

DESCRIPTION

AL 2103 is a general purpose, low toxicity, white epoxy resin system designed specifically for use with glass of organic fabrics for lamination and bonding applications. It is a room temperature curing system for use at ambient conditions. It is offered with two different speed hardeners, AL 2103 (regular speed) and AL 2103 LPL (long pot life) for large laminates and bagging procedures. AL 2103 exhibits a combination of excellent cloth or mat wet-out with good non run-out properties.

The pot life of any laminating resin is an important consideration when evaluating the overall size, thickness and layup speed of a job. Slower hardeners are preferable for large laminates and for all bagging procedures.

APPLICATIONS

- Prototypes, patterns and core boxes
- Master models, Keller Models
- Potting bushings
- Trim, holding, and checking fixtures
- Duplication splashes
- Drill fixtures

PROPERTIES

- Easy handling properties
- Low shrinkage, long term dimensional stability
- Low odor – NO BGE
- No vertical drain off

PHYSICAL PROPERTIES

		AL 2103 Resin	AL 2103 Hardener	AL 2103 LPL Hardener
Composition		Epoxy	Amine	Amine
Mix ratio by weight		100	16	16
Aspect		Thixotropic liquid	Liquid	Liquid
Color		White	Clear amber	Clear amber
Mixed viscosity at 77° F (25° C) (mPa.s)	ASTM D2393		3,000	2,000
Mixed specific Gravity at 77° F (25° C)	ASTM D792		1.33	1.25
Pot life at 77° F (25° C) (minutes)	ASTM D2471		20 - 30	50 - 60
Demold time (hours)			8 - 12	24 - 48

PROCESSING

Carefully weigh out appropriate amounts of resin and hardener into clean mixing container and thoroughly mix until all streaks and striations are gone. Take extra care to scrap the sides and bottom frequently to insure complete mixing. CAUTION: Unmixed compound from sides or bottom can cause soft spots or uncured areas in the completed casting. To prevent this it is advisable to transfer entire mixture to second clean container and remix for short time before using.

MECHANICAL and THERMAL PROPERTIES⁽¹⁾

Properties	Method	Unit	AL 2103 Neat	AL 2103 Glass Laminate	AL 2103 LPL Neat	AL 2103 LPL Glass Laminate
Volumetric weight		lbs/in ³ (g/cc)	0.048 (1.33)	-	0.045 (1.25)	-
Hardness	ASTM D2240	Shore D1	85 - 90	-	88 - 92	95
Tensile Strength	ASTM D638	psi (MPa)	7,400 (51)	26,600 (183)	7,200 (50)	26,700 (184)
Flexural Strength	ASTM D790	psi (MPa)	11,200 (77)	34,100 (235)	10,500 (72)	35,200 (243)
Flexural Modulus	ASTM D790	psi (MPa)	700,000 (4,800)	1,990,000 (13,700)	676,000 (4,661)	1,990,000 (13,700)
Compressive Strength	ASTM D695	psi (MPa)	13,500 (93)	-	13,600 (94)	-
Edgewise Compressive Strength	ASTM D695	psi (MPa)	-	21,400 (148)	-	17,500 (121)
Shrinkage	ASTM D2566	%	0.1	-	0.1	-
Coefficient of Thermal Expansion	TMA	ppm/° F (° C)	23 (41)	-	45 (81)	12 (22)
Tg	TMA	° F (° C)	132 (56)	-	146 (63)	-
Maximum service temperature		° F (° C)	180 (82)	185 (85)	185 (85)	185 (85)

⁽¹⁾ The above properties were obtained under laboratory conditions using standardized specimens. Cured 7 days at room temperature

STORAGE CONDITIONS

Shelf life is 12 months in a dry place and in original unopened containers at a temperature between 59 – 77° F (15 – 25° C). Any opened can must be tightly closed.

HANDLING PRECAUTIONS

Normal health and safety precautions should be observed when handling these products :

- Ensure good ventilation
- Wear gloves, safety glasses and impervious clothes.

For further information, please consult the material safety data sheet.

GUARANTEE

The information contained in this technical data sheet result from research and tests conducted in our Laboratories under precise conditions. It is the responsibility of the user to determine the suitability of AXSON products, under their own conditions before commencing with the proposed application. AXSON guarantee the conformity of their products with their specifications but cannot guarantee the compatibility of a product with any particular application. AXSON disclaim all responsibility for damage from any incident which results from the use of these products. The responsibility of AXSON is strictly limited to reimbursement or replacement of products which do not comply with the published specifications