

## **SECTION 15080**

### **MECHANICAL INSULATION**

#### **(ARMAFIX™ PIPE SUPPORT)**

#### **PART 1 GENERAL**

##### **1.01 SECTION INCLUDES**

- A. The work covered by this specification consists of furnishing all labor, equipment, materials and accessories, and performing all operations required for the correct installation of insulated pipe supports for mechanical piping systems.

##### **1.02 REFERENCES**

- A. ASTM C534 – Standard Specification for Preformed Flexible Elastomeric Cellular Thermal Insulation in Sheet and Tubular Form.
- B. ASTM E84 – Test method for Surface Burning Characteristics of Building Materials.
- C. ASTM C177 – Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
- D. ASTM C518 – Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- E. ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials.
- F. MSS SP69 - Manufacturers Standardization Society: Pipe Hangers and Supports- Selection and Application.

##### **1.03 QUALITY ASSURANCE**

- A. Pipe supports and insulation inserts that are damaged shall not be installed.
- B. Material shall be delivered in non-broken, factory furnished packaging and stored in a clean, dry indoor space that provides protection against the weather.
- C. Workmanship: All pipe supports to be installed by qualified personnel and installed in accordance with manufacturer's recommendations.
  - 1. All work shall comply with all applicable federal, state, and local codes and laws having jurisdiction.

2. All work shall conform to accepted industry and trade standards for pipe support.
3. Insulation inserts shall not be applied until all surfaces are clean, dry, and free of dirt, dust, grease, frost, moisture, and other extraneous elements.

## **PART 2 PRODUCTS**

### **2.01 ACCEPTABLE MANUFACTURERS**

- A. Manufacturer: Subject to compliance with these specifications, pipe support insulation systems shall be Armafix™ design as supplied by Cooper B-Line, Inc. (DBA Eaton) [or engineer approved equal].

### **2.02 MATERIALS**

- A. The pipe support system shall be of high compressive strength material inserts imbedded in closed-cell elastomeric foam and covered with metal cladding.
- B. Armafix™ inserts shall be used in conjunction with friction insulation tape to inhibit slip due to thermal expansion, contraction, and/or vibration.
  1. Pipe clamp assemblies for strut mounting shall consist of Armafix™ inserts attached with two-piece pipe clamps such as B-Line series B2000 series clamps. Two-piece pipe clamps shall be provided with pre-installed friction tape and elastic stop nuts.
  2. Pipe hanger and support assemblies shall consist of Armafix™ inserts installed with friction insulation tape within pipe hangers or supports.
- C. Insulation material shall meet the requirements as defined in ASTM C534.
- D. Materials shall have a flame-spread index of 25 or less and a smoke-developed index of 100 or less when tested in accordance with ASTM E84, latest revision. In addition, the product, when tested, shall not melt or drip flaming particles, the flame shall not be progressive, and all materials shall pass simulated end-use fire tests.
- E. Materials shall have a maximum thermal conductivity of 0.27 Btu-in./h-ft<sup>2</sup>-°F at a 75-degree mean temperature when tested in accordance with ASTM C177 or ASTM C518, latest revisions.
- F. Materials shall have a minimum water vapor transmission of 0.08 perm-inches when tested in accordance with ASTM E96, Procedure A, latest revision.

- G. Any products claiming to be a similar, like, or equal must demonstrate (meet or exceed) the properties as explained in this specification. Supporting technical data, samples, published specifications and the like must be submitted for comparison.

### 2.03 ADHESIVES AND FINISHES

- A. Adhesive shall be the insulation manufacturer's recommended contact adhesive: Armaflex 520 Adhesive.
- B. Accessories such as adhesives, mastics, and cements shall have the same properties as listed above and shall not detract from any of the system ratings as specified above.

## **PART 3 EXECUTION**

### 3.01 INSTALLATION

- A. Use Armafix™ clamp inserts to prevent compression of insulation at standard split, clevis hangers, strut systems, or other pipe support systems.
- B. The Armafix™ pipe support insulation shall be elastomeric foam with the same or greater thickness than the pipe insulation. All joints shall be sealed with Armaflex 520 adhesive.
- C. All edges of installed insulation shall be clean cut. Rough or jagged edges of the insulation shall not be permitted. Proper tools such as sharp non-serrated knives must be used.
- D. It is highly recommended for continuous insulation protection to use hanger sizes equal to the outer diameter of the pipe plus insulation thickness.

**END OF SECTION**