LORD® Maxlok™ Acrylic Adhesives

Training Guide

Surface Preparation:

LORD® Maxlok™ acrylic adhesives bond most metals with minimal surface preparation. Dust and loose particles should be removed from the bond surface. It is recommended a clean dry rag be used to wipe the bond surface prior to bonding. Using compressed shop air to blow off parts is not recommended. Shop air usually contains water from condensation and oil from the compressor that can contaminate the bond surface.

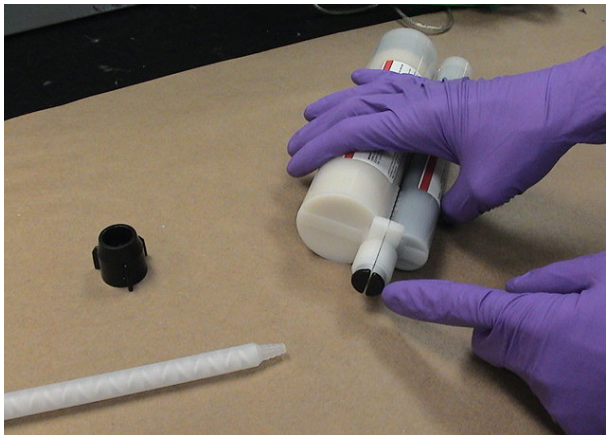
Avoid handling the bond area after the surface has been prepared. Dirty hands/gloves, soap, mold release, grease, etc. can contaminate the surface and potentially lead to poor adhesion.

Loading the Cartridge:

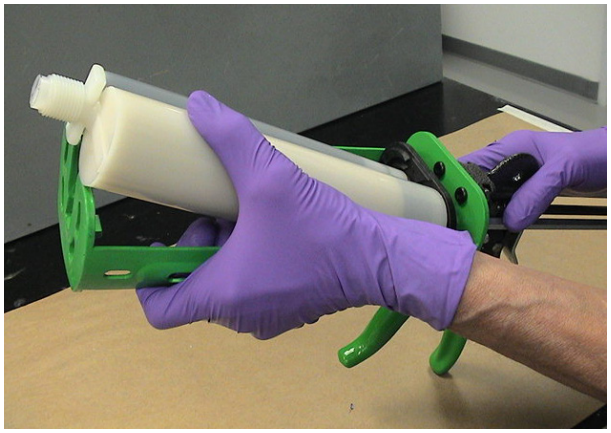
1. Remove the black plastic nut from the outlet end of the adhesive cartridge.
2. Remove the two plastic plugs in the outlet ports of the cartridge and discard. Reinsertion into the wrong side could cause the adhesive to cure and block the ports.
3. Load cartridge into gun ensuring the plungers line up correctly.

Leveling the Plungers:

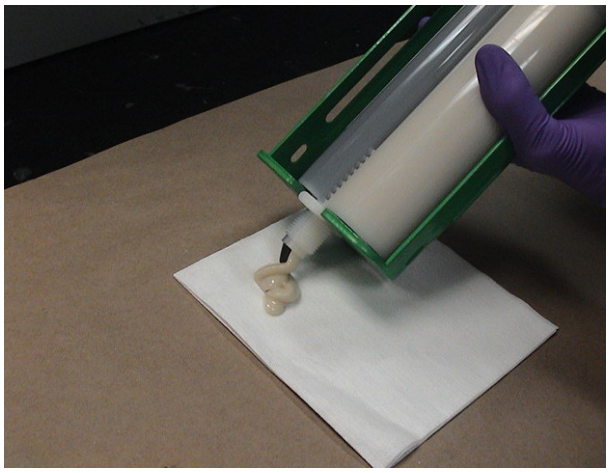
Slowly advance the plungers by squeezing the trigger of the applicator until a small amount of adhesive material is being equally extruded from both ports. Extrude this material into a cup or onto a piece of paper, mix, allow to cure and dispose of. The purpose of this step is to level the plungers within the cartridge, helping to ensure the adhesive is mixed properly. This step must be repeated each time a cartridge is inserted into the gun.



Remove and discard plastic plugs in outlet ports



Load cartridge into gun

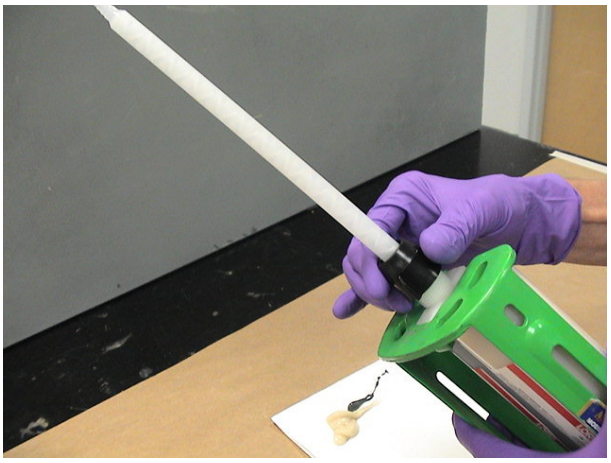


Level plungers in the cartridge

Purging Mix Nozzle:

Fit the plastic static mix tip to the outlet end of the cartridge. Secure the mix tip using the black locking nut that was removed earlier. Dispense a small amount of adhesive (a ¼" diameter bead the length of the mixer) through the static mix tip helping to ensure the adhesive is mixed properly. This step must be repeated each time a new mix nozzle is installed.

