

Technical Data Sheet
Quantum QC 7810 FR
 Engineered Composites



Product Description

E-glass reinforced hybrid vinyl ester molding compound

General

Material Status	• Commercial: Active		
Availability	• North America	• Europe	• Asia Pacific
Filler / Reinforcement	• E-glass Fiber	• Nominal 58% w/w	• Nominal 1/2" (12.5 mm) Length
Features	• Fatigue Resistance • High Strength	• High Stiffness • Black or Natural Color	• Shelf Life 2 months @ 75°F
Processing Method	• QC® 7810 FR can be molded at temperatures in the range of 280-320°F, with 290°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. Matched metal molds.		
Resin	• VE Hybrid		

Physical	Typical	Unit	Test Method
Density	1.82	g/cm ³	ASTM D792
Shrinkage	<0.001	in/in	ASTM D955
CLTE, X – Y plane	12	ppm/°C	ASTM E831
CLTE, Z plane	35	ppm/°C	ASTM E831
Poisson's Ratio	0.33		ASTM D638
Mechanical (Machined)	Typical	Unit	Test Method
Tensile Modulus	3.0 E+6 (20,700)	psi (MPa)	ASTM D3039
Tensile Strength	30,500 (210)	psi (MPa)	ASTM D3039
Flexural Modulus	2.9 E+6 (20,000)	psi (MPa)	ASTM D790
Flexural Strength	61,500 (424)	psi (MPa)	ASTM D790
Short Beam Shear	8,000 (55.2)	psi (MPa)	ASTM D2344
Mechanical (As Molded)	Typical	Unit	Test Method
Tensile Modulus	3.3 E+6 (22.7)	psi (MPa)	ASTM D638
Tensile Strength	44,000 (303)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	2.8 E+6 (19.3)	psi (MPa)	ASTM D790
Flexural Strength	70,000 (482)	psi (MPa)	ASTM D790
Impact	Typical	Unit	Test Method
Izod Notched Impact Strength	32 (1700)	ft-lb/in (J/m)	ASTM D256
Thermal	Typical	Unit	Test Method
Glass Transition T _i , TanDelta	257 (125)	°C	ASTM D7028
Glass Transition T _g , Storage Modulus	140	°C	ASTM D7028

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Notes

These are typical property values not to be construed as specification limits.

Processing Techniques

Specific recommendations for resin type and processing conditions can only be made when the end use, required properties and fabrication equipment are known.

Company Information

For further information regarding the LyondellBasell company, please visit <http://www.lyb.com/>.

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