

# Chemlok® 238 (NW) Adhesive

## Description

LORD Chemlok® 238 (NW) adhesive is a covercoat adhesive used to bond a variety of non-polar elastomers to themselves or to Chemlok 205 primed metals and other rigid substrates. It is composed of a mixture of polymers, organic compounds and mineral fillers dissolved or dispersed in an organic solvent system.

Chemlok 238 (NW) adhesive will bond compounds based on butyl and EPDM. It will also bond most compounds based on natural rubber (NR), polyisoprene (IR), styrene-butadiene (SBR), polybutadiene (BR), polychloroprene (CR), and nitrile (NBR) polymers.

## Features and Benefits

**Versatile** – bonds non-polar rubber compounds based on butyl and EPDM; flexible enough to bond uncured to cured, or cured elastomers with the same or different compositions.

**Easy to Apply** – applies easily by brush, dip, roll coat or spray methods.

## 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	Black Liquid
Viscosity, cps @ 25°C (77°F) Brookfield LVT Spindle 2, 30 rpm	150-800
Density kg/m <sup>3</sup> (lb/gal)	881.52-928.5 (7.35-7.75)
Solids Content by Weight, %	12.0-15.0
Flash Point (Seta), °C (°F)	33 (92)
Solvents	Xylene

\*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** – Special attention should be given to mixing the adhesive. Agitation methods and times will vary depending on container size and time in inventory. The following guidelines must be followed to ensure a homogenous mix and uniform appearance.

- Quart container – hand stirred with a paint stick or placed on a paint shaker for 15-30 minutes.
- Gallon container – hand stirred with a paint stick, placed on a paint shaker, or agitated with an air-driven mixer for 20-30 minutes.
- 5-Gallon pail – first hand stirred to loosen any sediment followed by agitation with an air-driven mixer for 45-60 minutes.
- 55-Gallon drum – hand cranked initially to loosen any sediment followed by agitation with an air-driven motor for 8 hours at 40-60 rpm. Drum roller can also be used to loosen any sediment by rolling at 30 rpm for 2 hours followed by agitation with an air-driven mixer for 4 hours at 40-60 rpm.

Evaluate all mixed containers for any remaining sediment prior to applying adhesive. Repeat recommended mixing procedure if sediment is found.

Recommended Mixing Procedures		
Container	Mixing Method	Mixing Time
Quart (1.1 L)	Hand stir	10-15 minutes
	Paint Shaker	10-15 minutes
Gallon (3.8 L)	Hand stir	20-30 minutes
	Paint Shaker	20-30 minutes
	Air-driven mixer	20-30 minutes
5 Gallon (18.9 L)	Hand stir and air-driven mixer	45-60 minutes
55 Gallon (208.2 L)	Hand crank and air-driven mixer	8 hours
	Roller and air-driven mixer	2 hours (roller) 4 hours (mixer)

If the application method requires dilution, use xylene or toluene as diluents. Xylene is the suggested diluent for spray application; toluene is suggested for dip or brush application.

**Applying** – Apply Chemlok 238 (NW) adhesive by brush, dip, spray or any method that gives a uniform coating and avoids excessive runs or tears.

For optimum adhesion, the dry film thickness of Chemlok 238 (NW) adhesive should be 10.2-25.4 micron (0.4-1.0 mil). Thicker films may be necessary on certain hard-to-bond rubber compounds. For bonding cured rubber, dry film thickness of 25.4-38.1 micron (1.0-1.5 mil) is normally used.

**Drying/Curing** – Allow the applied adhesive to dry until visual examination of the film has shown that all solvent has evaporated. This will take approximately 30-60 minutes at room temperature. Drying time can be shortened by either preheating the metal inserts or oven drying after application. Metal parts may be preheated to a maximum of 65°C (150°F) prior to adhesive application. For coated parts, moderate drying temperatures should be used, but temperatures as high as 149°C (300°F) may be used for very short periods of time. Maximum air flow at minimum temperatures will give the best results.

Dried films of Chemlok 238 (NW) adhesive are non-tacky; therefore, coated parts can be piled into tote pans for subsequent processing. Wear clean gloves when handling coated parts and cover tote pans to prevent contamination by dirt, dust, grease, oil, etc. If coated parts are properly protected, long layover times between adhesive application and bonding usually have no adverse effect on the bond.

# LORD TECHNICAL DATA

## **Shelf Life/Storage**

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

To help prevent the formation of a gel-like consistency, store Chemlok 238 (NW) adhesive above 21°C (70°F). If a gel-like consistency does develop, heat Chemlok 238 (NW) adhesive to temperature above 38°C (100°F) and mix the adhesive with a high speed agitator until it returns to a homogeneous liquid.

## **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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