

DIVISION 7 – THERMAL AND MOISTURE PROTECTION

SECTION 07270

FIRESTOPPING

PART 1: GENERAL

1.01 SECTION INCLUDES

- A. Fireproof firestopping and firesafing materials and accessories.

1.02 SYSTEM DESCRIPTION

- A. Firestopping Materials: ASTM E119, ASTM E814, UL 263, UL 1479 to achieve a fire rating as noted on Drawings.
- B. Surface Burning: ASTM E84 with a flame spread value of less than 25 and smoke-developed value of less than 450.
- C. Firestop all interruptions to fire rated assemblies, materials and components.

1.03 SUBMITTALS

- A. Product Data: Provide data on product characteristics, performance and limitation criteria.
- B. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

PART 2: PRODUCTS

2.01 FIRESTOPPING GENERAL

- A. Compatibility: Provide firestopping composed of components that are compatible with each other, the substrate forming openings and the items if any penetrating the firestopping under conditions of service and application, as demonstrated by firestopping manufacturer based on testing and field experience.
- B. Accessories: Provide components for each firestopping system that is needed to install fill materials and to comply with "System Performance Requirements" article in Part 1. Use only components specified by the firestopping manufacturer and approved by the qualified testing and inspecting agency for the designated fire-resistance -rated systems. Accessories include but are not limited to the following:
 - 1. Permanent forming/damming/backing materials including the following:
 - a. Semirefractory fiber (mineral wool) insulation.
 - b. Ceramic fiber.
 - c. Sealants used in combination with other forming/damming materials to prevent leakage of fill materials in liquid state.
 - d. Fire-rated foamboard.
 - e. Joint fillers for joint sealants.
 - 2. Temporary forming materials.
 - 3. Substrate primers.
 - 4. Collars.
 - 5. Steel sleeves.
- C. Applications: provide firestopping systems composed of material specified in this Section that comply with system performance and other requirements.

2.02 FILL MATERIALS FOR THROUGH-PENETRATION FIRESTOP SYSTEMS

- A. Ceramic-Fiber and Mastic Coating: Ceramic fibers in bulk form formulated for use with mastic coating and ceramic fiber manufacturer's mastic coating.
- B. Endothermic, Latex Compound Sealant: Single component.
- C. Intumescent, Latex Sealant: Single component.
- D. Intumescent Putty: Nonhardening, dielectric, water resistant containing no solvent, inorganic fibers, or silicone compounds.
- E. Intumescent Wrap Strips: Single Component elastomeric sheet with aluminum foil on one side.
- F. Job-Mixed Vinyl Compound: Meeting ASTM E 136, with flame spread and smoke developed ratings of zero per ASTM E84.
- G. Mortar: Prepackaged dry mix composed of a blend of inorganic binders, fillers, and lightweight aggregate formulated for mixing with water at Project site to form a nonshrinking, homogeneous mortar.
- H. Pillows/ Bags: Re-usable, heat expanding pillow/bags composed of glass-fiber cloth cases filled with a combination of mineral fiber, water-insoluble expansion agents and fire retardant additives.
- I. Silicone Sealant: Moisture-curing, single-component graded as follows:
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping/gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.
- J. Solvent Release Curing Intumescent Sealant: Single component, synthetic-polymer based sealant of following grade:
 - 1. Grade: Pourable (self-leveling) formulation for openings in floors and other horizontal surfaces and nonsag formulation for openings in vertical and other surfaces requiring a nonslumping/gunnable sealant, unless indicated firestop system limits use to nonsag grade for both opening conditions.

2.03 FIRE-RESTIVE ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealant Standard: Provide manufacturer's standard chemical curing, elastomeric sealants of base polymer indicated that complies with ASTM C 920 requirements.
- B. Sealant Colors: Provide color of exposed joint sealants to comply with the following:
 - 1. To be selected by Architect.
- C. Single-Component, Neutral-Curing Silicone Sealant: Type S; Grade NS; Class 25; exposure-related Use NT, and joint substrate-related Uses M, G, A and O (as required).
 - 1. Additional Movement Capability: Provide sealant with capability to withstand the following percentage changes in joint width existing at time of installation, when tested for adhesion and cohesion under maximum cyclic movement per ASTM C 719, and remain in compliance with other requirements of ASTM C 920 for uses indicated:
 - a. 100% movement in extension and 50% movement in compression for a total of 150% movement.
- D. Single-Component, Nonsag, Urethane Sealant: Type S; Grade NS; Class 25; and Uses NT, M, A, and (as applicable to joint substrates indicated) O.

2.04 MIXING

- A. For those products requiring mixing prior to application, comply with firestopping manufacturer's directions.

PART 3: EXECUTION

3.01 EXAMINATION AND PREPARATION

- A. Verify openings are ready to receive the work of this section.
- B. Clean substrate surfaces of matter that may affect bond of firestopping material.
- C. Install backing materials to arrest liquid material leakage.

3.02 APPLICATION

- A. Apply primer and materials in accordance with manufacturer's instructions.
- B. Apply fire-stopping material in sufficient thickness to achieve rating to uniform density and texture.
- C. Install material at walls or partition openings that contain penetrating sleeves, piping, ductwork, conduit and other items, requiring firestopping.
- D. Remove dam material after firestopping material has cured.

3.03 CLEANING

- A. Clean off excess fill material and sealants adjacent to openings and joints as work progresses with cleaning materials and methods approved by manufacturer of firestopping products.
- B. Protect fire-stopping during and after curing period from contaminating substances or from damage. Cut out and remove damaged or deteriorated firestopping and install new materials complying with specified requirements.

3.04 SCHEDULE

- A. Fire-stopping or fire-caulking is to be used in all of the following conditions:
 - 1. At the tops and bottoms continuous of all existing or new fire rated walls and assemblies.
 - 2. Around all column enclosures at all joints continuous.
 - 3. At the perimeter edges of all new slabs at wall edges continuous.
 - 4. At all fire rated walls or partitions penetrations.
 - 5. At all joints in existing walls where new work or demolition work is involved and need to be rated.
 - 6. At all shafts and chases that are required to be rated continuous caulking at all joints and connections.
 - 7. At all penetrations through fire rated walls or smoke walls.

3.05 VERIFICATION OF INSTALLATION

- A. The Contractor will document in photograph form verification that fire caulking has been used in all conditions applicable and shall inform the Architect for a visual inspection prior to covering or enclosing such work.

END OF SECTION - 07270