Quantum AMC® 8593, 126-76-118
Sheet Molding Compound

PRODUCT DESCRIPTION
Carbon Fiber reinforced hybrid vinyl ester molding compound

GENERAL

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia
Filler/Reinforcement	• 3K PAN Carbon Fiber	• Nominal 50% w/w	• Nominal 1” (25 mm) Length
Features	• Fatigue resistance • High strength	• High stiffness • Shelf Life 2 months @ 75°F	• Black or Natural Color
Processing Method	• **AMC® 8593** can be molded at temperatures in the range of 260-310°F, with 280°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 3-5 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	• VE Hybrid Composite		

PHYSICAL	Typical	Unit	Test Method
Density	1.46	g/cm^3	ASTM D792
Shrinkage	<0.000	in/in	**cold mold to cold part**
CLTE, X-Y plane		ppm/°C	ASTM E831
CLTE, Z plane		ppm/°C	ASTM E831
Poisson’s Ratio	**0.33**		ASTM D638

MECHANICAL (Machined)	Typical	Unit	Test Method
Tensile Modulus	5.2E+6 (35,800)	psi (MPa)	ASTM D-3039
Tensile Stress (Break)	41,500 (286)	psi (MPa)	ASTM D-3039
Flexural Modulus	4.5E+6 (31,000)	psi (MPa)	ASTM D-790
Flexural Stress (Break)	73,000 (503)	psi (MPa)	ASTM D-790
Short Beam Shear	8,394 (57.87)	psi (MPa)	ASTM D-2344

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 3-5 minutes

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MECHANICAL (As molded)	Typical	Unit	Test Method
Tensile Modulus	9.5E+6 (65,500)	psi (MPa)	ASTM D638
Tensile Strength	61,000 (421)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	6.5E+6 (44,800)	psi (MPa)	ASTM D790
Flexural Strength	115,000 (792)	psi (MPa)	ASTM D790

IMPACT	Typical	Unit	Test Method
Izod Notched Impact Strength	20 (1068)	ft-lb/in (J/m)	ASTM D256

THERMAL	Typical	Unit	Test Method
Glass Transition T_t, TanDelta	142	°F (°C)	ASTM D7028
Glass Transition T_g, Storage Modulus	118	°F (°C)	ASTM D7028

For additional information, please contact:

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