

Product Data Sheet
QC-8800
Engineered Structural Composite (ESC) Molding Compound

QC-8800 is a polyester hybrid ESC molding compound designed for compression molding of components requiring high structural strength. It exhibits unusual toughness, and is suggested for applications subject to impacts and rough handling. QC-8800 is also suggested for applications requiring excellent fatigue resistance.

TYPICAL PROPERTIES—UNCURED

Form Rolled, Festooned Sheet 24" & 48" width	Shelf Life: @75°F 2 months
Color Black, Natural	Glass Fiber Content Nominal 63%
	Glass Fiber Length Nominal 1 inch

TYPICAL PROPERTIES—CURED

<u>Test</u>	<u>Procedure</u>	<u>Value</u>
Specific Gravity, G/cc	ASTM D-792	1.9
Shrinkage, inch/inch (mm/mm)	ASTM D-955	0.000 (0.000)
Hardness, Barcol	ASTM D-2583	70
Water Absorption, 24 hrs., %	ASTM D-570	0.10
Flexural Strength, psi (MPa) ¹	ASTM D-790	85,000 (585)
Flexural Modulus, psi (GPa) ¹	ASTM D-790	3.0x10 ^b (20.6)
Tensile Strength, psi (MPa) ¹	ASTM D-638	50,000 (344)
Tensile Modulus, psi (GPa) ¹	ASTM D-638	3.8x10 ^b (26.1)
Compression Strength, psi (MPa)	ASTM D-695	42,000 (289)
Compression Modulus, psi (GPa)	ASTM D-695	2.7x10 ^b (18.6)
Izod Impact, notched, ft.lb./in. (J/M)	ASTM D-256	36 (1922)
DTUL (HDT)	ASTM D-648	500°F (260°C)
Coefficient Linear Thermal Expansion in/in/ ^o F (cm/cm/ ^o C)	TMA	8.6x10 ⁻⁶ (15.5x10 ⁻⁶)
Volume Resistivity, ohm-cm	ASTM D-257	>10 ¹²
Arc Resistance, seconds	ASTM D-495	129
Dielectric Strength, volts/mil	ASTM D-149	310

Modification -- QC-8800 can be made with different fiber lengths, colors, and cure speeds. Flame retarded versions, e.g. QC-8800FR Black, are also available.

Molding Suggestions -- QC-8800 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 200 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.

Precaution -- QC-8800 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