

ADHESIVE RECOMMENDATIONS

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

K-FLEX Brush/Roller Applied Solvent-Based Adhesives:

- K-FLEX 320 Amber color / fast dry
- K-FLEX 620 Black color / fast dry
- K-FLEX 420 Black color/high temperature rated (220° F – 300° F) for adherence to K-FLEX Clad IN, K-Fonik GV / GK or K-FLEX HT
- K-FLEX 373 Blue color/slower drying (for use with Elastomeric insulation only – can also be spray applied)
- K-FLEX 720-LVOC* Black color / fast dry (non-halogen)

Spray-Applied Adhesive:

- K-FLEX 1120* Water-Based (non-flammable) spray adhesive (designed for duct insulation)
- ITW TACC S200 (flammable) contact adhesive
- Carlisle HVAC Travel-Tack (flammable), Non Flam Travel-Tack (non-flammable), Travel-Tack CA Compliant*(flammable) Contact Adhesive (flammable)
- 3M Hi-Strength 90, Contact Adhesive (flammable)
- Choice Brands Adhesives 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)
- Elgen 40# and 200# Spray-On Liner Adhesive (non-flammable)

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

Health and Safety Information – Most of the adhesives listed above are *solvent based*. Please review the adhesive manufacturer's SDS carefully when selecting an adhesive as some solvents are potentially more harmful than others. Always follow all adhesive manufacturer requirements for ventilation, Personal Protective Equipment (PPE), fire safety (welding, pin-spotting and fabrication), storage and disposal. If there are questions, consult the adhesive manufacturer.

Surface Preparation - The surface of insulation and the substrate to which insulation will be applied must be clean and free of any dust, dirt, scale, moisture, oil and grease. Always follow the adhesive 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 temperatures above 40°F. Coat BOTH surfaces to be joined with an adequate but thin, even coat. Allow adhesive to dry to the touch, approximately 3-10 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 or equipment to service temperature.

Spray Applied Adhesives:

**K-FLEX USA**

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on the web www.kflexusa.com

For best results, coat BOTH surfaces to be joined. 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 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 insulation seams and butt joints. They can also be used to adhere sheet insulation to ductwork. Hot melt adhesives have been used successfully for a number of years with elastomeric insulation. There are two general types of hot melt adhesives on the market; standard hot melts and "cool melt" hot melts. The use of "cool melt" products is recommended. H. B. Fuller and Bostik Findley are two of the largest manufacturers of hot melt adhesives. Bostik and Nordson manufacture glue guns and hot melt spray equipment.

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:

Choice Brands Adhesives: 800-330-5566
ITW TACC: 800-503-6991
Carlisle HVAC: 877-495-4822 or 888-229-2199
3M Adhesives Systems: 800-362-3550
Vapco Products: 844-229-9906

Design Polymeric: 800-641-0808 / 714-432-0600
H. B. Fuller: 888-423-8553 / 651-236-5900
Bostik Findley: 978-777-0100
Nordson: 888-667-3766 / 770-497-3700
Elgen Manufacturing: 201-964-0008

K-FLEX's recommendation of spray-applied adhesives, including those containing methylene chloride, not manufactured by K-FLEX is based on adhesion performance with K-FLEX elastomeric insulation only. K-FLEX is not responsible for any foreseeable purposes, applications and uses by the adhesive user and strongly recommends that users consult directly with the adhesive manufacturer to determine the safety, fitness and suitability of the products.

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