

Quantum Lytex[®] 9063 BK-E

Sheet Molding Compound

PRODUCT DESCRIPTION

E-glass reinforced epoxy molding compound

GENERAL

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia Pacific
Filler/Reinforcement	• E-glass Fiber	• Nominal 63% w/w	• Nominal 1/2" (12.5 mm) Length
Features	• Fatigue resistance • High strength	• High stiffness • Shelf Life 6 months @ 10°F or below	• Black or Natural Color
Processing Method	• Lytex[®] 9063 BK-E can be molded at temperatures in the range of 280-330°F, with 310°F suggested as a starting point. Cure times will be dependent on molding temperature and part thickness and will typically be 10-15 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	1.82	g/cm ³	ASTM D792
Shrinkage	<0.001	in/in	cold mold to cold part
CLTE, X-Y plane	14	ppm/°C	ASTM E831
CLTE, Z plane	58	ppm/°C	ASTM E831
Poisson's Ratio	0.33	psi (MPa)	ASTM D638

MECHANICAL (Machined)	Typical	Unit	Test Method
Tensile Modulus	2.6E+6 (18,000)	psi (MPa)	ASTM D3039
Tensile Stress (Break)	28,000 (193)	psi (MPa)	ASTM D3039
Flexural Modulus	2.6E+6 (18,000)	psi (MPa)	ASTM D790
Flexural Stress (Break)	59,000 (407)	psi (MPa)	ASTM D790
Short Beam Shear	6,500 (44.8)	psi (MPa)	ASTM D2344

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	3.3E+6 (22,800)	psi (GPa)	ASTM D638
Tensile Strength	35,000 (241)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	2.6E+6 (18,000)	psi (GPa)	ASTM D790
Flexural Strength	66,000 (455)	psi (MPa)	ASTM D790
IMPACT			
Izod Notched Impact Strength	35 (1869)	ft-lb/in (J/m)	ASTM D256
THERMAL			
Glass Transition T _i , TanDelta	165	°C	ASTM D7028
Glass Transition T _g , Storage Modulus	120	°C	ASTM D7028
Glass Transition T _i , TanDelta	>575 (300)	°F (°C)	ASTM D648
ELECTRICAL			
Dielectric Strength	450	Volts/mil (kV/mm)	ASTM D149
Volume Resistivity	1.1E+16	ohm-cm	ASTM D257
Dissipation Factor	0.0049	100 Hz	ASTM D150
Dielectric Constant	0.0049	100 Hz	ASTM D150

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