

# Chemlok® 8600 Adhesive

## Description

LORD Chemlok® 8600 adhesive is a one-coat aqueous adhesive used to bond castable urethane elastomers to metal. Chemlok 8600 adhesive will also bond a wide variety of both polyether- and polyester-based urethanes of varying hardness to all types of metals.

## Features and Benefits

**Durable** – provides a strong, durable bond that, in many instances, has strength equal to or greater than the tear strength of the urethane elastomer being molded.

**Environmentally Friendly** – has low VOC emissions.

**Versatile** – bonds a wide variety of both polyether- and polyester-based urethanes.

**Process Compatible** – accommodates a wide range of processing conditions, including extended prebake.

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

## 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.

## Typical Properties\*

Appearance	White Liquid
Viscosity, cps @ 25°C (77°F) Brookfield LVT Spindle 2, 30 rpm	200-600
Density kg/m <sup>3</sup> (lb/gal)	1018.5-1066.4 (8.5-8.9)
Solids Content by Weight, %	31-35
Flash Point (Seta), °C (°F)	>93 (>200)
Solvents	Deionized Water
pH	6.85

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

# LORD TECHNICAL DATA

For further detailed information on surface preparation of specific substrates, refer to Chemlok Adhesives application guide. Handle clean metal surfaces with clean gloves to avoid contamination with skin oils.

**Mixing** – Thoroughly mix Chemlok 8600 adhesive before use. Do not shake. To prevent foaming, mechanical mixing should not exceed 60 rpm. The addition of anti-foaming agents is not recommended. If dilution is needed, use deionized water. Slowly add water to the adhesive while mixing.

**Applying** – Apply Chemlok 8600 adhesive by dip, spray or brush methods using stainless steel or plastic application equipment. The recommended dry film thickness of Chemlok 8600 adhesive is 30.5-40.6 micron (1.2-1.6 mil). If diluted, multiple coats may be required in order to attain the recommended film thickness.

**Drying/Curing** – Allow applied adhesive to air-dry for 30-60 minutes at room temperature. Drying time can be shortened by either preheating the metal parts or oven drying after application. Metal parts may be preheated to 49-60°C (120-140°F) prior to adhesive application. For coated parts, oven dry at 49-60°C (120-140°F) in a recirculating forced air oven.

To ensure optimum adhesion to the prepared metal surface, cure coated parts a minimum of 2 hours at 121°C (250°F). Large parts will require longer baking time at 121°C (250°F) to negate the heat sink effect.

Although optimum adhesion is achieved when molding is done shortly after adhesive has cured, coated parts may be stored up to one month before bonding if protected from contamination and excessive humidity. Large metal parts can be preheated up to 30 minutes at 148°C (300°F) or 16 hours at 100°C (212°F) without affecting adhesion when hot molding.

Molding procedures that are used with heat-vulcanizing urethane elastomers can be used with Chemlok 8600 adhesive. The cure time and temperature for bonding is the same as that required to vulcanize the urethane compound being molded. Best results are obtained with curing temperatures above 71°C (160°F).

**Cleanup** – Use soap and water to remove wet adhesive. Remove dried adhesive with alcohol or ketone-type solvents.

## Shelf Life/Storage

Shelf life is six months from date of shipment when stored in a well ventilated area at 21-27°C (70-80°F) in original, unopened container. Do not freeze product.

## 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 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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