

Technical Data Sheet
Quantum AMC 8593 HT
 Engineered Composites



Product Description

Carbon Fiber reinforced hybrid vinyl ester molding compound.

General

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia Pacific
Filler / Reinforcement	• 3K PAN Carbon Fiber	• Nominal 50% w/w	• Nominal 1" (25 mm) Length
Features	• Fatigue Resistance • High Strength	• High Stiffness • Black or Natural Color	• Shelf Life 2 months @ 75°F
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 molds.		
Resin	• VE Hybrid		

Physical	Typical	Unit	Test Method
Density	1.45	g/cm ³	ASTM D792
Shrinkage	<0.000	in/in	ASTM D955
CLTE, X – Y plane	12	ppm/°C	ASTM E831
CLTE, Z plane	60	ppm/°C	ASTM E831
Poisson's Ratio	0.31		ASTM D638
Mechanical (Machined)	Typical	Unit	Test Method
Tensile Modulus	5.2 E+6 (35,800)	psi (MPa)	ASTM D3039
Tensile Strength	29,000 (200)	psi (MPa)	ASTM D3039
Flexural Modulus	4.0 E+6 (27,579)	psi (MPa)	ASTM D790
Flexural Strength	56,000 (386)	psi (MPa)	ASTM D790
Compression Strength	33,000 (227)	psi (MPa)	ASTM D6484
Mechanical (As Molded)	Typical	Unit	Test Method
Tensile Modulus	9.5 E+6 (65,500)	psi (MPa)	ASTM D638
Tensile Strength	36,000 (248)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	5.5 E+6 (37,921)	psi (MPa)	ASTM D790
Flexural Strength	80,000 (551)	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 _i , Tan Delta	329 (165)	°F (°C)	ASTM D7028
Glass Transition T _g , Storage Modulus	284 (140)	°F (°C)	ASTM D7028

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Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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