QUANTUM
COMPOSITES

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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
Color . . . . . Black
Glass Fiber Length . . . . . Continuous

Shelf Life: @75°F . . . . . 2 months
Glass Content 66%

TYPICAL PROPERTIES -- CURED

Test	Procedure	Value
Specific Gravity	ASTM D-792	1.95
Hardness, Barcol	ASTM D-2583	68
Flexural Strength, psi (MPa)[1]	ASTM D-790	160,000 (1,100)
Flexural Modulus, psi (GPa)[1]	ASTM D-790	$6x10^6$ (41.3)
Tensile Strength, psi (MPa)[1]	ASTM D-638	90,000 (620)
Izod Impact, ft.lb./in., notched (J/M)	ASTM D-256	70 (3735)

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.

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