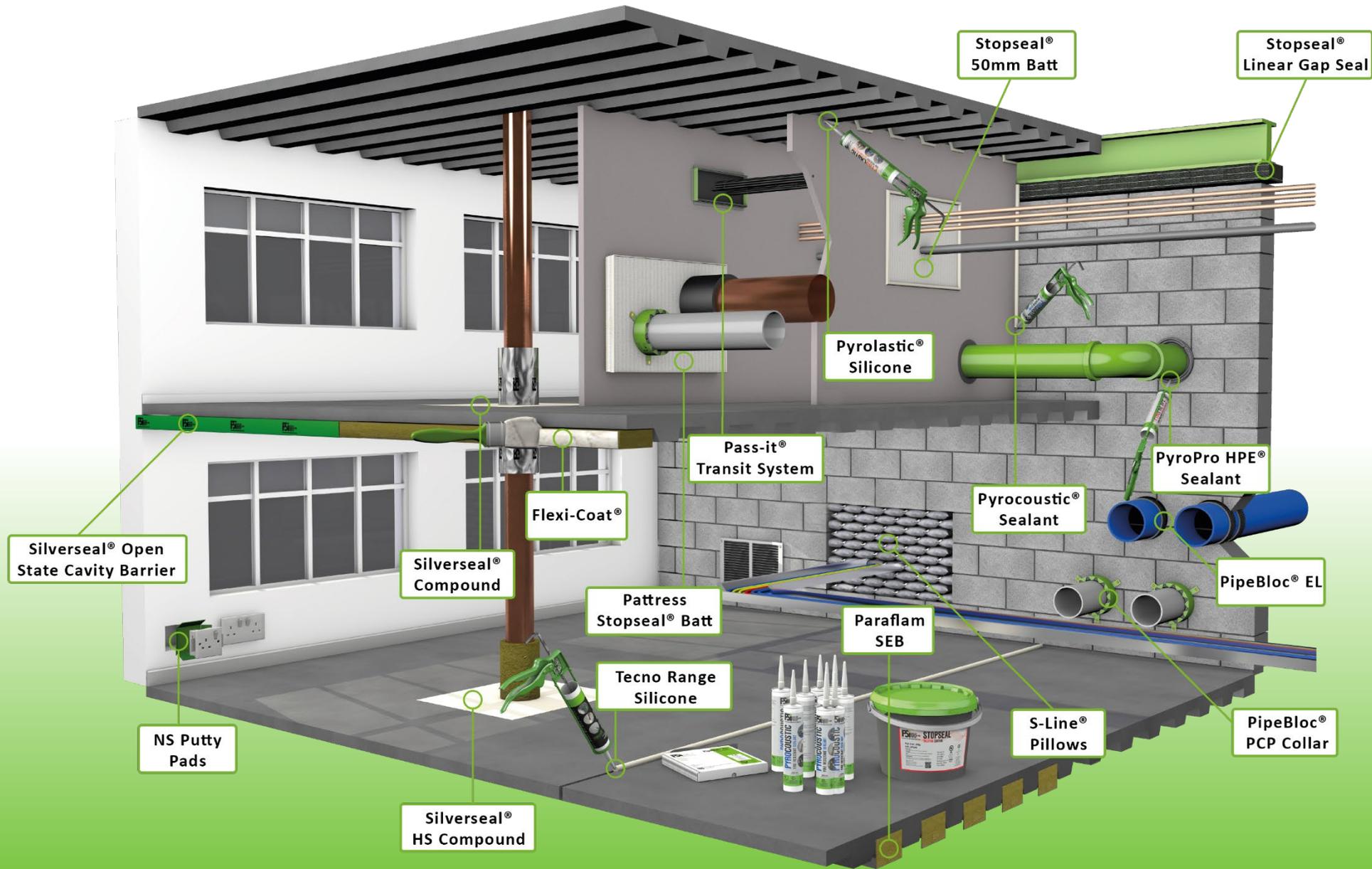


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# Fire Resistance and Reaction to Fire

There are **two important** aspects to consider when looking at fire stopping and passive fire protection. **Fire Resistance and Reaction to fire.**

**Fire Resistance** is the ability of a component or construction to satisfy, for a stated period of time, the appropriate criteria specified in the relevant part of EN standard or BS standard. The following criteria applies to fire-stopping.

**Integrity (E)**  
**Insulation (I)**

**Reaction to fire** covers spread of flame and contribution to fire as well the generation of smoke and the production of burning droplets.

