

SELECTOR GUIDE



LORD® Structural Adhesives

KRAYDEN, INC.

AUTHORIZED DISTRIBUTOR
1-800-448-0406

LORD
AskUsHow™

Delivering solutions that improve products and processes for our customers is our number one priority at LORD.

With more than 40 years experience in developing and manufacturing structural adhesives, our extensive line of acrylic, epoxy and urethane adhesives improve appearance, strength and durability, while offering design flexibility and total cost savings. Compared to traditional fastening methods such as rivets, welds and tapes, LORD Structural Adhesives eliminate the costs associated with metal preparation and finishing operations and are formulated to improve manufacturing processes and final products for a variety of composite, metal and plastic assemblies. For your convenience, LORD adhesives are available in convenience cartridge packaging to bulk packaging that includes gallons, pails, drums and totes for high volume applications.



How can a designer switch to an adhesive joint?

The key is embracing the conversion process. This includes understanding the chemistry behind adhesives, outlining a proper implementation plan and partnering with a reputable adhesive supplier.

Chemistry

Acrylic-based adhesives are primarily used to bond metals. Acrylics are very aggressive, require minimum surface preparation and also work well on plastics, but should be tested for compatibility.

Urethane-based adhesives are a good choice for bonding plastics, composites, wood and foam. Urethanes do not adhere well to metal without a primer or other coating, so they are generally used for metal bonding applications where the metal is primed, painted, powder-coated or e-coated.

Epoxy-based adhesives can be used on metals, plastics, composites, concrete, wood and foam. Epoxies are generally very strong and chemically resistant.

Outlining a Plan & Partnering

A firm commitment to following an implementation plan is vital for a successful project. First, determine the goals of the project and audit current joining processes to estimate potential savings that will help justify the switch to adhesive bonding. If the audit is promising, then substrate testing to confirm bond performance follows. Bond trials are the most effective method to demonstrate the ability of a proposed adhesives process.

Collaborating with you and working together we offer more than just products ... our dedicated engineers will work with you to analyze your assembly process, determine proper fixturing and joining designs, perform a cost model analysis to help quantify your return on investment, select the most appropriate adhesive product for your application and allocate proper meter/mix dispensing equipment ... Ask Us How.

To learn more, contact us at

+1 877 ASK LORD (275 5673) or LORD.com

TABLE OF CONTENTS

SELECTION CONSIDERATIONS	Pages 1-2
LORD-PAK™ SYSTEMS	Pages 3-4
INDUSTRIES	Pages 5-8
METAL-TO-PLASTIC/COMPOSITE BONDING	Pages 9-10
METAL-TO-METAL BONDING	Pages 11-12
PAINTED METAL-TO-PLASTIC BONDING	Pages 13-16
COMPOSITE-TO-COMPOSITE BONDING	Pages 17-20
SPECIALTY SUBSTRATE BONDING	Pages 21-24
CONVENIENCE PACKAGING	Pages 25-29
ADHESION ENHANCERS/SURFACE MODIFIERS	Pages 30

When selecting an adhesive, there are several important considerations at every application phase, including substrate type, surface preparation, temperature, application/cure time and other factors. Use the chart to the right to determine which LORD solution is best suited for your particular application.

Please note: These are general recommendations. For comprehensive product selection assistance, please contact the LORD Customer Support Center at +1 877 ASK LORD (275 5673) in United States and Canada.

- * Potlife for mix-in-only; no-mix type has no potlife consideration
- ** Potlife for two-component type only
- *** Both mix and no-mix systems are available
- **** Mix required for two-component systems only. Contact the LORD Customer Support Center at +1 877 ASK LORD (275 5673) for specific recommendations.

Surface Preparation

Preparing Your Substrate

Prior to adhesive application remove soils, greases, oils, dust, mold release agents, rust and other contaminants from substrate surface with the use of a vapor-free solvent, such as MEK, acetone or IPA.

Plastics: Clean the surface with a dry rag or dampened solvent rag.

Metals: Prime, paint or grit blast, followed by a solvent wash for optimum bond performance.

	ACRYLIC	EPOXY	URETHANE
PRE-APPLICATION PHASE			
ADHESIVE COMPONENTS	2	2	1 OR 2
SUBSTRATE	METALS THERMOPLASTICS THERMOSETS COMPOSITES	PREPARED METALS RUBBER THERMOSETS COMPOSITES	THERMOPLASTICS RUBBER THERMOSETS COMPOSITES PRIMED METALS
SURFACE PREPARATION Metals Thermosets Thermoplastics	NO YES NO	YES NO NO	YES NO NO
PHYSICAL STATE	MED. LIQUID TO PASTE	MED. LIQUID TO PASTE	MED. LIQUID TO PASTE
PACKAGING	3 OZ - 55 GAL	3 OZ - 55 GAL	3 OZ - 55 GAL
APPLICATION PHASE			
CURE TEMPERATURE	ROOM TEMP. OR HEAT	ROOM TEMP. OR HEAT	ROOM TEMP. OR HEAT
WORKING TIME	1 - 30 MIN*	5 - 180 MIN	4 - 120 MIN**
HANDLING TIME	2 - 60 MIN	2 - 12 HR	0.5 - 24 HR
SPEED CURE WITH	MILD HEAT/CATALYST	HEAT	HEAT/CATALYST
FLASH POINT °F(°C)	>50 TO 200 (10-93)	>200 (93)	>200 (93)
HUMIDITY DEPENDENT	NO	NO	YES, SINGLE-COMPONENT
MIX REQUIRED	NO***	YES	YES****
POST-APPLICATION PHASE			
SHEAR STRENGTH	VERY HIGH	VERY HIGH	HIGH
PEEL STRENGTH	MEDIUM	MEDIUM	HIGH
IMPACT STRENGTH	HIGH	HIGH	HIGH
RESISTANCE TO: Moisture Chemicals UV Light	EXCELLENT EXCELLENT EXCELLENT	VERY GOOD VERY GOOD EXCELLENT	VERY GOOD VERY GOOD VERY GOOD
TEMPERATURE RANGE °F(°C)	-40 TO 400 (-40 TO 204)	-20 TO 400 (-29 TO 204)	-40 TO 350 (-40 TO 178)

The above data represents typical values and is not to be used for specification purposes.

SELECTION CONSIDERATIONS

	BARE ALUMINUM OR STEEL, INCLUDING STAINLESS	GALVANIZED STEEL	PREFINISHED METAL	FRP/GRP	SMC	RUBBER (1)	ENGINEERING THERMOPLASTICS (POLYCARBONATE, ACRYLIC, ABS, PVC) (5)	WOOD	URETHANE FOAM (2)	CERAMIC/STONE	THERMOPLASTIC, TPU, TPO, NYLON, POLYPROPYLENE (3)	GLASS (1)
BARE ALUMINUM OR STEEL, INCLUDING STAINLESS	2XX 4XX 6XX Maxlok 3XX (4,6)	2XX 4XX 6XX Maxlok 3XX (4,6)	2XX 4XX 6XX Maxlok 3XX (4,6)	2XX 4XX 6XX Maxlok 3XX (4,6)	2XX 4XX 6XX Maxlok 3XX (4,6)	3XX (1,4)	2XX 4XX 6XX Maxlok 7XXX (2)	3XX (4) 7XXX	6XX 3XX (4) 7XXX	3XX (4) 7XXX (1)	2XX 4XX Maxlok 3XX (4) 7XXX	2XX (1) 4XX (1) Maxlok (1) 7XXX (1)
GALVANIZED STEEL		2XX 4XX 606 (2) Maxlok	2XX 4XX 606 (2) Maxlok	2XX 4XX 606 (2) Maxlok	2XX 4XX 606 (2) Maxlok	606 (2)	2XX 4XX 606 (2) Maxlok	606 (2)	606 (2)	3XX	2XX 4XX 606 (2)	2XX (1) 4XX (1) Maxlok (1)
PREFINISHED METAL			2XX 4XX 6XX Maxlok 3XX 7XXX	2XX 4XX 6XX Maxlok 3XX 7XXX (6)	2XX 4XX 6XX Maxlok 3XX 7XXX	6XX (1,6) 3XX (1,6) 76XX (1,6)	2XX (6) 4XX (6) 6XX (6) Maxlok (6) 3XX (6) 7XXX (6)	3XX 7XXX	6XX 3XX 7XXX	2XX (1,6) 4XX (1,6) 6XX (1,6) Maxlok (1,6) 3XX (1,6) 76XX (1,6)	2XX 4XX 6XX Maxlok 3XX 7XXX	2XX (1) 4XX (1) Maxlok (1) 7XXX (1)
FRP/GRP				2XX 4XX 6XX Maxlok 3XX (6) 7XXX (6)	6XX 3XX (6) 7XXX (6)	3XX (1) 7XXX (1)	6XX 3XX 7XXX	606 3XX 7XXX	6XX 3XX 7XXX	6XX 3XX 7XXX	6XX (1) 3XX (1) 7XXX (1)	7XXX (1)
SMC					606 3XX 7XXX	6XX 3XX (1) 7XXX (1)	2XX 4XX 6XX Maxlok 3XX 7XXX	606 3XX 7XXX	6XX 3XX 7XXX	6XX 3XX 7XXX	6XX (1) 3XX (1) 7XXX (1)	7XXX (1)
RUBBER (1)						3XX 7XXX	3XX 7XXX	3XX 7XXX	3XX 7XXX	3XX 7XXX	3XX 7XXX	7XXX (1)
ENGINEERING THERMOPLASTICS (POLYCARBONATE, ACRYLIC, ABS, PVC) (5)							2XX 4XX Maxlok 3XX 7XXX	606 3XX 7XXX	2XX 4XX 6XX Maxlok 7XXX	2XX 4XX Maxlok 76XX 7XXX	2XX 4XX Maxlok 7XXX	4XX (1) Maxlok (1) 7XXX (1)
WOOD								3XX 7XXX	3XX 7XXX	3XX 7XXX	3XX 7XXX	7XXX (1)
URETHANE FOAM (2)									3XX 7XXX	3XX 7XXX	3XX 7XXX	7XXX (1)
CERAMIC/STONE										3XX 76XX	3XX 76XX	7XXX (1)
THERMOPLASTIC, TPU, TPO, NYLON, POLYPROPYLENE (3)											606 3XX 76XX	NR NR NR
GLASS (1)												4XX (1) Maxlok (1) 7XXX (1)

- (1) Requires a primer or adhesion promoter.
- (2) Variable results - Contact the LORD Customer Support Center for special instructions.
- (3) Flame, corona, plasma treatment or a primer is required - Contact the LORD Customer Support Center.
- (4) Epoxy used on bare metals requires a clean, solvent-wiped surface for best results.
- (5) Acrylic adhesive should not be used to attach large thermoplastic parts due to the differences in thermal expansion - Contact the LORD Customer Support Center.
- (6) May require scuffing or abrading surfaces.

XX-XXX - Represents numbers for the family of adhesives to be utilized - Contact the LORD Customer Support Center.
NR - Not Recommended

BEAD DIAMETER ESTIMATOR - INCHES (CM)

Required Bead Diameter: Use the table below to determine the required bead diameter from the dimensions of the adhesive joint.

