BMC 1454

Bulk Molding Compound

PRODUCT DESCRIPTION

Glass fiber reinforced Polyester BMC suitable for injection molding circuit breakers.

GENERAL

Material Status	• Commercial: Active		
Availability	• North America • Asia Pacific	• Europe • South America	
Filler/Reinforcement	• Glass Fiber and mineral filler		
Features	• Medium strength • UL Recognized—File E69414	• Low cost • UL94-V0 @ 1.5 mm	• Good electrical properties
Processing Method	• 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.		
Resin	• Unsaturated Polyester Composite		

PHYSICAL	Typical	Unit	Test Method
Density	1.88-1.94	g/cm^3	ASTM D792
Mold Shrinkage (RT mold/RT part)	0.001-0.003	in/in	ASTM D955
Water Absorption, 24 hrs, 23°C	0.07-0.12	%	ASTM D570
Hardness, Barcol	40-50	Barcol Units	ASTM D2583
Poisson's Ratio	0.36		ASTM D638

MECHANICAL (As molded)	Typical	Unit	Test Method
Tensile Strength	5,000-6,000 (34-41)	psi (MPa)	ASTM D638
Flexural Modulus (RT)	$1.4\text{-}1.6 \times 10^6$ (9.6-11)	psi (GPa)	ASTM D790
Flexural Strength	11,000-13,000 (75-89)	psi (MPa)	ASTM D790
Compressive Strength	23,000-25,000 (158-172)	psi (MPa)	ASTM D695

IMPACT	Typical	Unit	Test Method
Izod Notched Impact Strength	4.5-5.5 (240-293)	ft-lb/in (J/m)	ASTM D256

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THERMAL	Typical	Unit	Test Method
Heat Deflection Temperature	500+ (260+)	°F (°C)	ASTM D648
UL RTI, Electrical	266 (130)	°F (°C)	UL 746B
UL RTI, Mechanical with Impact	266 (130)	°F (°C)	UL 746B
UL RTI, Mechanical without Impact	266 (130)	°F (°C)	UL 746B

FLAMMABILITY	Typical	Unit	Test Method
Flammability	Pass 0.06 (1.5)	in (mm)	UL94 V-0

ELECTRICAL	Typical	Unit	Test Method
Dielectric Strength	517 (20.3)	Volts/mil (kV/mm)	ASTM D149
Arc Track Resistance	213	seconds	ASTM D495
Comparative Tracking Index	600+	volts	ASTM D3638
Hot Wire Ignition, HWI	60-119	sec	ASTM D3874
High Amp Arc Ignition, HAI	120+	arcs	UL746A
High Voltage Arc Tracking Rate, HVTR	0-10	mm/min	UL746A
Dissipation Factor, 60Hz Condition A	0.027		ASTM D150
Dissipation Factor, 60Hz Condition D	0.058		ASTM D150
Dissipation Factor, 1MHz Condition A	0.140		ASTM D150
Dissipation Factor, 1MHz Condition D	0.154		ASTM D150

UL File Number E69414

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