

SECTION 15188OUTSIDE PIPE INSULATIONPART 1 - GENERAL1.1 DESCRIPTION

- A. Work Included: Furnish and apply insulation to all exposed piping near the Hypochlorite Building and on the Chlorine Contact Tank and associated devices as specified herein.
- B. Related Work Specified Elsewhere (When Applicable):
 - 1. Piping, pipe hangers, and piping specialties are specified in the appropriate sections of this Division.
 - 2. Freeze Protection is specified in Section 15402.

1.2 QUALITY ASSURANCE

- A. All insulation work shall be executed by skilled insulation workmen regularly employed in the trade.
- B. Fire Hazard Rating: All insulation materials shall have a fire hazard rating not to exceed 25 for flame spread, and 50 for fuel contributed and smoke developed.

1.3 SUBMITTALS TO THE ENGINEER

- A. Submit shop drawings in accordance with the General Conditions of the Construction Contract and Specification Section 01340. Submit shop drawings including but not limited to:
 - 1. Insulation
 - 2. Protective jacketing.
 - 3. Adhesives, sealants, coatings, reinforcing mesh and bands.
- B. If requested by the Engineer, submit samples of the above for approval.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in suitable containers to protect from damage.
- B. Store materials so as to be completely protected from the weather.
- C. Do not allow adhesives and sealants to be subject to temperatures below 40°F.

PART 2 - PRODUCTS2.1 MATERIALS

- A. Insulation shall be 1-1/2" rigid cellular glass insulation in accordance with ASTM C552-latest edition Standard specification for Cellular Glass Thermal Insulation. The insulation shall be fabricated in half sections wherever possible. Wherever possible, the insulation should be factory jacketed. Insulation shall be equal to Pittsburg Corning "FOAMGLAS".

- B. Jacketing:
 - 1. Jacket shall be a 75 mil thick self sealing high polymer asphaltic membrane with an integral gall scrim and a aluminized Mylar film on the surface, equal to Pittsburgh Corning "PITTWRAF SS II JACKET".
 - 2. Mastic shall be asphalt cutback mastic, equal to Pittsburgh Corning "PITTCOTE".
 - 3. Reinforcing Fabric shall be open mesh polyester fabric with a 6 x 5.5 mesh/inch configuration, equal to Pittsburgh Corning "FABRIC 79:."
 - 4. Sealant shall be non-setting butyl sealant with at least 85% solids content, equal to Pittsburgh Corning "PITTSEAL 444".
- C. Insulation Protective Coverings:
 - 1. Exposed outside piping shall be provided with a 0.016 inch thick corrugated aluminum jacket. Aluminum shall be Type 3003 or 5005, ASTM B 209, Temper H14. Exterior shall have a factory applied baked-on acrylic coating. The inside of the covering shall have a factory applied moisture barrier of polyethylene film on Kraft Paper. Covering shall be as manufactured by Chillers, Insul-Coustic, or approved equal.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All surfaces to be insulated shall be cleaned of all scale, rust, oil, and foreign matter and shall be dry and free of frost prior to and during application of insulation.
- B. Sandblasting and priming of surfaces to be insulated shall be completed prior to the application of any insulation material in accordance with Specifications Section 09905.
- C. All testing of piping to be insulated shall be completed prior to the application of any insulation material.
- D. Insulation shall be provided with a factory applied jacket.
- E. Install the insulation in accordance with the manufacturers recommended procedures.
- F. Exposed Outside Piping:
 - 1. Install aluminum coverings only after insulation application has been inspected and approved by the Engineer.
 - 2. Seal lap type covering system on butt and longitudinal seams. Overlap shall be 2 inches minimum on side and edge laps with longitudinal cut edge turned under to provide a smooth edge.
 - 3. Seal lock join system on longitudinal and butt or end seams.
 - 4. Position all horizontal joints to shed water.
 - 5. Fasten aluminum covering with ½ inch wide by 0.105 inch thick stainless steel bands installed at nine inch on center. Screws are not permitted.
- G. Buried Piping:
 - 1. Extend exterior insulated pipe below grade a minimum of 5'.
 - 2. Application will not be permitted if any water is present in trench.

END OF SECTION