

Supplied by

**AMBERCOMPOSITES**

# 506

## Acrylic Adhesive for Thermoplastics and Thermoset Plastics

### Typical Applications

Lord® 506 is a general purpose, semi-flexible, heat resistant acrylic adhesive. Lord 506 acrylic adhesive bonds a wide variety of thermoplastics and thermoset plastics.

metals, urethane, phenolic, polysulfone, and vinyl.

### **Proven Environmental and Chemical Resistance-**

Resists dilute acids, alkalis, solvents, greases, oils, moisture, and weathering. Performs at temperatures from -40° to 300°F (-40° to 149°C). Excellent UV exposure resistance.

### Features and Benefits

**Good Resilience** — Accommodates shock and sudden stress loading.

**Versatile** — Bonds a wide variety of substrates including ABS, acrylic, polycarbonate, FRP, prepared

**Non-Sag Properties** — Will not sag when applied to a vertical surface.

**Fast Cure** — Cures quickly at room temperature.

**Table 1: Typical Properties of Lord 506 Acrylic Adhesive\***

	Lord 506	Accelerator 4	Accelerator 17	Accelerator 19
Appearance	Off-white paste	Clear amber to slightly hazy liquid	Off-white to yellow liquid	Off-white paste
Viscosity: (cps) Brookfield at 77°F (25°C)	40,000 - 60,000 (Spindle 3 at 5 rpm HBF)	10 (Spindle 1 at 30 rpm LVT)	1,000 - 3,000 (Spindle 3 at 12 rpm LVT)	150,000 - 450,000 (T-bar C @ 10 rpm)
Density: lbs/gal	8.3 - 8.8	10.2 - 10.7	9.7 - 10.1	11.9 - 12.9
Solvents	None	Methylene Chloride/ MIBK/Trichloroethylene	None	None
Flash Point (Closed Cup)	53°F (12°C)	>200°F (>93°C)	>200°F (>93°C)	>200°F (>93°C)
**Working Time — Mix System at 75°F (24°C)	4 - 6 Minutes	—	—	—
**Handleable Bonds at 75°F (24°C)	8 - 12 Minutes	—	—	—
Full Properties	24 Hours	—	—	—
Mix Ratio by Volume	10 Parts	No-Mix	1 Part	5 Parts
Shelf Life from date of shipment, 75°F (24°C), unopened container	6 Months	6 Months	6 Months	6 Months

\*Above properties data are typical and not to be used for specification purposes. For specification data, contact our Customer Services Department.

\*\* Depends upon substrate and mass of the mixed adhesive.

### Substrate Preparation

The following substrate preparations are suggested for materials to be bonded with Lord acrylic adhesives:

**Aluminum** — Etching with chromic acid, grit blasting or abrading with medium grit emery paper in conjunction with degreasing step.

**Other Metals** — Degrease, abrade substrate, and degrease again; or utilize chemical treatments recommended for specific metals.

**Most Thermoplastics** — (Acrylic, ABS, polycarbonate, etc.). Should be cleaned with isopropyl alcohol.

**Thermoset Plastics** — (Polyester, epoxies, phenolics, etc.). Should be cleaned with a solvent (such as MEK) and mechanically abraded.

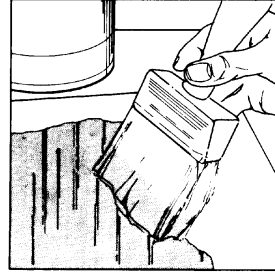
In all cases, substrates to be bonded must be free of grease, oil, mold release agents and other contaminants.

**No-Mix System** — Application may be made by spraying, rolling, or brushing Lord Accelerator 4 onto one or both substrates. Optimum bond line thickness is 5 to 10 mils. If the bond line is under 25 mils thick, application to one substrate is usually sufficient. For bond lines of 25 - 60 mils, both substrates should be coated. Acrylic adhesive may be applied as soon as the accelerator is dry usually one to three minutes at 75°F (24°C) or up to several weeks thereafter. Parts stored after coating should be kept in clean, dry area without exposure to ultraviolet light or temperatures in excess of 75°F (24°C).

