

Quantum LYTEX™ SF 6593

Sheet Molding Compound

PRODUCT DESCRIPTION

Styrene-free carbon fiber reinforced epoxy molding compound

GENERAL

Material Status	• Commercial: Development		
Availability	• North America	• Europe	• Asia Pacific
Filler/Reinforcement	• 3K PAN Carbon Fiber	• Nominal 50% w/w	• 25 mm
Features	• Styrene-free • High stiffness • High strength	• Fatigue resistance • Black or Natural Color • Shelf Life 6 months @ 10°F or below	
Processing Method	• LYTEX™ SF 6593 can be molded at temperatures in the range of 260-325°F, with 300°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 6-10 minutes. Detailed molding suggestions are available on request. Cool molded parts at ambient temperature. A cooling fixture may be needed depending on part thickness and geometry. Matched metal die molds.		
Resin	• Epoxy Composite		

PHYSICAL	Typical	Unit	Test Method
Density	1.45	g/cm ³	ASTM D792
Shrinkage	-0.001	in/in	cold mold to cold part
CLTE, X-Y plane	5	ppm/°C	ASTM E831
CLTE, Z plane	50	ppm/°C	ASTM E831
Poisson's Ratio	0.33	psi (MPa)	ASTM D638

MECHANICAL (Machined)	Typical	Unit	Test Method
Tensile Modulus	5.0E+6 (34,500)	psi (MPa)	ASTM D3039
Tensile Stress (Break)	37,500 (259)	psi (MPa)	ASTM D3039
Flexural Modulus	4.0E+6 (27,500)	psi (MPa)	ASTM D790
Flexural Stress (Break)	72,500 (500)	psi (MPa)	ASTM D790
Compression (Break)	45,000 (325)	psi (MPa)	ASTM D6484

Machined Properties are determined using specimen machined from molded 12"x12" panels with 80% mold coverage, 1000 psi pressure, 280-300°F mold temperature for 6-10 minutes

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MECHANICAL (As Molded)	Typical	Unit	Test Method
Tensile Modulus	9.5E+6 (65,500)	psi (MPa)	ASTM D3039
Tensile Stress (Break)	59,000 (407)	psi (MPa)	ASTM D3039
Flexural Modulus	6.5E+6 (44,800)	psi (MPa)	ASTM D790
Flexural Stress (Break)	110,000 (758)	psi (MPa)	ASTM D790
Compression (Break)	45,000 (325)	psi (MPa)	ASTM D6484
THERMAL	Typical	Unit	Test Method
Glass Transition T_g , TanDelta	160	°C	ASTM D7028
Glass Transition T_g , Storage Modulus	130	°C	ASTM D7028

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