

# BMC 680

## Bulk Molding Compound

### PRODUCT DESCRIPTION

Glass fiber reinforced Polyester BMC suitable for replacements for die castings and sheet molding compounds, valve covers, intake manifolds, oil pans, and circuit breakers.

### GENERAL

<b>Material Status</b>	• Commercial: Active		
<b>Availability</b>	• North America • Asia Pacific	• Europe • South America	
<b>Filler/Reinforcement</b>	• Glass Fiber and mineral filler		
<b>Features</b>	• Very high impact strength • Good oil and solvent resistance	• Excellent creep resistance at elevated temperatures • UL Recognized—File E69414	• UL94-HB @ 1.5 mm
<b>Processing Method</b>	• This BMC product is generally intended to be compression, injection or transfer molded in matched metal die molds, typically at 300°F (150°C) and 500 to 1,000 psi (35-65 BAR) molding pressure. Strength values may be affected by the molding process.		
<b>Resin</b>	• Unsaturated Polyester Composite		

PHYSICAL	Typical	Unit	Test Method
Density	1.70-1.80	g/cm <sup>3</sup>	ASTM D792
Mold Shrinkage (RT mold/RT part)	0.001-0.002	in/in	ASTM D955
Water Absorption, 24 hrs, 23°C	0.15-0.25	%	ASTM D570
Hardness, Barcol	50-60	Barcol Units	ASTM D2583
Poisson's Ratio	0.36		ASTM D638

MECHANICAL (As molded)	Typical	Unit	Test Method
Tensile Strength	14,000-17,000 (96-117)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	1.7-1.9 x 10 <sup>6</sup> (11.7-13.1)	psi (GPa)	ASTM D790
Flexural Strength	30,000-35,000 (207-241)	psi (MPa)	ASTM D790
Compressive Strength	19,000-24,000 (131-165)	psi (MPa)	ASTM D695

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<b>IMPACT</b>	<b>Typical</b>	<b>Unit</b>	<b>Test Method</b>
Izod Notched Impact Strength	21-26 (1120-1380)	ft-lb/in (J/m)	ASTM D256

<b>THERMAL</b>	<b>Typical</b>	<b>Unit</b>	<b>Test Method</b>
Heat Deflection Temperature	500+ (260+)	°F (°C)	ASTM D648
UL RTI, Electrical	320 (160)	°F (°C)	UL 746B
UL RTI, Mechanical with Impact	320 (160)	°F (°C)	UL 746B
UL RTI, Mechanical without Impact	320 (160)	°F (°C)	UL 746B

<b>FLAMMABILITY</b>	<b>Typical</b>	<b>Unit</b>	<b>Test Method</b>
Flammability	Pass 0.06 (1.5)	in (mm)	UL94 HB

<b>ELECTRICAL</b>	<b>Typical</b>	<b>Unit</b>	<b>Test Method</b>
Dielectric Strength	380 (15)	Volts/mil (kV/mm)	ASTM D149
Arc Track Resistance	180+	seconds	ASTM D495
Comparative Tracking Index	600+	volts	ASTM D3638

UL File Number E69414



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