

Sumitomo Bakelite North America FM 4004F Fiberglass and Mineral Reinforced Phenolic Novolac

Category : Polymer , Thermoset , Filled/Reinforced Thermoset , Phenolic , Phenolic, Novolac, Mineral/Glass Filled

Material Notes:

FM 4004F is a fiberglass and mineral reinforced phenolic novolac compound with improved strength properties over FM 4004. This compound exhibits excellent dimensional stability and good strength at elevated temperatures. Information supplied by Sumitomo Bakelite North America.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-North-America-FM-4004F-Fiberglass-and-Mineral-Reinforced-Phenolic-Novolac.php

Physical Properties	Metric	English	Comments
Bulk Density	0.975 g/cc	0.0352 lb/in ³	Powder; ASTM D1895
Density	1.88 g/cc	0.0679 lb/in ³	ASTM D-792
Water Absorption	0.070 %	0.070 %	24 hour; ASTM D570
	0.15 %	0.15 %	48 hour; ASTM D570
Linear Mold Shrinkage	0.0023 cm/cm	0.0023 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	123	123	ASTM D785
Tensile Strength, Ultimate	80.0 MPa	11600 psi	ASTM D638
Flexural Strength	115 MPa	16700 psi	ASTM D790
Flexural Modulus	17.1 GPa	2480 ksi	ASTM D790
Compressive Strength	230 MPa	33400 psi	ASTM D695
Izod Impact, Notched	0.290 J/cm	0.543 ft-lb/in	ASTM D256A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	19.0 μm/m-°C	10.6 μin/in-°F	ASTM E831
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Maximum Service Temperature, Air	150 °C	302 °F	UL Temperature Index; UL 746B
Deflection Temperature at 1.8 MPa (264 psi)	185 °C	365 °F	As Molded; ASTM D648A
	>= 282 °C	>= 540 °F	Post Baked; ASTM D648A

Thermal Properties	V-0 Metric	V-0 English	Comments
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-0	V-0	
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.6	4.6	Wet; ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	14.4 kV/mm	366 kV/in	60 Hz, wet, SS; ASTM D149
	16.1 kV/mm	409 kV/in	ST; ASTM D149
Dissipation Factor	0.012	0.012	wet; ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	180 sec	180 sec	ASTM D495

Descriptive Properties	Value	Comments
Available Molding Grades	Compression, Transfer, Injection	
Color	Black, Green	
Form	Granular	

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