INSIGHT

BALANCED RISK ENGINEERING SOLUTIONS

RMC Risk Management Consultants

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™