



SKYLINE FIRESTOPPING PRESENTS

BEHIND THE WALL

An in depth guide to **Firestopping in the UK**
in 2026

skylinefirestopping.com · Skyline Firestopping Ltd

■ The Gherkin · City of London

FOREWORD

Every building tells the story of the people who designed it, built it and continue to maintain it. From the architect's first concept through to the final handover, hundreds of people contribute to creating buildings that are safe, functional and built to last. Firestopping is only one part of that process, but it is one that is specifically designed to protect people when something goes wrong.

Before founding Skyline Firestopping, I worked in the ventilation industry. On the morning of the Grenfell Tower fire, I had travelled to West London for what I expected to be a routine day carrying out surveys on nearby buildings. Instead, I witnessed the aftermath of one of the UK's worst modern building disasters unfold.

Like so many others, that day left a lasting impression on me. It fundamentally changed the way I viewed construction and building safety. I came to realise that the decisions made throughout a building's design and construction, many of which are hidden behind finished walls and ceilings, can have life-changing consequences. It was that experience that ultimately led me into passive fire protection and inspired the creation of Skyline Firestopping.

Since then, we've worked across hundreds of projects, from residential developments and commercial buildings to complex refurbishment schemes. Throughout that time, one thing has become increasingly clear: firestopping remains one of the most misunderstood aspects of modern construction. Too often it is considered too late in the programme, procured solely on price, altered without understanding the tested system, or viewed simply as another trade package to complete.

At Skyline Firestopping, we believe passive fire protection deserves greater attention. Correctly designed and installed firestopping is not just about satisfying regulations or passing inspections, it is about preserving compartmentation, protecting escape routes, limiting the spread of fire and smoke, and ultimately helping to safeguard lives.

Education is one of the most effective ways to improve standards across our industry. This guide has therefore been produced to help developers, contractors, consultants, M&E contractors and building managers better understand the principles behind effective firestopping. It is not intended to replace manufacturers' guidance, fire strategies or tested systems. Instead, it explains the fundamentals, highlights common issues we regularly encounter, and encourages better decision-making throughout the life of a project.

Creating safer buildings is a shared responsibility. The best outcomes are achieved when designers, contractors, consultants, manufacturers and specialist installers all understand the role they play in maintaining the integrity of a building's passive fire protection strategy.

If this guide encourages even a handful of better conversations, better decisions and better installations, then it will have achieved **exactly what it set out to do.**



Tom Ford

Managing Director · Skyline Firestopping Ltd

1	What is Firestopping?	PAGE 04
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2	Why Fire Compartmentation Matters	PAGE 05
---	-----------------------------------	---------

3	Understanding Fire Ratings	PAGE 06
---	----------------------------	---------

4	Types of Penetrations	PAGE 07
---	-----------------------	---------

5	Common Firestopping Systems	PAGE 08
---	-----------------------------	---------

6	Best Practice Throughout a Firestopping Project	PAGE 09
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What is Firestopping?

Modern buildings are divided into smaller sections known as **fire compartments**. These compartments are created using fire-resistant walls and floors, helping to contain fire and smoke within a limited area for a specified period.

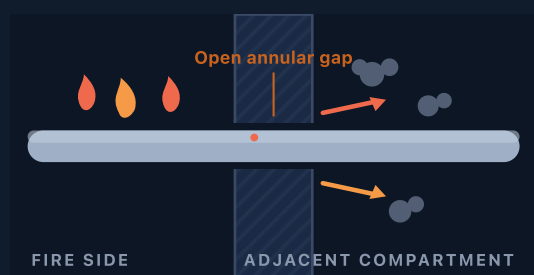
Every time a pipe, cable, duct or other service passes through one of these walls or floors, an opening is created. Unless that opening is correctly reinstated, the compartment has effectively been breached.

Firestopping is the process of restoring the fire performance of that compartment around the penetrating service.

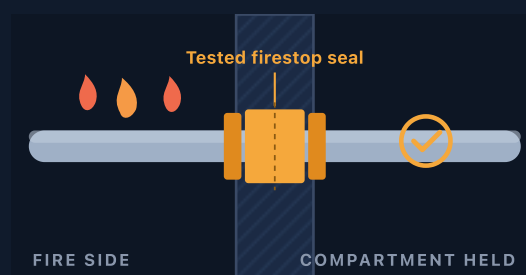
Although many installations appear simple from the outside, every penetration should be considered individually. The type of service, the construction of the wall or floor, the size of the opening and the required fire rating all influence the appropriate solution.

When correctly designed and installed, firestopping helps maintain the building's passive fire protection strategy, allowing fire compartments to perform as intended and helping to protect occupants, property and business continuity.

