

Technical Data Sheet
Quantum AMC 2593
 Engineered Composites



Product Description

Carbon Fiber reinforced phenolic molding compound.

General

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia Pacific
Filler / Reinforcement	• 3K PAN Carbon Fiber	• Nominal 45% w/w	• Nominal 1" (25 mm) Length
Features	• Fatigue Resistance • High Strength	• High Stiffness • Natural Color	• Shelf Life 6 months @ 10°F or below
Processing Method	• AMC® 2593 can be molded at temperatures in the range of 260-320°F, with 300°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 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 molds.		
Resin	• Phenolic		

Physical	Typical	Unit	Test Method
Density	1.55	g/cm ³	ASTM D792
Shrinkage	<0.0015	in/in	ASTM D955
CLTE, X – Y plane		ppm/°C	ASTM E831
CLTE, Z plane		ppm/°C	ASTM E831
Poisson's Ratio	0.33	psi (MPa)	ASTM D638
Mechanical (Machined)	Typical	Unit	Test Method
Tensile Modulus	5.1 E+6 (35,200)	psi (MPa)	ASTM D3039
Tensile Strength	24,000 (165)	psi (MPa)	ASTM D3039
Flexural Modulus	4.2 E+6, (29,000)	psi (MPa)	ASTM D790
Flexural Strength	56,000 (386)	psi (MPa)	ASTM D790
Short Beam Shear	3,500 (24.1)	psi (MPa)	ASTM D2344
Mechanical (As Molded)	Typical	Unit	Test Method
Tensile Modulus	9.0 E+6 (62,100)	psi (MPa)	ASTM D638
Tensile Strength	36,000 (248)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	6.5 E+6, (44,800)	psi (MPa)	ASTM D790
Flexural Strength	72,000 (496)	psi (MPa)	ASTM D790
Impact	Typical	Unit	Test Method
Izod Notched Impact Strength	24 (1281)	ft-lb/in (J/m)	ASTM D256
Thermal	Typical	Unit	Test Method
Glass Transition T _t , Tan Delta	484 (251)	°F (°C)	ASTM D7028
Glass Transition T _g , Storage Modulus	392 (200)	°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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