Chemosil® NL 411 Elastomer Bonding Agent

Composition

Polymers and heat reactive components in an organic solvent system.

Description

LORD Chemosil® NL 411 is a non-lead added version of Chemosil 411. As such it is a versatile, heat activated bonding agent which will bond a variety of rubber compounds to metal and plastic substrates.

It can be used as a single coat, but in combination with appropriate metal primers (e.g., Chemosil 211), the in-service environmental resistance of the final bond can be very much improved.

Chemosil NL 411 bonds elastomer compounds based on natural rubber (NR), butadiene (BR), isoprene (IR), styrene-butadiene (SBR), nitrile (NBR) and chloroprene (CR), ethylene-propylene (EPDM) and butyl (IIR) rubber to most metals, alloys and rigid plastic substrates.

The bond is established during the vulcanization process of the rubber under cure temperatures between 130-180°C. The bond exhibits good resistance against heat, oil and aggressive media.

Processing

A properly prepared substrate surface is essential to achieve consistent elastomer bond performance. All oil, grease and other soluble contamination should be removed by solvent degreasing or alkaline cleaning. Rust, scale and other non-soluble contaminants should be removed by mechanical or chemical methods. Grit blasting is the most commonly used mechanical method. A second degreasing stage after the mechanical treatment is strongly recommended to remove residual grease, oil and abraded dusts. Chemical treatments for ferrous substrates usually involve the use of phosphatizing agents.

Chemosil NL 411 contains dispersed solids and must be thoroughly stirred before and at frequent intervals during use. Chemosil NL 411 can be applied undiluted by brush or roller coating. For spray or dip applications, Chemosil NL 411 must be diluted.

For a recommended dry film thickness of ~ 20 microns the following dilution is recommended:

Brushing/rolling:	undiluted
Dipping:	up to 10% xylene or toluene
Spraying:	30-90% xylene (4 mm cup 15-17 sec., air pressure 3-4 bar, nozzle Ø 1-2 mm, distance ~ 50 cm)

Delivery Specifications

		Method *)
Solids content	22.0 - 26.0 weight %	970074
Viscosity at manufacturing	200 - 600 mPas	950055
Density	0.97 - 1.01 g/ml	950014

*) Methods
970074: Determination of Dry Residue, 30 min @ 130°C
950055: Brookfield Viscometer, Model LVT Spindle 2, 30 rpm, @25°C
950014: Determination of Density @ 20°C

Properties

Appearance	black thixotropic liquid
Solids Density	1.75 g/ml (calculated by densities of ingredients)

Dilution will accelerate settling, maintain sufficient agitation to ensure product uniformity. A thin uniform coating gives best results. Avoid applying thick coats which can give poor drying and may lead to film displacement (sweep) during molding. At ambient temperature, allow 30 minutes drying time after coating. Elevated temperatures (up to 90°C) in hot air ovens or drying tunnels will reduce the drying time required. Chemosil NL 411 will dry to a hard, non-tacky film.

Coated components can be stacked or loaded into bins for transport and storage. Clean cotton gloves should be worn when handling coated components. Coated components can be stored for up to 3 months before bonding without adversely affecting the bond performance. Coated components should be protected from dust, moisture and other contamination during storage.

Safety/hazard Information

See Health and Safety Data Sheet

Delivery Form

Containers 10 kg, 25 kg or 190 kg

Shelf Life

At least 12 months in closed containers below 25°C.

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