

PRO-SET®

Technical Data

XR29A~M2044

The New
Standard

EPOXIES for
Laminating
Infusion
Tooling
Assembly

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ISO9001:2015 Certified

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FIRE RETARDANT LAMINATING EPOXY

COMBINED FEATURES

Low viscosity for quick wet out of synthetic composite fabrics; especially effective with Kevlar® and carbon fiber.

Medium speed hardener provides up to 150 minutes of pot life at 72°F (22°C).

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

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

T_g as high as 138°F (59°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 stored².

HANDLING PROPERTIES

Property	Standard	Units	72°F (22°C)
100g Pot Life	-	minutes	135-165
Viscosity Mixed	ASTM D2196	cP	720

MIX RATIO

Method	Resin:Hardener	Resin:Hardener
Weight	3.70:1	100:27.0
Volume	3.13:1	100:32.0

Caution- Stir Resin thoroughly with mechanical mixer before blending with Hardener. Contents may settle during storage.

XR29A (listed as XR02-099-29A) when used in conjunction with PRO-SET M2046 Hardener is accepted for compliance with Lloyd's Register Rules and Regulations and with the international Convention for Safety of Life at Sea (SOLAS), 1974, as amended, for use on ships and offshore installations classed with Lloyd's Register, and for use on ships and offshore installations when authorized by contracting governments to issue the relevant certificates, licenses, permits, etc.

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

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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	83	84
Compression Yield	ASTM D695	psi (MPa)	11,800 (81)	12,300 (85)
Tensile Strength	ASTM D638	psi (MPa)	6,680 (46)	7,390 (51)
Tensile Modulus	ASTM D638	psi (GPa)	4.06E+05 (2.8)	4.14E+05 (2.85)
Tensile Elongation	ASTM D638	%	2.7	3.0
Flexural Strength	ASTM D790	psi (MPa)	11,800 (81)	12,900 (89)
Flexural Modulus	ASTM D790	psi (GPa)	3.62E+05 (2.5)	3.91E+05 (2.7)

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)	121 (49)	119 (48)
Heat Deflection Temperature	ASTM D648	°F (°C)	116 (47)	118 (48)
Tg DSC Ultimate	ASTM E1356	°F (°C)	138 (59) 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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