

Chemlok® 489/456 Adhesive

Description

LORD Chemlok® 489/456 adhesive is a two-component adhesive system designed for bonding PVC to prepared metals, glass and plastics during injection molding.

Features and Benefits

Easy to Apply – low viscosity allows for easy application by spray, brush, wick or dip methods.

Convenient – requires only a single coat for most applications. No preheating of primed substrates is necessary prior to injection molding.

Durable – provides PVC tearing bonds both at room temperature and after exposure to heat and water environments.

UV Fluorescence – Chemlok 456 curative contains a fluorescent tracer that will fluoresce or “glow” when exposed to a low or medium intensity UV light; permits detection of curative in the resin; provides confirmation of the mixed adhesive on the bond surface.

Application

Surface Preparation – Thoroughly clean glass bond surface with a vinegar-based glass cleaner. For optimum adhesion, bond to the oxide surface of the glass. If metal and plastic inserts are part of the molding process along with glass, make sure all parts are clean and free of contaminants. Clean any metal or plastic parts with isopropyl alcohol, xylene or methyl ethyl ketone (MEK). For best results, apply adhesive to dry, clean parts immediately after cleaning.

Mixing – Thoroughly stir Chemlok 489 resin. While stirring, add 4-6 parts, by weight, Chemlok 456 curative to 100 parts, by weight, Chemlok 489 resin.

Thoroughly mix the two-component adhesive system before using. Mixed working life is 18-24 hours, depending on ambient temperature and humidity conditions during use.

If dilution is needed, use xylene or toluene.

Typical Properties*

	489 Resin	456 Curative
Appearance	Clear to Amber Liquid	Light Amber Liquid
Viscosity, cps @ 25°C (77°F) Brookfield LVT Spindle 2, 30 rpm	80-195	<25
Density kg/m ³ (lb/gal)	850.0-890.0 (7.1-7.4)	1010.0-1030.0 (8.4-8.6)
Solids Content by Weight, %	9-11	49-51
Flash Point (Seta), °C (°F)	16 (61)	27 (81)
Solvents	Methyl Isobutyl Ketone (MIBK), Xylene	Xylene

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

LORD TECHNICAL DATA

Applying – Apply adhesive system by brush, spray, dip or wick applicator. For optimum adhesion and environmental resistance, the dry film thickness of Chemlok 489/456 adhesive should be 2.5-12.7 micron (0.1-0.5 mil). Where minimum environmental resistance is required, film thickness in the lower range can be used in easy-to-bond applications. Thicker films may be necessary on certain hard-to-bond applications and where maximum environmental resistance is required.

Drying/Curing – Before molding, allow coated parts to air-dry for 1-2 hours at 18-27°C (65-80°F) and at least 45% relative humidity. Drying time can be shortened by oven drying for 4 minutes at 93°C (200°F) or 2 minutes at 138°C (280°F). Larger parts may require more oven time as a result of the heat sink effect.

For best results, injection mold within 24 hours of adhesive application. Full bond strength is achieved approximately 24 hours after the part has been bonded.

Cleanup – Use solvents such as isopropyl alcohol or acetone to remove uncured adhesive. Remove cured adhesive by wiping or soaking part in a more aggressive solvent, such as MEK. Mechanical scraping or abrasion may also be required. To prevent scratches to the cosmetic area of the glass, use a scraper softer than the glass when removing the adhesive.

Shelf Life/Storage

Shelf life of each component is one year from date of manufacture when stored at 21-27°C (70-80°F) in original, unopened container. Store containers in a well ventilated area at less than 60% relative humidity and out of sunlight.

Chemlok 489 resin and Chemlok 456 curative are moisture sensitive, individually and when mixed together. Cap the head space of each container with dry nitrogen or argon gas, or use desiccant tubes so only moisture-free air is returned to the container. If Chemlok 489 resin develops a cloudy appearance or a white sediment on the bottom of the container, consult your LORD Technical Service Representative prior to using.

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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LORD Corporation World Headquarters

111 Lord Drive
Cary, NC 27511-7923
USA

Customer Support Center (in United States & Canada)

+1 877 ASK LORD (275 5673)

www.lord.com

For a listing of our worldwide locations, visit LORD.com.

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