

SECTION 15280
EQUIPMENT INSULATION

PART 1 GENERAL

1.1 REFERENCES

- A. ASTM B209: Aluminum and Aluminum-Alloy Sheet and Plate.
- B. ASTM C533: Calcium Silicate Block and Pipe Thermal Insulation.
- C. ASTM C552: Cellular Glass Block and Pipe Thermal Insulation.
- D. ASTM E84: Surface Burning Characteristics of Building Materials.

1.2 SUBMITTALS

- A. Submit under provisions of Section 15000.
- B. Product Data: For each product used in this project, provide catalog data for insulation, jackets and accessories, and installation instructions.
- C. Samples: Not required.

1.3 QUALITY ASSURANCE

- A. Materials: Flame spread/smoke developed rating of 25/50 or less in accordance with ASTM E84.
- B. Applicator: Company specializing in performing the work of this section with minimum three years experience.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Deliver materials to site in original factory packaging, labeled with manufacturer's identification, including product density and thickness.
- B. Store insulation in original wrapping, and protect from weather and construction traffic.
- C. Protect insulation against dirt, water, chemical, and mechanical damage.

PART 2 PRODUCTS

2.1 CELLULAR GLASS INSULATION

- A. Provide molded, impermeable, noncombustible, cellular glass equipment insulation. K-value shall be 0.35 at 75°F. ASTM C552
- B. For interior applications, provide vapor barrier mastic and reinforcing membrane.
- C. For exterior applications, provide vapor barrier mastic, reinforcing membrane and aluminum jacket.
- D. Provide open mesh, synthetic membrane to reinforce mastic finishes. Thread count shall be 6 strands by 6 strands per square inch. Thickness shall be 27 mils.
- E. Provide 18-ga, Type 304 stainless steel tie wire with twisted ends on maximum 12" centers.
- F. Provide flexible, acrylic latex coating for use with cellular glass insulation to provide a vapor barrier finish.

2.2 HYDROUS CALCIUM SILICATE

- A. Provide molded, asbestos free, noncombustible, hydrous calcium silicate equipment insulation. K-value shall be 0.40 at 250°F. ASTM C533
- B. Provide 18-ga, Type 304 stainless steel tie wires with twisted ends on maximum 12" centers.
- C. Provide insulating cement compatible with insulation.

2.3 ALUMINUM JACKET

- A. Provide 20 mil thick, stucco embossed pattern finish, Type 1100 aluminum jacket. For horizontal equipment, locate seams on bottom. ASTM B209
- B. Provide 0.5" wide, 20-mil thick, Type 3003 aluminum bands on maximum 24" centers.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Before applying insulation, verify that equipment has been inspected, tested and approved.
- B. Before applying insulation, verify that surfaces are clean (with foreign material removed) and dry.

3.2 INSTALLATION

- A. Install materials in accordance with manufacturer's instructions.
- B. Do not insulate factory-insulated equipment.
- C. On exposed equipment, locate insulation seams in least visible locations.
- D. Apply insulation as close as possible to equipment by grooving, scoring, and beveling insulation, if necessary. Secure insulation to equipment with studs, pins, clips, adhesive, wires, or bands.
- E. Fill joints, cracks, seams, and depressions with bedding compound to form smooth surface. On cold equipment, use vapor barrier cement.
- F. Finish insulation at support, protrusions, and interruptions.
- G. Do NOT insulate over nameplate or ASME stamps. Bevel and seal insulation around such.
- H. Install insulation for equipment requiring access for maintenance, repair, or cleaning, in such a manner that it can be easily removed and replaced without damage.
- I. Chilled Water Pumps: Provide 2" thick, cellular glass equipment insulation.
- J. Chilled Water Air Separators: Provide 2" thick, cellular glass equipment insulation.
- K. Chilled Water Expansion Tanks: Provide 2" thick, cellular glass equipment insulation.
- L. Chilled Water Chemical Treatment Shot Feeder: Provide 2" thick, cellular glass equipment insulation.
- M. Emergency Generator Muffler and Exhaust Pipe: Provide 4" thick, hydrous calcium silicate equipment insulation.

END OF SECTION