		BONDLINE WIDTH - IN (CM)					
		0.25 (0.60)	0.50 (1.80)	1.00 (2.50)	2.00 (5.10)	4.00 (10.20)	8.00 (20.30)
BONDLINE THICKNESS - IN (MM)	0.01 (0.25)	0.06 (0.14)	0.08 (0.20)	0.11 (0.29)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)
	0.02 (0.50)	0.08 (0.20)	0.11 (0.29)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)
	0.04 (1.00)	0.11 (0.29)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)	0.64 (1.62)
	0.08 (2.00)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)	0.64 (1.62)	0.90 (2.29)

BEAD LENGTH ESTIMATOR - FEET (M)

Linear Coverage: Use the table below to determine the length of adhesive bead that can be obtained from a cartridge of adhesives.

		BEAD DIAMETER - IN (CM)					
		0.125 (0.30)	0.188 (0.48)	0.250 (0.60)	0.313 (0.80)	0.375 (0.95)	0.500 (1.30)
CARTRIDGE VOLUME (ML)	40	17 (5.00)	7.4 (2.20)	4.1 (1.30)	2.7 (0.80)	1.8 (0.60)	1.0 (0.30)
	50	21 (6.30)	9.2 (2.80)	5.2 (1.60)	3.3 (1.00)	2.3 (0.70)	1.3 (0.40)
	200	83 (25.20)	37 (11.20)	21 (6.30)	13 (4.00)	9 (2.80)	5.2 (1.60)
	375	155 (47.20)	69 (21.00)	39 (11.80)	25 (7.60)	17 (5.20)	10 (3.10)
	400	166 (50.40)	74 (22.40)	41 (12.60)	27 (8.10)	18 (5.60)	10 (3.10)
	485	201 (61.10)	89 (27.20)	50 (15.30)	32 (9.80)	22 (6.80)	13 (3.80)
	600	249 (75.60)	111 (33.60)	62 (18.70)	40 (12.10)	28 (8.40)	16 (4.70)

We provide adhesives in convenient two-component cartridges for easy and accurate dispensing. Several configurations are available to suit every need.



LORD-Pak™ 50

A handheld, manual dispensing system for small jobs.

Volume of mixed adhesive per cartridge varies with the mix ratio:

1:1 - 50 mL	4:1 - 40 mL
2:1 - 50 mL	10:1 - 35 mL

375 mL Cartridges

These are economical, side-by-side, snap-together cartridge systems containing higher volumes of adhesive.



LORD-Pak™ 200/400 and 485 mL Cartridges

A larger dispensing system with both manual guns and pneumatic guns for field repair or production applications.

Volume of mixed adhesive per cartridge is approximately 200 mL or 400 mL, but varies with mix ratio.



LORD-Pak™ CX

Pneumatic and manual dispensing systems utilizing a coaxial cartridge containing the two adhesive parts.

Volume of mixed adhesive per cartridge is approximately 400 mL, but varies with the mix ratio.



SHIPPING: CARGO TRUCKS, TRAILERS, CONTAINERS & PALLETS

Ideal for aluminum and galvanized front panel, roof, sidewall and door panel bonding, LORD adhesives improve aesthetics, strength and eliminate leak points, making it easier to apply logos and advertisements while reducing aftermarket service due to improved product quality.

Benefits of LORD Adhesives for Shipping Container Manufacturers

- Ability to bond dissimilar substrates
- High-performance, two-part sealants
- High adhesion, durability leads to less corrosion issues
- Increased output through reduced cycle-times vs. traditional welding and joining methods
- Reduced maintenance requirements due to less leaks

- 1 Roof Bonding and Sealing**
LORD Maxlok™ Acrylic and Urethane Adhesives
- 2 Door and Side Panel Construction**
LORD Maxlok Acrylic and Urethane Adhesives
- 3 Multiple Sealant Applications**
LORD Urethane Adhesives
- 4 Floor Bonding**
LORD Maxlok Acrylic and Urethane Adhesives
- 5 Side Panel Bonding**
LORD Maxlok Acrylic Adhesives
- 6 Support Frame Bonding**
LORD Maxlok Acrylic Adhesives

GREEN ENERGY: SOLAR & WIND

With more than 20 years of proven experience in the solar panel assembly market, LORD has created an adhesive series with unique product chemistries to bond a variety of substrates with multiple cure speeds in order to adapt to changing manufacturing environments. LORD adhesives also offer easy field application for repair or refurbishment onsite.

Benefits of LORD Adhesives for Solar Panel Manufacturers

- Increased productivity
- Reduced stress points
- Environmentally resistant
- Environmentally friendly
- Easy installation
- Reworkability
- High adhesion, durability and UV protection
- Easy application



RECREATIONAL/SPECIALTY VEHICLES: AMBULANCES, FIRE APPARATUS, MARINE & WORK TRUCK BODIES

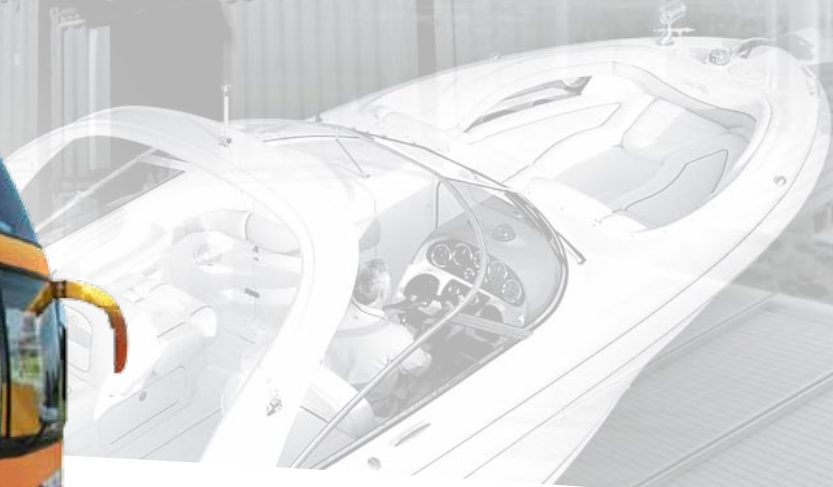
- 1 **Panel to Panel Bonding**
LORD Epoxy Adhesives
- 2 **Multiple Sealant Applications**
LORD Urethane Adhesives
- 3 **Solar Panel to Frame
Cross Bonding**
*LORD Maxlok Acrylic and
Urethane Adhesives*
- 4 **Outer Support Frame Bonding**
LORD Maxlok Acrylic Adhesives

With applications including aluminum, steel or galvanized roof, panel, door, tailgate, sidewall, corner cap and post bonding, the possibilities for LORD adhesive applications are endless for specialty vehicles.

Benefits of LORD Adhesives for Specialty Vehicle Manufacturers

- Improved aesthetics
- Weight reductions
- Leak reductions due to less rivets and sealants
- Reduction of stress points
- Improved output through reduced cycle-times
- Improved durability
- Ability to bond to dissimilar metals

- 1 **Aluminum, Steel or Galvanized
Sidewall Bonding**
LORD Maxlok Acrylic Adhesives
- 2 **Aluminum, Steel or Galvanized
Door and Frame Bonding**
LORD Maxlok Acrylic Adhesives
- 3 **Aluminum, Steel or Galvanized
Floor Bonding**
LORD Maxlok Acrylic Adhesives
- 4 **Composite Corner Cap Bonding**
LORD Maxlok Acrylic Adhesives



TRANSPORTATION: BUS, RAIL & HEAVY TRUCK

LORD Structural Adhesives can be used on engine compartment doors, air conditioning and air intake components, dashboards, front bumpers, grills and other internal parts as well as carriage and frame components. These adhesives help reduce stress points, leaks and cycle-times and improve aesthetics along with dimensional accuracy, allowing design freedom to further improve your final product.

Benefits of LORD Adhesives for Bus Manufacturers

- Ability to bond dissimilar substrates
- Weight reduction
- Increased output through reduced cycle-times
- Improved aesthetics
- Reduction of stress points
- Improved fatigue life

- 1** **Fiberglass Reinforced Plastic Roof Bonding**
LORD 7545 Urethane Adhesive
- 2** **Fiberglass Reinforced Plastic Front Shell Bonding**
LORD 7545 Urethane Adhesive
- 3** **Aluminum Exterior Panels and Frames, Door Panel Bonding**
LORD Maxlok Acrylic Adhesives
- 4** **Aluminum Exterior Panel Luggage Compartment Door**
LORD Maxlok Acrylic Adhesives
- 5** **Aluminum Exterior Panel, Side Panel Bonding**
LORD Maxlok Acrylic Adhesives
- 6** **Fiberglass Reinforced Plastic Back Shell Bonding**
LORD 7545 Urethane Adhesive



SPECIALTY CONSTRUCTION: ARCHITECTURAL CLADDING, SIGNS, WINDOWS & DOORS

LORD Acrylic Adhesives present a stronger, faster-curing alternative to adhesives typically used in the window and door industry. They help to improve wind load resistance/design pressure for severe weather doors and sidelights. Typical bonding applications include corner key joints, perimeter bond frames, internal reinforcements, astragals, “dowel” joints and cladding.

Benefits of LORD Adhesives for Specialty Construction Manufacturers

- Ability to bond dissimilar substrates
- 20+ years of proven frame bonding experience
- High-performance, two-part sealants
- Improved aesthetics
- Increased output through reduced cycle-times
- Sandable and paintable
- High adhesion and durability leading to increased structural rigidity

- 1 Window Mount Bonding and Sealant Applications**
LORD Maxlok Acrylic Adhesives
- 2 Panel Construction Bonding**
LORD Urethane and Epoxy Adhesives
- 3 Panel to Frame Bonding**
LORD Maxlok Acrylic and Epoxy Adhesives
- 4 Sealant Applications**
LORD Urethane Adhesives

LORD® Metal-to-Plastic/Composite Bonding Adhesives offer improved aesthetics, improved durability and reduced costs over traditional fastening methods such as welds, rivets, screws and tapes. With LORD adhesives, there are no weld scars and no need to remove worn out mechanical fasteners, reducing material costs and labor time. LORD adhesives demonstrate their versatility by bonding to a wide variety of substrates including unprepared metals, ceramics and plastics. They flow into hard-to-reach areas and fight off an array of different dilute acids, alkalis, solvents, greases and oils while acting as a sealant, insulator and noise or vibration damper. Additional advantages include reduced weight, corrosion resistance and an overall stronger bond.

ACRYLIC

PRODUCT	201	202	204	206	403	406	410
DESCRIPTION	Medium working time; medium viscosity	Short working time; medium viscosity	Medium working time; high viscosity	Long working time; medium viscosity	Short working time; high viscosity	Medium working time; high viscosity	Long working time; high viscosity
APPEARANCE	Off-white liquid	Off-white liquid	Off-white paste	Off-white liquid	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste
WORK TIME (MIN)	5-8	1-2	6-8	12-14	2-4	6-10	20-45
HANDLING TIME (MIN)	12-16	2-4	12-16	45-60	4-6	12-17	60-120
CURE TIME (HR)	24*	24*	24*	24	24*	24	24
TYPICAL VISCOSITY (cP)	15,000-55,000	8,000-32,000	100,000-300,000	20,000-80,000	100,000-280,000	100,000-300,000	100,000-350,000
DENSITY RANGE (LB/GAL)	8.5-8.7	9.6-10.35	8.7-9.3	8.5-8.7	9.25-9.55	9.1-9.7	9.15-9.65
DENSITY RANGE (KG/M³)	1019-1042	1150-1240	1042-1114	1019-1042	1108-1144	1090-1162	1096-1156

* Reaches 90% of ultimate strength after 2 hours.