In the **EN 13501 Part 1** series of standards, the reaction to fire of construction and building materials is divided into several classes (**Euro Class A1, A2 and B through F**)



# 3<sup>rd</sup> Party Fire Test



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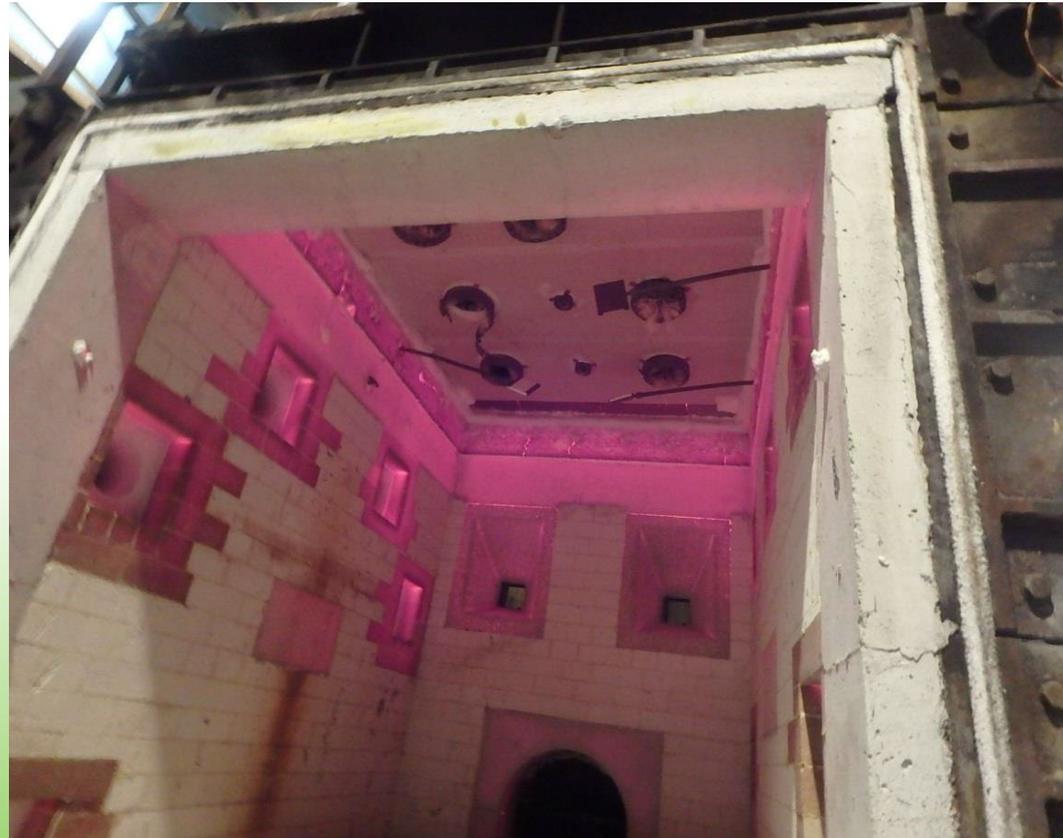
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# 3<sup>rd</sup> Party Fire Test



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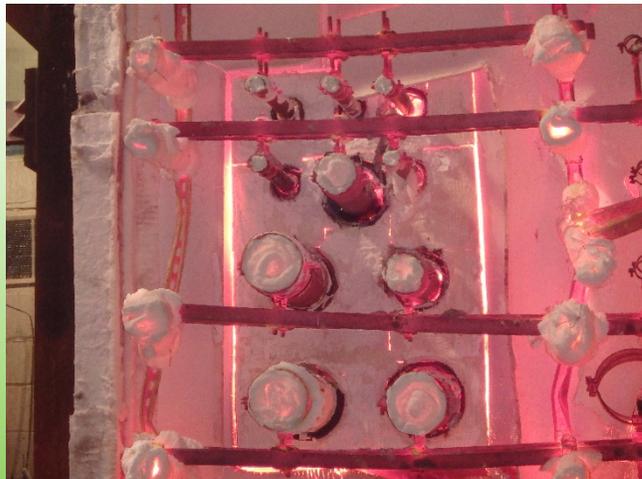
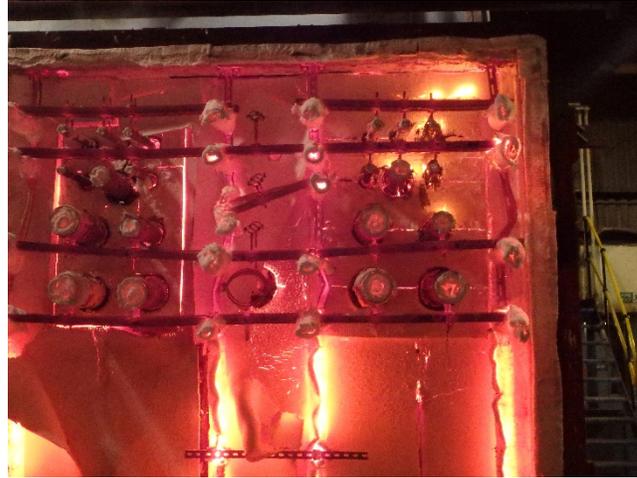
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# 3<sup>rd</sup> Party Fire Test



