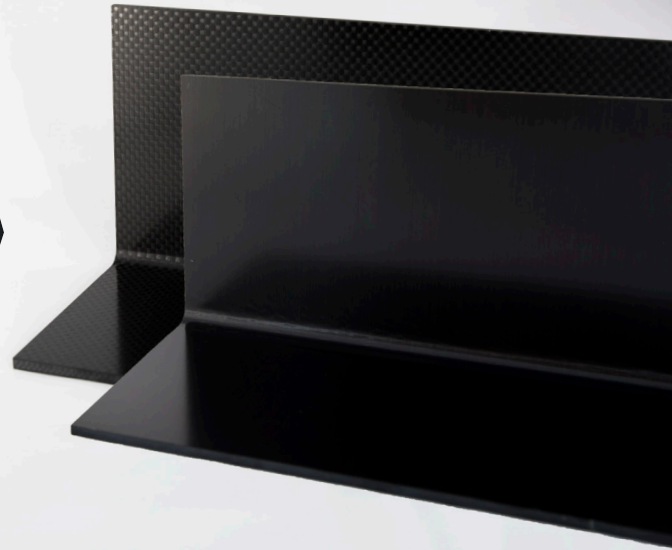




Toray Composite Materials America, Inc.

G-85 PREPREG SYSTEM

G-85 is a new resin system developed specifically to meet the needs of the automotive industry. A 10 minute cure time at 325°F makes it suitable for high throughput processes, and its flame retardancy and high heat tolerance make it ideal for racing applications. This system also offers easy handleability, and the capability to achieve a class "A" surface finish .



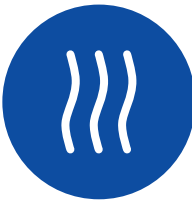
Flame Retardant

Flame retardant material without filler allows for maximum mechanical performance. Material is compliant to SFI specification 56.1 flammability testing at 0.09" thickness.



Resin Chemistry

A latency time of 0.5 to 3 minutes allows resin to flow through a part without reaching the gel point.



High Heat Tolerance

High T_g 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.



Readily Available

Product is in stock and ready to ship.



Flexible Cure Methods

Curing methods include autoclave, oven cure, or press molding. Product can be cured with or without using a dwell.

Availability:

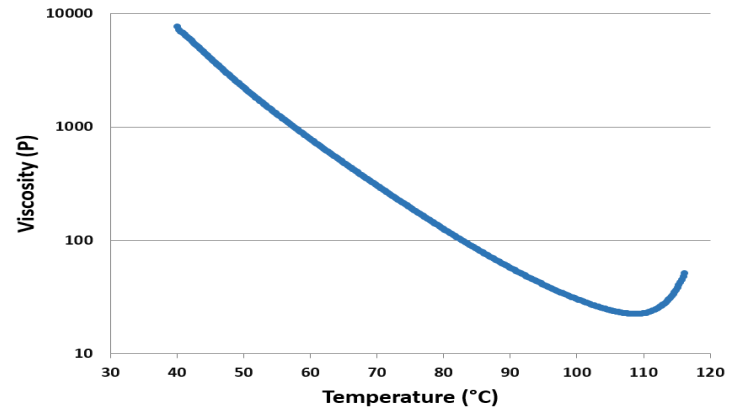
G-85 resin is available with numerous types of unidirectional carbon fibers, woven, Kevlar and glass fabrics with Fiber Areal Weight (FAW) ranging from 70 g/m² to 300 g/m² and Resin Content, (RC%) by weight percent, ranging from 24% to 44%.



NEAT RESIN PHYSICAL PROPERTIES

PROPERTY	METHOD	UNITS	VALUE
Density	ASTM D595	g/cm ³	1.215
Tg (Dry)	DMA	°F (°C)	349 (176)
Gel Time	ASTM D3532	minutes	1.3
Linear CTE	TMA	(μm/(m*°C))	62.3

RESIN VISCOSITY CURVE



TYPICAL LAMINATE PROPERTIES WITH T300B-3K-40B 2X2 TWILL AT 204 g/m² FAW AND 42% RC

PROPERTY	SYMBOL	METHOD	UNITS	VALUE
90° Tensile Strength*	F _{2t}	ASTM D3039	Ksi (MPa)	78.5 (541)
90° Tensile Modulus	E _{2t}	ASTM D3039	Msi (GPa)	7.96 (54.9)
90° Compressive Strength*	F _{2c}	ASTM D695	Ksi (MPa)	102 (703)
Flexural Strength	F _f	ASTM D790	Ksi (MPa)	125 (862)
Flexural Modulus	E _f	ASTM D790	Msi (GPa)	7.53 (51.9)
Shear Strength	F ₁₂	ASTM D5379	Ksi (MPa)	12 (83)
Shear Modulus	G ₁₂	ASTM D5379	Msi (GPa)	.51 (3.5)
Interlaminar Shear Strength	ILSS	ASTM D2344	Ksi (MPa)	11.8 (81.4)
Poisson's Ratio	V ₁₂	ASTM D3039	N.A.	.043

