

## ADHESIVE RECOMMENDATIONS

The following adhesives have been identified as having excellent adhesion to elastomeric or polyolefin closed cell foam insulation. They have been subdivided into Brush/Roller applied adhesives and Spray applied adhesive.

### Brush/Roller Applied Solvent Based Adhesives:

- 320 Amber color / fast dry
- 620 Black color / fast dry
- 373 Blue color/slower drying (for use with Elastomeric insulation only – can also be spray applied)

### Spray Applied Adhesive:

- TACC; T-960, Contact Adhesive (flammable)
- TACC; T-980, Contact Adhesive (flammable) high temperature (S 200 and C 690 are equivalents)
- Carlisle Coatings & Waterproofing; GLASS-GRIP™ 658, Contact Adhesive (flammable)
- 3M; Hi-Strength 90, Contact Adhesive (flammable)
- Imperial Adhesive; Permagrip 722, Contact Adhesive (flammable)
- Vapco; Mean Green, Contact Adhesive (non-flammable)
- Vapco; Golden Bear\*, Contact Adhesive (flammable)
- Design Polymeric; DP 2595, Contact Adhesive (non-flammable)
- Design Polymeric; DP 2595-CA\*, Contact Adhesive (flammable)

\*These adhesives meet the VOC requirements of South Coast Air Quality Management District (SCAQMD) Regulation 1168.

### Surface Preparation

Surface of insulation and surface to which insulation will be applied must be clean and free of any dust, dirt, scale, moisture, oil and grease. Always follow the manufacturer's instructions for proper surface preparation.

### Application Technique

Below are some general instructions and guidelines. Always follow adhesive manufacturer's application instructions and guidelines.

#### Brush/Roller Applied Adhesives:

Container contents must be mixed well. Apply at room temperatures above 40°F. Coat BOTH surfaces to be joined (**adhesive must be applied to rough surface of polyolefin sheet**) with an adequate but thin, even coat. Allow adhesive to dry to the touch, approximately 5-20 minutes, depending on ambient conditions. Join surfaces with moderate pressure to ensure complete contact and elimination of air pockets. Joined surfaces cannot be repositioned. Allow bond to set at least 24 hours before bringing pipes to service temperature.

#### Spray Applied Adhesives:

For best results, coat BOTH surfaces to be joined (**adhesive must be applied to rough surface of polyolefin sheet**). Some of the spray adhesives listed will provide acceptable bond strength with **elastomeric** insulation using a one sided application (100 percent coverage of the steel substrate). Always evaluate bonding in the shop before proceeding with a one sided application method. Refer to manufacturer's operation instructions. Apply at room temperatures above 50°F (**Do not warm above 120°F**). Hold tip of spray gun eight inches from substrate and pull back on trigger to start flow of adhesive. Proper coverage is best achieved by spraying six to eight inch-wide patterns along width of substrate and releasing trigger. Overlap spray patterns by one

inch. Repeat these steps until 100% coverage is attained. Depending on ambient conditions, allow 2-5 minutes for adhesive solvents to flash. Join surfaces with moderate pressure to ensure complete contact and elimination of air pockets. A hand roller is recommended to apply even pressure. Joined surfaces cannot be repositioned. Allow bond to set at least 24 hours before bringing system to service temperature.

## Hot Melt Adhesives

Hot melt adhesives can be used to seal both polyolefin and elastomeric pipe insulation seams and butt joints. They can also be used to adhere elastomeric and polyolefin sheet insulation to ductwork. Hot melt adhesives have been used successfully for a number of years with polyolefin insulation. There are two general types of hot melt adhesives on the market; standard hot melts and “cool melt” hot melts based on polyolefin resins. The use of “cool melt” products is recommended for use with polyolefin insulation systems and work well with elastomeric insulation also. H. B. Fuller and Bostik Findley are two of the largest manufacturers of hot melt adhesives. Bostik also manufactures glue guns.

## Hot Melt Adhesive Application

For seams and butt joints, a hot melt glue gun is typically used. These guns are commercially available and come in three types; electric, electric cordless and butane. Each type has its advantages. The electric (corded) gun is the least expensive and most readily available but requires an extension cord and should not be used in damp / moist conditions. The electric cordless gun has a heated holder which allows for use without an extension cord, but it has a limited use time before requiring re-heating. The butane cartridge gun is the most difficult to find and expensive to operate, but it allows for excellent mobility without the need for electricity. All guns are available with a variety of applicator tips. Hot melt adhesives are best applied in a thin layer rather than a “glob”.

For large flat areas such as ductwork and AHU's, hot melt spray guns are available. These guns can be either stationary (as in a sheet metal shop) or portable for field use. Spray pattern (usually a web), coverage rate and temperature at the time of insulation application are critical to the successful use of hot melt sprays. Nordson is a leading manufacturer of hot melt spray equipment.

## Contact Information

Imperial Adhesives: 800-365-1301 / 513-351-1300  
TACC International: 800-503-6991 / 781-878-7015  
Carlisle Coatings & Waterproofing: 800-527-7092 / 888-229-0199  
3M Adhesives Systems: 800-362-3550  
Vapco Products: 800-466-5150 / 314-567-5155  
Design Polymerics: 800-641-0808 / 714-432-0600  
H. B. Fuller: 888-423-8553  
Bostik Findley: 978-777-0100  
Nordson: 888-667-3766 / 770-497-3700