



82-77

Product Data Sheet

PROPERTIES

COLOR:

Black

APPLICATION CONSISTENCY:

Notched trowel

BLENDED AVERAGE WEIGHT / U.S. GALLON**(ASTM D1475):**

Supplied as a 3-part 40 lb. kit.

15.5 lbs./gal. yields 2.6 gallons (1.85 kg/l yields 9.8 liters)

COVERAGE RANGE:

Subject to nature of material being bonded.

Per 40 lb. kit:

1/16 inch – 66.7 sq. ft. (6.2 m² @ 1.6 mm)

1/8 inch – 33.4 sq. ft. (3.1 m² @ 3.2 mm)

1/4 inch – 16.7 sq. ft. (1.55 m² @ 6.4 mm)

BONDING/CURING TIME:

Dependent on temperature.

Typical at 75F (23C):

Open Time: 0-2 hours

Set: 4 hours

Cure Through: 12-24 hours

Full cure: 1 week

POT LIFE:

1.5 hours at 73°F (23°C)

0.5 hours at 95°F (35°C)

SERVICE TEMPERATURE LIMITS:

Temperature at coated surface.

-320°F to 250°F (-196°C to 121°C)

Cellular glass to cellular glass insulation:

-320°F to 250°F (-196°C to 121°C)

Cellular glass insulation to stainless steel*:

-320°F to 250°F (-196°C to 121°C)

*Note: at very low cryogenic temperatures (past -100°C), cellular glass to other metals, such as aluminum, may result in shear failure of the insulation due to differences in contraction rates of the metal and insulation.

WET FLAMMABILITY:

Greater than 250°F (121°C)

COMBUSTIBILITY:

Combustible

FOSTER® CRYOGENIC ADHESIVE

FOSTER® CRYOGENIC ADHESIVE has a chemically-curing composition, which develops high tensile strength and adhesion, at room temperature, to a variety of surfaces including metal, wood, and masonry. It is supplied at virtually 100% solids, enabling immediate bonding between non-porous surfaces without solvent entrapment problems.

CRYOGENIC ADHESIVE also can be used as a fabricating adhesive. It often provides bonds stronger than the materials being joined. The cured film has excellent resistance to solvents, water, and many chemicals. The adhesive also performs well with various materials after thermal shock exposure at cryogenic temperatures. It is an ideal choice for bonding steel pipe shoes or saddles to pipe insulation assemblies.

CRYOGENIC ADHESIVE meets requirements for LEED IEQ 4.1 Low-Emitting Materials, Adhesives, and Sealants. 82-77 Part A VOC: 0 g/l, less water and exempt solvents. 82-77 Part B VOC: 0 g/l, less water and exempt solvents.

LIMITATIONS

Store between 40°F (4°C) and 100°F (38°C).

Apply between 40°F (4°C) and 100°F (38°C).

- Ensure substrates are free of any condensation, frost or moisture
- Pot life is longer at lower temperatures and shorter at higher temperatures.
- Cure times are longer at cooler temperatures and shorter at higher temperatures.
 - Cure at 4°C to set will be 48 hours or longer

Mixing large quantities also shortens pot life, thus mixing more than one kit at a time is not recommended.

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APPLICATION GUIDE FOR FOSTER® CRYOGENIC ADHESIVE 82-77

MATERIAL PREPARATION

MIXING INSTRUCTIONS:

Mix Part A and B in a clean container with a cage type mixing paddle and a 1/2 inch (12.7 mm) heavy duty electric drill on slow speed (350 rpm). Mix thoroughly for 3 minutes, making sure to scrape the sides and the bottom of the container. While mixing, slowly add Part C (aggregate) and mix an additional 2 to 3 minutes until uniform. Do not lengthen or shorten the mixing time. **DO NOT THIN.**

MIXING RATIOS:

FOSTER® CRYOGENIC ADHESIVE is supplied in 40 lb. kits. Either mix the entire kit or divide each component into 2 equal parts and mix half of the kit at one time. Do not attempt to mix less than half of a kit without the use of a scale to weigh each component and ensure proper mix ratio.

APPLICATION

Apply by trowel to clean, dry surfaces only.

Metal surfaces should be solvent cleaned beforehand and allowed to dry.

When used in cryogenic applications (below -40°F/-40°C), for maximum adhesion when bonding metal to metal surface must be clean and free of any surface contaminants and sandblasted, sanded/roughened or primed with a polyamide epoxy primer.

When used to bond rigid foam insulations such as cellular glass, PIR, PUR, or polystyrene the metal substrates must be clean, dry and free of any mill scale or contaminants but do not require to be sandblasted or roughened as in any case adhesion will be greater than the internal strength of the insulation itself.

APPLICATION TEMPERATURE

Apply between 40°F and 100°F (4°C to 38°C) ambient temperature. At temperatures above 95°F (35°C), the pot life will be less than 30 minutes.

To prolong pot life at high temperatures, FOSTER® CRYOGENIC ADHESIVE should be spread out as much as possible immediately after mixing.

Cure times at lower temperatures will be significantly lengthened. Approximately 48 hours to set firm at 5°C based on testing.

COVERAGE RANGE

When used as a bedding compound or between surfaces of masonry or urethane foam, suggested thickness: 1/16 to 1/4 inch (1.6 to 6.4 mm).

When used in cryogenic applications or where bonding to metal, suggested thickness: 1/16 to 1/8 inch (1.6 to 3.2 mm).

CLEAN UP

Before adhesive cures, clean tools and equipment with chlorinated solvent (non-flammable) or mineral spirits (flammable). Cured 82-77 is extremely difficult to remove.

CUSTOMER SERVICE: (833) 849-3700

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**For professional use only. Keep out of reach of children.
Consult Safety Data Sheet and container label for further information.**