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### **RECOMMENDATIONS FOR JACKETING ROOF-TOP PIPING FOR AMMONIA COOLING SYSTEMS AND CHILLED WATER**

Our recommendations for jacketing the roof-top insulated piping for ammonia cooling systems, chilled water, and other related insulated pipe lines are as follows:

- 1) Jacketing shall be either .016" or .020" smooth (not stucco embossed) white painted aluminum with polyfilm moisture retarder and shall be applied over dry substrate (vapor retarder jacket) and/or insulation with a minimum 2" overlap on both circumferential and longitudinal joints.
- 2) A vapor retarder jacket that has no paper to absorb and retain moisture shall be used, such as Dow's Saran®, or other suitable product.
- 3) Longitudinal joints shall be positioned at the 3 o'clock position and jacketing secured with 1/2" x .020" 300 series stainless steel banding and seals. Banding will be installed on 12" centers.
- 4) Jacketing shall be installed in a manner to shed water and in accordance with the Midwest Insulation Contractor Association's (M.I.C.A.) National Commercial and Industrial Standards which has been endorsed by the National Insulation Association (N.I.A.).
- 5) White painted aluminum has been recommended not only because of its superior emittance value (.80) versus bright new aluminum (.04), but also its improved corrosion resistance compared to the unpainted aluminum.
- 6) Smooth finish is less susceptible to poulitice/crevice corrosion than stucco embossed.
- 7) Polyfilm moisture retarder is recommended since excessive moisture is likely to be present underneath the jacketing, and it provides superior protection from corrosion when compared to polykraft moisture retarder.

### **RECOMMENDATIONS FOR JACKETING HOT PIPING SYSTEMS**

Our recommendations for jacketing hot piping systems outdoors with intermittent or cyclic operation, such as asphalt or gas plants, are as follows:

- 1) Fiberglass insulation with ASJ (All Service Jacket) is often used on these types of insulation projects.
- 2) ASJ that is wet most of the time may greatly increase the chance of the aluminum jacketing corroding within one to five years.
- 3) Treat these type applications same as rooftop ammonia cooling systems by using painted aluminum with polyfilm moisture retarder and a vapor retarder jacket that has no paper (paper holds water).