

Chemosil® 231 G Elastomer Bonding Agent

Description

LORD Chemosil® 231 G elastomer bonding agent is a general purpose bonding agent suitable for use as a covercoat material over Chemosil 211 primer, or as a one-coat bonding agent for bonding non-metallic substrates such as fabric and plastics. Chemosil 231 G bonding agent is used to bond a variety of elastomer compounds to metal and plastic substrates during the vulcanization process. It is composed of a mixture of dispersed organic polymers, isocyanate and suspended solids in an organic solvent system.

Chemosil 231 G bonding agent will bond elastomer compounds based on natural rubber (NR), polyisoprene (IR), styrene-butadiene (SBR), polybutadiene (BR), polychloroprene (CR), nitrile (NBR) and butyl (IIR), chlorinesulfonic polyethylene (CSM), ethylene vinyl acetate (EVA), and ethylene propylene (EPDM) elastomers to most metals, alloys and a variety of plastic substrates.

Features and Benefits

Versatile – bonds a wide variety of elastomer compounds to rigid substrates during vulcanization when used in combination with Chemosil 211 primer.

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

High Temperature Resistant – provides excellent heat resistance at exposure temperatures as high as 149°C (300°F).

Durable – provides rubbing tearing bonds and excellent environmental resistance when used in combination with Chemosil 211 primer.

Convenient – requires only a single coat application to bond textiles and various plastics to a wide variety of elastomer compounds.

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.

Typical Properties*

Appearance	Black Liquid
Viscosity, cps @ 25°C (77°F) Brookfield LVT Spindle 2, 30 rpm	400-1000
Density @ 20°C (68°F) g/cm ³ (lb/gal)	0.93-0.97 (7.76-8.10)
Solids Content by Weight, % Dry residue, 30 min @ 130°C (266°F)	19-23
Flash Point, °C (°F) Pensky-Martens	26 (78)
Solvents	Xylene

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

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- **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/Chemosil Adhesives application guide. Handle clean metal surfaces with clean gloves to avoid contamination with skin oils.

If applicable, allow primer to thoroughly dry before applying Chemosil 231 G bonding agent. For further details on the use of Chemosil 211 primer, refer to the applicable data sheet.

Mixing – Thoroughly stir Chemosil 231 G bonding agent before use, and agitate sufficiently during use to keep dispersed solids uniformly suspended and prevent sedimentation. Transfer amount of bonding agent required to a clean container.

Applying – Apply bonding agent by brush, roll coat, dip or spray methods. Avoid applying thick coats which result in poor drying and may lead to film displacement during molding.

- **Brushing/Roll Coating**
Apply full strength.
- **Dipping**
Apply full strength, or dilute bonding agent with up to 10% of xylene.
- **Spraying**
Dilute bonding agent to a viscosity of 18-25 seconds using 40-60% xylene.

Regardless of application method, recommended dry film thickness of Chemosil 231 G bonding agent is 15 micron (0.6 mil).

Drying/Curing – Allow applied bonding agent to air-dry for at least 30 minutes at room temperature. Drying time can be shortened by using hot air drying ovens or tunnels up to 90°C (194°F).

Dried films of Chemosil 231 G bonding agent are non-tacky; therefore, coated parts can be stacked and stored in a dry, grease-free environment for up to three months without affecting bond performance.

Bonding occurs during vulcanization process of the rubber under recommended cure temperatures of 120-170°C (248-338°F).

Cleanup – Use xylene or toluene for clean up.

LORD TECHNICAL DATA

Shelf Life/Storage

Shelf life is one year from date of manufacture when stored below 25°C (77°F) in original, unopened container. Chemosil 231 G bonding agent is moisture sensitive; keep container tightly closed when not in use. Avoid excessive exposure to high humidity, especially outdoor storage.

Cautionary Information

Before using this or any LORD product, refer to the Safety Data Sheet (SDS) 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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