

PRO-SET®

Technical Data

M1038~M2007

LATENT CURE LAMINATING EPOXY

The New
Standard

EPOXIES for
Laminating
Infusion
Tooling
Assembly

COMBINED FEATURES

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

Latent cure hardener provides up to 38-40 hours of working time at 72°F (22°C), and 18-20 hours of working time at 90°F (32°C).

Optimized for hand wet out and machine impregnation in contact molding, vacuum bagging and filament winding applications.

Elevated temperature cure is required; this combination will vitrify to a very brittle solid after several days. Will not be brittle after post cure.

T_g as high as 212°F (100°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 18 months for hardener when properly stored².

HANDLING PROPERTIES

Property	Standard	Units	72°F (22°C)
Working Time	-	hours	38-40
Viscosity Mixed	ASTM D2196	cP	2300
Viscosity (resin)	ASTM D2196	cP	3,250
Viscosity (hardener)	ASTM D2196	cP	160

MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	22.2:1	100:4.5
Weight Range	20.00:1–25.00:1	100:5.0–100:4.0
Volume	19.30:1	100:5.2
Volume Range	17.37:1–21.71:1	100:5.8–100:4.6

DENSITY

State	Units	72°F (22°C)
Cured	lb/gal (g/cc)	9.76 (1.17)

Test specimens were neat epoxy (without fiber reinforcement).
Typical values, not to be construed as specification.

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ISO9001:2008 Certified

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MECHANICAL PROPERTIES

Property	Standard	Units	RT Gelation + 125°F (52°C) x 16 hrs	RT Gelation + 140°F (60°C) x 8 hrs	RT Gelation + 140°F (60°C) x 16 hrs	RT Gelation + 180°F (82°C) x 4 hrs	RT Gelation + 180°F (82°C) x 8 hrs
Hardness	ASTM D2240	Type D	87	88	89	89	88
Compression Yield	ASTM D695	psi (MPa)	17,100 (118)	16,700 (115)	16,500 (114)	15,500 (107)	15,400 (106)
Tensile Strength	ASTM D638	psi (MPa)	10,100 (70)	10,800 (74)	11,200 (77)	10,900 (75)	10,000 (69)
Tensile Modulus	ASTM D638	psi (GPa)	5.27E+05 (3.63)	5.15E+05 (3.55)	5.07E+05 (3.5)	4.80E+05 (3.31)	4.63E+05 (3.19)
Tensile Elongation	ASTM D638	%	2.4	2.8	3.9	4.3	3.4
Flexural Strength	ASTM D790	psi (MPa)	20,000 (138)	20,700 (143)	18,200 (125)	17,500 (121)	16,600 (114)
Flexural Modulus	ASTM D790	psi (GPa)	5.13E+05 (3.54)	5.27E+05 (3.63)	4.74E+05 (3.27)	4.55E+05 (3.14)	4.30E+05 (2.96)

THERMAL PROPERTIES

Property	Standard	Units	RT Gelation + 125°F (52°C) x 16 hrs	RT Gelation + 140°F (60°C) x 8 hrs	RT Gelation + 140°F (60°C) x 16 hrs	RT Gelation + 180°F (82°C) x 4 hrs	RT Gelation + 180°F (82°C) x 8 hrs
Tg DSC Onset– 1st Heat	ASTM E1356	°F (°C)	162 (72)	176 (80)	176 (80)	204 (96)	206 (97)
Heat Deflection Temperature	ASTM D648	°F (°C)	168 (76)	175 (79)	182 (83)	208 (98)	208 (98)
Tg DSC Ultimate	ASTM E1356	°F (°C)			212 (100) 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 CO₂ and moisture in the atmosphere for extended periods of time. Prevent carbamation by protecting hardeners from exposure until immediately prior to processing.

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