



Toray Composite Materials America, Inc.

## G-94M PREPREG SYSTEM

### PRODUCT NOTES

G-94M is our standard 250°F to 300°F cure system. It can be used for multiple purposes but is found primarily in recreational and sporting goods applications. It provides excellent mechanical properties, controlled flow, great handling, and a high Tg.

**High Heat Tolerance:** High Tg allows for high temperature part demolding reducing cycle time. Material works well with high temperature paint curing cycles.

**Easy Layup:** Product allows complex part layup with minimal cuts or ridge lines. It maintains a comparable class A finish through post-cure, minimizing sanding and finishing times.

**Flexible Cure Methods:** Curing methods include autoclave, over cure, or press molding. Product can be cured with or without using a dwell.

**Readily Available:** Product is in stock and ready to ship.

G-94M resin is available with numerous types of **TORAYCA™** unidirectional carbon fibers and woven and glass fabrics with Fiber Areal Weight (FAW) ranging from 50 g/m<sup>2</sup> to 300 g/m<sup>2</sup> and Resin Content, (RC%) by weight percent, ranging from 24% to 44%.

### NEAT RESIN PHYSICAL PROPERTIES

Property	Method	Unit	Value
Density	ASTM D595	g/cm <sup>3</sup>	1.206
Tg (Dry)	DMA	°F (°C)	270 (132)
Gel Time	ASTM D3532	Minutes	3.6
Linear CTE	TMA	(μ/(m*°C))	73.9

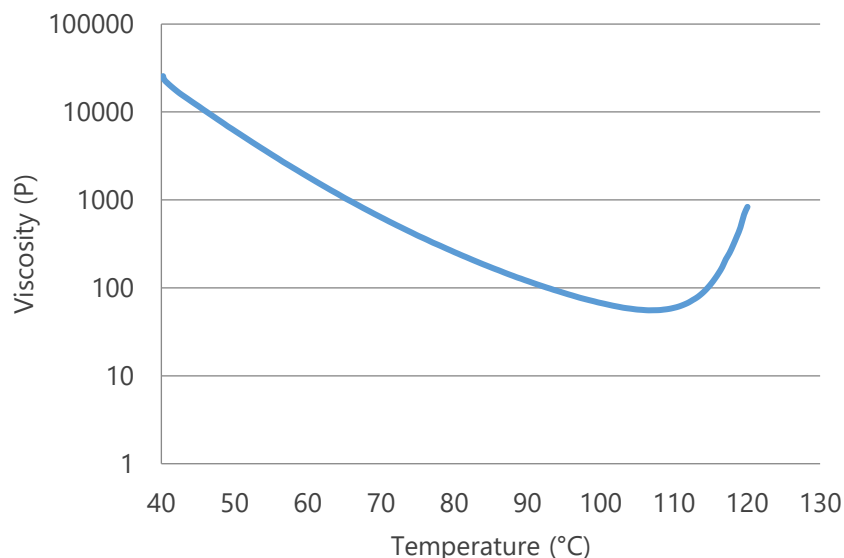
### NEAT RESIN MECHANICAL PROPERTIES

Property	Symbol	Method	Units	Value
Compressive Strength	F <sub>c</sub>	ASTM D695	Ksi (MPa)	17.2 (119)
Compressive Modulus	E <sub>c</sub>	ASTM D695	Ksi (MPa)	455 (3,140)
Flexural Modulus	E <sub>f</sub>	ASTM D790	Ksi (MPa)	494 (3,410)
Flexural Strength	F <sub>f</sub>	ASTM D790	Ksi (MPa)	21.4 (148)
Fracture Toughness	F <sub>1c</sub>	ASTM D5045-99	Psi*√in (Mpa* √m)	.90 (.99)



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## RESIN VISCOSITY CURVE



## TYPICAL LAMINATE PROPERTIES WITH T700S-12K AT 150 g/m<sup>2</sup> FAW and 35% RC

Property	Symbol	Method	Units	Value
0° Tensile Strength*	F <sub>1t</sub>	ASTM D3039	Ksi (MPa)	407 (2,810)
90° Tensile Strength	F <sub>2t</sub>	ASTM D3039	Ksi (MPa)	7.7 (5.3)
0° Tensile Modulus*	E <sub>1t</sub>	ASTM D3039	Msi (GPa)	19.4 (134)
± 45° In Plane Shear Strength	F <sub>12</sub>	ASTM D3518	Ksi (MPa)	19.1 (132)
Inter-laminar Shear Strength	ILSS	ASTM D2344	Ksi (Mpa)	11.0 (75.8)

