

MAKOBOND LAMINATE RESIN 356

PRODUCT DESCRIPTION

Makobond LR 356 is a high temperature unfilled laminate resin designed for composite tools. LR 356 has a relatively low mixed viscosity that helps with wet out of fabrics. This system produces parts with excellent heat resistance making it the ideal laminate system for high temperature service.

PRODUCT HIGHLIGHTS

- HIGH TEMPERATURE
- CRAFTED FOR COMPOSITE PARTS
- UNFILLED

PRODUCT CHARACTERISTICS

	LR 356A	LR 356B
Viscosity @ 25°C	6,800 cps.	1,500 cps.
Specific Gravity	1.19	1.09
Color	Amber	Amber

HANDLING PROPERTIES

Laminate Resin 356	
Mix Ratio By Weight, Resin, Hardener	100:19
Mix Ratio By Volume, Resin, Hardener	4.8:1
Mixed Viscosity @ 25°C	3,800 cps.
Pot Life @ 25°C	40-50 minutes

PHYSICAL PROPERTIES

	Results	ASTM Method
Cured Hardness (Shore D)	88-90D	D2240
Flexural Strength (psi)*	45,200 psi	D790
Flexural Modulus (psi)*	557,011 psi	D790
Compressive Strength (psi)	16,158 psi	D695
Tensile Strength (psi)*	29,910 psi	D638
Tensile Modulus (psi)*	50,422 psi	D638
Glass Transition Temperature, Tg, (DMA)	323°F	D4065

*Tensile and Flexural properties determined with style 7500 tooling cloth in a 1/8" laminate.

HANDLING AND CURING

Measure out the proper weights of LR 356 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. Allow laminate to cure completely before delamination. LR 356 should be left at ambient temperature for at least 18 hours prior to being exposed to a heat cure. The following post cure schedule should be followed once the system has had time to cure: 2 hours at 150°F, 2 hours at 250°F, then 3 hours at 350°F.

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PACKAGING WEIGHTS

	Quart Kit	Gallon Kit	Pail Kit	Drum Kit
LR-356A	2 lbs	9 lbs	40 lbs	450 lbs
LR-356B	0.38 lbs	1.71 lbs	7.6 lbs	86 lbs
LR-356 Kit	2.38 lbs	10.71 lbs	47.6 lbs	536 lbs

STORAGE AND SAFETY

Makobond LR 356 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 356B 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.