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# Standards



## Fire resistance tests for service installations

EN 1363-1: General requirements

EN 1366-1 Fire Ducts

EN 1366-2: Fire dampers

**EN 1366-3: Penetration seals**

**EN 1366-4: Linear joint seals**

EN 1366-5: Service ducts and shafts

EN 1366-6: Raised access floors and hollow floors

EN 1364-2: Ceilings

EN 1364-4: Curtain walling



## Fire Resistance Tests on Building Materials and Structures

BS 476-20 : Elements of Construction (General Principles)

BS 476-21 : Load bearing Elements of Construction

BS 476-22 : Non- Load bearing Elements of Construction

**Tests are an 'Ad Hoc' Standard – Penetration Seals**

BS 476-23 : Contribution of Components to the Fire Resistance of a Structure

BS 476-24 : Fire Resistance of Ventilation Ducts

# Standards

## EN1366

## BS476

Test Standards	<p><b>EN 1366-3 Penetration Seals</b>  <b>EN 1366-4 Linear Gap Seals</b>          Fully developed within industry by a team of experts that shall also lead to a hEN  <i>(Harmonised European Norm -Standard)</i></p>	<p><b>BS 476 is an Ad-Hoc standard</b> designed for the determination of the fire resistance of non-loadbearing elements of construction such as <b>roller doors, windows and shutters</b></p> <p><b>**not specifically for fire stopping systems**</b></p>
Scope of the test standards	<p>The EN 1366 series has been prepared to provide a method of test for assessing the <b>contribution</b> of a penetration and linear gap seal to the fire resistance of separating elements when they have been penetrated by a service or services. <b>The layout of the tested system, required penetrating services and construction is prescribed within the standard.</b></p>	<p>There is <b>no consideration</b> in BS 476 as to the type of constructing element, wall type for example, (plasterboard walls) nor the size of the services that may pass through it, if any. Nor does it consider to configuration of penetrating services to be tested.</p>
Integrity & Insulation	<p><b>Considers the integrity and insulation for every service tested</b>, as well as the seal.</p>	<p><b>Considers integrity only.</b> Insulation cannot be measured as there are <b>no standard configurations to test</b> against.</p>
Test Furnace	<p>Furnace drives hard at the start of the test to reach 600°C within <b><u>6 minutes</u></b>.</p>	<p>Slow drive at the start reaching 710°C in <b><u>30 minutes</u></b>.</p>

# 3<sup>rd</sup> Party Certification

3<sup>rd</sup> Party Certification involves an independent assessment declaring that specified requirements pertaining to a product, person, process or management system set out in a scheme document or BS / EN / ISO Standard have been met.

Third Party Certification should always be delivered by a certification body.

A certification body should be accredited (in the UK by **UKAS**) as this gives further value to their decisions as it means that the certification body themselves are competent to deliver certification and are subject to scrutiny by a national body.

In the area of **CE Marking**, a “Notified Body” is a third-party, accredited by **UKAS** to conduct AVCP work to assist a client in being able to apply a CE Mark to their product.

All this in order to ensure and assess compliance to previously defined standards, scheme documents, building codes, etc.. but also to provide an official certification mark (CE Mark) and a Declaration of Performance (DoP).



# CE Marking

It is important to understand that CE marking is not a quality mark per se; it is a manufacturer's claim that the product has undergone the necessary attestation procedures set out in the EN product standard or ETAG.

