

Chemlok® 5151 Adhesive

Description

LORD Chemlok® 5151 adhesive is a one-coat adhesive used to bond uncured fluoroelastomers to metal. It can also be used to bond fluoroelastomers to phosphatized metals.

Features and Benefits

Excellent Appearance – provides good cosmetics; non-pigmented.

Versatile – bonds a wide variety of fluoroelastomers; bonds bisphenol or peroxide curing elastomers; accommodates a wide variety of postcures.

Easy to Apply – low viscosity allows for easy application.

Fluid Resistant – provides excellent resistance to immersion in ASTM Oils #1 and #3.

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 Chemlok Adhesives application guide. Handle clean metal surfaces with clean gloves to avoid contamination with skin oils.

Mixing – No agitation is required before or during use. If dilution is needed, a dilution of 2-3 parts MEK to 1 part adhesive will provide excellent primary adhesion and environmental resistance.

Typical Properties*

Appearance	Reddish-yellow Liquid
Viscosity, seconds Zahn Cup #1	25-30
Density kg/m ³ (lb/gal)	814.8-862.7 (6.8-7.2)
Solids Content by Weight, %	11-16
Flash Point, °C (°F)	-5 (+22)
Solvents	Methyl Ethyl Ketone (MEK)

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

LORD TECHNICAL DATA

Applying – Apply Chemlok 5151 adhesive by brush, dip or spray methods. Dip application is preferred to maintain precise control over adhesive thickness.

Drying/Curing – Allow adhesive to air-dry, maintaining forced air drying temperatures below 93°C (200°F).

Chemlok 5151 adhesive cures at 165-188°C (330-370°F). Post cures of 12-24 hours at 204-232°C (400-450°F) can be used. For exceptionally thick parts, use a step postcure beginning at 149°C (300°F), and increase the temperature in 10°C (50°F) increments at two hour intervals until a temperature of 204-232°C (400-450°F) is achieved.

Cleanup – Use alcohol or MEK for clean up.

Shelf Life/Storage

Shelf life is six months from date of shipment when stored at 21-27°C (70-80°F) in original, unopened container. Do not store or use near heat, sparks or open flame.

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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