** Given a 1-inch diameter bead @ 90°F (32°C).

TECH TIPS:

The LORD 400 Series Acrylic Adhesive dispensed is still tan and soft after 24 hours. Why didn't it cure?

Check storage condition of the adhesive. Exposure to elevated temperatures will degrade the curative over time. Check the *Use by* date to ensure the adhesive is within its shelf life. Check to see if either the acrylic or curative has blown out around the pistons when using adhesives in cartridges, this will cause improper mix. If the adhesive is within shelf life, has been stored properly and no blow out is observed call +1 877 ASK LORD for assistance.

The LORD 400 Series Acrylic Adhesive dispensed yesterday turned green but is still tacky on the exposed adhesive. Is it cured?

Yes. Surface tack is normal for LORD 400 series acrylic adhesives. Wipe the surface with alcohol or organic solvent after full cure to remove tacky layer. Surface tack is only on surface; bonded joints are fully cured. Since LORD 400 series cures from bottom to top, the air will compete with the cure process causing surface tack.

How does the strength of adhesives compare to tape, welding, etc.?

Chemical fastening is comparable to mechanical fastening (welding). The advantage of adhesives over tape and welding are: aesthetically pleasing appearance, even distribution, flexible work time and more tolerant to harsh environmental exposure.

METAL-TO-PLASTIC/COMPOSITE BONDING



	606	661	662	663	MAXLOK T3	MAXLOK T6	MAXLOK T18	PRODUCT
	Medium working time; high viscosity	Medium working time; high viscosity	Long working time; high viscosity	Extended long working time; high viscosity; designed for large beads	Short working time; medium viscosity	Medium working time; medium viscosity	Long working time; medium viscosity	DESCRIPTION
	Off-white to white paste	White/off-white/blue tint paste	White/off-white/blue tint paste	White/off-white/blue tint paste	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	APPEARANCE
	6-10	11-19**	22-38**	45-75**	3-5	6-9	18-24	WORK TIME (MIN)
	16-24	45-55**	70-90**	130-160**	6-8	20-24	48-72	HANDLING TIME (MIN)
	24	24**	24**	48**	24	24	24	CURE TIME (HR)
	100,000-300,000	125,000-350,000	125,000-350,000	125,000-350,000	80,000-250,000	80,000-250,000	80,000-250,000	TYPICAL VISCOSITY (cP)
	8.7-9.7	8.8-9.8	8.8-9.8	8.8-9.8	8.5-9.0	8.5-9.0	8.5-9.0	DENSITY RANGE (LB/GAL)
	1042-1162	1055-1174	1055-1174	1055-1174	1019-1078	1019-1078	1019-1078	DENSITY RANGE (KG/M³)

We had a very cold day today and the adhesive is not curing as fast as it normally would at room temperature. Will it ever cure and will it be okay when it eventually cures?

LORD adhesives cure at a slower rate in a cooler environment, however the end adhesives properties will be similar to being cured at room temperature. A general rule of thumb is that for every 18°F (or 10°C) drop in temperature the open/cure time will double. An adhesive which normally cures within 24 hours with a 15-minute open time will take approximately 48 hours to cure and offer a 30-minute open time when dispensed at 57°F (14°C) instead of 75°F (24°C). In general, cure temperatures should not be below 32°F (0°C).

A hot day will have the opposite effect. For every 18°F (or 10°C) increase in temperature, the open/cure time will be cut in half. Heat will offer some slight advantage in getting higher bond strength. In general, cure temperatures should not exceed 150°F (66°C) for acrylic adhesives and 325°F (163°C) for urethane and epoxy adhesives. Typical room temperature cure conditions for adhesives is 65°F-85°F (18°C-29°C).

Are there any applications that should not be used with LORD adhesives?

Yes. Direct human or animal contact. LORD adhesives should not be used to assemble or repair substrates that will be used with food and water.

LORD
AskUsHow™

LORD® Metal-to-Metal Bonding Adhesives offer improved in-service fatigue life in addition to providing stiffness to the assembly. They improve aesthetics, durability and help prevent galvanic corrosion by forming a continuous seal between dissimilar metal substrates without disrupting currently present metal coatings. LORD adhesives compensate for dimensional irregularities by filling in small gaps on poor fitting parts and distribute stresses throughout the bondline, providing a stronger bond seal to keep moisture out. LORD adhesives are versatile, bonding to a wide variety of metals without the negatives associated with traditional fastening methods like scaring and post finishing.

ACRYLIC

PRODUCT	201	202	204	206	403
DESCRIPTION	Medium working time; medium viscosity	Short working time; medium viscosity	Medium working time; high viscosity	Long working time; medium viscosity	Short working time; high viscosity
APPEARANCE	Off-white liquid	Off-white liquid	Off-white paste	Off-white liquid	Off-white to tan paste
WORK TIME (MIN)	5-8	1-2	6-8	12-14	2-4
HANDLING TIME (MIN)	12-16	2-4	12-16	45-60	4-6
CURE TIME (HR)	24*	24*	24*	24	24*
TYPICAL VISCOSITY (cP)	15,000-55,000	8,000-32,000	100,000-300,000	20,000-80,000	100,000-280,000
DENSITY RANGE (LB/GAL)	8.5-8.7	9.6-10.35	8.7-9.3	8.5-8.7	9.25-9.55
DENSITY RANGE (KG/M³)	1019-1042	1150-1240	1042-1114	1019-1042	1108-1144

* Reaches 90% of ultimate strength after 2 hours.

ACRYLIC ADHESIVE ACCELERATORS

PRODUCT	MX	4	6	6GB*	17	19	19 BLACK	19 GB*	19 GB* RED	19 GB* GRAY	26
ACCELERATOR TYPE	Mix-in	No Mix-in**	Mix-in	Mix-in	Mix-in	Mix-in	Mix-in	Mix-in	Mix-in	Mix-in	No Mix-in**
APPEARANCE	Gray paste	Clear amber to white liquid	Gray paste	Gray paste	Off-white liquid	Off-white paste	Black paste	Off-white paste	Red paste	Gray paste	Clear amber to white liquid
TYPICAL VISCOSITY (cP)	100,000-500,000	<10	200,000-500,000	210,000-350,000	10,000-100,000	150,000-450,000	100,000-400,000	100,000-400,000	100,000-400,000	100,000-400,000	<10
MIX RATIO BY VOLUME	4:1	--	10:1	10:1	10:1	2:1 or 4:1	2:1 or 4:1	2:1 or 4:1	2:1 or 4:1	2:1 or 4:1	--
DENSITY RANGE (LB/GAL)	11.6-12.2	10.2-10.7	12.3-12.9	12.3-13.0	9.6-10.4	11.9-12.9	12.0-13.1	12.6-13.5	12.4-13.15	12.95-13.70	7.5-8.5
DENSITY RANGE (KG/M³)	1390-1462	--	1474-1546	1474-1558	1150-1246	1426-1546	1438-1570	1510-1618	1486-1576	1552-1642	--
DENSITY RANGE (G/CM³)	--	1.22-1.28	--	--	--	--	--	--	--	--	0.9-1.0
USE WITH	Maxlok Series	200 & 500 Series	600 Series	600 Series	200, 400, 500 & 600 Series	200, 400 & 500 Series	200, 400 & 500 Series	200, 400 & 500 Series	200, 400 & 500 Series	200, 400 & 500 Series	200 & 500 Series

* GB products contain 0.010" diameter glass beads for bondline thickness control.

** No-mix accelerator; use with bondline thicknesses of 20 mils or less; no chlorinated solvents.

METAL-TO-METAL BONDING



406	410	MAXLOK T3	MAXLOK T6	MAXLOK T18	PRODUCT
Medium working time; high viscosity	Long working time; high viscosity	Short working time; medium viscosity	Medium working time; medium viscosity	Long working time; medium viscosity	DESCRIPTION
Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	APPEARANCE
6-10	20-45	3-5	6-9	18-24	WORK TIME (MIN)
12-17	60-120	6-8	20-24	48-72	HANDLING TIME (MIN)
24	24	24	24	24	CURE TIME (HR)
100,000-300,000	100,000-350,000	80,000-250,000	80,000-250,000	80,000-250,000	TYPICAL VISCOSITY (cP)
9.1-9.7	9.15-9.65	8.5-9.0	8.5-9.0	8.5-9.0	DENSITY RANGE (LB/GAL)
1090-1162	1096-1156	1019-1078	1019-1078	1019-1078	DENSITY RANGE (KG/M³)

TECH TIPS:

What do I use to bond cold rolled steel to aluminum, both are bare metal? Won't there be galvanic corrosion?

The LORD 200 and 400 series acrylic adhesives are formulated to bond metal. The adhesives will act as a barrier between metals and protect the bondline from galvanic corrosion. However, only areas of the metal surfaces bonded with the adhesive will be protected from galvanic corrosion.

Does the adhesive have a shelf life or expiration date?

Yes. All LORD adhesives have a shelf life. Please refer to the technical data sheet for the appropriate shelf life of each adhesive.

Can I order additional accessories such as mixers for cartridges, plungers for the guns, etc.?

Yes. LORD distributors in your area will carry accessories for cartridges. Check LORD.com for a distributor near you or call the LORD Customer Support Center.

URETHANE

PRODUCT	7100		7150		7542					7545						
DESCRIPTION	Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		Two-component; for FRP, SMC and other plastics with little surface preparation; can be gravity-fed through dispensing equipment					Two-component; equal mix; non-sag; for FRP, SMC, and other plastics with little surface preparation						
COMPONENT	7100-A Resin	7100-B Curative	7150-A Resin	7150-B Curative	7542-A Resin	7542-B Curative	7542-C Curative	7542-D Curative	7542-E Curative	7545-A Resin	7545-B Curative	7545-C Curative	7545-D Curative	7545-E Curative	7545-F Curative	7545-G Curative
APPEARANCE	Black liquid	Black liquid	Black liquid	White liquid	Dk. Brown liquid	Tan liquid	Tan liquid	Tan liquid	Tan liquid	Brown paste	Off-white; black paste	Off-white paste	Off-white paste	Off-white paste	Off-white paste	Black paste
WORK TIME (MIN)*	5-10		5-10		--	4-7	11-15	20-30	50-60	--	3-5	6-8	11-18	22-38	45-65	1.5
HANDLING TIME*	2-3 hr		2-3 hr		--	1-2 hr	2 hr	3 hr	4 hr	--	30 min	60 min	1-1.5 hr	2-3 hr	4-5 hr	10 min
CURE TIME*	24 hr		24 hr		24 hr					24 hr						
MIX RATIO BY VOLUME	1:2		1:2		1:1					1:1						
TYPICAL VISCOSITY (cP)	3,000-16,000	45,000-72,000	3,000-16,000	41,500-65,500	1,500-4,500	7,000-14,000	7,000-14,000	5,000-14,000	5,000-18,000	25,000-70,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000
DENSITY RANGE (LB/GAL)	12.4-12.7	10.9-11.4	12.4-12.7	10.9-11.4	11.45-11.75	10.3-10.6	10.3-10.6	10.3-10.6	10.3-10.6	12.5-12.8	10.8-11.2	10.8-11.2	10.6-11.0	10.6-11.0	10.5-11.1	10.8-11.2
DENSITY RANGE (KG/M³)	1486-1522	1306-1366	1486-1522	1306-1366	1372-1408	1234-1270	1234-1270	1234-1270	1234-1270	1498-1534	1294-1342	1294-1342	1270-1318	1270-1318	1258-1330	1294-1342

* Can be accelerated with heat.

