

# Fireproofing and Sealing of Cable Tray Holes

## Article Overview

Holes and penetrations in cable trays should be sealed using fire-rated materials such as intumescent pillows, mastics, or mineral wool to prevent fire and smoke spread while maintaining tray integrity.

## Key Principles

Firestopping of cable trays is essential wherever cables pass through walls, floors, or ceilings. Openings must be tightly sealed to prevent fire propagation, smoke, and heat transfer, while allowing for maintenance and cable movement. The sealing process should ensure no visible cracks or voids, and large openings may require a fire-resistant backing plate before sealing.

## Recommended Materials

- o Intumescent Firestop Pillows: Products like AF BAGS are designed for cable tray penetrations, expanding under heat to seal gaps and provide up to EI 240 fire resistance. They are suitable for small to large cable diameters and can be repositioned for maintenance.
- o Firestop Mastics and Caulks: Intumescent mastics, such as IC 15WB Caulk, can seal cut edges and gaps around cables, providing a flexible, heat-activated barrier.
- o Mineral Wool and Fire-Rated Boards: Non-combustible mineral wool or fire-rated boards can fill larger gaps, often combined with mastics or mechanical supports to ensure a complete seal.
- o Metal Sleeves or Plates: For structural support and additional fire resistance, metal sleeves or cover plates can be installed over penetrations, especially in slab or wall openings.

## Installation Guidelines

- o Measure and Plan: Determine the size and number of firestop products needed based on cable tray dimensions and cable diameters.
- o Internal and External Sealing: Apply fireproof materials both inside and around the tray to ensure complete containment.
- o Maintain Tray Integrity: Avoid damaging tray coatings or perforations; use fireproof trays only for flame containment, not unrelated functions.
- o Gap Management: Ensure gaps between firestop packs and cables do not exceed recommended limits (e.g., 1 cm<sup>2</sup>), and packing thickness meets product specifications.
- o Inspection and Maintenance: Periodically check for corrosion, deformation, or compromised seals, and perform routine cleaning and fire resistance checks.

## Regulatory Considerations

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Firestopping must comply with local building codes and standards, such as BS 7671 and EN 1366-3, ensuring that penetrations maintain the fire-resistance rating of the surrounding structure . Temporary sealing during installation can use removable pillows or sleeves, with permanent sealing applied once cable routing is complete .

## Practical Tips

- o Use perforated or wire mesh trays to improve airflow and reduce heat accumulation .
- o Keep openings as small as practicable to minimize fire risk .
- o Ensure segregation of power and signal cables to reduce interference and maintain safety .
- o Cover plates should be square, evenly painted, and securely fixed to close openings effectively . By following these guidelines, cable tray penetrations can be effectively fireproofed, maintaining both safety and compliance while allowing for future maintenance and modifications.

Firestop Cable Coating is a white, water based synthetic resin which is applied by airless spray, or painted onto cables & cable trays

Fire protection solutions to protect cables, cable trays and cable systems. Discover our tested cable

More than a firestop the roxtec sealing system for cables and pipes protects against fire - but also against gas, water, and several

The product is certified for "small" - "medium" and "large" cable penetrations, to create a fireproof seal for

Cable Tray Penetration Seals Additional Information (Contact us to receive information in hardcopy form.)  
Problem: In the event of a

Cable changes happen - plan for it future cable changes can be very costly without proper planning.  
field-based decisions for routing

This article considers the methods for fire sealing where wiring systems and openings are

FIRSTO firestops are designed to seal multi-cable and cable tray penetrations of fire-rated walls and floors.  
FIRSTO fire stops are

Approved fire protection systems for sealing cable penetrations, cable ducts, or single cable lines in walls

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Cable tray installation must comply with specific technical standards to ensure electrical safety, system

BAGS SHALL BE: GRACE CONSTRUCTION PRODUCTS KBS SEALBAGS OR 3M FIRE BARRIER PILLOWS. INSTALL BAGS

Sinisi Solutions works with major utilities and clients to design cable enclosures that protect critical cabling and cable tray setups

Cable tray type, ducts and conduits Although the type of cable and conductor is the determining factor in the fire

Ensure safety and durability with this comprehensive guide to fireproof cable trays

Firestopping through concrete barriers, installing wall boxes and using cable trays are the most common problems in this area.

Our range of trunking and cable tray protection products provide effective fire protection for pipes, cables and trunking within floors,

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