

Sealing of cable trays on floors of residential buildings



Overview

Cable and pipe seals Where to use Roxtec?

You find roxtec cable and pipe seals in many applications throughout the construction industry. Discover the idea.

Key Takeaways

Cable trays penetrating floors in residential buildings must be sealed with fire-resistant materials to restore the floor's fire integrity and prevent smoke or water ingress.

Regulatory and Safety Requirements

When cable trays pass through floors, the openings must be minimized and sealed to maintain the original fire resistance of the floor. Regulations such as Group 527. 2 require both external and internal sealing around wiring and cable containment systems, ensuring that the sealing resists fire, smoke, and water penetration to the same degree as the floor itself.

Non-flame propagating cables with small cross-sectional areas may have reduced internal sealing requirements, but external sealing is still necessary.



Materials for Sealing

Common firestopping materials for floor penetrations include: Fire-rated boards and firestop packs, Firestop mastic or intumescent sealants, Fire-resistant mineral wool, Modular systems like FIRSTO, which allow easy installation and later cable modifications. For large openings, a fire-resistant backing plate or support plate should be installed before sealing to ensure stability and maintain fire resistance. Gaps around cables should be minimal, typically not exceeding 1 cm², and packing thickness should meet manufacturer specifications, often around 24 mm.

Installation Guidelines

Ensure floor finishes and electrical shafts are completed before sealing. Seal all gaps internally and externally around metal trunking or cable trays. Use cover plates of consistent dimensions to close openings neatly and maintain fire integrity.

For linear or service penetration seals, expanding intumescent materials are effective for accommodating limited movement while maintaining fire resistance. Modular systems like FIRSTO allow for easy addition or removal of cables without compromising the firestop.

Standards and Testing

Cable penetration seals should comply with European Standard EN 1366-3 and be classified according to EN 13501-2. The fire resistance of the seal depends on the cable type, configuration, and the tested cross-section. Only tested systems should be used to ensure compliance and safety.

Practical Considerations

Keep openings as small as practicable to reduce fire risk. Ensure the sealing material is resistant to combustion products and water penetration. Plan the layout to facilitate installation and future maintenance.

Consider mechanical loads and accessibility when selecting sealing systems, especially in residential buildings with multiple cable trays. By following these guidelines, cable tray penetrations through floors can maintain the fire safety, structural integrity, and regulatory compliance required in residential buildings.

Article Content

Cable and pipe seals

Where to use Roxtec? You find roxtec cable and pipe seals in many applications throughout the construction industry. Discover the idea behind our innovative sealing solutions and learn how to

Firestopping Requirements for Cable Trays and

Sealing shall be tight and reliable, without visible cracks or voids. For large openings, install a fire-resistant backing plate before sealing. Layout and

Cable penetration seals according to European Standards

Cables, cable bundles, conduits, bundles of conduits, empty pipes, cable trays and cable ladders may also pass through penetration seals in walls and floors and should be taken into

What are the methods for fire sealing of elements within a building's ...

Regulation Group 527.2 highlights the need for sealing such elements especially where wiring or cable management systems have penetrated the fabric of a building's construction,

Fire protection cable penetration seals | Discover now

Approved fire protection systems for sealing cable penetrations, cable ducts, or single cable lines in walls and floor openings. Get to know now!

Firsto System | CSD Sealing Systems

FIRSTO firestops are designed to seal multi-cable and cable tray penetrations of fire-rated walls and floors. FIRSTO fire stops are developed as a modular system which is simple to assemble around

Cable penetrations seals | Wolman

KBS ® Sealbags are mainly used for the flexible sealing of cable penetrations in walls and floors when cables have to be replaced or retrofitted frequently. KBS ® Sealbags are tested according to DIN

Linear Seals, Cavity Barriers and Service Penetration Seals

Service penetration seals are passive fire protection systems designed to maintain the fire resistance of a building element or section – wall or floor – where services such as cables, cable trays, pipes or

Sealing of wiring system penetrations

Sealing Methods Various types of fire-stopping products or solutions can be used for external sealing and may include intumescent mastics/gaskets, pillows, compounds and metal

Fire sealing cable penetrations

Fire sealing of cable penetrations is required by building regulations. In case of a fire, these cable services will melt and leave openings in the walls or floors,

Air Sealing Electrical Wiring

Air barriers need to be continuous to be effective; this means sealing all penetrations in exterior walls and in walls, ceilings, or floors adjoining unconditioned spaces. Holes drilled to pass

Wiring in Cable Trays: Your Guide to Tidy and Safe

Learn essential principles for wiring in cable trays. Our guide covers segregation, fill, bending, grounding, and labeling for safe, tidy, and reliable cable

Cable and pipe seals

Cable changes happen – plan for it future cable changes can be very costly without proper planning. field-based decisions for routing new cables often lead to erratic cutting of cables or drilling of more

Effective weatherproofing for cable trays | Jones Weatherproofing

In vertical wall penetrations, weatherproofing cable trays is often carried out using a weatherstop sealing system. From the outside, this looks like ductwork or a series of boxes attached

How to Seal Cable Entry Holes | 5 Proven Techniques

Cable entry holes are necessary to feed important cables and wiring through a wall, but these holes must be sealed properly for safety reasons. You can use several

Performance Evaluation of Cable Shaft Fireproof Sealing System

The effectiveness of fireproof sealing systems in preventing the spread of fire in high-rise building cable shafts relies on the properties of various sealing materials and the construction

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Firestop

The following charts give the number of 3M pillows needed to completely firestop an opening that cable tray passes through.* Two (2) sticks of moldable putty (part number FSP-MPS) are also needed for

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