

RESIN SYSTEM DATA SHEET



NAME:	2510 PREPREG SYSTEM
MANUFACTURER	Toray Composite Materials America, Inc.
TYPE:	250-270°F (121-132°C) Cure Toughened Epoxy

PRODUCT DESCRIPTION:

The 2510 prepreg system is specifically formulated for out-of-autoclave (OOA) processing of aerospace primary structures. This prepreg system has excellent all-around structural properties with a high wet and dry Tg while offering low-energy curing (250-270°F, 121-132°C). Curing methods include autoclave or oven cure. Product can be cured with or without using a dwell.

PRODUCT BENEFITS/FEATURES:

- High Heat Tolerance
- Easy layup with minimal cuts or ridge lines

TYPICAL APPLICATIONS:

- Aircraft Structures
- Aerospace Material Specification 3914

NEAT RESIN PHYSICAL PROPERTIES:

Resin Density:	1.267 g/cc
Resin Gel Time @ 250°F (121°C)	8 - 13 min.
Dynamic Viscosity	~60 P @ 250°F (121°C)
Tg DMA, Dry	294°F (146°C)
Tg DMA, Wet	267°F (131°C)

FABRIC LAMINATE PROPERTIES:

PROPERTY	SYMBOL	METHOD	UNITS	CTA	RTA	ETW
MATERIAL: F6273C-07M, T700S-12K Fiber, 190 FAW (GSM), 42 RC% Weight. Oven Cure						
0° Tensile Strength	F _{1t}	ASTM D3039	Ksi (MPa)	116 (803)	132 (912)	152 (1049)
90° Tensile Strength	F _{2t}	ASTM D3039	Ksi (MPa)	105 (722)	112 (772)	129 (892)
0° Tensile Modulus	E _{1t}	ASTM D3039	Msi (GPa)	8.29 (57.1)	8.09 (55.8)	8.40 (57.9)
90° Tensile Modulus	E _{2t}	ASTM D3039	Msi (GPa)	8.17 (56.4)	8.12 (56.0)	7.87 (54.2)
0° Compressive Strength	F _{1c}	SACMA SRM1R-94	Ksi (MPa)	109 (750)	103 (709)	68.7 (474)
90° Compressive Strength	F _{2c}	SACMA SRM1R-94	Ksi (MPa)	108 (742)	101 (698)	69.4 (479)
0° Compressive Modulus	E _{1c}	SACMA SRM1R-94	Msi (GPa)	7.94 (54.8)	7.97 (54.9)	7.94 (54.7)
90° Compressive Modulus	E _{2c}	SACMA SRM1R-94	Msi (GPa)	7.07 (48.7)	7.74 (53.4)	7.93 (54.7)
In-Plane Shear Strength @ 5% or Ultimate	F ₁₂	ASTM D5379	Ksi (MPa)	22.5 (155)	19.2 (133)	10.8 (74.6)
In-Plane Shear Modulus	G ₁₂	ASTM D5379	Msi (GPa)	0.62 (4.30)	0.61 (4.21)	0.46 (3.17)
Short Beam Shear Strength	SBS	ASTM D2344	Ksi (MPa)		8.7 (60)	
Poisson's Ratio	ν ₁₂	ASTM D3039	-	0.09	0.04	0.03
Open Hole Tension Strength (25/50/25)	OHT	ASTM D5766	Ksi (MPa)	-	49.3 (340)	57.5 (396)
Open Hole Compression Strength (25/50/25)	OHC	ASTM D6484	Ksi (MPa)	-	38.7 (267)	32.9 (227)
Compression After Impact (25/50/25)	CAI	-	Ksi (MPa)	-	26.9 (185)	-
Laminate Density	ρ	ASTM D792	g/cc	1.502		
Fiber Volume Fraction	V _f	ASTM D3171	%	49.6		
Cured Ply Thickness	CPT	-	Inches (mm)	0.0086 (0.218)		

Tension and compression values are normalized to the indicated Vf herein.

source: https://www.toraycma.com/file_viewer.php?id=4856

prepared by: Elevated Materials (www.elevatedmaterials.com)