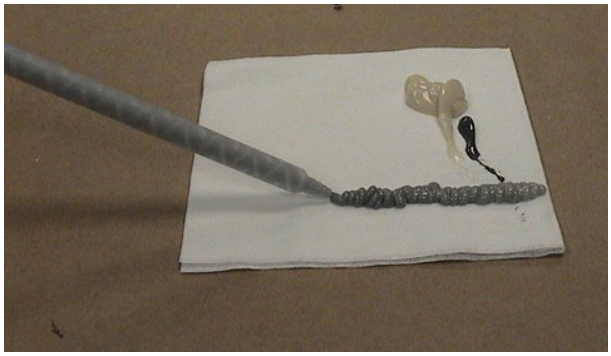
A mix nozzle may generally be left attached to the cartridge if the entire cartridge is not used. To finish using a cartridge, remove the used nozzle and begin again with leveling the cartridge.



Attach static mix tip to cartridge

Dispensing Bead on the Part:

Adhesives work best at very thin bond thickness (10 to 20 mil). Therefore, attempt to remove any scrap material such as protruding welds, burrs, and other irregularities that would prevent the two bonding surfaces from lying flat on top of one another. Apply adhesive in a continuous bead in the desired locations. The bead diameter should be predetermined based on the desired final adhesive width and thickness. Use the table below as a guide for sizing the adhesive bead diameter. Note: These bead diameters will yield an excess of 10% in case of irregularities in the surface. Avoid applying adhesive in areas that are to be welded by stopping the bead about 2 inches before the weld site.



Dispense adhesive through static mix tip

Working Time:

Working time is the amount of time from when the adhesive starts to travel down the mixing tip until the parts must be mated and clamped.

Work quickly to mate parts before the adhesive working time expires. Knowledge of the estimated working time is particularly important when bonding large parts that have long adhesive bead lengths, and during periods of high temperatures within the production facility. If working time is exceeded, do not proceed with installation. Adhesive must be removed and reapplied.

Bead Diameter Estimator:

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

Bondline Width - inches (cm)		0.25 (0.6)	0.50 (1.8)	1.0 (2.5)	2.0 (5.1)	4.0 (10.2)	8.0 (20.3)
Bondline Thickness inches (mm)	0.01 (0.25)	0.01 (0.25)	0.08 (0.20)	0.11 (0.29)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)
	0.02 (0.5)	0.02 (0.5)	0.11 (0.29)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)
	0.04 (1.0)	0.04 (1.0)	0.16 (0.41)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)	0.64 (1.62)
	0.08 (2.0)	0.08 (2.0)	0.23 (0.57)	0.32 (0.81)	0.45 (1.15)	0.64 (1.62)	0.90 (2.29)

Positioning Parts:

Place parts in position as gently as possible and avoid applying pressure. Let the clamping systems do the work. If a part needs minor repositioning, always slide the part to the new position. If a part needs major repositioning, it may be better to remove the part, remove the adhesive and begin the bonding process again. Sliding the part long distances may scrape all the adhesive out from the intended bond area and result in poor bonding.

Clamping Parts:

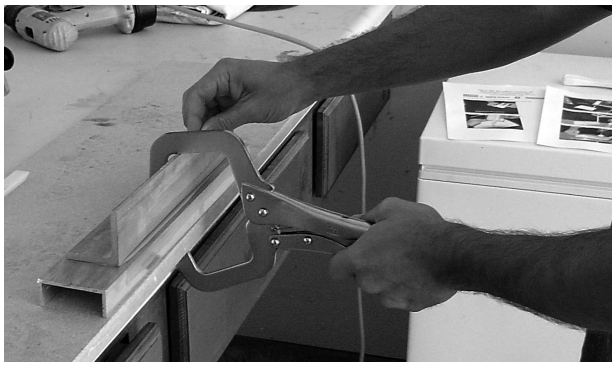
The parts should be clamped within the working time of the product. Apply uniform pressure to the joint as soon as possible after mating the parts. This spreads the adhesive bead and compress it to the desired thickness. Uniform pressure (pressure spread out over the length of the bond line) is very important especially when working with thin gage or non-uniform parts. Effective methods for applying pressure include:

- Pre-built fixtures provide the most reproducible results.
- Multiple clamps or weights on spreader bars can be used on large parts when fixturing is not available. A spreader bar is a stiff material, often steel, aluminum channel or angle that is clamped at several locations over the bond line.
- Clamps or weights alone may be used on small parts or when the mated parts are both stiff enough not to need spreader bars.

De-roping:

Excess adhesive squeezed out at seams may be removed with a putty knife after it has set or cured for a few minutes (i.e., the 400 series red adhesive will turn a medium red color when it is ready to be de-roped.) Rubbing alcohol can be used to remove smears or residue.

Position parts



Clamp parts after adhesive application

Remove excess adhesive

Rubbing alcohol removes smears or residue

Clamping Time:

Leave the parts clamped for the handling time of the adhesive being used.

Handling time is an estimate of amount of time from when the adhesive starts to travel down the mixing tip until the clamps can be removed. This is an estimate and will vary depending on the parts, environment, and stresses it will see after being unclamped.

Clamp parts for required handling time

Bonded Part Removal:

If you need to remove a bonded part, use a heat gun to soften the adhesive. Remember that adhesives are very strong in tension or shear, but can be removed with a peel load.

Use heat gun to remove bonded part

Cautionary Information:

Before using this or any Parker Lord product, refer to the Safety Data Sheet (SDS) and label for safe use and handling instructions.

For industrial/commercial use only. Must be applied by trained personnel only. Not to be used in household applications. Not for consumer use.

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