

Chemlok® 253H Adhesive

OBSOLETE

Description

LORD Chemlok® 253H adhesive is a high solids, one-coat adhesive designed 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. It is composed of a mixture of polymers, organic compounds and mineral fillers dissolved or dispersed in an organic solvent system.

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, saving cost of recovery equipment.

Environmentally Resistant – provides superior resistance to heat, oils and salt spray.

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.

Typical Properties*

Appearance	Black Liquid
Viscosity	
cps @ 25°C (77°F)	300-2000
Brookfield LVT	
Spindle 2, 30 rpm	
seconds	20-70
Zahn Cup #4	
Density	
kg/m ³	982.6-1030.5
(lb/gal)	(8.2-8.6)
Solids Content by Weight, %	25-30
Flash Point, °C (°F)	9 (48)
Solvents	Toluene

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

LORD TECHNICAL DATA

Mixing – Thoroughly stir Chemlok 253H adhesive before use, and agitate sufficiently during use to keep dispersed solids uniformly suspended. Mix drums for 8 hours or longer at 30-60 rpm before using.

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

When using Chemlok 253H adhesive as a one-coat adhesive, the dry film thickness should be maintained at 17.8-27.9 micron (0.7-1.1 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 253H adhesive should be 15.2-20.3 micron (0.6-0.8 mil).

- **Spraying**

Dilute Chemlok 253H adhesive to a Zahn Cup #2 viscosity of approximately 21 seconds. Use a ratio of approximately 50 parts adhesive to 50 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 253H adhesive usually results in a dry film thickness of approximately 25.4 micron (1.0 mil).

- **Brushing**

Apply full strength.

Curing – Chemlok 253H 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 253H adhesive will resist moderate prebake times without affecting bond performance.

Cleanup – Use solvents such as xylene and methyl ethyl ketone (MEK) to remove adhesive before heat is applied.

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 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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