



“Firestop Inspection, What can you Except “

Telgian Corporation
Patrick Tesche
VP Firestop

New and Upcoming Codes

- NYC: Starting July 1, 2010 Special Inspection Agency is required to be certified under AC 291
- NFPA 3 Commissioning (Firestop)
- ICC: Projects over 75' Height table will be required to have the ASTM E 2174/2393, in Oct 09 pass through committee hearings with positive comment and is going to be heard on public comment this month.
- International Fire Code 2009
 - **703.1 Maintenance.** The required *fire-resistance rating* of fire-resistance-rated construction (including walls, firestops, shaft enclosures, partitions, *smoke barriers*, floors, fire-resistive coatings and sprayed fire-resistant materials applied to structural members and fire-resistant 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. Where concealed, such elements shall not be required to be visually inspected by the *owner* unless the concealed space is accessible by the removal or movement of a panel, access door, ceiling tile or similar movable entry to the space. 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. Openings through fire-resistance-rated assemblies shall be protected by self- or automatic-closing doors of *approved* construction meeting the fire protection requirements for the assembly.

What is an Inspection?

- Inspection is the process of a formal or official viewing with a detailed examination by a trained qualified individual to pass judgment.

International Accreditation Services

AC 291 Special Inspection Agency

- 3.2.5 An affidavit signed by an office of the agency attesting to compliance with the 3rd party requirements described in the following not.
- Note: the applicant agency and its inspection staff shall not be part of or have a financial or other interest in construction, manufacture, representation, supply, installation or maintenance of the structures or components (including any fixture or appliances) which they inspect, or in entities that supply similar competitive items or services. The Agency and its staff shall not engage in any activities that may conflict with their independence of judgment and integrity.....

Inspection Standards

- ASTM E 2174 " Onsite inspection of installed firestop system"
- ASTM E 2393 " Onsite inspection of joints and premiered firestop system"



3rd Party Independent Inspection

ASTM E 2174 and 2393

- 6.2.1 The inspector shall be completely independent of, and divested from, the installer, contractor, manufacturer, or supplier of any material being inspected
- 6.2.2 The inspector shall not be a competitor of the installer, contractor, manufacture, or supplier of any material being inspected
- 6.3 The inspector shall submit notarized statements to the AA assuring compliance with 6.2

3rd Party Independent Inspection

- Found in Division 7 Firestopping
 - Owner shall engage with an Independent Inspection Agency...
 - UL, FM and FCIA as well as a few Firestop Manufactures Specification have the ASTM E 2174 and 2393 Inspection Standard
 - Master Spec./ Spec Link have the ASTM E 2174 and 2393 Inspection Standard:

ASTM E 2174

- Onsite Inspection of Installed Firestop Systems
 - 2 Different type of inspections
 - ❖ Visual Inspection: randomly witnessing approximately 10% of each type of firestop installed
 - ❖ Destruction Testing: destructively sampling 2% of like firestop systems within a 10,000 sq ft. area or less
- Area of Inspection
 - Through Penetration in walls and floors
 - Blank Holes

ASTM E 2393

- On-site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers
 - 2 Different Type of Inspection
 - ❖ Visual Inspection: observing installation process 5% of the total lineal ft.
 - ❖ Destructive Inspection: destructively sampling a minimum of one sample per type of joint system per 500 lineal ft.
- Areas of Inspection
 - Curtain Wall
 - Edge of Slab
 - Top/Bottom of Wall
 - Fire Rated/Resistive Control Joints
 - Mechanical Fire Resistive Joint System (only visual)

What to Expect during the Inspection

- Review Firestop Submittal
- Meeting with Contractor and GC
- Scheduling the Inspections (Visual /Destructive)
- Conducting the Inspection
- Inspection reports must be issued within 1 working day of the inspection, if Non-Compliant items are found.
- Expectations of the Installer: They re-work noncompliant item within 2 working days and reschedule a re-inspection of all items in question

