

INSTALLING K-FLEX PE INSULATION IN COLD WEATHER

Contact adhesive is the preferred method used for adhering longitudinal seams and 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 between the impermeable surfaces, preventing further flashing. The contact adhesive will therefore remain soft, never cure, and may fail when force is applied 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. In extreme conditions, it will be necessary to keep the temperature of the adhesive warm.

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 is beneficial to ensure the insulation is warmed 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 self-seal pipe insulation contains a pressure sensitive adhesive (PSA) 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 when 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, eight times (8X) as much pressure is required when PSA is installed at 45°F as would be required if PSA were installed at 75°F.

<u>Temperature</u>	<u>Relative Pressure Required</u>
75°F	1X
65°F	2X
55°F	4X
45°F	8X

NOTE: Self-sealing insulations should never be utilized at temperatures below 40°F due to excessive pressure requirements.

Cold weather installation is easy with K-Flex PE insulation by following these simple recommendations.