

COLD WEATHER INSTALLATION

Contact Adhesive

Contact adhesive is the preferred method used to adhere polyethylene and elastomeric sheet insulation to metal and for adhering butt ends of tubular insulation to each other. The solvent portion of the contact adhesive must be allowed to flash off completely before two materials may be joined. This is especially important when adhering closed-cell foam insulations since solvents, which have not flashed off completely, will be trapped under the impermeable surface, preventing further flashing. The contact adhesive will therefore remain soft, never cure, and may fail when pressure is used to separate the two surfaces.

If contact adhesive is to be used in cold weather, it is critical that the installer understand the effect of temperature on flash time. Decreased temperatures extend the time required for a solvent to flash and very low temperatures prevent any flashing of the solvent from occurring.

Pressure Sensitive Adhesive (PSA)

If self-seal insulation products are to be installed in cold weather, it is critical that the installer understand the relationship between temperature and the pressure required for proper sealing. It would also be very beneficial to insure the insulation is warmed up prior to installation at lower temperatures. It is recommended that the insulation be stored in a heated room or trailer until immediately prior to installation.

The longitudinal seam on a self-seal tubular pipe insulation contains a pressure sensitive adhesive for quick, efficient installation. As the name implies, a pressure sensitive adhesive requires pressure to seal properly.

A PSA softens and becomes tacky as it is exposed to higher temperatures. Conversely, a PSA hardens and tackiness decreases as it is exposed to lower temperatures.

The optimum installation temperature for the pre-applied PSA on the longitudinal seam is approximately 75°F. A simple rule of thumb for estimating the pressure required for proper sealing of the longitudinal seam is to double the pressure for every 10°F drop in temperature. As shown in the following table, sixteen times (16X) as much pressure is required when PSA is installed at 35°F as would be required if PSA were installed at 75°F.

Temperature	Relative Pressure Required
75°F	1X
65°F	2X
55°F	4X
45°F	8X
35°F	16X

NOTE: Self-sealing insulations should never be utilized at temperatures below 35°F due to excessive pressure requirements.