Maxlok™ MX/T6 Acrylic Adhesive

Description

LORD Maxlok™ MX/T6 acrylic adhesive replaces welding, brazing, riveting and other mechanical fastening methods especially over a wide range of temperature environments subject to high impact or high peel loads.

Features and Benefits

Versatile – bonds a wide range of unprepared metals with minimal substrate preparation.

Temperature Resistant – performs at temperatures from -40 to +300°F (-40 to +149°C).

Environmentally Resistant – resists dilute acids, alkalis, solvents, greases, oils, moisture, salt spray and weathering; provides excellent resistance to UV exposure.

Precise Bondline – allows precise control of adhesive bondline thickness due to its content of glass beads, 0.01" (0.025 cm) diameter.

Application

Surface Preparation – Remove grease, loose contamination or poorly adhering oxides from metal surfaces. Normal amounts of mill oils and drawing compounds usually do not present a problem in adhesion. Most plastics require a simple cleaning before bonding. Some may require abrading for optimum performance.

Mixing – Mix Maxlok T6 adhesive with the proper amount of Maxlok MX accelerator. Handheld cartridges will automatically dispense the correct volumetric ratio of each component. Even color distribution visually indicates a thorough mix. Once mixed, the adhesive cures rapidly.

Typical Properties*

	MX Accelerator	T6 Adhesive
Appearance	Gray Paste	Off-white to Tan Paste
Viscosity, cP @ 77°F (25°C) Brookfield	100,000-500,000	93,000-153,000
Density		
lb/gal	11.6-12.2	8.5-9.0
(kg/m^3)	(1390-1462)	(1019-1078)
Flash Point, °F (°C)	201 (94)	59 (15)

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

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Applying – Apply adhesive using handheld cartridges or automatic meter/mix/dispense equipment.

- Handheld Cartridges
  1. Load the cartridge into the applicator gun and remove the end caps.
  2. Level the plungers by expelling a small amount of adhesive to ensure both sides are level.
  3. Attach mixing tip and expel a mixer's length of adhesive.
  4. Apply adhesive to substrate and mate the parts within the working time of the adhesive. Clamp in position until adhesive reaches handling strength.

  Do not re-expose adhesive to air once parts are mated. Mated parts should be repositioned by sliding to achieve proper alignment.
- Meter/Mix/Dispense Equipment
  Contact your LORD representative if assistance is needed using this equipment.

Curing – Cure begins immediately once adhesive and accelerator are mixed. Depending on adhesive, handling strength is achieved within 20-24 minutes. Complete cure will take 24 hours at room temperature. Mating surfaces must be held in contact during the entire cure period. Cure rate can be accelerated by applying modest heat. If heat cured, do not exceed temperatures of 150°F (66°C). Cured adhesive is colored to visually indicate a full cure; cure color depends on the accelerator used.

Cleanup – Clean equipment and tools prior to the adhesive cure with solvents such as isopropyl alcohol, acetone or methyl ethyl ketone (MEK). Once adhesive is cured, heat the adhesive to 400°F (204°C) or above to soften the adhesive. This allows the parts to be separated and the adhesive to be more easily removed. Some success may be achieved with commercial epoxy strippers.

Shelf Life/Storage

Shelf life is nine months when stored at temperatures under 80°F (27°C) in original, unopened container. For maximum shelf life, storage temperatures of 40-50°F (4-10°C) are recommended. If stored at these cooler temperatures, allow product to return to room temperature before using. Protect from exposure to ultraviolet light.

Maxlok MX/T6 acrylic adhesive is flammable. Do not store or use near heat, sparks or open flame.

Typical Properties* of Mixed Adhesive

Mix Ratio by Volume, Adhesive to Accelerator	4:1
Solids Content, %	100
Working Time, min @ 77°F (25°C)	6-9
Time to Handling Strength, min @ 77°F (25°C) 50 psi Shear	20-24
Mixed Appearance	Gray Paste

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Bond Performance

Subtrates	Aluminum to Aluminum	HDG to HDG	EZG to EZG	Powder Coated Steel to Powder Coated Steel
Lap Shear @ Room Temperature, psi (MPa)	2800 (19.3)	2400 (16.5)	2200 (15.2)	1300 (9.0)
Failure Mode	C	C	C	C
T-Peel, pli (N/mm)	41 (7.18)	53 (9.29)	54 (9.46)	26 (4.56)
Failure Mode	C	C	C	C

Substrate	Surface Treatment
Aluminum, 0.032” thick 6061T6	Dry Rag Wipe
Electrogalvanized Steel (EZG), 0.032” thick	Dry Rag Wipe
Hot Dipped Galvanized Steel (HDG), 0.032” thick	Dry Rag Wipe
Powder Coated Steel, 0.035” thick, polyester on cold rolled steel	Dry Rag Wipe
Duraplate, 0.02” thick	IPA Wipe

Bonded Parameters	Bond Area	Film Thickness	Cure	Mix Ratio
Metal Lap Shears (ASTM D1002)	1.0"x0.5"	0.010"	24 hr @ RT	4:1 by Volume
T-Peel (ASTM D1876 modified)	1.0"x3.0"	0.010"	72 hr @ RT	4:1 by Volume

Failure Mode Definition	Abbreviation
Cohesive Failure	C

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.

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/locations.

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