

MAKOBOND LAMINATE RESIN 375

PRODUCT DESCRIPTION

Makobond LR-375 is an unfilled amber epoxy laminating system specially formulated for applications demanding high service temperatures. It features an extended working time, allowing for processes like vacuum-bagging, yet it sets sufficiently at room temperature to enable easy demolding of the laminate from the pattern for post curing. When constructed using proper fabrication techniques, LR-375 offers a long tool life suitable for autoclave service temperatures up to 450°F. LR-375 is excellent at wetting out carbon and fiberglass tooling fabrics, ensuring thorough impregnation. LR-375 is ideal for producing composite parts intended for high-temperature service, providing a reliable solution for applications requiring exceptional thermal resistance.

PRODUCT HIGHLIGHTS

- LONG LASTING TOOLS
- HIGH TEMP APPLICATION
- LONG POT LIFE

PRODUCT CHARACTERISTICS

| | LR 375A | LR 375B |
|------------------|-----------|-----------|
| Viscosity @ 25°C | 3,200 cps | 2,600 cps |
| Specific Gravity | 1.17 | 0.98 |
| Color | Amber | Amber |

PHYSICAL PROPERTIES

| | Results | ASTM Method |
|--|-------------|-------------|
| Cured Hardness (Shore D) | 88-92D | D2240 |
| Flexural Strength (psi) | 15,702 psi | D790 |
| Flexural Modulus (psi) | 560,555 psi | D790 |
| Compressive Strength (psi) | 23,290 psi | D695 |
| Tensile Strength (psi) | 5,506 psi | D638 |
| Tensile Modulus (psi) | 525,164 psi | D638 |
| Glass Transition Temperature, T _g , (DMA) | 460°F | D4065 |

HANDLING PROPERTIES

| Laminate Resin 375 | |
|--------------------------------------|-----------------|
| Mix Ratio By Weight, Resin, Hardener | 100:46 |
| Mixed Viscosity @ 25°C | 2,700 cps. |
| Pot Life @ 25°C | 270-300 minutes |

HANDLING AND CURING

Measure out the proper weights of LR 375 and mix until uniform and no streaks are present throughout. Be sure to scrape the sides and bottom on mixing container to avoid any unmixed material. LR-375 can be demolded after 24 hours at 75°F. To prevent brittleness, allow the resin to gel hard, attach a backup structure, then heat the laminate to 100-120°F for 12 hours. Post cure the tool by raising the temperature to 150°F for 6 hours, then increase to 450°F in 100°F increments, dwelling for 4 hours at each stop. Turn off the oven and allow it to cool to room temperature.



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PACKAGING WEIGHTS

| | Quart Kit | Gallon Kit | Pail Kit | Drum Kit |
|------------|-----------|------------|----------|----------|
| LR-375A | 2.5 lbs | 8.75 lbs | 43 lbs | 435 lbs |
| LR-375B | 1.15 lbs | 4 lbs | 20 lbs | 200 lbs |
| LR-375 Kit | 3.65 lbs | 12.75 lbs | 63 lbs | 635 lbs |

STORAGE AND SAFETY

Makobond LR 375 has a shelf life of 12 months from date of shipment when unopened and stored at ambient temperatures, (18-27°C). Nitrogen purging opened containers is recommended before re-sealing. LR 375B may darken over time, but this will have no effect on any finished product. Users need to exercise proper care while working with material; gloves, eyewear, and proper ventilation are recommended. Warning: All thermosetting matrix systems undergo exothermic reaction during vulcanization and/or curing, generating heat. If not properly managed, exothermic reactions may release possibly flammable or toxic gases into the surrounding. Users should exercise extreme caution when blending large volumes of ingredients (ie greater than 1 lb), and/or curing thick sections of components (typically greater than 0.200 inches). Users should monitor heat profiles of any curing or blended materials carefully and attentively during cure. Please contact a Mako team member with any concerns prior to use and/or to coordinate the proper management of safety and temperature monitoring process to avoid exothermic phenomena.