** Given a 1-inch diameter bead at 90°F (32°C).

EPOXY

PRODUCT	304-1/304-2		305-1/305-2		306-1/306-2		309-1D/309-2D		309-1DGB/309-2D	
DESCRIPTION	General purpose; high viscosity		General purpose; medium viscosity		General purpose and for dampening tiles to steel per ML-1-24456; high viscosity		General purpose; non-sag; thixotropic; high viscosity		General purpose; non-sag; thixotropic; contains 0.010" diameter glass beads for bondline thickness control	
COMPONENT	304-1 Resin	304-2 Hardener	305-1 Resin	305-2 Hardener	306-1 Resin	306-2 Hardener	309-1D Resin	309-2D Hardener	309-1DGB Resin	309-2D Hardener
APPEARANCE	Gray paste		Blue liquid		Gray paste		Blue-green paste		Blue-green paste	
WORK TIME	1-2 hr		1-2 hr		1-2 hr		1.5-2 hr		1.5-2 hr	
HANDLING TIME*	8-16 hr		8-16 hr		8-16 hr		8-16 hr		8-16 hr	
CURE TIME*	24-48 hr		24-48 hr		24-48 hr		24 hr		24 hr	
MIX RATIO BY VOLUME	1:1.3		1:1		1:1.3		1:1		0.635:1	
TYPICAL VISCOSITY (cP)	4MM-40MM	2MM-10MM	10,000-18,000	20,000-45,000	4MM-40MM	2MM-10MM	300,000-1.1MM	300,000-1MM	300,000-1.1MM	300,000-1MM
DENSITY RANGE (LB/GAL)	11.5-12.3	8.4-9.0	9.4-10.0	7.75-8.35	11.5-12.3	8.4-9.0	10.5-10.8	8.25-8.65	10.5-10.9	8.25-8.65
DENSITY RANGE (KG/M³)	1378-1474	1007-1078	1126-1198	928-1001	1378-1474	1007-1078	1258-1294	989-1036	1258-1306	989-1036

* Can be accelerated with heat.

PAINTED METAL-TO-PLASTIC BONDING

7546		7550		7555		7556			7602
Two-component; non-sag; for FRP, SMC and other plastics with little surface preparation; long working times at elevated temperatures		Two-component; equal mix; self-leveling; clear; non-yellowing		Two-component; non-sag; bright white; non-yellowing		Two-component; equal mix; non-sag; clear; non-yellowing			Single-component; moisture cure
7546-A Resin	7546-C Curative	7550-A Resin	7550-C Curative	7555-A Resin	7555-C Curative	7556-A Resin	7556-B Curative	7556-C Curative	7602
Dk. Brown liquid	White liquid	Clear liquid	Clear liquid	Translucent paste	White paste	Translucent paste	Translucent paste	Clear liquid	Off-white paste
--	52-68**	3-5		3-5		--	3-5	4-6	10-20
--	5-8 hr**	1 hr		1 hr		--	1 hr	1.5-2.3 hr	24 hr
24-48 hr		24-72 hr		24 hr		24 hr			24-72 hr
1:1		1:1		1:1		1:1			--
1,500-4,500	3,000-12,000	1,800-4,000	6,000-12,500	45,000-160,000	130,000-230,000	45,000-160,000	95,000-300,000	80,000-300,000	50,000-250,000
11.45-11.75	10.0-11.0	9.6-9.8	9.0-9.4	9.64-10.04	9.9-10.2	9.64-10.04	9.2-9.6	9.2-9.6	8.0-9.0
1320-1408	1198-1318	1150-1174	1078-1126	1155-1203	1186-1222	1155-1203	1102-1150	1102-1150	959-1078

310-A/310-B		310-A/310-B BLACK		312-A/312-B		320/310-B		320/310-B BLACK	
General purpose and composites; high strength; resists temperatures up to 400°F (204°C); high viscosity		General purpose and composites; high strength; resists temperatures up to 400°F (204°C); high viscosity		General purpose; low viscosity		General purpose and composites; toughened with high peel strength; high viscosity		General purpose and composites; toughened with high peel strength; high viscosity	
310-A Resin	310-B Hardener	310-A Resin	310-B Black Hardener	312-A Resin	312-B Hardener	320 Resin	310-B Hardener	320 Resin	310-B Black Hardener
Gray paste		Black paste		Yellow liquid		Gray paste		Black paste	
0.5-1 hr		0.5-1 hr		1.5-2.5 hr		0.5-1 hr		0.5-1 hr	
6-8 hr		6-8 hr		8-16 hr		6-8 hr		6-8 hr	
24 hr		24 hr		24-48 hr		24 hr		24 hr	
1:1		1:1		1.75:1		1:1		1:1	
400,000-820,000	230,000-690,000	400,000-820,000	200,000-700,000	650-1,950	750-2,500	300,000-1MM	230,000-690,000	300,000-1MM	200,000-700,000
11.7-12.85	10.0-11.0	11.7-12.85	10.3-11.0	9.3-9.45	8.1-8.3	12.5-12.9	10.0-11.0	12.5-12.9	10.3-11.0
1402-1540	1198-1318	1402-1540	1234-1318	1114-1132	970-995	1498-1546	1198-1318	1498-1546	1234-1318

ACRYLIC

	7610EZ	7650	MAXLOK T3	MAXLOK T6	MAXLOK T18	PRODUCT
	Single-component; for plastic, wood, fabrics and metals; moisture cure	Single-component; high-tack; moisture cure; low viscosity	Short working time; medium viscosity	Medium working time; medium viscosity	Long working time; medium viscosity	DESCRIPTION
	7610EZ	7650	--	--	--	COMPONENT
	White paste	Honey liquid	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	APPEARANCE
	25-35	15-30	3-5	6-9	18-24	WORK TIME* (MIN)
	6-12 hr	24 hr	6-8 min	20-24 min	48-72 min	HANDLING TIME*
	1-5 days	24-72 hr	24 hr	24 hr	24 hr	CURE TIME*
	--	--	--	--	--	MIX RATIO BY VOLUME
	--	400-2,000	80,000-250,000	80,000-250,000	80,000-250,000	TYPICAL VISCOSITY (cP)
	10.0	7.8-8.4	8.5-9.0	8.5-9.0	8.5-9.0	DENSITY RANGE (LB/GAL)
	1198	935-1007	1019-1078	1019-1078	1019-1078	DENSITY RANGE (KG/M³)

	320/322		360-A/360-B		363-A/363-B		370-A/370-B		PRODUCT
	General purpose and composites; wide temperature range; high viscosity		Composites, wood and other plastics; minimal sag; fast setting; sandable and paintable		General purpose; fast setting		General purpose; safe for painted surfaces		DESCRIPTION
	320 Resin	322 Hardener	360-A Resin	360-B Hardener	363-A Resin	363-B Hardener	370-A Resin	370-B Hardener	COMPONENT
	Gray paste		Tan paste		Lt. Amber liquid		Black paste		APPEARANCE
	20-40 min		2-4 min		3-5 min		20-30 min		WORK TIME
	2-4 hr		5-10 min		15-30 min		8 hr		HANDLING TIME*
	24 hr		24 hr		4-6 hr		24 hr		CURE TIME*
	1:1		1:1		1:1		1:2		MIX RATIO BY VOLUME
	300,000-1MM	450,000-2MM	90,000-180,000	40,000-180,000	7,000-16,000	8,000-20,000	125,000-240,000	125,000-350,000	TYPICAL VISCOSITY (cP)
	12.5-12.9	10.33-10.54	12.0-13.5	8.5-9.5	9.4-10.0	9.3-9.6	10.5-11.5	8.7-9.4	DENSITY RANGE (LB/GAL)
	1498-1546	1238-1263	1438-1618	1019-1138	1126-1198	1114-1150	1258-1378	1042-1126	DENSITY RANGE (KG/M³)

PAINTED METAL-TO-PLASTIC BONDING



LORD® Painted Metal-to-Plastic Bonding Adhesives offer many benefits compared to traditional fastening methods such as welds, rivets, screws and tapes. LORD adhesives reduce material and labor costs by eliminating the need to prime many plastics and minimizing overall assembly time. LORD adhesives create high strength metal-to-plastic bonds and provide good chemical, water and impact resistance while fighting off humidity, salt spray, sunlight, weathering and aging. Our adhesives also offer resistance to solvents when cured and are free of VOC and ozone depleting chemicals.

TECH TIPS:

How should LORD Epoxy Adhesives be stored?

LORD epoxy adhesives should be stored in the original container between 40°F-80°F (4°C-27°C). Protect epoxy adhesives from exposure to direct ultraviolet light. If stored at cooler temperatures, return the product to room temperature before using. Full physical properties of epoxy adhesives only develop if the product is dispensed at 65°F (18°C) or above. Epoxy adhesives may be heated in order to ease dispensing from a cartridge [maximum 150°F (66°C)]. The addition of heat will shorten the open time of the product.

Is it safe to paint over adhesives?

Yes. It is safe to paint over the adhesives after full cure. Refer to the technical data sheet for full cure time. After full cure, solvent wipe to remove surface tack, and dust prior to painting.

How should LORD Two-Component Urethane Adhesives be stored?

LORD two-component urethane adhesives are moisture sensitive. Cartridges should be left in their Mylar® bag with desiccant until ready for use. Protect partial cartridges from moisture exposure by leaving the nozzle in place to act as a seal after each use. Urethane adhesives should be stored between 65°F-85°F (18°C-30°C).

* Mylar® is a trademark of DuPont Teijin Films.

How should LORD Single-Component Urethane Adhesives be stored?

Store single-component urethane adhesives between 60°F-90°F (16°C-32°C). The single-component urethane adhesive will react when exposed to moisture. For maximum shelf life after opening bulk containers, replace cap or lid as quickly as possible and purge with dry nitrogen, if available.

How should LORD Acrylic Adhesives be stored?

LORD acrylic adhesives should be stored at temperatures under 80°F (27°C). For maximum shelf life, LORD acrylic adhesives can be refrigerated at temperatures of 40°F-50°F (4°C-10°C). Do not freeze. Do not store on top shelves or mezzanines. Protect from exposure to ultraviolet light. If stored at these cooler temperatures, return the product to room temperature before using. To ensure maximum shelf life, stage only enough adhesive needed for a day's production.

