

## TECHNICAL DATA SHEET

### QC 7810FR, 126-53-26 Engineered Structural Composite® (ESC®) Molding Compound

QC 7810FR is a polyester ESC® molding compound designed for compression molding of components requiring high structural strength and flame resistance. It is suggested for applications subject to impacts of rough handling. This is a halogen free fire retardant system.

#### TYPICAL PROPERTIES | UNCURED

Form and Color . . . . .	Rolled Sheet, Black or Gray	Fiber Length . . . . .	Nominal 0.5-inch
Glass Fiber Content . . . . .	Nominal-58% w/w	Shelf Life: @ 75°F . . . . .	2 months
Resin Content . . . . .	Nominal-42% w/w		

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

Test	Procedure	Value
Specific Gravity, g/cc	ASTM D-792	1.82
Molding Shrinkage, inch/inch (mm/mm)	ASTM D-955	0.001 (0.001)
Flexural Strength, psi (MPa) <sup>1</sup>	ASTM D-790	70,000 (482)
Flexural Modulus, psi (GPa) <sup>1</sup>	ASTM D-790	2.8x10 <sup>6</sup> (19.3)
Tensile Strength, psi (MPa) <sup>1</sup>	ASTM D-638	44,000 (303)
Tensile Modulus, psi (GPa) <sup>1</sup>	ASTM D-638	3.3 x10 <sup>6</sup> (22.7)
Izod Impact (notched) ft.lb./in. (J/M)	ASTM D-256	32 (1700)
Flammability, 3.0mm	UL94	V-0
Glass Transition Temp. °F (°C) Tan Delta <sup>2</sup>	ASTM D-7028	257 (125)

<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-7810FR can be molded over a range of temperatures and pressures. For part thickness of 0.5 inches or less, molding temperatures of 280 to 320°F are suggested as a starting point, with molding pressure of 300 to 1000 psi. Cure time will depend on molding temperature and part thickness. Parts will normally be rubbery on ejection from the mold.

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## Data Sheet Continued

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Precautions – QC 7810FR 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 7810FR:

- 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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