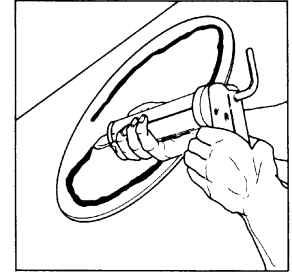
**Mix-In System** — Thoroughly mix Lord 506 and the Mix-In accelerator at the ratio specified in Table 1. Mix until uniform in color and consistency. Working time of the mixed system is approximately four to six minutes at 75°F (24°C). A handleable bond will develop in 8 to 12 minutes.

**Cure** — Acrylic adhesive cure will begin on contact with the accelerator. Although there is a safe working time of four to six minutes, it is suggested that parts be joined immediately after the acrylic adhesive is applied.

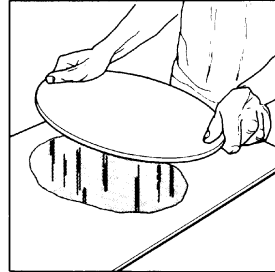
### No-Mix System



1. Apply accelerator

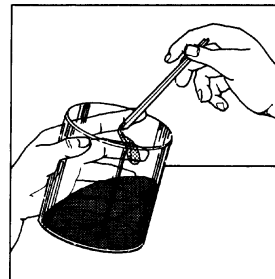


2. Apply acrylic adhesive

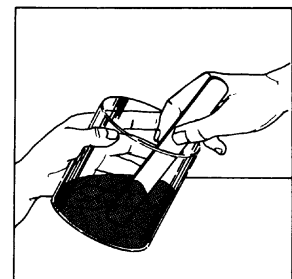


3. Assemble components

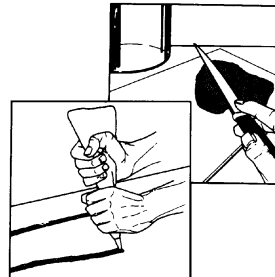
### Mix-In System



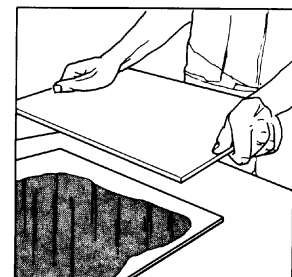
1. Pour accelerator into container containing acrylic adhesive.



2. Mix accelerator and acrylic adhesive.



3. Apply accelerator-acrylic adhesive mixture.



4. Assemble components.

**Table 2: Typical Performance of Lord 506/Accelerator 4**

Material	Lap Shear (psi)
2024T3 Alclad Aluminum (Aluminum oxide blasted)	4300 AF
Grit Blasted CRS	4300 AF
Polycarbonate	1400 SB
Acrylic (MEK Wipe)	825 SB
Cellulose Acetate Butyrate	400 SB
FRP (Grit Blasted)	1400 SB
Urethane (Abraded)	145 SB
ABS (IPA Wipe)	850 SB

\*AF — Adhesive Failure SB — Stock Break; psi-pound per square inch. Tested according to ASTM D1002

## Shipping and Storage

Ship and store Lord acrylic adhesives at lower than 80°F (27°C). Temperatures greater than 90°F (32°C) shorten the stability of Lord acrylic adhesive and accelerators. For maximum shelf life, store at 40° - 50°F (4°-10°C).

## Cautionary Information

Vapor is harmful and flammable. Positive fresh air ventilation is necessary; otherwise use air-supplied hood or chemical canister face mask. Avoid prolonged breathing of vapors which may cause respiratory irritation. May cause skin irritation. Avoid contact with eyes and clothing. In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes; for eyes, call physician. Wash clothing before reuse.

Do not take internally. If swallowed, do not induce vomiting. Drink several glasses of water and call a physician immediately.

Keep away from heat, sparks, and open flame. Acrylic adhesive resin contains reactive monomers. Request the Material Safety Data Sheet (MSDS) form for specific use and handling instruction.

## Additional Information

Lord products are distributed worldwide in over 50 countries by over 20 agents and licensees.

For additional information or assistance in specifying Lord acrylic adhesives, call 814:868-3611 Extension 3277, or write: **Lord Corporation, Chemical Products, 2000 West Grandview Blvd., P. O. Box 10038, Erie, PA 16514-0038.**

*Supplied by*

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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.

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