LORD® Composite-to-Composite Bonding Adhesives create superior bonds to a wide variety of substrates and provide a highly aesthetic appearance to your final product. Our adhesives act as sealants, insulators and noise and vibration dampers for increased performance and functionality. They reduce material and labor costs by eliminating the need to prime many plastics and provide long working times, allowing for accurate part alignment and good assembly quality. Additionally, LORD Composite Bonding Adhesives offer low shrinkage, low water absorption and excellent creep resistance.

TECH TIPS:

Why won't the adhesive dispense out of the cartridge?

If the adhesive was stored in a cool area, make sure to bring the adhesive back to room temperature. Some epoxy adhesives are hard to dispense even at room temperature. Place epoxy adhesives in a 150°F (66°C) oven for 30 minutes prior to use. Check to determine if the tip of the cartridge is not clogged with cured adhesive. Check the *Use by* date on the cartridge to determine if the product is within its shelf life. Check to ensure the dispensing gun is operating properly and the plungers advance when the trigger is pulled.

Can I use LORD adhesives when it is below freezing?

No. LORD does not recommend the use of our adhesive products below freezing temperatures. The adhesive will not dispense, or flow, as it should at temperatures below freezing. Epoxy adhesives will yield a low modulus product if cured cold. Curing epoxy adhesives with heat later will raise the modulus and return adhesive to its original properties.

I need to bond metal which has been treated to give it extra corrosion protection (chromate conversion coating). Do you have an adhesive for it?

Chromate conversion coatings have been found to interfere with the adhesion of certain adhesive systems. LORD 200 series acrylic adhesives perform satisfactory on aluminum with chromate conversion where as LORD 400 series acrylic adhesives do not. Contact the LORD Customer Support Center at +1 877 ASK LORD for assistance.

COMPOSITE-TO-COMPOSITE BONDING



ACRYLIC

PRODUCT	201	202	204	206	403	406	410	506
DESCRIPTION	Medium working time; medium viscosity	Short working time; medium viscosity	Medium working time; high viscosity	Long working time; medium viscosity	Short working time; high viscosity	Medium working time; high viscosity	Long working time; high viscosity	Medium cure; medium viscosity; semi-flexible
APPEARANCE	Off-white liquid	Off-white liquid	Off-white paste	Off-white liquid	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	Translucent liquid
WORK TIME (MIN)	5-8	1-2	6-8	12-14	2-4	6-10	20-45	4-6
HANDLING TIME (MIN)	12-16	2-4	12-16	45-60	4-6	12-17	60-120	8-12
CURE TIME (HR)	24*	24*	24*	24	24*	24	24	24
TYPICAL VISCOSITY (cP)	15,000-55,000	8,000-32,000	100,000-300,000	20,000-80,000	100,000-280,000	100,000-300,000	100,000-350,000	20,000-70,000
DENSITY RANGE (LB/GAL)	8.5-8.7	9.6-10.35	8.7-9.3	8.5-8.7	9.25-9.55	9.1-9.7	9.15-9.65	8.25-8.65
DENSITY RANGE (KG/M³)	1019-1042	1150-1240	1042-1114	1019-1042	1108-1144	1090-1162	1096-1156	989-1036

* Reaches 90% of ultimate strength after 2 hours.

ACRYLIC

PRODUCT	606	661	662	663	MAXLOK T3	MAXLOK T6	MAXLOK T18
DESCRIPTION	Medium working time; high viscosity	Medium working time; high viscosity	Long working time; high viscosity	Extended long working time; high viscosity; designed for large beads	Short working time; medium viscosity	Medium working time; medium viscosity	Long working time; medium viscosity
APPEARANCE	Off-white to white paste	White/off-white/blue tint paste	White/off-white/blue tint paste	White/off-white/blue tint paste	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste
WORK TIME (MIN)	6-10	11-19**	22-38**	45-75**	3-5	6-9	18-24
HANDLING TIME (MIN)	16-24	45-55**	70-90**	130-160**	6-8	20-24	48-72
CURE TIME (HR)	24	24**	24**	48**	24	24	24
TYPICAL VISCOSITY (cP)	100,000-300,000	125,000-350,000	125,000-350,000	125,000-350,000	80,000-250,000	80,000-250,000	80,000-250,000
DENSITY RANGE (LB/GAL)	8.7-9.7	8.8-9.8	8.8-9.8	8.8-9.8	8.5-9.0	8.5-9.0	8.5-9.0
DENSITY RANGE (KG/M³)	1042-1162	1055-1174	1055-1174	1055-1174	1019-1078	1019-1078	1019-1078

** Given a 1-inch diameter bead @ 90°F (32°C).

URETHANE

PRODUCT	7100		7150		7542					7545						
DESCRIPTION	Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		Two-component; for FRP, SMC and other plastics with little surface preparation; can be gravity-fed through dispensing equipment					Two-component; equal mix; non-sag; for FRP, SMC and other plastics with little surface preparation						
COMPONENT	7100-A Resin	7100-B Curative	7150-A Resin	7150-B Curative	7542-A Resin	7542-B Curative	7542-C Curative	7542-D Curative	7542-E Curative	7545-A Resin	7545-B Curative	7545-C Curative	7545-D Curative	7545-E Curative	7545-F Curative	7545-G Curative
APPEARANCE	Black liquid	Black liquid	Black liquid	White liquid	Dk. Brown liquid	Tan liquid	Tan liquid	Tan liquid	Tan liquid	Brown paste	Off-white or black paste	Off-white paste	Off-white paste	Off-white paste	Off-white paste	Black paste
WORK TIME* (MIN)	5-10		5-10		--	4-7	11-15	20-30	50-60	--	3-5	6-8	11-18	22-38	45-65	1.5
HANDLING TIME*	2-3 hr		2-3 hr		--	1-2 hr	2 hr	3 hr	4 hr	--	30 min	60 min	1-1.5 hr	2-3 hr	4-5 hr	10 min
CURE TIME*	24 hr		24 hr		24 hr					24 hr						
MIX RATIO BY VOLUME	1:2		1:2		1:1					1:1						
TYPICAL VISCOSITY (cP)	3,000-16,000	45,000-72,000	3,000-6,000	41,500-65,500	1,500-4,500	7,000-14,000	7,000-14,000	5,000-14,000	5,000-18,000	25,000-70,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000
DENSITY RANGE (LB/GAL)	12.4-12.7	10.9-11.4	12.4-12.7	10.9-11.4	11.45-11.75	10.3-10.6	10.3-10.6	10.3-10.6	10.3-10.6	12.5-12.8	10.8-11.2	10.8-11.2	10.6-11.0	10.6-11.0	10.5-11.1	10.8-11.2
DENSITY RANGE (KG/M³)	1486-1522	1306-1366	1486-1522	1306-1366	1372-1408	1234-1270	1234-1270	1234-1270	1234-1270	1498-1534	1294-1342	1294-1342	1270-1318	1270-1318	1258-1330	1294-1342

* Can be accelerated with heat.

** Given a 1-inch diameter bead @90°F (32°C).

EPOXY

PRODUCT	304-1/304-2		305-1/305-2		306-1/306-2		309-1D/309-2D		309-1DGB/309-2D		310-A/310-B		310-A/310-B BLACK	
DESCRIPTION	General purpose; high viscosity		General purpose; medium viscosity		General purpose and for damping tiles to steel per ML-1-24456; high viscosity		General purpose; non-sag; thixotropic; high viscosity		General purpose; non-sag; thixotropic; contains 0.010" diameter glass beads for bondline thickness control		General purpose and composites; high strength; resists temperatures up to 400°F (204°C); high viscosity		General purpose and composites; high strength; resists temperatures up to 400°F (204°C); high viscosity	
COMPONENT	304-1 Resin	304-2 Hardener	305-1 Resin	305-2 Hardener	306-1 Resin	306-2 Hardener	309-1D Resin	309-2D Hardener	309-1DGB Resin	309-2D Hardener	310-A Resin	310-B Hardener	310-A Resin	310-B Black Hardener
APPEARANCE	Gray paste		Blue liquid		Gray paste		Blue-green paste		Blue-green paste		Gray paste		Black paste	
WORK TIME	1-2 hr		1-2 hr		1-2 hr		1.5-2 hr		1.5-2 hr		0.5-1 hr		0.5-1 hr	
HANDLING TIME*	8-16 hr		8-16 hr		8-16 hr		8-16 hr		8-16 hr		6-8 hr		6-8 hr	
CURE TIME*	24-48 hr		24-48 hr		24-48 hr		24 hr		24 hr		24 hr		24 hr	
MIX RATIO BY VOLUME	1:1.3		1:1		1:1.3		1:1		0.635:1		1:1		1:1	
TYPICAL VISCOSITY (cP)	4MM-40MM	2MM-10MM	10,000-18,000	20,000-45,000	4MM-40MM	2MM-10MM	300,000-1.1MM	300,000-1MM	300,000-1.1MM	300,000-1MM	400,000-820,000	230,000-690,000	400,000-820,000	200,000-700,000
DENSITY RANGE (LB/GAL)	11.5-12.3	8.4-9.0	9.4-10.0	7.75-8.35	11.5-12.3	8.4-9.0	10.5-10.8	8.25-8.65	10.5-10.9	8.25-8.65	11.7-12.85	10.0-11.0	11.7-12.85	10.3-11.0
DENSITY RANGE (KG/M³)	1378-1474	1007-1078	1126-1198	928-1001	1378-1474	1007-1078	1258-1294	989-1036	1258-1306	989-1036	1402-1540	1198-1318	1402-1540	1234-1318

* Can be accelerated with heat.