*normalized to Vf

For more information or purchasing inquiries:
sales@toraycma.com | www.toraycma.com | 253-846-1777

TYPICAL LAMINATE PROPERTIES WITH T700S-12K-60E 2X2 TWILL AT 665 g/m² FAW AND 36% RC

PROPERTY	SYMBOL	METHOD	UNITS	VALUE
90° Tensile Strength*	F _{2t}	ASTM D3039	Ksi (MPa)	90.9 (627)
90° Tensile Modulus	E _{2t}	ASTM D3039	Msi (GPa)	8.37 (57.7)
90° Compressive Strength*	F _{2c}	ASTM D695	Ksi (MPa)	68.3 (471)
Flexural Strength	F _f	ASTM D790	Ksi (MPa)	91.4 (630)
Flexural Modulus	E _f	ASTM D790	Msi (GPa)	7.12 (49.1)
Shear Strength	F ₁₂	ASTM D5379	Ksi (MPa)	9.8 (68)
Shear Modulus	G ₁₂	ASTM D5379	Msi (GPa)	.63 (4.3)
Interlaminar Shear Strength	ILSS	ASTM D2344	Ksi (MPa)	7.1 (49)
Poisson's Ratio	V ₁₂	ASTM D3039	N.A.	.055

*normalized to Vf

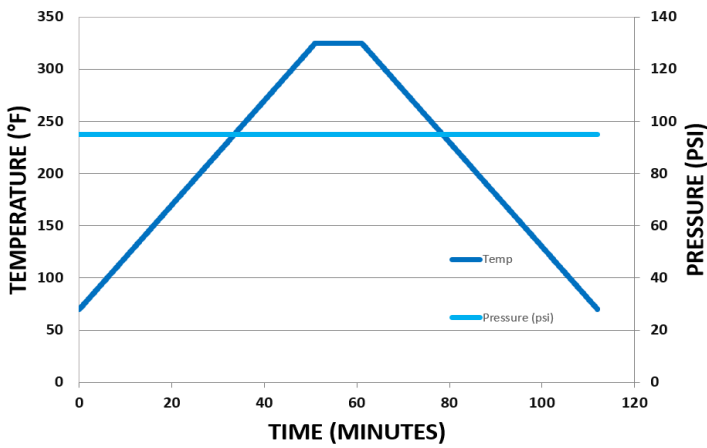
TYPICAL LAMINATE PROPERTIES WITH ARAMID 1000 DENIER 2X2 TWILL AT 186 g/m² FAW AND 43% RC

PROPERTY	SYMBOL	METHOD	UNITS	VALUE
90° Tensile Strength*	F _{2t}	ASTM D3039	Ksi (MPa)	74.1 (511)
90° Tensile Modulus	E _{2t}	ASTM D3039	Msi (GPa)	3.53 (24.3)
90° Compressive Strength*	F _{2c}	ASTM D695	Ksi (MPa)	27.3 (188)
Flexural Strength	F _f	ASTM D790	Ksi (MPa)	63.5 (438)
Flexural Modulus	E _f	ASTM D790	Msi (GPa)	3.0 (21)
Shear Strength	F ₁₂	ASTM D5379	Ksi (MPa)	8.61 (59.4)
Shear Modulus	G ₁₂	ASTM D5379	Msi (GPa)	.231 (1.59)
Compression After Impact (1500 in-lb/in)	CAI	ASTM D7137	Ksi (MPa)	16.7 (115)
Interlaminar Shear Strength	ILSS	ASTM D2344	Ksi (MPa)	6.07 (41.9)
Poisson's Ratio	V ₁₂	ASTM D3039	N.A.	.069

*normalized to Vf

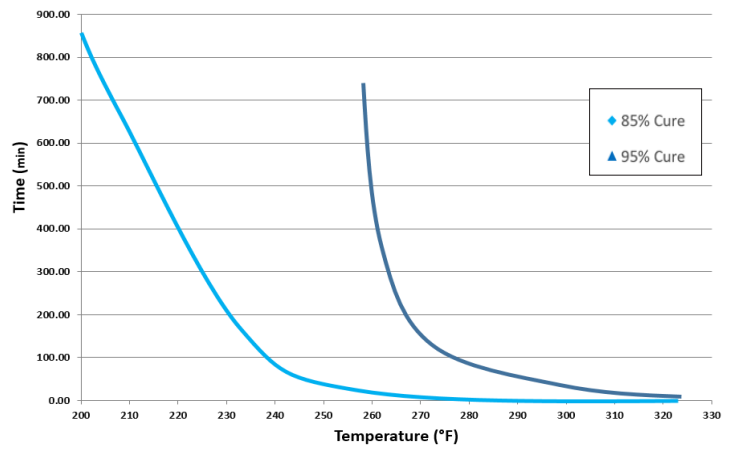
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RECOMMENDED CURE CYCLE (325°F)



Cure Temperature: 325°F
 Cure Time: 10 min
 Ramp Rate: 5°F/min
 Cure Pressure: 95 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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