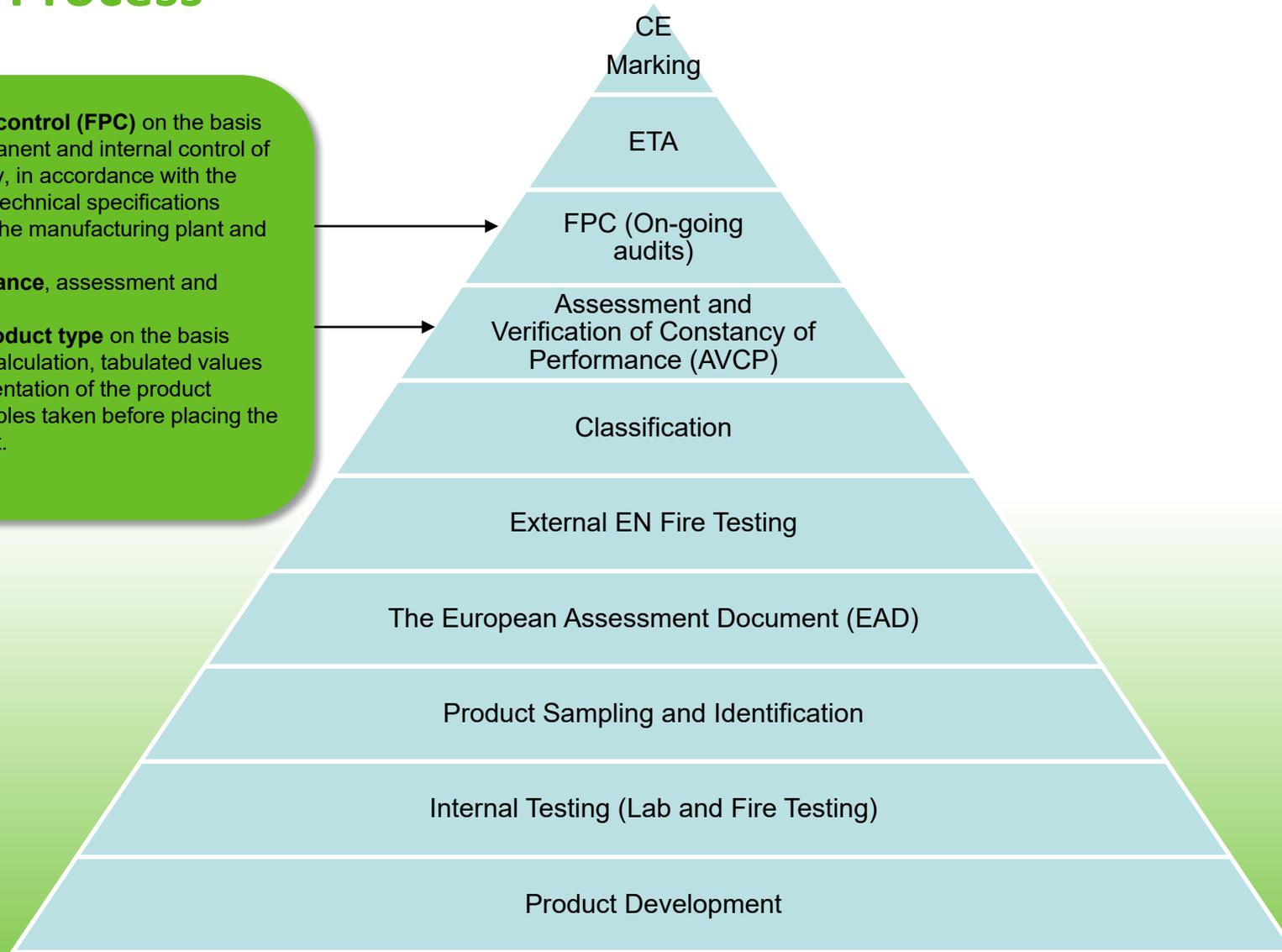
CE Marking indicates that the manufacturer has met the legal requirements under European Directives and represent the manufacturer's claim that the **test requirements** of all relevant European Directives have been satisfied for **the purpose to which the product is being used**.

Regular product audits ensure that the system tested and CE marked is the same product being manufactured and supplied on every occasion. The highest level of certification and product manufacturing certification is essential.



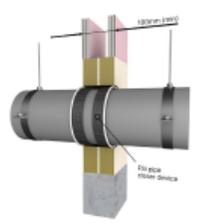
# CE Marking Process

- **Factory production control (FPC)** on the basis of documented, permanent and internal control of production in a factory, in accordance with the relevant harmonised technical specifications
- **Initial inspection** of the manufacturing plant and of FPC
- **Continuous surveillance**, assessment and evaluation of FPC
- **Determination of product type** on the basis of type testing, type calculation, tabulated values or descriptive documentation of the product
- **Audit testing** of samples taken before placing the product on the market.

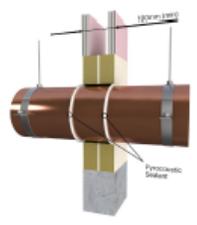


## Typical Layout FSi Stopseal® Batt System Rigid Walls, Floors and 100mm Flexible Wall Systems

Stopseal Batt system in flexible and rigid walls, section filled penetrated by combustible pipe



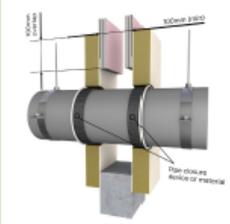
Stopseal Batt system in flexible and rigid walls, section filled penetrated by non-combustible pipe (copper, steel)



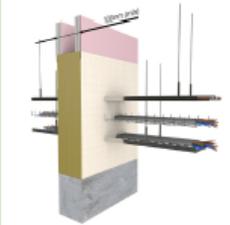
Stopseal Batt system in rigid floor, penetrated by combustible pipe



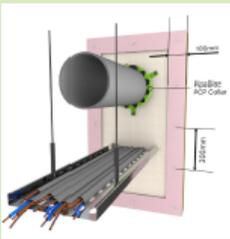
Stopseal Batt Pattress (box 10) system in flexible and rigid walls, penetrated by combustible pipe



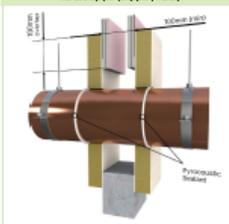
Stopseal Batt system in flexible and rigid walls, section filled penetrated by cables, cable trays, cable baskets and pipes



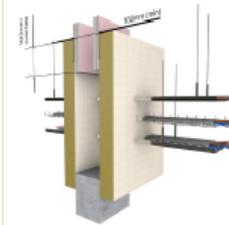
Stopseal Batt system in flexible and rigid walls, penetrated by combustible pipe, cables and cable tray



