

TECHNICAL DATA SHEET

QC 8705

Engineered Structural Composite® (ESC®) Molding Compound

QC 8705 is a vinyl ester 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 and Color	Rolled Sheet, Black	Fiber Length	Continuous
E-glass Fiber Content	Nominal-64% w/w	Shelf Life: @ 75°F	2 months
Resin Content	Nominal-46% w/w		

TYPICAL PROPERTIES | CURED | "Machined" Specimen

Test	Procedure	Value
Specific Gravity, g/cc	ASTM D-792	1.95
Flexural Strength 0°, psi (MPa) ¹	ASTM D-790	190,000 (1310)
Flexural Modulus 0°, psi (GPa) ¹	ASTM D-790	6.0 x10 ⁶ (41.4)
Tensile Strength 0°, psi (MPa) ¹	ASTM D-3039	120,000 (827)
Tensile Modulus 0°, psi (GPa) ¹	ASTM D-3039	6.0 x10 ⁶ (41.4)
Glass Transition Temp. °F (°C) TanDelta	ASTM D-7028	260 (127)

¹ Machined Properties are determined using specimen machined from molded 12"x12" panels with 80% mold coverage.

Molding Suggestions – QC 8705 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. Cool molded parts at ambient temperature. A cooling fixture may be needed depending on part thickness and geometry.

Precautions – QC 8705 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 8705:

- Fiber Content/Resin Content
- Specific Gravity
- 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.**