

## SECTION 078413 – PENETRATION FIRESTOPPING

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Penetration firestopping systems for the following applications:
  - a. Penetrations in fire-resistance-rated wall, floor and roof assemblies or fire separations.

##### B. Related Sections:

1. Section 072100 – Thermal Insulation.
2. Section 079200 – Joint Sealants.
3. Section 210517 – Sleeves and Sleeve Seals for Fire Suppression Piping.
4. Section 220517 – Sleeves and Sleeve Seals for Plumbing Piping.
5. Section 230517 – Sleeves and Sleeve Seals for HVAC Piping.
6. Section 233113 – Metal Ducts.
7. Section 233116 – Non-Metal Ducts.
8. Section 233346 – Flexible Ducts.
9. Section 260544 – Sleeves and Sleeve Seals for Electrical Raceways and Cabling.

##### C. Reference and Industry Standards

1. The following reference standards shall be applicable to this Section:
  - a. New York City Building Code, **current** edition, as amended, inclusive of:
    - Chapter 7 Fire and Smoke Protection Features
  - b. The current Enterprise Green Communities (EGC) Criteria, and the New York City Overlay.
2. Industry Standards
  - ASTM (American Society for Testing and Materials)

##### D. The current NYC Overlay of the current Enterprise Green Communities Criteria:

1. Mandatory Requirements: See the NYC Overlay of the EGC reference standard for full specifications.
  - a. All projects must achieve compliance with the mandatory criteria measures that are applicable:
    - Criterion 6.4: Healthier Material Selection

- Criterion 6.10: Construction Waste Management
2. Additionally, rehab projects are required to achieve **55** optional points. Criteria with optional points related to this Specification Section include, but may not be limited to:
- Criterion 6.1: Ingredient Transparency for Material Health
  - Criterion 6.3: Chemical Hazard Optimization.
  - Criterion 6.5: Environmentally Responsible Material Selection.
  - Criterion 6.7: Regional Materials
  - Criterion 6.10: Construction Waste Management

## 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at Project site.

## 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

## 1.4 INFORMATIONAL SUBMITTALS

- A. Product test reports.
- B. Documentation for Enterprise Green Communities Criteria.

## 1.5 CLOSEOUT SUBMITTALS

- A. Installers Certificates: From Installers indicating that penetration firestopping systems have been installed in compliance with requirements and manufacturer's written instructions.

## PART 2 - PRODUCTS

### 2.1 PENETRATION FIRESTOPPING SYSTEMS

- A. Penetration Firestopping Systems: Systems that resist spread of fire, passage of smoke and other gases, and maintain original fire-resistance rating of construction penetrated. Penetration firestopping systems shall be compatible with one another, with the substrates forming openings, and with penetrating items if any.
- B. Penetrations in Fire-Resistance-Rated Walls: Penetration firestopping systems with ratings determined per ASTM E814, based on testing at a positive pressure differential of 0.01-inch wg.
1. F-Rating: Not less than the fire-resistance rating of constructions penetrated.
- C. Accessories: Provide components for each penetration firestopping system that are needed to install fill materials and to maintain ratings required. Use only those components specified by penetration firestopping system manufacturer and approved by qualified testing and inspecting agency for conditions indicated.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

- A. Examine substrates and conditions, with Installer present, for compliance with requirements for opening configurations, penetrating items, substrates, and other conditions affecting performance of the Work.
- B. General: Install penetration firestopping systems to comply with manufacturer's written installation instructions and published drawings for products and applications.
- C. Install forming materials and other accessories of types required to support fill materials during their application and in the position needed to produce cross-sectional shapes and depths required to achieve fire ratings.
  - 1. After installing fill materials and allowing them to fully cure, remove combustible forming materials and other accessories not forming permanent components of firestopping.
- D. Install fill materials by proven techniques to produce the following results:
  - 1. Fill voids and cavities formed by openings, forming materials, accessories and penetrating items to achieve required fire-resistance ratings.
  - 2. Apply materials so they contact and adhere to substrates formed by openings and penetrating items.
  - 3. For fill materials that will remain exposed after completing the Work, finish to produce smooth, uniform surfaces that are flush with adjoining finishes.

### 3.2 FIELD QUALITY CONTROL

- A. Owner will engage a qualified testing agency to perform tests and inspections according to ASTM E2174.
- B. Where deficiencies are found or penetration firestopping system is damaged or removed because of testing, repair or replace penetration firestopping system to comply with requirements.
- C. Proceed with enclosing penetration firestopping systems with other construction only after inspection reports are issued and installations comply with requirements.

**END OF SECTION 078413**