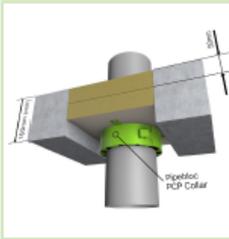
Stopseal Batt Pattress (box 10) system in flexible and rigid walls, penetrated by non-combustible metal pipe (copper, steel)



Stopseal Batt Pattress (box 10) system in flexible and rigid walls, penetrated by cables, cable trays, cable baskets and pipes



Stopseal Batt system in rigid floor



FIRE STOPPING & COMPARTMENTATION SYSTEMS

Western Industrial Estate,  
Tamworth Road, Measham, DE12 7DS, UK  
TEL: +44 (0)1530 515130  
www.fsi Ltd.com

### Key Installation Guidance

FSi Stopseal Batt system must be installed under friction fitting using Pyrocoastic to all edges (bottomed up) and joints, in sections and around all services including between cables and cable trays.

For Pattress fitting the Stopseal Batt System, metal batt fittings must be used. The Stopseal Batt must be cut stopped on to the substrate by a minimum 100mm. Mechanical fixings are a minimum 80mm Steel Wood Screws and Penetration Washers at a maximum 300mm centres or at least at every corner or at together.

Penetration washers do not need a fire coating. ALL exposed edges of the Stopseal Batt System MUST BE coated to a minimum 1mm DFT (Dry Film Thickness) using Pyrocoastic Sealant or Stopseal Coating.

Refer to the Stopseal Technical Data Sheet for size and service limitations and parameters for floors and walls including testing combustible pipes and installed copper metal and steel pipes.

Choose device or material:  
For Pipe Block PCP Pipe Collar, Pyro Pad HPE, Pipe Block EL/PWP in time seal wrap systems and Stopseal Wrap Systems refer to each product's Technical Data Sheet for typical details.

Drawing Number/Name:  
Typical Stopseal Batt Handbook

Date:  
April 2018

Scale:  
N/A





Technical Data Sheet (TDS)

DOWNLOAD →



Product Information Document (PID)

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Certifire Certificate

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Safety Data Sheet (SDS)