● UNPROTECTED PENETRATION



● CORRECTLY FIRESTOPPED



Cross-section: the same service penetration through a fire-rated wall — before, with an open annular gap that lets fire and smoke pass; and after, with the tested firestopping system reinstated so the compartment performs as designed.

Why Fire Compartmentation Matters

Fire compartmentation is one of the fundamental principles of passive fire protection.

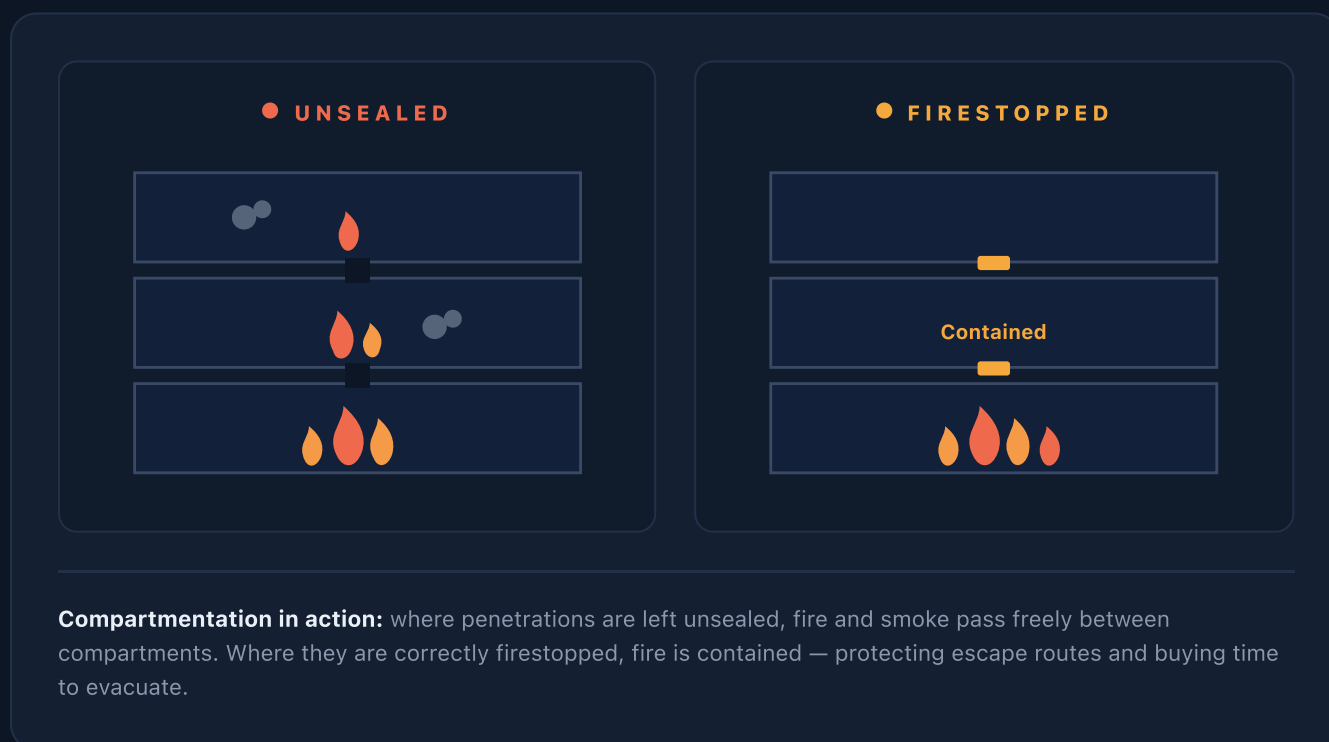
Rather than allowing fire to spread freely throughout a building, compartmentation is designed to contain it within a defined area for a specified period. This helps protect escape routes, limits damage to the building and provides valuable time for occupants to evacuate and for emergency services to respond safely.

Whenever a service penetrates a fire-rated wall or floor, that compartment is interrupted. If the opening is not correctly reinstated using an appropriate firestopping system, the effectiveness of the compartment may be significantly reduced.

Even relatively small gaps around cables or pipework can allow flames, smoke and hot gases to spread rapidly from one compartment to another.

Smoke is often the greatest threat to life during a fire. Correctly installed firestopping helps to slow the spread of smoke as well as fire, supporting safer evacuation and helping emergency services operate more effectively.

Firestopping should never be viewed as simply sealing a gap. It is about preserving the integrity of the building exactly as it was designed.



Understanding Fire Ratings

Fire resistance is commonly described using ratings such as **EI30**, **EI60**, **EI90** and **EI120**. While these terms are widely used throughout construction, they are often misunderstood. The letters represent two key measures of performance.

Integrity (E) refers to the ability of a construction element to resist the passage of flames and hot gases. **Insulation (I)** refers to its ability to limit the transfer of heat to the non-fire side.

