PRODUCT INFORMATION

LORD Engineered Adhesives

3170

Epoxy Adhesive System for Cryogenic Applications

Description

Lord® 3170 is an equal-mix, two-component, modified epoxy structural adhesive system. Lord 3170 is used to bond metals, glass, reinforced plastics, ceramics and foam materials.

Features and Benefits

High Strength in Cold Environments - provides strength to applications where the bonded assembly will be exposed to cryogenic temperatures.

Outgassing Requirements - suitable for aerospace service. Outgassing is minimal.

Surface Preparation

Remove all contamination and loose particles from surfaces to be bonded. Promptly following the surface preparation, complete the adhesive application and component assembly. Etch aluminum alloys with a sodium dichromate-sulfuric acid to obtain optimum mechanical strength.

Mixing

Mix equal parts of the two components, by volume, until appearance is uniform. Mix on more than 450 grams of combined adhesive at one time.

Application

Apply Lord 3170 adhesive at 50.8 - 76.2 microns (2 - 3 mils) onto both surfaces with a trowel or squeegee. When bonding foam insulation materials to solid substrates, apply the mixed adhesive 254 microns (10 mils thick). Clamp assembly while adhesive is curing.

Typical Properties* of Lord 3170 Adhesive

	3170A	Lord 3170B	Mixed
Appearance	Milky White	Amber	Light Amber
Consistency	Viscous Liquid	Viscous Liquid	N/A
Viscosity, cP @ 24°C (75°F)	50,000 ± 20,000	130,000 ± 40,000	N/A
Weight	9.5 lb/gal	8.1 lb/gal	N/A
Flash Point	>250°C (482°F)	>250°C (482°F)	N/A
Mix Ratio by volume	1.0	1.0	N/A
Work Time	N/A	N/A	2 hours @ 24°C (75°F)
Gelation	N/A	N/A	12 hours @ 24°C (75°F)
Cured Density	N/A	N/A	8.75 lb/gal
Specific Gravity	N/A	N/A	1.05 g/cc
Toxicity	N/A	N/A	Moderate
Shelf Life	1 year	1 year	N/A

*Data is typical and not to be used for specification purposes.

Curing

Lord 3170 adhesive cures in 4 days @ 24°C (75°F). Curing time can be shortened by curing at elevated temperatures. Mechanical properties and strength of the bond are improved with a post-cure of 1 hour @ 100°C (212°F).

Clean Up

Uncured Adhesive

Clean excess adhesive on the bonded assembly, as well as mixing and application equipment, before the adhesive sets up. Use hot water and detergent or an organic solvent; ketones have been shown to work best.

Cured Adhesive

To soften the adhesive, use heat temperatures of 204°C (400°F) or greater. This allows the parts to be separated and the adhesive to be more easily removed. Some success may be achieved with commercial epoxy strippers.

Packaging

- 1 Quart Container (0.95 Liter)
- 1 Gallon Container (3.8 Liter)
- 5 Gallon Pail (19 Liter)
- 55 Gallon Drum (208 Liter)
- Convenient Cartridges

Storage

Ship and store Lord 3170 Part A and Lord 3170 Part B at temperatures between 20°C - 35°C (70°F - 95°F).

Cautionary Information

Before using this or any Lord product, refer to the Material Safety Data Sheet (MSDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

Values stated in this bulletin represent typical values as not all tests are run on each lot of material produced. For formalized product specifications for specific product end uses, contact the Customer Service Department.

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