Non-Compliant

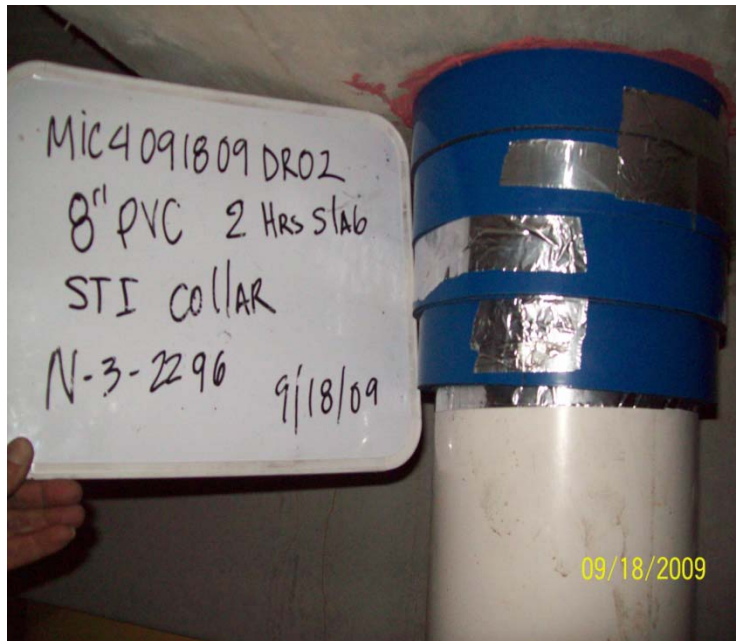
- As per the ASTM E 2174, if non-compliance occurs on 10% or more of the quantity of like fire stop with the visual or destructive testing process, then the inspection of those particular type firestop shall cease. The installer shall QC their own work, repair or replace those firestops that were found non-compliant.

Thing the Inspectors are looking for...

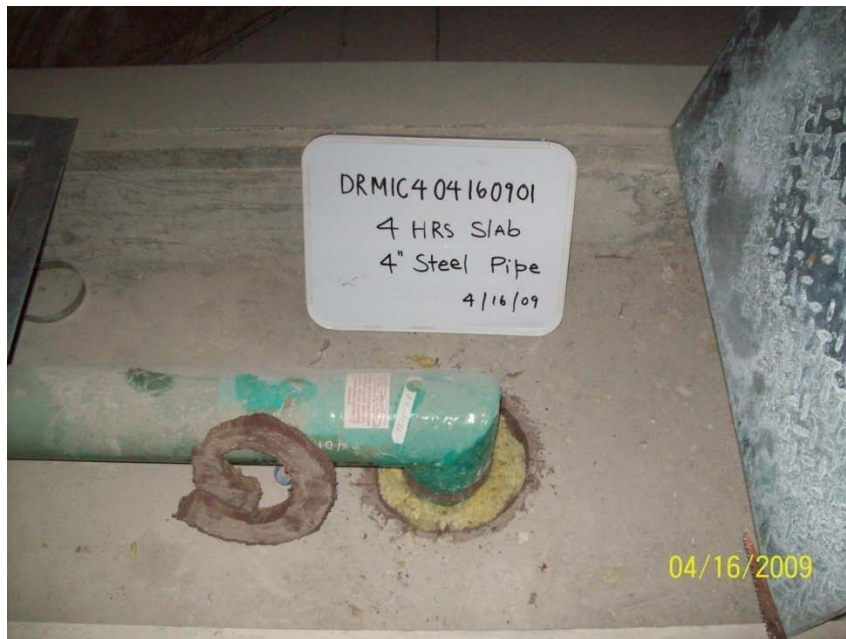
- Proper UL System Selection
- Correct Penetrating Item or Items
- Proper firestop material installed
- Annular Space
- Cohesive/Adhesion of Material
- Depth of Sealant
- Proper Backer (Material, Compression and Depth)

Documenting Inspection

- Documenting Compliant and Non-Compliant Items



Destructive Testing



- Check for proper sealant depth
- Annular Space
- Proper backer

Visual Inspections

- Proper Material was Installed in Joint System



Visual Inspections

- Proper Material was Installed in Joint System



Visual Inspection of Rated Mechanical Systems



Were we found Non-Compliance

- Improper System Selection



Non-Compliance

- Annular Space (requirements with System)



Non-Compliant

- Improper backing material



Non-Compliance

- Sealant not going completely around the penetrating item "Smiley Face"



Non-compliance

- Cohesive/Adhesion /Substrate Failures



- Mixing of two different Firestop Manufactures



Thank you



Questions/Answers ?