

SECTION 40 42 13

PROCESS PIPING INSULATION

PART 1 GENERAL

1.1 SUBMITTALS

- A. Action Submittals: Shop Drawings: Manufacturer's descriptive literature.
- B. Informational Submittals: Maintenance information.

PART 2 PRODUCTS

2.1 PIPE INSULATION

- A. Type 1:
 - 1. Material: Flexible elastomeric pipe insulation, closed cell structure in accordance with ASTM C534.
 - 2. Temperature Rating: Minus 40 degrees C to 82 degrees C.
 - 3. Nominal Density: 96 kg/m³.
 - 4. Conductivity in accordance with ASHRAE 90.1 and minimum of 24 degrees C per ASTM C177 or ASTM C518.
 - 5. Minimum water vapor transmission of 5.75 ng/Pa.s.m² per ASTM E96.
 - 6. Joints: Manufacturer's adhesive.
 - 7. Flame Spread Rating: Less than 25 per ASTM E84.
 - 8. Manufacturers and Products:
 - a. Rubatex; Insul-Tube 180 or Insul-sheet 1800.
 - b. Armstrong; Armaflex AP.

2.2 FITTING INSULATION

- A. Type 1: Same as pipe.

2.3 INSULATION AT PIPE HANGERS AND SUPPORTS

- A. Type 1:
 - 1. Copper and Nonmetallic Pipe 50 mm and Smaller and Steel Pipe 40 mm and Smaller: Use insulation shields.
 - 2. Larger Sizes: Use insulation saddles or wood insert 250 mm long.

2.4 INSULATION FINISH SYSTEMS

- A. Type F1—PVC:
 - 1. Polyvinyl chloride (PVC) jacketing, white, for straight run piping and fitting locations, temperatures to 70 degrees C.

2. Manufacturers and Products:
 - a. Knauf; Proto.
 - b. Johns Manville; Zeston.

PART 3 EXECUTION

3.1 INSTALLATION

- A. General:
 1. Install in accordance with manufacturer's instructions and as specified herein.
 2. Install insulation after piping system has been pressure tested and leaks corrected.
 3. Apply insulation over clean finish painted and dry surfaces.
 4. Do not allow insulation to cover nameplates or code inspection stamps.
 5. Run insulation continuously through pipe hangers and supports, wall openings, ceiling openings, and pipe sleeves, unless otherwise shown.
 6. Install removable insulation sections on devices that require access for maintenance of equipment or removal, such as unions and strainer end plates.
 7. Use insulating cements, lagging adhesives, and weatherproof mastics recommended by insulation manufacturer.
- B. Cold Surfaces: Provide continuous vapor seal on insulation on cold surfaces where vapor barrier jackets are used.
- C. Placement:
 1. Install insulation and a vapor barrier on at a minimum of 3 meters on piping or ductwork before an exterior wall or roof penetration.
 2. Slip insulation on pipe or tubing before assembly, when practical, to avoid longitudinal seams.
 3. Insulate valves and fittings with sleeved or cut pieces of same material.
 4. Seal and tape joints.
- D. Insulation at Hangers and Supports: Install under piping, centered at each hanger or support.

END OF SECTION