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# PIPEBLOC® PCP COLLAR



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# Typical Installations

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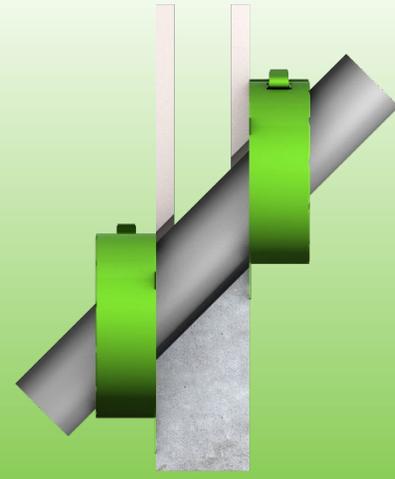
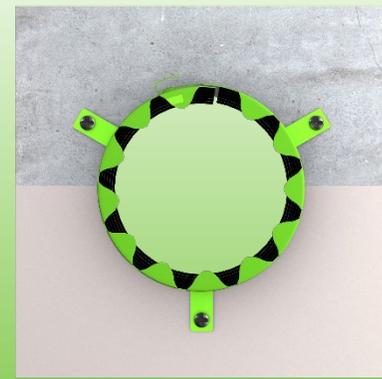
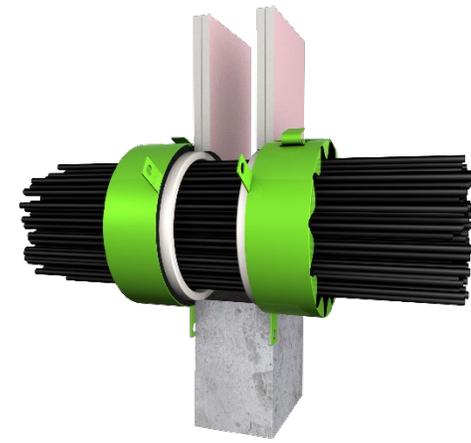
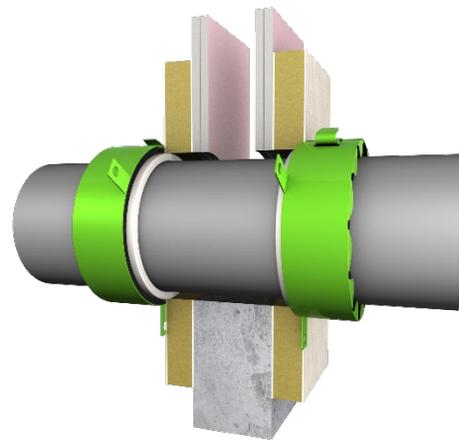
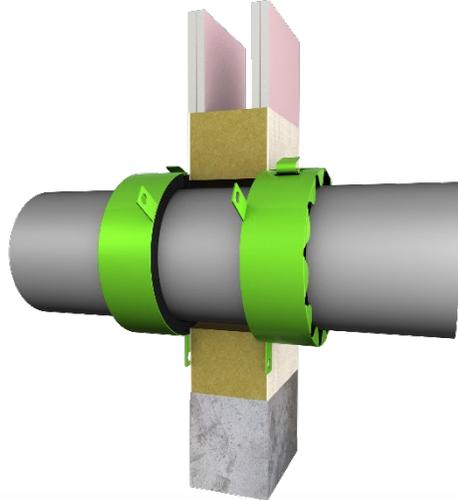
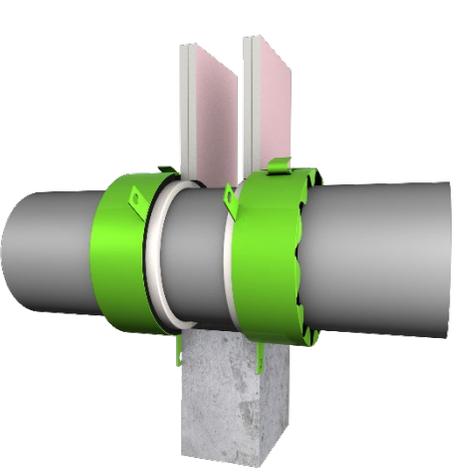
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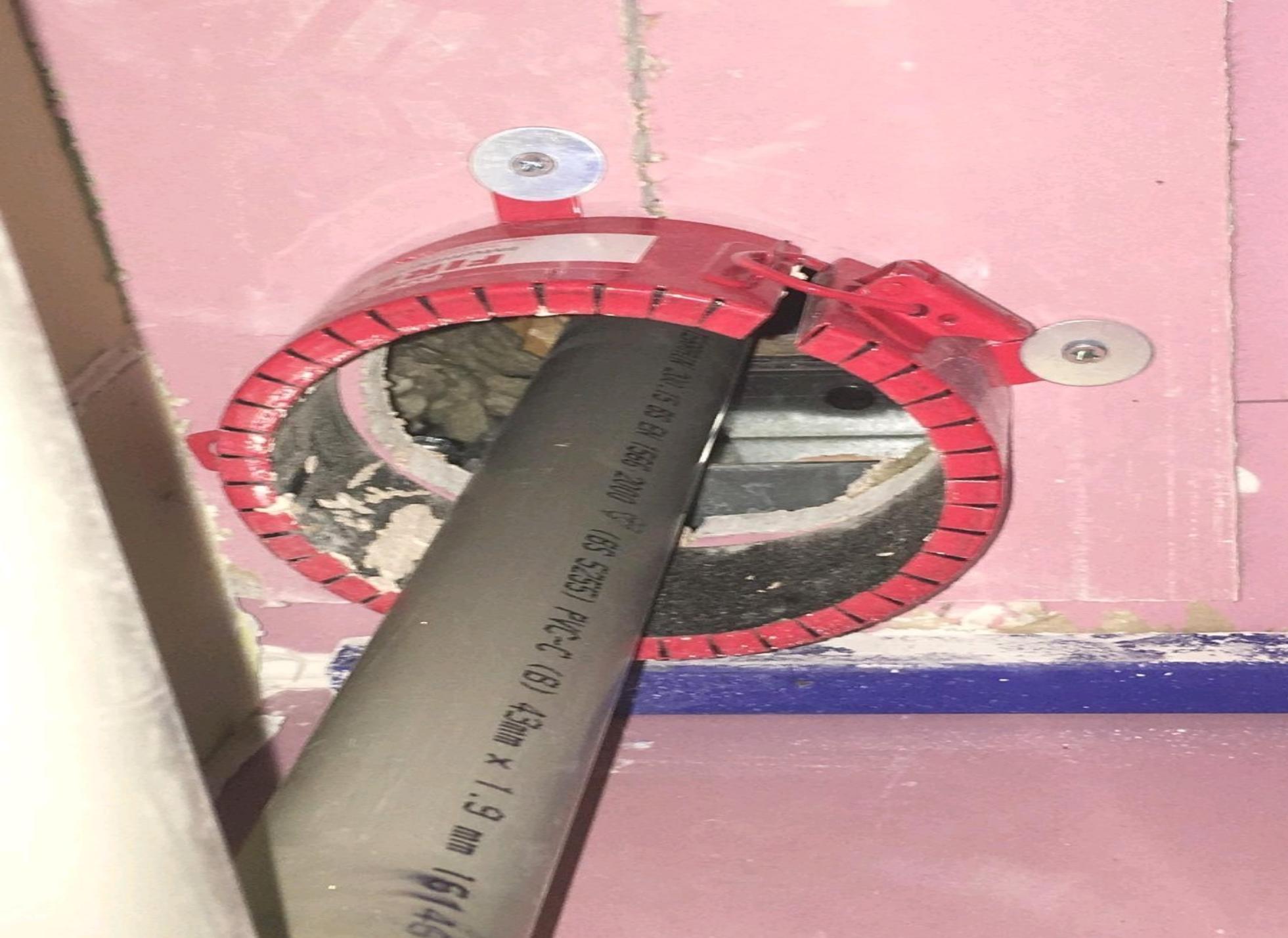