COMPOSITE-TO-COMPOSITE BONDING

7546		7550		7555		7556			7602		7610EZ		PRODUCT
Two-component; non-sag; for FRP, SMC and other plastics with little surface preparation; long working times at elevated temperatures		Two-component; equal mix; self-leveling; clear; non-yellowing		Two-component; non-sag; bright white; non-yellowing		Two-Component; equal mix; non-sag; clear; non-yellowing			Single-component; moisture cure		Single-component; for plastic, wood, fabrics and metals; moisture cure		DESCRIPTION
7546-A Resin	7546-C Curative	7550-A Resin	7550-C Curative	7555-A Resin	7555-C Curative	7556-A Resin	7556-B Curative	7556-C Curative	7602	7610EZ	COMPONENT		
Dk. Brown liquid	White liquid	Clear liquid	Clear liquid	Translucent paste	White paste	Translucent Paste	Translucent Paste	Clear liquid	Off-white paste	White paste	APPEARANCE		
--	52-68**	3-5		3-5		--	3-5	4-6	10-20	25-35	WORK TIME* (MIN)		
--	5-8 hr**	1 hr		1 hr		--	1 hr	1.5-2.3 hr	24 hr	6-12 hr	HANDLING TIME*		
24-48 hr		24-72 hr		24 hr		24 hr			24-72 hr	1-5 days	CURE TIME*		
1:1		1:1		1:1		1:1			--	--	MIX RATIO BY VOLUME		
1,500-4,500	3,000-12,000	1,800-4,000	6,000-12,500	45,000-160,000	130,000-230,000	45,000-160,000	95,000-300,000	80,000-300,000	50,000-250,000	--	TYPICAL VISCOSITY (cP)		
11.45-11.75	10.0-11.0	9.6-9.8	9.0-9.4	9.64-10.04	9.9-10.2	9.64-10.04	9.2-9.6	9.2-9.6	8.0-9.0	10.0	DENSITY RANGE (LB/GAL)		
1320-1408	1198-1318	1150-1174	1078-1126	1155-1203	1186-1222	1155-1203	1102-1150	1102-1150	959-1078	1198	DENSITY RANGE (KG/M ³)		

312-A/312-B		320/310-B		320/310-B BLACK		320/322		360-A/360-B		363-A/363-B		370-A/370-B		3170-A/3170-B		PRODUCT
General purpose; low viscosity		General purpose and composites; toughened with high peel strength; high viscosity		General purpose and composites; toughened with high peel strength; high viscosity		General purpose and composites; wide temperature range; high viscosity		Composites, wood and other plastics; minimal sag; fast setting; sandable and paintable		General purpose; fast setting		General purpose; safe for painted surfaces		For cryogenic applications; high strength in cold environments		DESCRIPTION
312-A Resin	312-B Hardener	320 Resin	310-B Hardener	320 Resin	310-B Black Hardener	320 Resin	322 Hardener	360-A Resin	360-B Hardener	363-A Resin	363-B Hardener	370-A Resin	370-B Hardener	3170-A Resin	3170-B Hardener	COMPONENT
Yellow liquid		Gray paste		Black paste		Gray paste		Tan paste		Lt. Amber liquid		Black paste		Lt. Amber paste		APPEARANCE
1.5-2.5 hr		0.5-1 hr		0.5-1 hr		20-40 min		2-4 min		3-5 min		20-30 min		2 hr		WORK TIME
8-16 hr		6-8 hr		6-8 hr		2-4 hr		5-10 min		15-30 min		8 hr		24 hr		HANDLING TIME*
24-48 hr		24 hr		24 hr		24 hr		24 hr		4-6 hr		24 hr		4 days		CURE TIME*
1.75:1		1:1		1:1		1:1		1:1		1:1		1:2		1:1		MIX RATIO BY VOLUME
650-1,950	750-2,500	300,000-1MM	230,000-690,000	300,000-1MM	200,000-700,000	300,000-1MM	450,000-2MM	90,000-180,000	40,000-180,000	7,000-16,000	8,000-20,000	125,000-240,000	125,000-350,000	30,000-70,000	90,000-170,000	TYPICAL VISCOSITY (cP)
9.3-9.45	8.1-8.3	12.5-12.9	10.0-11.0	12.5-12.9	10.3-11.0	12.5-12.9	10.33-10.54	12.0-13.5	8.5-9.5	9.4-10.0	9.3-9.6	10.5-11.5	8.7-9.4	9.5	8.1	DENSITY RANGE (LB/GAL)
1114-1132	970-995	1498-1546	1198-1318	1498-1546	1234-1318	1498-1546	1238-1263	1438-1618	1019-1138	1126-1198	1114-1150	1258-1378	1042-1126	1138	971	DENSITY RANGE (KG/M ³)

URETHANE

PRODUCT	7100		7150		7542					7545						
DESCRIPTION	Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		Two-component; high strength; for cloth, paper, foams, plastics, etc.; room temperature or heat cure		two component; for FRP, SMC and other plastics with little surface preparation; can be gravity-fed through dispensing equipment					Two-component; equal mix; non-sag; for FRP, SMC and other plastics with little surface preparation						
COMPONENT	7100-A Resin	7100-B Curative	7150-A Resin	7150-B Curative	7542-A Resin	7542-B Curative	7542-C Curative	7542-D Curative	7542-E Curative	7545-A Resin	7545-B Curative	7545-C Curative	7545-D Curative	7545-E Curative	7545-F Curative	7545-G Curative
APPEARANCE	Black liquid	Black liquid	Black liquid	White liquid	Dk. Brown liquid	Tan liquid	Tan liquid	Tan liquid	Tan liquid	Brown paste	Off-white or black paste	Off-white paste	Off-white paste	Off-white paste	Off-white paste	Black paste
WORK TIME* (MIN)	5-10		5-10		--	4-7	11-15	20-30	50-60	--	3-5	6-8	11-18	22-38	45-65	1.5
HANDLING TIME*	2-3 hr		2-3 hr		--	1-2 hr	2 hr	3 hr	4 hr	--	30 min	60 min	1-1.5 hr	2-3 hr	4-5 hr	10 min
CURE TIME*	24 hr		24 hr		24 hr					24 hr						
MIX RATIO BY VOLUME	1:2		1:2		1:1					1:1						
TYPICAL VISCOSITY (cP)	3,000-16,000	45,000-72,000	3,000-6,000	41,500-65,500	1,500-4,500	7,000-14,000	7,000-14,000	5,000-14,000	5,000-18,000	25,000-70,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000	230,000-650,000
DENSITY RANGE (LB/GAL)	12.4-12.7	10.9-11.4	12.4-12.7	10.9-11.4	11.45-11.75	10.3-10.6	10.3-10.6	10.3-10.6	10.3-10.6	12.5-12.8	10.8-11.2	10.8-11.2	10.6-11.0	10.6-11.0	10.5-11.1	10.8-11.2
DENSITY RANGE (KG/M³)	1486-1522	1306-1366	1486-1522	1306-1366	1372-1408	1234-1270	1234-1270	1234-1270	1234-1270	1498-1534	1294-1342	1294-1342	1270-1318	1270-1318	1258-1330	1294-1342
CONCRETE/STONE BONDING					X					X						
CRYOGENICS																
ELASTOMERS/THERMOPLASTICS/TPU	X		X							X						
FABRIC/FOAMS	X		X													
GLASS BONDING			X													
WOOD BONDING	X		X		X					X						

- * Can be accelerated with heat.
- ** Given a 1-inch diameter bead @90°F (32°C).
- *** Reaches 90% of ultimate strength after 2 hours.

EPOXY

PRODUCT	304-1/304-2		305-1/305-2		306-1/306-2		309-1D/309-2D		309-1DGB/309-2D	
DESCRIPTION	General purpose; high viscosity		General purpose; medium viscosity		General purpose and for damping tiles to steel per ML-1-24456; high viscosity		General purpose; non-sag; thixotropic; high viscosity		General purpose; non-sag; thixotropic; contains 0.010" diameter glass beads for bondline thickness control	
COMPONENT	304-1 Resin	304-2 Hardener	305-1 Resin	305-2 Hardener	306-1 Resin	306-2 Hardener	309-1D Resin	309-2D Hardener	309-1DGB Resin	309-2D Hardener
APPEARANCE	Gray paste		Blue liquid		Gray paste		Blue-green paste		Blue-green paste	
WORK TIME	1-2 hr		1-2 hr		1-2 hr		1.5-2 hr		1.5-2 hr	
HANDLING TIME*	8-16 hr		8-16 hr		8-16 hr		8-16 hr		8-16 hr	
CURE TIME*	24-48 hr		24-48 hr		24-48 hr		24 hr		24 hr	
MIX RATIO BY VOLUME	1:1.3		1:1		1:1.3		1:1		0.635:1	
TYPICAL VISCOSITY (cP)	4MM-40MM	2MM-10MM	10,000-18,000	20,000-45,000	4MM-40MM	2MM-10MM	300,000-1.1MM	300,000-1MM	300,000-1.1MM	300,000-1MM
DENSITY RANGE (LB/GAL)	11.5-12.3	8.4-9.0	9.4-10.0	7.75-8.35	11.5-12.3	8.4-9.0	10.5-10.8	8.25-8.65	10.5-10.9	8.25-8.65
DENSITY RANGE (KG/M³)	1378-1474	1007-1078	1126-1198	928-1001	1378-1474	1007-1078	1258-1294	989-1036	1258-1306	989-1036
CONCRETE/STONE BONDING	X		X		X		X		X	
CRYOGENICS										
ELASTOMERS/THERMOPLASTICS/TPU	X		X		X		X		X	
FABRIC/FOAMS										
GLASS BONDING										
WOOD BONDING	X		X		X		X		X	

- * Can be accelerated with heat.

ACRYLIC

403	406	410	506	MAXLOK T3	MAXLOK T6	MAXLOK T18	PRODUCT
Short working time; high viscosity	Medium working time; high viscosity	Long working time; high viscosity	Medium cure; medium viscosity; semi-flexible	Short working time; medium viscosity	Medium working time; medium viscosity	Long working time; medium viscosity	DESCRIPTION
--	--	--	--	--	--	--	COMPONENT
Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	Off-white paste	Off-white to tan paste	Off-white to tan paste	Off-white to tan paste	APPEARANCE
2-4	6-10	20-45	4-6	3-5	6-9	18-24	WORK TIME* (MIN)
4-6 min	12-17 min	60-120 min	8-12	6-8 min	20-24 min	48-72 min	HANDLING TIME*
24 hr***	24 hr	24 hr	24	24 hr	24 hr	24 hr	CURE TIME*
--	--	--	--	--	--	--	MIX RATIO BY VOLUME
100,000-280,000	100,000-300,000	100,000-350,000	20,000-70,000	80,000-250,000	80,000-250,000	80,000-250,000	TYPICAL VISCOSITY (cP)
9.25-9.55	9.1-9.7	9.15-9.65	8.25-8.65	8.5-9.0	8.5-9.0	5.8-9.0	DENSITY RANGE (LB/GAL)
1108-1144	1090-1162	1096-1156	989-1036	1019-1078	1019-1078	1019-1078	DENSITY RANGE (KG/M³)
							CONCRETE/STONE BONDING
							CRYOGENICS
			X				ELASTOMERS/THERMOPLASTICS/TPU
			X				FABRIC/FOAMS
X	X	X	X	X	X	X	GLASS BONDING
							WOOD BONDING

320/322		360-A/360-B		363-A/363-B		370-A/370-B		3170-A/3170-B		PRODUCT
General purpose and composites; wide temperature range; high viscosity		Composites, wood and other plastics; minimal sag; fast setting; sandable and paintable		General purpose; fast setting		General purpose; safe for painted surfaces		For cryogenic applications; high strength in cold environments		DESCRIPTION
320 Resin	322 Hardener	360-A Resin	360-B Hardener	363-A Resin	363-B Hardener	370-A Resin	370-B Hardener	3170-A Resin	3170-B Hardener	COMPONENT
Gray paste		Tan paste		Lt. Amber liquid		Black paste		Lt. Amber paste		APPEARANCE
20-40 min		2-4 min		3-5 min		20-30 min		2 hr		WORK TIME
2-4 hr		5-10 min		15-30 min		8 hr		24 hr		HANDLING TIME*
24 hr		24 hr		4-6 hr		24 hr		4 days		CURE TIME*
1:1		1:1		1:1		1:2		1:1		MIX RATIO BY VOLUME
300,000-1MM	450,000-2MM	90,000-180,000	40,000-180,000	7,000-16,000	8,000-20,000	125,000-240,000	125,000-350,000	30,000-70,000	90,000-170,000	TYPICAL VISCOSITY (cP)
12.5-12.9	10.33-10.54	12.0-13.5	8.5-9.5	9.4-10.0	9.3-9.6	10.5-11.5	8.7-9.4	9.5	8.1	DENSITY RANGE (LB/GAL)
1498-1546	1238-1263	1438-1618	1019-1138	1126-1198	1114-1150	1258-1378	1042-1126	1138	971	DENSITY RANGE (KG/M³)
	X		X		X		X		X	CONCRETE/STONE BONDING
									X	CRYOGENICS
	X		X		X		X			ELASTOMERS/THERMOPLASTICS/TPU
									X	FABRIC/FOAMS
									X	GLASS BONDING
	X		X		X		X			WOOD BONDING

SPECIALTY SUBSTRATE BONDING



LORD® Specialty Substrate Bonding Adhesives offer structural rigidity and increased output with fast, two-component cure adhesives. With the ability to cross-bond multiple substrates such as concrete/stone, cryogenics, elastomers/thermoplastics/TPU, fabric/foam, glass and wood, our adhesives offer high performance adhesion and durability over conventional fastening methods. LORD Specialty Substrate Bonding Adhesives improve aesthetics, reduce corrosion and are sandable and paintable with excellent environmental and UV resistance.

