FCIA Educational Seminar @ UAE

Maintenance of Firestop Systems
PASSIVE & ACTIVE MEASURES HAVE DIFFERENT FUNCTIONS, THEY COMPLEMENT EACH-OTHER
If a building has sprinklers, is compartmentation still needed?

YES!
Fire Protection

Detection

Control/Suppression

Containment
Active Protection Measures shall be Tested and Maintained frequently

also

Passive Protection Measures shall be inspected and Maintained frequently
Passive Protection Measures shall also be inspected and Maintained frequently

Why:

During the usage of buildings, Installed Firestops can be altered or 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….

→ 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
Firestop damaged around plumbing due to excess water leakage
The Codes Approach:
SECTION 4.5.8 Maintenance, Inspection, and Testing.

4.5.8.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature is required for compliance with the provisions of this Code, such device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or requirements developed as part of a performance-based design, or as directed by the AHJ. [101:4.6.12.1]
National Fire Protection Association - NFPA 101

- **4.5.8.2** No existing life safety feature *shall be removed or reduced* where such feature is a requirement for new construction. [101:4.6.12.2]

- **4.5.8.3** Existing life safety features obvious to the public, if not required by the Code, *shall be either maintained or removed*. [101:4.6.12.3]

- **4.5.8.4** Any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature requiring periodic testing, inspection, or operation to ensure its maintenance *shall be tested, inspected, or operated* as specified elsewhere in this Code or as directed by the AHJ. [101:4.6.12.4]

- **4.5.8.5** Maintenance, inspection, and testing *shall be performed under the supervision of a responsible person who shall ensure* that testing, inspection, and maintenance *are made at specified intervals* in accordance with applicable NFPA standards or as directed by the AHJ. [101:4.6.12.5]
SECTION 703
FIRE-RESISTANCE-RATED CONSTRUCTION

703.1 Maintenance. The required fire resistance rating of fire-resistance rated construction (including walls, fire stops, shaft enclosures, partitions, smoke barriers, floors, fire resistive coatings and sprayed fire resistant materials applied to structural members and fire resistive joint systems) shall be maintained. Such elements shall be visually inspected by the owner annually and properly repaired, restored or replaced when damaged, altered, breached or penetrated.

Openings made therein for the passage of pipes, electrical conduit, wires, ducts, air transfer openings, and holes made for any reason shall be protected with approved methods capable of resisting the passage of smoke and fire.
UAE Fire and Life Safety Code of Practice – Maintenance & Management

CHAPTER 1-
SECTION 21
FIRE STOPPING

21.15.2 The required fire resistance rating of installed firestop systems shall be **visually inspected by the owner or owner’s inspection agency annually.** Damaged, altered or breached firestop systems shall be properly repaired, restored or replaced to comply with applicable codes as per the guidelines of Civil defense.

21.15.3 Any new **Openings** made therein for the passage of through penetrants, **shall be protected** with approved firestop system to comply with applicable codes as per the guidelines of Civil defense.

- FCIA working on a standard for surveying existing buildings
Example of Good Firestop Applications:
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Gypsum Wall assembly running up to concrete over metal deck

[Diagram of Gypsum Wall assembly with labels and specifications]
Focus Points:

• Firestop Maintenance is as much as important as Firestop installation. (ref. all codes)
• No existing life safety feature shall be removed or reduced
• Installed Firestops can be altered or damaged at any time during the life cycle of a building & due to different reasons
• Installed Firestop systems, shall be properly inspected & maintained annually
• Inspection shall be seriously considered & handled by the building owner
• Any new openings found, shall be protected with the appropriate Firestop system
• Old buildings, without Firestopping, need to be strongly considered
Questions...???
THANK YOU