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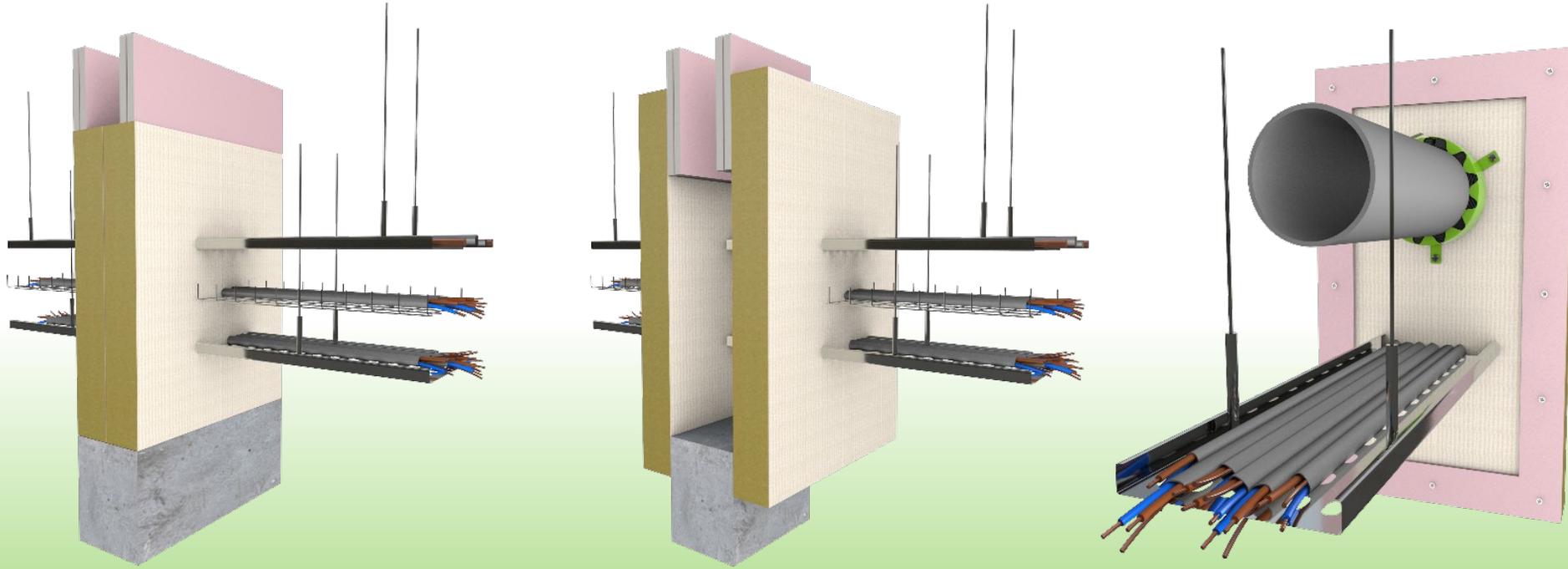
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CE

# STOPSEAL® FIRE BATT



# Typical Installations



# Correct Installation



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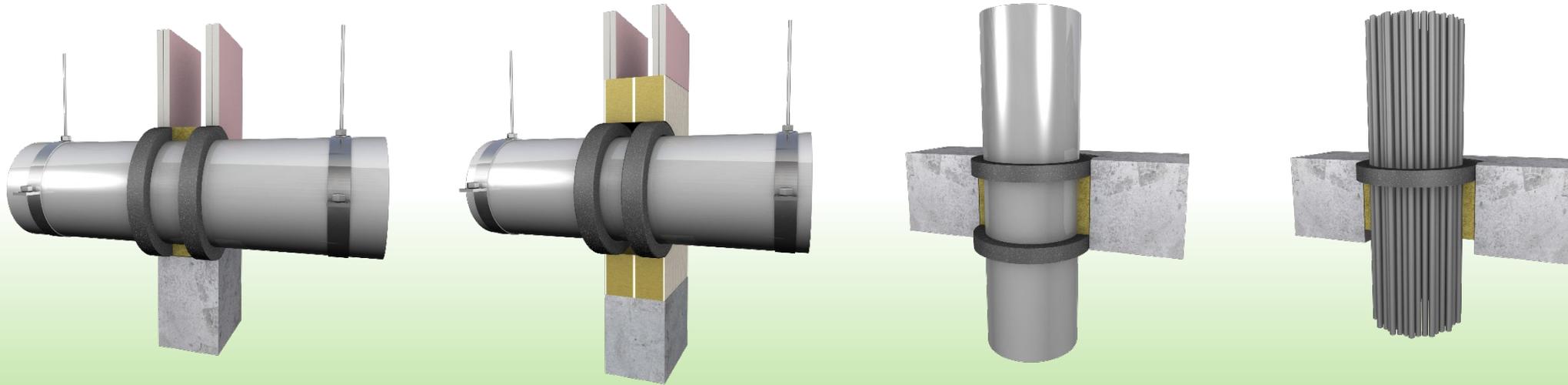
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# PYROPRO® HPE™ SEALANT



# Typical Installations



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# Certified Installers

It is recommended that all passive fire protection must be carried out by certified installers.