TECH TIPS:

I have a part bonded with LORD Acrylic Adhesives, can I powder coat this part?

Heat softens adhesives and the parts may become debonded during the powder coating process. High heat (over 400°F [204°C]) and long oven cycle times can begin to degrade the adhesive. Care should be exercised when racking the part prior to powder coating. Hanging large parts from a bonded section can lead to failure. Hanging parts from the solid structure and not from bonded subassemblies is preferable. Low-temperature powder coats are the most favorable systems to employ. Call +1 877 ASK LORD for additional strength charts and graphs.

Do you have an adhesive to bond neoprene to bare metal?

Yes. Both the neoprene and bare metal surfaces should first be prepared. Neoprene should be primed with LORD 459T or LORD 459X adhesion enhancer/surface modifier, and the bare metal should be sand blasted or ground to a white metal finish. LORD epoxy adhesives such as LORD 305 or LORD 320/320 are good choices for this application.

What can I use to bond bare aluminum to glass?

All nonporous, non-metallic substrates such as glass and marble should be primed with LORD AP-134 adhesion enhancer/surface modifier; in particular, substrates with smooth surfaces. Bond the primed glass or marble to bare aluminum with a LORD 400 series acrylic adhesive.

LORD® URETHANE ADHESIVES CONVENIENCE PACKAGING GUIDE

PRODUCT	7100		7150		7542					
COMPONENTS	7100-A/7100-B (3012640)	7100-A/7100-B (3013630)	7150-A/7150-B (3012639)	7150-A/7150-B (3013629)	7542-A/7542-B (3003884)	7542-A/7542-B (3003883)	7542-A/7542-C (3003885)	7542-A/7542-D (3003886)	7542-A/7542-E (3003889)	
LORD-PAK™ SYSTEM	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-Pak 200	LORD-Pak 200	LORD-Pak 200	LORD-Pak 200	
RATIO	2:1	2:1	2:1	2:1	1:1	1:1	1:1	1:1	1:1	
DISPENSING GUN	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 200 (3004273)	LORD-Pak 200 (3004273)	LORD-Pak 200 (3004273)	
PLUNGER	--	--	--	--	--	--	--	--	--	
PNEUMATIC DISPENSING GUN	--	LORD-Pak 200 (3004274)	--	LORD-Pak 200 (3004274)	--	LORD-Pak 200 (3004274)	LORD-Pak 200 (3004274)	LORD-Pak 200 (3004274)	LORD-Pak 200 (3004274)	
MIXING TIP (PKG OF 12)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.375"x11"x24 Elem (3001178)	0.375"x11"x24 Elem (3001178)	0.375"x11"x24 Elem (3001178)	
MIXING TIP (PKG OF 144)	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	--	--	--	--	

LORD part numbers listed in parentheses.

PRODUCT	7545 (CONTINUED)				7546	7550	7555			
COMPONENTS	7545-A/7545-F (3003930)	7545-A/7545-G (3008743)	7545-A/7545-F (3003929)	7545-A/7545-C (3003916)	7545-A/7545-F (3003930)	7546-A/7546-C (3003945)	7550-A/7550-C (3003953)	7555-A/7555-C (3003960)	7555-A/7555-B (3003963)	
LORD-PAK™ SYSTEM	LORD-Pak 600	LORD-Pak 50	LORD-Pak 50	LORD-Pak 600	LORD-Pak 600	LORD-Pak 600	LORD-Pak 50	LORD-Pak 50	LORD-Pak 400	
RATIO	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	
DISPENSING GUN	LORD-Pak 600 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 50 (3001112)	--	--	--	LORD-Pak 50 (3001112)	LORD-Pak 50 (3001112)	LORD-Pak 400 mL cartridge (3004277)	
PLUNGER	--	--	--	--	--	--	--	--	--	
PNEUMATIC DISPENSING GUN	LORD-Pak 600 mL cartridge (3001149)	--	--	LORD-Pak 600 mL cartridge (3004856)	LORD-Pak 600 mL cartridge (3004856)	LORD-Pak 600 mL cartridge (3004856)	--	--	LORD-Pak 400 mL cartridge (3004278)	
MIXING TIP (PKG OF 12)	0.5"x11.5"x24 Elem (3001175)	0.25"x6"x21 Elem (3004476)	0.25"x6"x21 Elem (3004476)	0.5"x11.5"x24 Elem (3001175)	0.5"x11.5"x24 Elem (3001175)	0.5"x11.5"x24 Elem (3001175)	0.25"x6"x21 Elem (3004476)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	
MIXING TIP (PKG OF 144)	--	0.25"x6"x21 Elem (3009534)	0.25"x6"x21 Elem (3009534)	--	--	--	0.25"x6"x21 Elem (3009534)	0.25"x6"x21 Elem (3009534)	--	

LORD part numbers listed in parentheses.

CONVENIENCE PACKAGING

7545									PRODUCT
7542-A/7542-B (3003882)	7542-A/7542-D (3003887)	7545-A/7545-B (3003923)	7545-A/7545-B (3003922)	7545-A/7545-C (3003915)	7545-A/7545-D (3003925)	7545-A/7545-C (3003924)	7545-A/7545-E (3003917)	7545-A/7545-E (3003927)	COMPONENTS
LORD-Pak 600	LORD-Pak 600	LORD-Pak 50	LORD-Pak 200	LORD-Pak 200	LORD-Pak 200	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-PAK™ SYSTEM
1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:1	RATIO
--	--	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 200 (3004273)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	DISPENSING GUN
--	--	--	--	--	--	--	--	--	PLUNGER
LORD-Pak 600 mL cartridge (3004856)	LORD-Pak 600 mL cartridge (3004856)	--	LORD-Pak 200 (3004274)	LORD-Pak 200 (3004274)	LORD-Pak 200 (3004274)	--	LORD-Pak 200 (3004274)	--	PNEUMATIC DISPENSING GUN
0.5"x11.5"x24 Elem (3001175)	0.5"x11.5"x24 Elem (3001175)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.375"x11"x24 Elem (3001178)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	MIXING TIP (PKG OF 12)
--	--	0.25"x6"x21 Elem (3009534)	--	--	--	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	MIXING TIP (PKG OF 144)

7556		PRODUCT
7555-A/7555-C (3003961)	7556-A/7556-B (3003962)	COMPONENTS
LORD-Pak 400	LORD-Pak 50	LORD-PAK™ SYSTEM
1:1	1:1	RATIO
LORD-Pak 400 mL cartridge (3004277)	LORD-Pak 50 (3001112)	DISPENSING GUN
--	--	PLUNGER
LORD-Pak 400 mL cartridge (3004278)	--	PNEUMATIC DISPENSING GUN
0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	MIXING TIP (PKG OF 12)
--	0.25"x6"x21 Elem (3009534)	MIXING TIP (PKG OF 144)

LORD® ACRYLIC ADHESIVES CONVENIENCE PACKAGING GUIDE

PRODUCT	201			202	204			206		
ACCELERATOR	19 (3003498)	17 (3003496)	19 (3003497)	18 (3003501)	19 (3003511)	19 (3003512)	17 (3008597)	19 (3003513)	19 (3003520)	
LORD-PAK™ SYSTEM	LORD-Pak 50	LORD-Pak CX	LORD-Pak 225 mL cartridges	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-Pak 200	LORD-Pak 450 mL cartridges	LORD-Pak 50	
RATIO	2:1	10:1	2:1	2:1	2:1	2:1	10:1	2:1	2:1	
DISPENSING GUN	LORD-Pak 50 (3001112)	LORD-Pak CX (3004483)	--	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak 200/400 mL cartridge (3018302)	--	LORD-Pak 50 (3001112)	
PLUNGER	--	--	--	--	--	--	--	--	--	
PNEUMATIC DISPENSING GUN	--	LORD-Pak CX (3001128)	LORD-Pak 225 mL cartridges (3001149)	--	LORD-Pak 200 (3004274)	--	--	LORD-Pak 600 mL cartridge (3004856)	--	
MIXING TIP (PKG OF 12)	0.25"x6"x21 Elem (3004476)	0.375"x9.5"x24 Elem (3001179)	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	--	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	
MIXING TIP (PKG OF 144)	0.25"x6"x21 Elem (3009534)	0.25"x7.5"x24 Elem (3004481)	--	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	--	--	0.25"x6"x21 Elem (3009534)	

LORD part numbers listed in parentheses.

PRODUCT	410					506		606	661	
ACCELERATOR	17 (3003690)	19 (3003692)	19GB (3003693)	19GB GRAY (3016077)	19GB RED (3011119)	17 (3003762)	19 (3003765)	6GB (3008768)	6GB (3015363)	
LORD-PAK™ SYSTEM	LORD-Pak CX	LORD-Pak CX	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak CX	LORD-Pak 50	LORD-Pak 400	LORD-Pak 400	
RATIO	10:1	4:1	4:1	4:1	4:1	10:1	2:1	10:1	10:1	
DISPENSING GUN	LORD-Pak CX (3004483)	LORD-Pak CX (3004487)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak CX (3004483)	LORD-Pak 50 (3001112)	LORD-Pak 400 mL cartridge (3004276)	LORD-Pak 400 mL cartridge (3004276)	
PLUNGER	--	--	--	--	--	--	--	--	--	
PNEUMATIC DISPENSING GUN	LORD-Pak CX (3001128)	LORD-Pak CX (3001128)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak CX (3001128)	--	LORD-Pak 400 mL cartridge (3004279)	LORD-Pak 400 mL cartridge (3004279)	
MIXING TIP (PKG OF 12)	0.375"x9.5"x24 Elem (3001179)	0.375"x9.5"x24 Elem (3001179)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.375"x9.5"x24 Elem (3001179)	0.25"x6"x21 Elem (3004476)	0.375"x10"x24 Elem (3012582)	0.375"x10"x24 Elem (3012582)	
MIXING TIP (PKG OF 144)	0.25"x7.5"x24 Elem (3004481)	0.25"x7.5"x24 Elem (3004481)	--	--	--	0.25"x7.5"x24 Elem (3004481)	0.25"x6"x21 Elem (3009534)	--	--	

LORD part numbers listed in parentheses.

