

Chemlok 608 Adhesive

Description

LORD Chemlok® 608 is a one-coat adhesive designed for bonding unvulcanized silicone elastomers to various rigid substrates.

Chemlok 608 adhesive also provides excellent adhesion to a wide variety of commercially available silicone compounds which require a post cure.

Features and Benefits

Convenient – requires only a single coat for most applications, reducing labor, inventory and shipping costs.

Versatile – offers excellent adhesion to a variety of silicone compounds.

Environmentally Resistant – provides excellent resistance to many aggressive service environments.

Economical – used for most applications at dilutions of 100-500% with dry alcohol solvents.

Application

Surface Preparation – Thoroughly clean metal surfaces prior to adhesive application. Remove protective oils, cutting oils and greases by solvent degreasing or

alkaline cleaning. Remove rust, scale or oxide coatings by suitable chemical or mechanical cleaning methods.

- **Chemical Cleaning**

Chemical treatments are readily adapted to automated metal treatment and adhesive application lines. Chemical treatments are also used on metal parts that would be distorted by blast cleaning or where tight tolerances must be maintained. Phosphatizing is a commonly used chemical treatment for steel, while conversion coatings are commonly used for aluminum.

- **Mechanical Cleaning**

Grit blasting is the most widely used method of mechanical cleaning. However machining, grinding or wire brushing can be used. Use steel grit to blast clean steel, cast iron and other ferrous metals. Use aluminum oxide, sand or other nonferrous grit to blast clean stainless steel, aluminum, brass, zinc and other nonferrous metals.

For further detailed information on surface preparation of specific substrates, refer to Preparation of Substrates for Bonding data sheet. Handle clean metal surfaces with clean gloves to avoid contamination with skin oils.

Typical Properties*

Appearance	Clear to Hazy Pale Yellow Liquid
Density	
kg/m ³	838.8
(lb/gal)	(7.0)
Solids Content by Weight, %	18-21
Flash Point (Seta), °C (°F)	3 (38)
Solvents	Methanol, Naptha, Isopropanol, Ethanol

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

LORD TECHNICAL DATA

Mixing – Chemlok 608 adhesive is best applied as a dilute solution. Specific dilution rates are dependent upon rubber type, substrate and bond performance requirements. Best results have been obtained using methanol in a range from 5-10 parts solvent to 1 part adhesive, by volume.

Applying – Apply Chemlok 608 adhesive in a uniformly thin coat.

Drying/Curing – Allow applied adhesive to air-dry for 10-30 minutes at room temperature. Drying time may be shortened by using heat sources to facilitate drying. Temperatures in the range of 65-93°C (150-200°F) for 5-15 minutes may be used for force drying. Maximum air flow at minimum temperature will give the best results.

Adhesive coated parts may be bonded immediately after air-drying. In the event a layover period prior to bonding is necessary, avoid contamination of the adhesive coated

parts during storage. Coated parts can be stored up to three days prior to bonding, however high humidity conditions will drastically shorten the layover period. For best results, the parts should be coated and bonded in the same day.

A variety of commercially available silicone stocks have been successfully bonded with Chemlok 608 adhesive. Use press-cure times and temperatures recommended by the elastomer manufacturers for each compound (refer to Table 1).

Silicone-to-metal bonds formed with Chemlok 608 adhesive are resistant to most aggressive environments encountered in end-use service. Laboratory results show Chemlok 608 adhesive to retain 100% adhesion under the conditions shown in Table 2.

Table 1 - Vulcanization Bonding of Silicone to Metal

Stocks	Type of Cure	Bond Results
Dow Corning 747	Press Cure Only	Rubber Failure
General Electric Blendsil 44U/88U	Press Cure Only	Rubber Failure
Dow Corning 35	Press and Oven Cure	Rubber Failure
Dow Corning 55	Press and Oven Cure	Rubber Failure
Dow Corning 75	Press and Oven Cure	Rubber Failure
General Electric SE6160	Press and Oven Cure	Rubber Failure

Modified ASTM D429-B, 0.32 cm (1/8" specimen), 2"/minute

Table 2 - Environmental Resistance of Bonded Parts

Environment	Test Conditions	Bond Results
(1) Transmission Fluid ^(a)	300 hours @ 149°C (300°F)	Rubber Failure
(2) Glide Transmission Oil ^(b)	70 hours @ 149°C (300°F)	Rubber Failure
(3) ASTM No. 1 Oil	70 hours @ 149°C (300°F)	Rubber Failure
(4) Oven Aging	1 hour @ 246°C (475°F)	Rubber Failure
(5) Boiling Water	2 hours	Rubber Failure

Modified ASTM D429-B, 0.32 cm (1/8" specimen), 2"/minute

^(a) Sunamatic 117, Sun Oil Company

^(b) Humble Oil and Refining Company

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Shelf Life/Storage

Shelf life is two years from date of shipment when stored at 21-27°C (70-80°F) in original, unopened container.

Tightly close the adhesive container when not in use to prevent solvent evaporation and possible moisture contamination. Do not return unused or diluted adhesive to original container. Take care to avoid moisture contamination indicated by a milky white appearance.

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.

LORD TECHNICAL DATA

Values stated in this technical data sheet 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 Support Center.

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