

Methods for sealing cable trays that pass through walls



Overview

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.

Key Takeaways

Cable trays passing through walls should be sealed using firestop materials, modular sleeves, or specialized caulks to ensure fire resistance, environmental protection, and structural integrity. Firestopping Techniques

Firestopping is essential for cable trays passing through walls to prevent fire and smoke spread. Openings should be tightly sealed with materials such as fire-rated boards, firestop packs, firestop mastic, or fire-resistant mineral wool. For large openings, a fire-resistant backing plate should be installed before sealing. Gaps between firestop packs and cables should not exceed 1 cm^2 , and packing thickness should be at least 24 cm. All gaps inside and around metal trunking must be sealed both internally and externally, and cover plates should be square, consistent, and painted evenly for a complete seal.

Sleeve Systems



Sleeve systems are effective for accommodating expansion and seismic movement. The cable tray is stopped short of the wall, a sleeve is installed, and the tray continues on the other side. The sleeve can then be firestopped to match the wall's rating. This method reduces the risk of firestop failure during seismic events and simplifies maintenance .

Firestop Products

Several specialized products are available:

- Firestop pillows and putty: Moldable pillows (e.g., 3M FSP-SLP-M) and sticks of moldable putty can fill gaps around trays. Openings are typically made 1.5 inches larger than the tray on all sides for proper installation .
- Intumescent caulks: Products like IC 15WB Caulk expand under heat to block fire and smoke, suitable for sealing cut edges of mats or around trays .
- Modular sealing systems: Systems like SLIPSIL, RISE®, and FIRSTO use expanding rubber inserts and sealants to provide fire, water, and gas protection. They are modular, easy to install, and can accommodate multiple cables or pipes through the same penetration .

Environmental and Safety Considerations

Sealing cable tray penetrations also protects against moisture, gases, rodents, and VOCs, which can damage equipment or create hazards. Using duct seal putty, cable entry plates, or cable entry boxes ensures a watertight and gas-tight seal while maintaining strain relief and environmental protection .

Best Practices

- Plan openings and firestopping before cable installation to ensure proper fit and compliance.
- Use small, multiple penetrations rather than one large hole to simplify sealing and maintenance.
- Ensure all materials are UL or ETL listed for the specific wall type and fire rating.
- Maintain accessibility for future cable additions or maintenance without compromising the seal. By combining firestop materials, sleeve systems, and modular sealing solutions, cable trays can safely pass through walls while maintaining fire resistance, environmental protection, and structural integrity.

Article Content

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Firestopping Requirements for Cable Trays and Wall/Slab Penetrations

Where cables pass through shafts, walls, slabs, or enter electrical panels or cabinets, openings shall be tightly sealed

Firestop

The following charts give the number of 3M pillows needed to completely firestop an opening that cable tray passes through.* Two

A seal system for sealing a wall penetration for a cable tray, a cable ...

In a known method for improving the fire retardancy of a wall having an opening for letting a cable tray through, firestop mortar and/or

Cable and pipe seals

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