

LORD® 7545 Series Urethane Adhesive Handling/Application Notes



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Handling Recommendations

LORD® 7545 adhesive should be used within its 6-month shelf life and stored at or below 25°C in its unopened container to ensure optimum cured properties. First In, First Out (FIFO) is recommended to ensure a consistent turn-over of inventory, leaving no material to expire. No pre-treatment or degas is required.

Application Recommendations

Packaging – LORD 7545 adhesive is offered in 50 mL and 200 mL cartridges, 5 gallon pails, and 55 gallon drums. Consult with your LORD Applications Engineer to identify the correct packaging configuration to suit your needs.

Equipment Selection – Regardless of equipment type or manufacturer, certain variables remain the same when working with LORD 7545 adhesive. Ensure all hoses are lined with PTFE, and metal components are 300 series stainless steel. In addition, O-rings and seals should also be PTFE-based. Progressive cavity stator elastomer should be a grade of fluoroelastomer that will not react with a polyurethane adhesive. Consult with your LORD Applications Engineer and equipment supplier to ensure equipment is compatible with LORD 7545 adhesive.

Surface Preparation – Avoid applying LORD 7545 adhesive to surfaces that are not cleaned to remove all loose debris and processing fluids. In special cases, plasma treatment can be used to aid in adhesion to hard-to-bond materials.

Mixing – LORD 7545 adhesive is offered in a wide range of working times that will all provide the same robust bond strength. Mix LORD 7545-A resin with curative of choice at a 1:1 mix ratio by volume (refer to Figure 1 for mix ratio by weight). Static mixers should contain at least 20 elements for 50 mL cartridge dispense and 24 element for meter/mix/dispense (MMD) equipment or 200 mL cartridge dispense.

LORD 7545 adhesive was designed to be used as-is and should not be manually agitated prior to placing the container under the transfer pump head. Manual mixing could lead to air entrapment and will cause issues with mix ratio and cure completion.

Note: LORD 7545-A resin is sensitive to moisture and should not be left open for longer than the time it takes to open the pail and immediately place onto MMD emptying system.

Figure 1: Typical Properties of LORD 7545-A Resin Mixed with Curative

	7545-A/G	7545-A/B	7545-A/C	7545-A/D	7545-A/E	7545-A/F
Mix Ratio, Resin to Curative by Volume	1:1	1:1	1:1	1:1	1:1	1:1
by Weight	1:0.87	1:0.87	1:0.87	1:0.85	1:0.85	1:0.85
Working Time @ 75°F (24°C)	1.5 min	3-5 min	6-8 min	11-18 min	22-38 min	45-65 min
Purge Time @ 75°F (24°C)	1.5 min	3 min	7 min	15 min	30 min	45 min
Time to Handling Strength @ 75°F (24°C)	10 min	30 min	60 min	90 min	2-3 hr	4-5 hr

LORD TECHNICAL TIPS

Dispensing – LORD 7545 adhesive is a thixotropic material and will form a bead when dispensed. Working time varies depending on which curative is chosen. After working time is exceeded, part should be discarded to avoid inadequate wetting of mating surfaces and decreased bond strength. See Figure 1 for recommended working time of each curative.

Curing – Fixture time (time to handling strength) for LORD 7545 adhesive varies depending on which curative is chosen. Adhesive will cure to full strength in 24 hours. See Figure 1 for recommended fixture time of each curative.

Quality Control Recommendations

Mix Ratio Checks – Ratio checks should be performed at least once per day, or at the start of each shift. Each dispense outlet (i.e., every place that a static mixer attaches) should be checked. Simultaneously dispense the resin and hardener into separate cups, then record the weight of each. If ratio varies more than $\pm 5\%$, notify appropriate maintenance personnel. Handheld cartridges utilize a fixed ratio by the size of cartridge, there is no need to do a ratio check when dispensing from cartridges, however, plungers should be leveled by dispensing material without a static mixer installed until adhesive is visibly dispensed from both sides of the cartridge.

Purging – When transitioning between products of the same base chemistry, it is important to fully purge the first product from the MMD equipment before beginning production with the second product. LORD recommends purging 3 times the volume of the MMD lines through the system to ensure that all of the first product has cleared the system. LORD does not recommend purging when switching to a different base chemistry, a complete tear down of the wetted parts of the system including, but not limited to replacing seals and fluid lines is the only way to ensure that the chemistries will not react.

Note: Always consult with your LORD Applications Engineer to ensure products are compatible before purging.

Cautionary Information

Before using this or any 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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