For example, an **EI60** firestopping system has been tested to maintain both integrity and insulation for up to 60 minutes under specific test conditions.

It is important to understand that a fire rating belongs to the complete tested system, not simply to an individual product. The surrounding construction, the type of service passing through the opening, the dimensions of the penetration and the installation method all contribute to the overall fire performance.

Selecting the correct solution is therefore about much more than choosing the right product. It is about ensuring the entire system has been designed and installed appropriately.

FIRE SIDE

≈ 1000°C



NON-FIRE SIDE

stays cool & passable

Integrity

stops flames & hot gases

Insulation

limits heat transfer through

hot

cool

E vs I: Integrity (E) stops flames and hot gases breaching the element; Insulation (I) limits how much heat reaches the non-fire side. A rating such as EI60 means both are maintained for 60 minutes under test conditions.

EI30



30 min

EI60



60 min

EI90



90 min

EI120



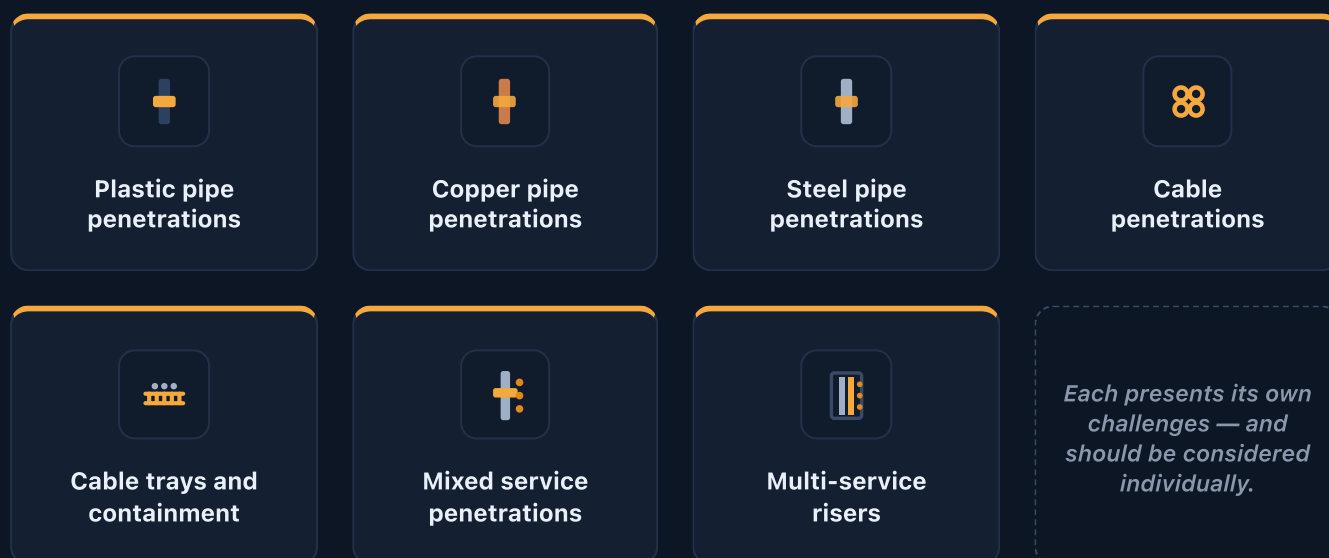
120 min

The rating belongs to the whole tested system — not the product alone. The same seal can achieve a different rating depending on the wall, the service and how it is installed.

Types of Penetrations

Not all penetrations are the same. Different services behave differently during a fire, meaning the firestopping solution should always be selected based on the specific application rather than applying a "one size fits all" approach.

The most common penetrations encountered include:



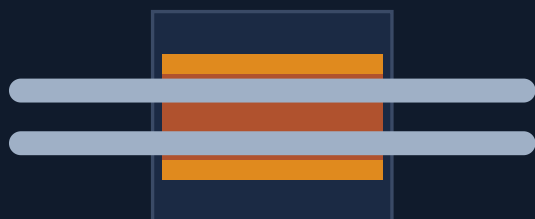
Each presents its own challenges and should be considered individually.

Multi-service penetrations are often the most complex, as they may contain combinations of plastic pipes, metallic pipes, electrical containment, communication cables and insulation materials all passing through the same compartment wall or floor.

Careful planning and the selection of an appropriate tested system are essential to maintaining the required fire performance.

Common Firestopping Systems

There are many different firestopping products available, each designed for specific applications. Some of the most commonly used systems include:



Coated fire batt

Fire Batt Systems

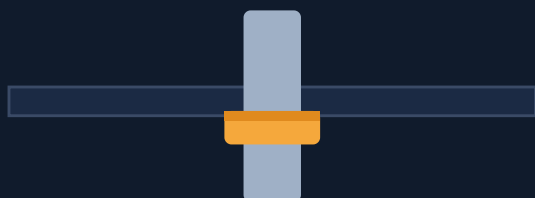
Typically used for larger or multi-service penetrations where several services pass through the same opening.



