

MAKOBOND ADHESIVE PASTE 110

PRODUCT DESCRIPTION

Makobond AP 110 is a very tough two-part epoxy adhesive designed for composite parts. Once cured, AP 110 is resistant to any stresses or cracking, and is not brittle. The thixotropic nature of AP 110 helps with filling gaps on bond lines with no sag. AP 110 will perform well in most temperature and environmental situations.

PRODUCT HIGHLIGHTS

- Tough
- Composite Bonding
- Non Sag
- Compressible

PRODUCT CHARACTERISTICS

	AP 110A	AP 110B
Viscosity @ 25°C	Paste	Paste
Specific Gravity	0.92	1.05
Color	Off White	Tan

HANDLING PROPERTIES

Adhesive Paste 110	
Mix Ratio By Weight, Resin, Hardener	100:32
Mix Ratio By Volume, Resin, Hardener	3.5:1
Mixed Viscosity @ 25°C	Thixotropic Paste
Pot Life @ 25°C	40.55 minutes

PHYSICAL PROPERTIES

	Results	ASTM Method
Cured Hardness (Shore D)	80-85D	D2240
Flexural Strength (psi)	7,722 psi	D790
Compressive Strength (psi)	7,499 psi	D695
1.Lap Shear (psi) Aluminum to Aluminum	2,910 psi	D1002
Glass Transition Temperature, Tg, (DMA)	210°F	D4065

1. Test specimens are cured 4 hours at room temperature and heat cured for 16 hours at 160°F

HANDLING AND CURING

Measure out the proper weights of AP 110 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. Apply AP 110 to prepared surface and let set at 25°C (77°F) for at least two hours. Once AP 110 has set up and cured, an oven cure of 82.2°C (180°F) for three to five hours is suggested to reach full properties.

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PACKAGING WEIGHTS

	Quart Kit	Gallon Kit	Pail Kit	Drum Kit
AP-110A	1.7 lbs.	7 lbs.	36 lbs.	360 lbs.
AP-110B	0.54 lbs	2.25 lbs	11.5 lbs	115 lbs
AP-110 Kit	2.24 lbs	9.25 lbs	47.5 lbs	475 lbs

STORAGE AND SAFETY

Makobond AP 110 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. AP 110B may darken over time but this will not affect any of its properties. 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.