PRO-SET®

Technical Data

M1002
M2044

The New Standard

TOUGHENED LAMINATING EPOXY

EPOXIES for
Laminating
Infusion
Tooling
Assembly

COMBINED FEATURES

Medium viscosity for good wet out of all synthetic composite fabrics and core materials.

Medium cure speed hardener provides 2.5 to 4.5 hours of working time at 72°F (22°C).

Room temperature cure properties suitable for many composite components and structures.

T_g as high as 162°F (72°C) with proper post cure providing excellent temperature stability and great part cosmetics.

Cost effective, high performance epoxy formulation for synthetic composite manufacturing.

Quality-control tinting is available at no extra charge; simply add "QC" after the product code on your order.

Shelf life is 3 years for resin and 2 years for hardener when properly stored[2].

Some separation may occur during storage. Stir resin before mixing with hardener.

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ISO9001:2015 Certified

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HANDLING PROPERTIES

Property	Standard	Units	72°F (22°C)
100g Pot Life	ASTM D2471	minutes	48-60
Viscosity Mixed	ASTM D2196	cP	1,400
Viscosity (resin)	ASTM D2196	cP	4,800
Viscosity (hardener)	ASTM D2196	cP	75

MIX RATIO

Method	Resin:Hardener	Range	Resin:Hardener	Range
Weight	4.17:1	3.91:1–4.61:1	100:24.0	100:25.60–100:21.70
Volume	3.45:1	3.25:1–3.82:1	100:29.0	100:30.80–100:26.20

DENSITY

State	Units	72°F (22°C)
Cured	lb/gal (g/cc)	9.81 (1.17)

MECHANICAL PROPERTIES

Property	Standard	Units	72°F (22°C) x 2 wk	RT Gelation + 140°F (60°C) x 8 hrs
Hardness	ASTM D2240	Type D	80	84
Compression Yield	ASTM D695	psi (MPa)	13,600 (94)	14,100 (97)
Tensile Strength	ASTM D638	psi (MPa)	7,550 (52)	9,690 (67)
Tensile Modulus	ASTM D638	psi (MPa)	4.76E+05 (3.28)	4.52E+05 (3.12)
Tensile Elongation	ASTM D638	%	2.1	4.0
Flexural Strength	ASTM D790	psi (MPa)	12,400 (85)	14,100 (97)
Flexural Modulus	ASTM D790	psi (MPa)	4.73E+05 (3.26)	5.99E+05 (4.13)

THERMAL PROPERTIES

Property	Standard	Units	72°F (22°C) x 2 wk	RT Gelation + 140°F (60°C) x 8 hrs
Tg DSC Onset–1st Heat	ASTM E1356	°F (°C)	127 (53)	153 (67)
Heat Deflection Temperature	ASTM D648	°F (°C)	124 (51)	162 (72)
Ultimate Tg by DSC	ASTM E1356	°F (°C)	162 (72)[1]	

[1] Additional post cure may be required; contact Technical Department for details.

[2] Store PRO-SET® Epoxy resins and hardeners at room temperature in sealed containers until shortly before use. As with many high-performance epoxy resins, repeated exposure to low temperatures during storage may cause the resin to crystallize. If this occurs, warm the resin to 125° F and stir to dissolve crystals. Hardeners may form carbamation when exposed to CO_2 and moisture in the atmosphere for extended periods of time. Prevent carbamation by protecting hardeners from exposure until immediately prior to processing.

Test specimens were neat epoxy (without fiber reinforcement).

Typical values, not to be construed as specification.