

FIRE BARRIERS PENETRATIONS

Understanding the risk

When pipes, ducts, conduits, wires or other objects penetrate fire resistant barriers such as walls, floors or ceilings, the openings create a path for heat and smoke to spread through a structure.

Controlling the hazard

The building codes require these “penetrations” to be fire-stopped with materials that meet the requirements of ASTM E 814, Standard Test Method for Through-Penetration Fire Stops or UL 1479, Standard for Safety for Through- Penetration Fire Stops.

These documents refer to T-Ratings and F-Ratings for the penetration fire stop materials.

T – Rating

References temperature limits, while

F – Rating

References fire spread control

What is the difference?

T-Rating. The time period that the penetration firestop system, including the penetrating item, limits the maximum temperature rise to 325°F/163°C above its initial temperature through the penetration on the non-fire side in accordance with the test standards.



F-Rating. The time period during which a fire-stop system limits fire spread through the penetration in accordance with the test standards.

Reference

For additional information, refer to NFPA 5000, Building Construction and Safety Code™

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