

# QUANTUM COMPOSITES

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## Product Data Sheet AMC™ 8592 Engineered Structural Composite (ESC) Molding Compound

AMC™ 8592 is a chopped carbon fiber reinforced ESC molding compound. It is easily moldable and provides parts that are high strength, fatigue resistant, with high heat resistance and a low density. The carbon fiber is PAN based 12K tow.

### TYPICAL PROPERTIES – UNCURED

Form and Color . . . Rolled, Festooned Sheet 24" width      Fiber Length . . . . . Nominal 2.0-inch  
Carbon Fiber Content . . . . . Nominal 55%      Shelf Life: @ 75°F . . . . . 2 months

### TYPICAL PROPERTIES -- CURED

<u>Test</u>	<u>Procedure</u>	<u>Value</u>
Specific Gravity, g/cc	ASTM D-792	1.48
Molding Shrinkage, inch/inch (mm/mm)	ASTM D-955	<0.000 (<0.000)
Flexural Strength, psi (MPa) <sup>1</sup>	ASTM D-790	113,000 (778)
Flexural Modulus, psi (GPa) <sup>1</sup>	ASTM D-790	6.25 x10 <sup>6</sup> (43.0)
Tensile Strength, psi (MPa) <sup>1</sup>	ASTM D-638	49,000 (338)
Izod Impact (notched), ft.lb./in. (J/M)	ASTM D-256	26 (1150)
Heat Deflection Temp. °F (°C)	ASTM D-648	>550 (287)
Glass Transition Temp. °F (°C)	DMA	245 (118)

Molding Suggestions – AMC™ 8592 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 5-10 minutes. Detailed molding suggestions are available on request.

Precautions – AMC™ 8592 contains carbon fibers and should be handled carefully in order to minimize skin contact. Molding areas should be well-ventilated to minimize exposure to fumes. Presses must be provided with local exhaust to remove vapors from work areas. If adequate ventilation is not available, a respirator approved for removing organic vapor must be used. Care must be taken to prevent contact of carbon fibers with electrical equipment.

WARRANTY -- The above information is offered for your consideration, investigation, and verification. No warranty, expressed or implied, is given, nor is freedom from any patents owned by Quantum Composites or others implied. Final determination of the suitability of this material is the sole responsibility of the buyer. Contact our sales representative for assistance in developing procedures to fit individual requirements.

This ESC product is generally intended to be compression molded in matched-metal die molds. Strength values may be affected by the molding process. **The values presented in this data sheet are typical values and are not to be interpreted as product specifications.**

<sup>1</sup> Tensile and Flexural Properties are determined using net shape molded specimens. Values obtained on cut specimens will typically be lower.