Firestop Maintenance
Important Note:

- Firestop was installed & inspected in both buildings
- Maintenance could be the main factor
Damage of installed Firestop Systems

During the usage of buildings, Installed Firestoppers can be damaged due to:

- Mechanical or Electrical commissioning defects may be still there
- Wrong or inappropriate usage of different services
- Maintenance of different services in the buildings (repairs, pulling cables, …)
- Shocks can occur at anytime to pipes, busways, ducts, … etc….
- Buildings might have undergone some type of Renovation or Upgrade

→ Damage of installed firestop systems, can happen at any time & due to different reasons.
Firestop damaged due to pulling new cables in the electrical room
Firestop damaged around plumbing due to excess water leakage
Codes Requirements
The Codes Approach:
US Codes

- Recent versions of the main US Codes NFPA 101 and the International Fire Code both have very specific language on the maintenance of firestop
Canadian Codes

- The National Building Code is very specific about the need for firestop for penetrations through fire separations and for joints.
- The National Fire Code is not as specific as the US codes but there is some guidance on maintenance:

Section 2.2.1.2 Damage to Fire Separations

1) When fire separations are damaged so as to affect their integrity, they shall be repaired so that the integrity of the fire separation is maintained.

It is logical that this clause would require that any penetration through a fire separation should be firestopped.
• Selection of firestop systems should include an evaluation of the likelihood of re-penetration during the life cycle of the building. Cable trays and low voltage cable penetrations are highly likely to be modified over the life of the building so choose products in a system that are easy to re-penetrated.
Product Selection

- Choose products in a firestop system that in addition to the fire rating have properties that will reduce maintenance.

Does the firestop product have:

Age Testing
Mould and mildew resistance testing
Water leakage testing
Sound resistance
Tips for Successful Survey:

1. Ask for The Fire plan of the building that shows the fire zones
2. Ask to walk with someone who knows the building
3. Check electrical / mechanical rooms
4. Check openings above fall ceiling in the corridors (Through Penetrations & Joints)
5. Check Perimeter Fire Barriers
6. Look for & around rated doors
7. Report / discuss the problems you saw
8. Refer to ASTM E 2174 & ASTM E 2393 for guidance
When Surveying:

The way you think it is:

The way you might find it
Hint:

To Facilitate the inspection

- All systems should be labeled
- Labels should include the Listing Number or the EJ Number
...What about existing old buildings...
...What about existing old buildings...

OR
9 Steps to follow:

1. Conduct premises' Survey (if Fire plan is not available)
2. Identify the level of Passive Fire Protection required based on building type (Code)
3. Coordinate (Owner, Facility Manager & Tenants)
4. Design
5. Install
6. Label
7. Inspect
8. Hand Over
9. Maintain
Summary

- Maintenance of fire separations and firestop systems over the life of the building can save lives
- Labelling of firestop systems during installation will help prevent future damage
- The National Fire Code has an expectation that the fire separations be maintained for the life of the building
Questions & Open Discussion
Thank You