Third party installer certification provides confidence that the **fire stopping systems will be installed professionally by trained installers**. As with product certification, the schemes vary according to the supplier, but most will contain auditing requirements and training elements.

**The ASFP recommends third party installer certification** schemes that have been accredited by **UKAS** only.

An installer must also keep records of all installations, detailing what process has been followed, what products have been used to create the fire stopping system and required maintenance of that system.



# Who's Responsible?

**Regulatory Reform (Fire Safety) Order 2005 (RRO) (and national equivalents)** puts greater responsibility for safety onto building owners or occupiers. The establishment of the 'Responsible Person' under the RR(FS)O (and national equivalents) means that those who are responsible for the operation of a business within a building need to be aware of their responsibilities which include the installation and maintenance of passive fire protection systems.

**Failure to carry out a suitable and sufficient risk assessment is a criminal offence under the Regulatory Reform (Fire Safety) Order (and national equivalents).**

During the design and build of a building it is the responsibility of every single person involved to ensure that highest level of care is taken during the process to protect lives!

Passive fire protection, or any form of fire protection, is ultimately a **life saving** product or system.

**Failure could mean loss of life!**



Grenfell Tower, May 2017



14 June 04:00 BST



05:27 BST



06:12 BST



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# Summary

- Not all systems that look the same will perform the same
- Will not have been tested the same way
- Performance will vary from manufacturer to manufacturer

Remember;

- Check with manufacturer what the systems have been tested with
- As for test results
- Ask for evidence of test
- Use tested solutions
- Check with manufacturer how the system must be installed
- Most importantly, DO NOT mix products from different manufacturers in the same seal

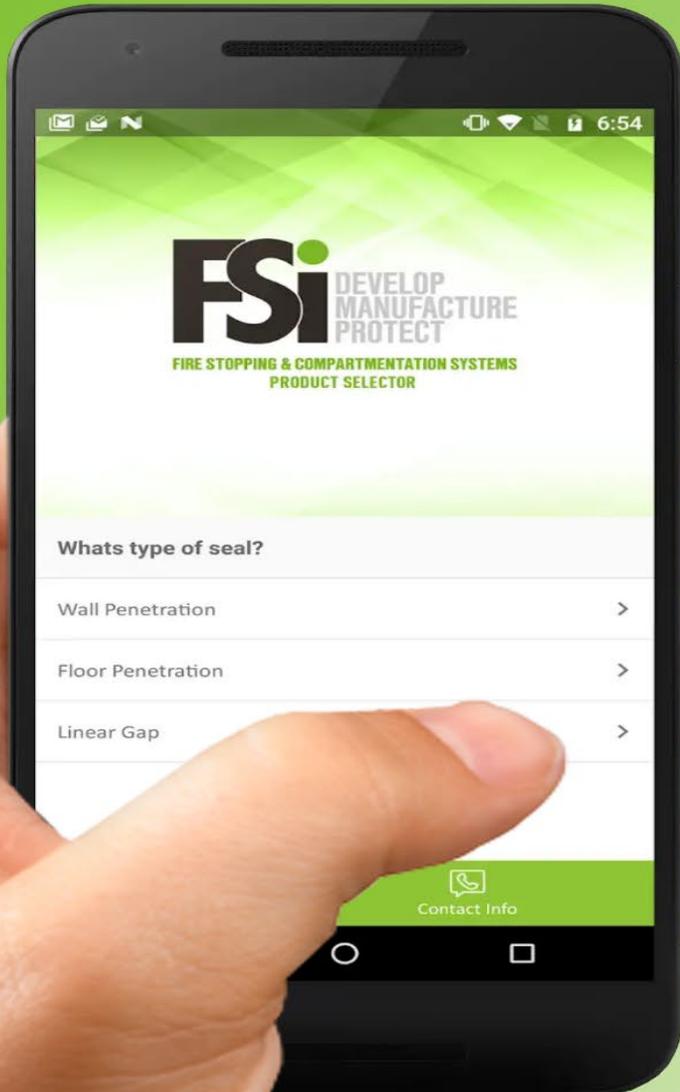


## Further Information



- ✓ The ASFP provides great publications and information about regulations and certified products. You can find them online at : [www.asfp.org.uk](http://www.asfp.org.uk)

- ✓ Warrington Fire Research/Exova/Certifire/Firas, BRE and UL provide Accreditation Information and approved product/installer lists including guides on firestopping and passive fire in general.



# Passive Fire Protection Only One Click Away

Download our App **TODAY**





## Thank you

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Measham,  
Leicestershire,  
DE12 7DS

Phone +44 (0) 1530 515130

[www.fsilttd.com](http://www.fsilttd.com)