Flexible fire sealant

Fire Resistant Sealants

Used to seal smaller gaps and joints where movement and flexibility may be required.



Intumescent collar — expands in fire

Pipe Collars

Designed for combustible plastic pipes. During a fire, the intumescent material expands as the pipe softens, helping to maintain compartmentation.



Intumescent pipe wrap

Pipe Wraps

An alternative solution for certain plastic pipe penetrations where collars may not be appropriate.

No single product is suitable for every application. The correct solution should always be determined by the tested system and the specific conditions on site.

Best Practice Throughout a Firestopping Project

Successful firestopping is rarely the result of good installation alone. The best outcomes are achieved when firestopping is considered throughout the entire lifecycle of a project, from early design coordination through to final handover.

The following principles represent recognised best practice and can help reduce defects, minimise costly remedial works and ensure the building's passive fire protection strategy performs as intended.



■ Considered from design to handover — not left until the walls close up.

STEP 01

Early Design Coordination

Firestopping should be considered during the design phase wherever possible, allowing appropriate tested systems to be identified before construction begins.

⚠ WHAT CAN GO WRONG?

When firestopping is left until late in the programme, installers are often forced to work around unforeseen service layouts, oversized penetrations or unsuitable openings. This can lead to unnecessary design changes, delays and increased project costs.

STEP 02

Identify Fire Compartment Lines

Understanding where fire-rated walls and floors are located is fundamental before any firestopping work begins.

⚠ WHAT CAN GO WRONG?

If compartment lines are incorrectly identified, penetrations may be left untreated or inappropriate systems may be installed in locations where greater fire resistance is required.

STEP 03

Select the Correct Tested System

Every penetration should be assessed individually. The type of service, surrounding construction, fire rating and penetration size all influence which tested system is appropriate.

⚠ WHAT CAN GO WRONG?

Assuming that one product is suitable for every application often results in non-compliant installations that fail inspection and require costly remedial work.

STEP 04

Competent Installation

Even the best tested system will only perform as intended if it is installed correctly and in accordance with the manufacturer's tested details.

⚠ WHAT CAN GO WRONG?

Incorrect fixing methods, excessive annular gaps, missing components or deviations from the tested specification can significantly reduce the fire performance of the system.

STEP 05

Ongoing Quality Assurance

Regular inspections throughout the installation process allow issues to be identified and rectified before they become concealed by ceilings, boxing-in or decorative finishes.

⚠ WHAT CAN GO WRONG?

Defects discovered at the end of a project often require multiple trades to return, resulting in additional cost, programme delays and disruption to other completed works.

STEP 06

Maintain Clear Records

Photographic records and accurate installation documentation provide valuable evidence of compliance and create traceability for the future management of the building.

⚠ WHAT CAN GO WRONG?

Without clear records, it can be difficult to demonstrate compliance, verify what has been installed or support future maintenance and refurbishment works.

STEP 07

Complete Documentation and Handover

Comprehensive handover information, including installation records, product information and certification where applicable, helps building owners and managers understand and maintain the building's passive fire protection strategy throughout its life.

⚠ WHAT CAN GO WRONG?

Incomplete documentation can delay project completion, create uncertainty during inspections and make future alterations significantly more difficult to manage.

01

Design
Coordination

02

Compartment
Lines

03

Tested System

04

Installation

05

Quality Assurance

06

Clear Records

07

Handover

A Shared Responsibility

Effective firestopping is the result of collaboration. Designers, consultants, contractors, M&E installers, manufacturers and specialist firestopping contractors all play a role in maintaining the integrity of a building's fire compartmentation.

When each stage of the process is approached with careful planning, coordination and competence, the outcome is more than regulatory compliance, it is a building that is safer, more resilient and better protected for everyone who uses it.

Designers

Consultants

Contractors

M&E Installers

Manufacturers

Specialist Firestopping Contractors

Firestopping should never be viewed as simply sealing a gap. It is about preserving the integrity of the building **exactly as it was designed.**



FIRESTOPPING THAT HOLDS. COMPLIANCE YOU CAN DEFEND.

Talk to the specialists **behind the wall.**

Skyline Firestopping delivers third-party-certified installation and a real-time, defensible evidence file — together. Specialist firestopping for higher-risk buildings across Greater London and the Thames Valley / M4 corridor.

CERTIFIED, ACCREDITED & PARTNERED WITH THE INDUSTRY'S
LEADING SYSTEM MANUFACTURERS



Making our cities safer.

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This guide is intended for education and general guidance. It is not intended to replace manufacturers' guidance, fire strategies or tested systems.