\* Normalized to 60% VF

## TYPICAL LAMINATE PROPERTIES WITH T800S-12K AT 120 g/m<sup>2</sup> FAW and 34% RC

Property	Symbol	Method	Units	Value
0° Tensile Strength*	F <sub>1t</sub>	ASTM D3039	Ksi (MPa)	472 (3260)
90° Tensile Strength	F <sub>2t</sub>	ASTM D3039	Ksi (MPa)	8.6 (59)
0° Tensile Modulus*	E <sub>1t</sub>	ASTM D3039	Msi (GPa)	23.7 (163)
± 45° In Plane Shear Strength	F <sub>12</sub>	ASTM D3518	Ksi (MPa)	20.0 (138)
Inter-laminar Shear Strength	ILSS	ASTM D2344	Ksi (Mpa)	12.2 (84.1)

\* Normalized to 60% VF

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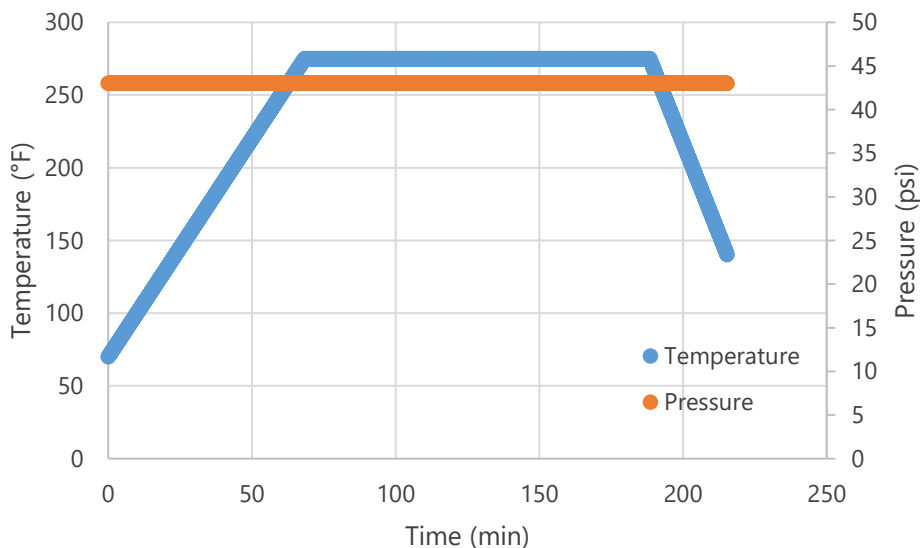
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## RECOMMENDED CURE CYCLE (275°F)



Cure Temperature: 275°F

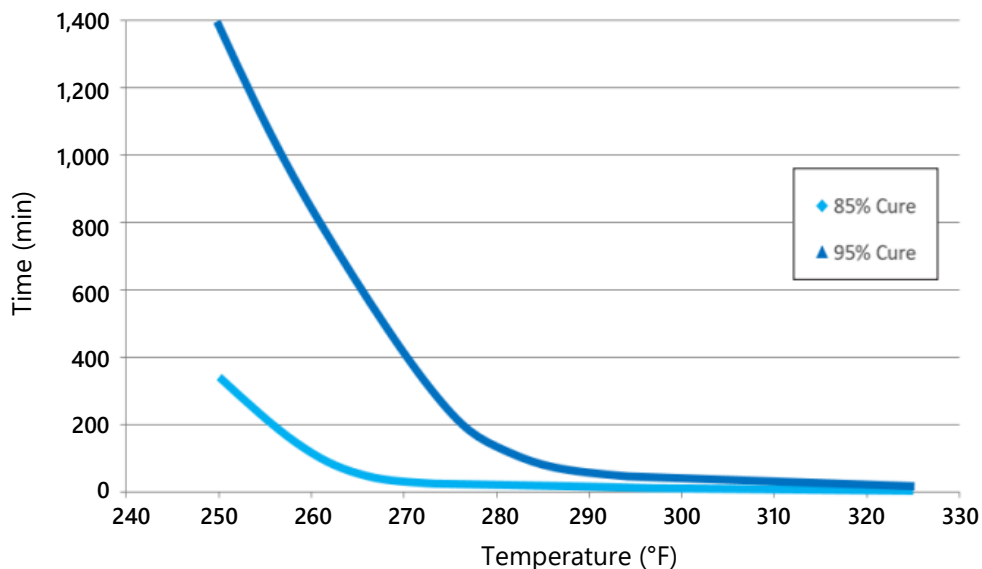
Cure Time: 120 minutes

Ramp Rate: 3°F/min

Cure Pressure: 43 psi

Cool Down Rate: 5°F/min

## TIME TO 85% & 95% CURE BY CURE TEMPERATURE



## STORAGE LIFE

Fridge Life: 3 months @ < 40°F

Freezer Life: 24 months @ < 10°F

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