PART 1 GENERAL

1.01 SECTION INCLUDES:
A. Work, in general includes furnishing and installation of those fire and smoke penetration seals for openings in floors walls and other elements of construction that are in accordance with ASTM E-814, E-119 and/or UL-1479, UL-263.

1.02 RELATED WORK:
A. Coordination of the sections listed below with this section includes, but is not limited to:
   1. Division 3, Concrete
   2. Division 4, Masonry
   3. Division 7, Thermal and Moisture Protection
   4. Section 09220 - Plaster and Stucco Finishes
   5. Section 09620 - Gypsum Drywall
   6. Division 15 & 16, Mechanical, Plumbing and Electrical

1.03 RELATED DOCUMENTS:
A. Drawings and general provisions of contract including supplementary conditions that apply to any work specified in this section.
B. The extent of work is shown and shall include, but not be limited to:
   1. Firestop sealants
   2. Firestop mortar
   3. Firestop pillows
   4. Firestop devices and wrap strip
   5. Firestop silicone foam
   6. Firestop safing with elastomeric smoke seal

1.04 QUALITY ASSURANCE:
A. Applicator Qualifications: Minimum two years experience installing UL classified firestopping or manufacturer certification.
B. Standards: All firestop systems shall have an F (flame) rating and T (temperature) rating conforming to applicable building codes and in accordance with project drawings and specifications
C. Single Source Responsibility for Firestopping: Obtain firestopping materials from a single manufacturer for each different product required.

1.05 SUBMITTALS:
A. Shop Drawings: Submit shop drawings or manufacturer’s detail sheets showing each condition that requires a penetration or joint seal. These details must be in accordance with the proposed approved system. Details must include materials to be used, anchorage, methods of installation and relationship to all adjacent construction.
B. Manufacturer’s Data: Submit copies of all manufacturer’s specification data, recommendations and installation instructions for each type of material required.

1.06 DELIVERY, STORAGE AND HANDLING:
A. General:
   1. All materials shall be delivered and stored in original, unopened and clearly labeled containers. Containers shall list the name of the manufacturer and bear proper UL label.
   2. Materials shall be stored and protected from environmental conditions as required by manufacturer.

1.07 PROJECT CONDITIONS:
A. **Existing Conditions:** Installer shall verify that existing conditions and substrates conform to manufacturer’s requirements before starting work. Unsatisfactory conditions must be corrected before proceeding.

**PART 2 PRODUCTS**

**2.01 MATERIALS:**
A. **General:** Provide firestop and accessory materials with fire resistance rating indicated which are identical to those assemblies whose fire endurance has been determined by testing per ASTM E814 or E119, by Underwriters Laboratory, Inc., or other testing and inspecting agency acceptable to authorities having jurisdiction.

**2.02 FIRESTOP SEALANTS:**
A. **General:**
1. All materials shall comply with ASTM E814 or E119 (UL 1479) and shall be manufactured of non-toxic, non-hazardous, asbestos-free materials and unaffected by water or moisture when cured.
2. **Primers:** Conform to manufacturer’s recommendations for primers required for various substrates and conditions.
3. **Back-up Materials:** Back-up materials, supports and anchoring devices shall be provided as required by UL testing.

B. **Silicone Sealant:** One-part, low modulus, moisture curing silicone capable of withstanding movement of 50% in extension and 50% in compression in service.

C. **Ceramic Fiber Sealant:** One-part, moisture curing, water-based ceramic fiber sealant, unaffected by moisture or frost when cured, with a melting point not less than 3000 degrees F.

D. **Intumescent Sealant:** One-part, water-based graphite intumescent sealant, unaffected by moisture or frost when cured.

E. **Intumescent Wrap Strips:** Solvent-free, graphite-based intumescent wrap strip unaffected by water, frost or UV.

F. **Intumescent Putty:** Water-based graphite, water-resistant intumescent putty.

G. **Fire Prevention Mortar:** Hydraulic, fire-resistant, cementitious mortar.

H. **Firestop Pillows:** Semi-intumescent, dust-free fiberglass pillows, impervious to water, humidity, frost and light.

I. **Fire-Resistive Joint Sealant and Safing:** Ceramic fiber or mineral wool joint filler strips or blankets of sizes and shapes recommended by manufacturer, specifically for increasing fire resistance or endurance of joint systems with elastomeric smoke seal consisting of a polyurethane, silicone or acrylic meeting ASTM C-920, Class 25 and capable of withstanding movement of 25% in extension and compression in service.

**PART 3 EXECUTION**

**3.01 EXAMINATION:**
A. **General:** Examine joints and openings indicated to receive firestop sealers, with installer present, for compliance with requirements for proper configuration, installation tolerances and other conditions affecting firestop performance. Do not proceed with installation of firestop sealers until unsatisfactory conditions have been corrected.

**3.02 PREPARATION:**
A. **Surface Cleaning of Openings:** Clean out openings and joints immediately before installing firestop sealers to comply with recommendations of firestop manufacturer.

**3.03 INSTALLATION:**
A. **General:**
1. Apply in strict accordance with manufacturer’s recommendations to provide F and T rated seal as required.
2. Apply firestops with sufficient pressure to properly fill and seal openings, then tool or trowel exposed surfaces.

3.04 FIELD QUALITY CONTROL:
A. All sealed areas should be inspected by an appointed code official and the General Contractor to ensure proper installation. All sealed areas should remain accessible until inspection by applicable authorities has been completed.

3.05 CLEAN-UP:
A. General:
1. Clean adjacent surfaces immediately and leave work neat and clean.
2. Remove excess materials using recommended procedures as work progresses.
3. Remove dams after initial set of firestops as required.

3.06 SYSTEM TYPES:
A. Use system listed below that best matches the wall and floor construction.
1. Single metal pipe or conduit penetrations:
   ULC designations: SP-143, SP-144, SP-189, SP-173, SP-178, SP-236, SP-237, SP-254, SP-255, SP-256, SP-257
2. Multiple metal pipe or conduit penetration:
   UL designations: C-AJ-1047, W-L-1020, W-J-1012
   ULC designations: SP-179, SP-180, SP-231, SP-232, SP-233, SP-234, SP-236, SP-237, SP-256
3. Multiple mixed metal and plastic pipe or conduit penetrations:
   UL designations: C-AJ-8034
4. Insulated metal pipe penetrations:
   ULC designations: SP-145, SP-146, SP-179, SP-180, SP-236, SP-237
5. Plastic pipe or conduit penetrations:
6. Cable penetrations:
   ULJ designations: SP-170, SP-171, SP-172, SP-207, SP-231, SP-232, SP-234, SP-235, SP-238, SP-254, SP-255
7. Cable tray penetrations:
   UL designations: C-AJ-4018, W-J-4005, C-AJ-4007
8. Busways:
   UL designations: C-AJ-6007
9. Metal duct:
   UL designations: C-AJ-7005
10. Blank openings:
    UL designations: C-AJ-0026, C-AJ-0011
    ULC designations: SP-147, JF-18, JF-19, JF-20, JF-21, JF-22
11. Fire-rated joints:
    Omega Point: Report #95172
    ULC designations: JF-19, JF-20, JF-21, JF-22, JF-18, JF-4, JF-5, JF-6, JF-32, JF-33, JF-34