

## TECHNICAL DATA SHEET

### QC 8700

#### Engineered Structural Composite® (ESC®) Molding Compound

QC 8700 is a vinyl ester chopped E-glass fiber reinforced ESC® molding compound. It is easily moldable and provides parts that are high strength, fatigue resistant, with high heat resistance. It exhibits unusual toughness, and is suggested for applications subject to impacts and rough handling.

#### TYPICAL PROPERTIES | UNCURED

Form and Color . . . . .	Roll Sheet, Black or Natural	Fiber Length . . . . .	Nominal 1.0-inch
Glass Fiber Content . . . . .	Nominal-63% w/w	Shelf Life: @ 75°F . . . . .	2 months
Resin Content . . . . .	Nominal-37% w/w		

#### TYPICAL PROPERTIES | CURED | “Net Shape” Specimen

Test	Procedure	Value
Specific Gravity, g/cc	ASTM D-792	1.85
Molding Shrinkage, inch/inch (mm/mm)	ASTM D-955	<0.001 (<0.001)
Flexural Strength, psi (MPa) <sup>1</sup>	ASTM D-790	86,500 (596)
Flexural Modulus, psi (GPa) <sup>1</sup>	ASTM D-790	3.2 x10 <sup>6</sup> (22.1)
Tensile Strength, psi (MPa) <sup>1</sup>	ASTM D-638	49,000 (338)
Tensile Modulus, psi (GPa) <sup>1</sup>	ASTM D-638	3.2 x10 <sup>6</sup> (22.1)
Izod Impact (notched) ft.lb./in. (J/M)	ASTM D-256	35 (1869)
Glass Transition Temp. °F (°C) Tan Delta <sup>2</sup>	ASTM D-7028	260 (127)

<sup>1</sup> Tensile and Flexural Properties are determined using net shaped molded specimen

<sup>2</sup> Glass Transition Temp measured from machined specimen

**Molding Suggestions** – QC 8700 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 3-5 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.

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## Data Sheet Continued

### Technical Data Sheet QC 8700

Precautions – QC 8700 contains glass 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.

Typical Uncured and Cured Properties tested each lot of – QC 8700:

- Fiber Content/Resin Content
- Specific Gravity
- Molding Shrinkage
- Mat Weight, (Areal Density)

NO WARRANTY – The above information is offered for your consideration, investigation, and verification. No warranty, expressed or implied, is given as to the materials described on this Technical Data Sheet. Quantum Composites, Inc. specifically disclaims any warranty of merchantability or fitness for any particular purpose. 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.**

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