

Preliminary Data Sheet

QC-8816

Engineered Structural Composite (ESC) Molding Compound

QC-8816 is a polyester hybrid ESC molding compound reinforced with continuous, unidirectional (0°) glass fibers. It provides high strength, stiffness, and fatigue resistance in the fiber direction, and can be used to selectively reinforce other materials.

TYPICAL PROPERTIES – UNCURED

Form . . . Rolled Sheet, 24 inches wide	Shelf Life: @75°F 2 months
Color Black, Natural	Glass Content Nominal 66%
Glass Fiber Length Continuous	

TYPICAL PROPERTIES -- CURED

<u>Test</u>	<u>Procedure</u>	<u>Value</u>
Specific Gravity, g/cc	ASTM D-792	1.95
Hardness, Barcol	ASTM D-2583	68
Flexural Strength, psi (MPa) ¹	ASTM D-790	135,000 (931)
Flexural Modulus, psi (GPa) ¹	ASTM D-790	5x10 ⁶ (34.5)
Tensile Strength, psi (MPa) ¹	ASTM D-638	70,000 (483)
Izod Impact, ft.lb./in., notched (J/M)	ASTM D-256	50 (2224)

Molding Suggestions -- QC-8816 can be molded over a range of temperatures and pressures. For part thickness of 0.5 inches or less, molding temperatures of 270 to 300°F are suggested as a starting point, with molding pressure of 300 to 1000 psi. For molding thicker sections, the molding temperature should be reduced. Cure time will depend on molding temperature and part thickness. A 0.25 inch section will cure in 3 to 5 minutes at 280°F. Parts will normally be rubbery on ejection from the mold. QC-8816 contains only continuous, unidirectional fibers and will not flow readily during molding. Therefore, the charge must be cut to the desired length and placed where it is desired. Care must be taken to insure that fiber kinking does not occur. It can be co-molded with other SMC materials to provide selective improvement of properties.

Precautions -- QC-8816 contains glass fibers and styrene monomer. Use only in areas with good ventilation. Handle carefully in order to minimize skin contact. See Material Safety Data Sheet for additional information.

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.**

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

