PRODUCT INFORMATION

LORD Engineered Adhesives

521

General Purpose, Long Working Time, Acrylic Adhesive

Description

Lord® 521 is an acrylic adhesive which offers a long working time. It will bond a variety of plastics and prepared metals.

Features and Benefits

Room Temperature Cure - reduces energy costs because no heat is necessary.

Extended Open-Time - provides open-time that is well-suited for large parts, long bondlines and part repositioning.

Environmental and Chemical Resistance - resists dilute acids, alkalis, solvents, greases, oils, moisture, and weathering. Performs at temperatures from -40°C to 149°C (-40°F to 300°F). Provodes excellent UV exposure resistance.

Surface Preparation

All substrates to be bonded must be free of grease, oil, mold release agents and other contaminants. Thermoset plastics may require mechanical abrasion. Metals may be abraded and solvent wiped, primed or prepared chemically by some other method, prior to bonding.

No-Mix

Lord 521 resin can be used with No-Mix accelerators such as Lord Accelerator 4. This accelerator can be brushed, wiped, sprayed, or dipped onto one or both of the substrates to be bonded. When applied to one substrate, Lord Accelerator 4 will cure bondline thicknesses up to 0.025 inches. For bondlines greater than 0.025 and up to 0.060 inches, apply the accelerator to both substrates. The accelerator will dry to an off-white crystalline film in approximately one to three minutes. Once dry, place acrylic adhesive resin on the other substrate to be bonded, and join the parts. A part coated with Lord Accelerator 4 can be stored for a number of weeks if kept below 27°C (80°F) and out of direct light, especially sunlight.

Table 1: Typical Properties* of Lord 521 Acrylic Adhesive

	Lord 521	Accelerator 4	Accelerator 17	Accelerator 19
Appearance	Amber syrup	Hazy liquid	Off-white to yellow liquid	Off-white paste
Viscosity, cP Brookfield Model LVT Spindle #4 @ 12 rpm @ 25°C (77°F)	25,000 - 75,000	10	10,000 - 100,000	150,000 - 450,000
Density kg/m³ lb/gal	 971 - 1031 8.1 - 8.6	 1222 - 1282 10.2 - 10.7	 1150 - 1246 9.6 - 10.4	 1426 - 1546 11.9 - 12.9
Flash Point, closed cup	3°C (37°F)	>93°C (>200°F)	>93°C (>200°F)	>93°C (>200°F)
Working Time	20 - 30 Minutes	—	—	—
Handleable Bonds @ 25°C (77°F)	40 - 50 Minutes	—	—	—
Mix Ratio by volume	10 Parts	No-Mix	1 Part	5 Parts
Shelf Life	6 Months	6 Months	6 Months	6 Months

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

Mix-In
Thoroughly mix the Lord 521 resin and Mix-In accelerator at the ratio specified in Table 1. Mix until uniform in color and consistency. Be careful not to whip excessive air into the acrylic adhesive.

Heat buildup due to an exothermic reaction between the two components will shorten the working time of the acrylic adhesive. Mixing smaller quantities will minimize heat buildup. Do not attempt to use any acrylic adhesive that has begun to gel.

In conjunction with Lord Accelerator 17 or 19, Lord 521 can be packaged in Lord-Pak™ dual cartridge systems for convenient, automated mixing and application (minimum order quantities apply). Lord-Pak cartridge systems eliminate the waste involved in hand-mixing without the capital investment of meter/mix/dispense equipment.

M/M/D equipment may be utilized if the acrylic adhesive usage justifies the investment. Consult the equipment manufacturer for more information.

Cure
Lord 521 acrylic adhesive will cure completely at room temperature. Full bond strength is achieved in two hours. Exposure to severe environmental conditions should be avoided for 24 hours.

Clean Up
Uncured
It is important to clean up excess acrylic adhesive on the bonded assembly, as well as mixing and application equipment, before the acrylic adhesive sets. Use hot water and detergent or an organic solvent; ketones have been shown to work best.

Cured
Removing cured Lord acrylic adhesive is difficult due to its resistance to chemicals, solvents, and cleaning agents. Heating to 400°F (204°C) or greater will soften the acrylic adhesive, allowing the parts to be separated and the acrylic adhesive to be more easily removed.

Values stated in this bulletin 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 Service Department.

Information provided herein is based upon tests believed to be reliable. Inasmuch as Lord Corporation has no control over the manner in which others may use this information, it does not guarantee the results to be obtained. In addition, Lord Corporation does not guarantee the performance of the product or the results obtained from the use of the product or this information where the product has been repackaged by any third party including but not limited to any product end user. Nor does the company make any express or implied warranty of merchantability, or fitness for a particular purpose concerning the effects or results of such use.

Storage
This acrylic adhesive should be shipped and stored below 27°C (80°F) to obtain a minimum shelf life of six months in the original, unopened container. Optimum storage temperature is 4°C - 10°C (40°F - 50°F). Shelf life begins at the time of shipment from the manufacturer.

For complete information on the proper handling and storage of accelerators, please consult the specific product bulletins and material safety data sheets for each one.

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.

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