

Chemlok® 253X Adhesive

OBSOLETE

Description

LORD Chemlok® 253X adhesive is used to bond compounds based on natural rubber (NR), polyisoprene (IR), styrene-butadiene (SBR), polybutadiene (BR), polychloroprene (CR), nitrile (NBR), butyl (IIR) and EPDM polymers to metals. These metals include carbon and alloy steels, stainless steel, aluminum, magnesium, zinc, copper and copper alloys.

Features and Benefits

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

Non-Chlorinated Solvent System – suitable for solvent incineration.

Easy to Apply – provides slow evaporation rate suitable for spray applications.

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 – Thoroughly stir Chemlok 253X adhesive before use and agitate sufficiently during use to keep dispersed solids uniformly suspended. Use a high speed, explosion-proof mixer or the agitator supplied with Chemlok 253X adhesive drums.

Typical Properties*

Appearance	Black Liquid
Viscosity, seconds Zahn Cup #2	40-90
Density kg/m ³ (lb/gal)	982.6-1018.5 (8.2-8.5)
Solids Content by Weight, %	21.5-26.5
Flash Point (Seta), °C (°F)	27 (80)
Solvents	Xylene

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

LORD TECHNICAL DATA

Applying – Apply Chemlok 253X adhesive by spray, dip or brush methods. Chemlok 253X adhesive is best suited for spray application.

When using Chemlok 253X adhesive as a one-coat adhesive, the dry film thickness should be maintained at 20.3-25.4 micron (0.8-1.0 mil), particularly if the bonded assembly is likely to be exposed to severe environments. When used as a covercoat over a primer, the dry film thickness of Chemlok 253X adhesive should be 10.2-17.8 micron (0.4-0.7 mil).

- **Spraying**

Dilute Chemlok 253X adhesive to a Zahn Cup #2 viscosity of approximately 21 seconds. Use a ratio of approximately 60 parts adhesive to 40 parts xylene or toluene. Tip sizes of 1.07-1.4 mm (0.042-0.055 in) are appropriate. Maintain atomization pressures at 0.345-0.379 MPa (50-55 psi).

- **Dipping**

Use full strength. As a one-coat adhesive, a single dip application of Chemlok 253X adhesive usually results in a dry film thickness of 10.2-12.7 micron (0.4-0.5 mil). When used over a primer, a single dip of Chemlok 253X adhesive is generally sufficient to provide a total dry film thickness of 15.2-17.8 micron (0.6-0.7 mil). If bonded parts are expected to be exposed to aggressive environmental conditions, it may be necessary to double dip Chemlok 253X adhesive for a dry film thickness of 20.3-25.4 micron (0.8-1.0 mil).

- **Brushing**
Apply full strength.

Curing – Chemlok 253X adhesive can be used in compression, transfer and injection molding procedures. Ideal bonding conditions involve a minimum amount of time between loading the adhesive coated parts and elastomer vulcanization. However, Chemlok 253X adhesive will resist moderate prebake times without affecting bond performance.

Cleanup – Use xylene or toluene to clean up equipment and small spills.

Shelf Life/Storage

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

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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