CONVENIENCE PACKAGING

403											
	19 (3003519)	19 (3003665)	17 (3003664)	19 (3003666)	19 BLACK (3003667)	19GB BLACK (3003668)	19GB RED (3012638)	19GB GRAY (3006076)	17 (3003674)	19 (3003676)	17 (3003675)
	LORD-Pak 450 mL cartridges	LORD-Pak 50	LORD-Pak CX	LORD-Pak CX	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak CX	LORD-Pak CX	LORD-Pak 200
	2:1	4:1	10:1	4:1	4:1	4:1	4:1	4:1	10:1	4:1	10:1
	..	LORD-Pak 50 (3001112)	LORD-Pak CX (3004483)	LORD-Pak CX (3004487)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak CX (3004483)	LORD-Pak CX (3004487)	LORD-Pak 200/400 mL cartridge (3008302)
	..	LORD-Pak 50 4:1 Plunger (3004479)	..	..	..	..	..	..	..	..	..
	LORD-Pak 600 mL cartridge (3004856)	..	LORD-Pak CX (3001128)	LORD-Pak CX (3001128)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak CX (3001128)	LORD-Pak CX (3001128)	..
	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	0.375"x9.5"x24 Elem (3001179)	0.375"x9.5"x24 Elem (3001179)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.375"x9.5"x24 Elem (3001179)	0.375"x9.5"x24 Elem (3001179)	0.375"x10.87"x24 Elem (3004467)
	..	0.25"x6"x21 Elem (3009534)	0.25"x7.5"x24 Elem (3004481)	0.25"x7.5"x24 Elem (3004481)	..	..	..	..	0.25"x7.5"x24 Elem (3004481)	0.25"x7.5"x24 Elem (3004481)	..

662	663	MAXLOK T3	MAXLOK T6			MAXLOK T18	305-1/305-2		310-A/310-B		
6 (3015465)	6 (3015466)	MX (3019950)	MX (3019632)	MX (3019621)	MX (3019922)	305-1/305-2 (3003559)	305-1/305-2 (3003558)	310-A/310-B (3003578)	310-A/310-B (3003580)	310-A/310-B (3003581)	
LORD-Pak 400	LORD-Pak 400	LORD-Pak 375 mL cartridges	LORD-Pak 50	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-Pak CX	LORD-Pak 600	
10:1	10:1	4:1	4:1	4:1	4:1	1:1	1:1	1:1	1:1	1:1	
LORD-Pak 400 mL cartridge (3004276)	LORD-Pak 400 mL cartridge (3004276)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak CX (3004482)	..	
..	..	..	LORD-Pak 50 4:1 Plunger (3004479)	..	..	..	..	..	..	..
LORD-Pak 400 mL cartridge (3004279)	LORD-Pak 400 mL cartridge (3004279)	LORD-Pak 375 mL cartridge (3004856)	..	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	..	LORD-Pak 200 (3004274)	..	LORD-Pak CX (3001128)	LORD-Pak 600 (3004856)	
0.375"x10"x24 Elem (3012582)	0.375"x10"x24 Elem (3012582)	8.7"x8.7"x24 Elem (3001173)	0.25"x6"x21 Elem (3004476)	8.7"x8.7"x24 Elem (3001173)	8.7"x8.7"x24 Elem (3001173)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.375"x9.5"x24 Elem (3001179)	..	
..	..	8.7"x8.7"x24 Elem (3001195)	0.25"x6"x21 Elem (3009534)	8.7"x8.7"x24 Elem (3001195)	8.7"x8.7"x24 Elem (3001195)	0.25"x6"x21 Elem (3009534)	..	0.25"x6"x21 Elem (3009534)	0.25"x7.5"x24 Elem (3004481)	0.5"x9"x18 Elem (3001223)	

406

PRODUCT

	19 (3003680)	19GB (3003682)	19 BLACK (3003678)	19GB (3003681)	19GB RED (3012326)	19GB GRAY (3017514)	19GB GRAY (3016078)	19GB RED (3012325)	19GB GRAY (3018326)	ACCELERATOR
	LORD-Pak 50	LORD-Pak 375 mL cartridges	LORD-Pak 375 mL cartridges	LORD-Pak 50	LORD-Pak 375 mL cartridges	LORD-Pak 50	LORD-Pak 375 mL cartridges	LORD-Pak 50	LORD-Pak 400	LORD-PAK™ SYSTEM
	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	4:1	RATIO
	LORD-Pak 50 (3001112)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 375 mL cartridge (3004857)	LORD-Pak 50 (3001112)	LORD-Pak 400 mL cartridge (3004276)	DISPENSING GUN
	LORD-Pak 50 4:1 Plunger (3004479)	--	--	LORD-Pak 50 4:1 Plunger (3004479)	--	LORD-Pak 50 4:1 Plunger (3004479)	--	LORD-Pak 50 4:1 Plunger (3004479)	--	PLUNGER
	--	LORD-Pak 375 mL cartridge (3004856)	LORD-Pak 375 mL cartridge (3004856)	--	LORD-Pak 375 mL cartridge (3004856)	--	LORD-Pak 375 mL cartridge (3004856)	--	LORD-Pak 400 mL cartridge (3004279)	PNEUMATIC DISPENSING GUN
	0.25"x6"x21 Elem (3004476)	0.375"x9"x24 Elem (3004657)	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	0.375"x9"x24 Elem (3004657)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	MIXING TIP (PKG OF 12)
	0.25"x6"x21 Elem (3009534)	--	--	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	--	MIXING TIP (PKG OF 144)

LORD® EPOXY ADHESIVES CONVENIENCE PACKAGING GUIDE

	320/310-B BLACK	320/322			360-A/360-B	363-A/363-B	370-A/370-B	3170-A/3170-B	PRODUCT	
	320/310-B BLACK (3003630)	320/310-B BLACK (3016092)	320/322 (3003632)	320/322 (3003633)	320/322 (3003631)	360-A/360-B (3003643)	363-A/363-B (3003647)	370-A/370-B (3003652)	3170-A/3170-B (3003619)	COMPONENTS
	LORD-Pak 50	LORD-Pak 200	LORD-Pak 50	LORD-Pak CX	LORD-Pak 200	LORD-Pak 50	LORD-Pak 50	LORD-Pak 50	LORD-Pak 200	LORD-PAK™ SYSTEM
	1:1	1:1	1:1	1:1	1:1	1:1	1:1	1:2	1:1	RATIO
	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak CX (3004482)	LORD-Pak 200 (3004273)	LORD-Pak 50 (3001112)	LORD-Pak 50 (3001112)	LORD-Pak 50 (3001112)	LORD-Pak 200 (3004273)	DISPENSING GUN
	--	--	--	--	--	--	--	--	--	PLUNGER
	--	LORD-Pak 200 (3004274)	--	LORD-Pak CX (3001128)	LORD-Pak 200 (3004274)	--	--	--	LORD-Pak 200 (3004274)	PNEUMATIC DISPENSING GUN
	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.375"x9.5"x24 Elem (3001179)	0.375"x11"x24 Elem (3001178)	0.25"x6"x21 Elem (3004476)	0.25"x6"x21 Elem (3004476)	0.25"x6"x21 Elem (3004476)	0.375"x11"x24 Elem (3001178)	MIXING TIP (PKG OF 12)
	0.25"x6"x21 Elem (3009534)	--	0.25"x6"x21 Elem (3009534)	0.25"x7.5"x24 Elem (3004481)	--	0.25"x6"x21 Elem (3009534)	0.25"x6"x21 Elem (3009534)	0.25"x6"x21 Elem (3009534)	--	MIXING TIP (PKG OF 144)

ADHESION ENHANCERS/SURFACE MODIFIERS



LORD® Adhesion Enhancers/Surface Modifiers are versatile and are used in conjunction with a broad range of LORD adhesives to provide enhanced adhesion to a variety of substrates. Easy application methods include spraying, wiping, dipping or flooding. Our adhesion enhancers/surface modifiers are environmentally resistant and require no mixing.

ADHESION ENHANCERS/SURFACE MODIFIERS

PRODUCT	AP-134	459X	459T	7701	7713
DESCRIPTION	Single-component; low viscosity; reactive polymer primer; recommended for e-coated metals, glass, ceramic tile, concrete and some plastics	Single-component primer in xylene solvent; diluted for direct application; recommended for elastomers such as natural rubber, thermoplastic elastomers (TPE), polyolefins (TPO) and EPDM	Single-component primer in toluene solvent; diluted for direct application; recommended for elastomers such as natural rubber, thermoplastic elastomers (TPE), polyolefins (TPO) and EPDM	Single-component; solvent-based surface treatment for various vulcanized, thermoplastic polymeric materials; recommended for elastomers such as natural rubber, thermoplastic elastomers (TPE), polyolefins (TPO) and EPDM	Single-component; room temperature curing primer; for adhesive bonding of glass reinforced polyester substrates
APPEARANCE	Clear yellow to amber liquid	Amber liquid	Straw yellow liquid	Clear to cloudy liquid	Purple liquid
SOLVENTS	Toluene, n-Butanol, Ethanol	Xylene	Toluene	Ethyl Acetate	Trichloroethylene, Methylene Chloride
SOLIDS CONTENT BY WEIGHT (%)	4.8-6.2	2.7-4.1	4.0-5.25	2.0-3.6	11.9-14.45
TYPICAL VISCOSITY	0-8 cSt	~10 cP	1-15 cP	10 cP	20 cP
DENSITY RANGE (LB/GAL)	7.2-7.5	7.15-7.35	7.20-7.35	7.6	11.25-11.55
DENSITY RANGE (KG/M³)	863-899	857-881	863-881	911	1348-1384

TECH TIPS:

How should LORD Adhesion Enhancers/Surface Modifiers be stored?

Store all products in their original container. When transferring adhesion enhancers/surface modifiers to another container, transfer only what is necessary for the application. Do not return unused material to the original container. Do not use metal containers to store LORD 7701. Keep all LORD adhesion enhancers/surface modifiers, except LORD 459T and LORD 459X, in a cool, dark and dry area. LORD 459T and 459X should be stored between 70°F-80°F (21°C-27°C).



**AUTHORIZED DISTRIBUTOR
1-800-448-0406**

Cautionary Information

Before using 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 herein 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.

Information provided herein is based upon tests believed to be reliable. In as much 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.

LORD, LORD-Pak, Maxlok and "Ask Us How" are trademarks of LORD Corporation or one of its subsidiaries.

LORD provides valuable expertise in adhesives and coatings, vibration and motion control, and magnetically responsive technologies. Our people work in collaboration with our customers to help them increase the value of their products. Innovative and responsive in an ever-changing marketplace, we are focused on providing solutions for our customers worldwide ... Ask Us How.

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.

LORD
Ask Us How™