

Engineering Thermoset Material

FM 4005

Description

FM 4005 is a fiberglass reinforced phenolic novolac molding compound, with excellent dimensional stability and good strength at elevated temperatures. This material is compliant with the specifications of ASTM D 5948, Type MFH.

Available colors

Black, Green

Available molding grades

Compression, Transfer, Injection

Form

Granular

PHENOLIC

Properties ¹		Typical Value	Unit	Method	
Physical	Specific Gravity	1.77	g/cm ³	ASTM D792	
	Apparent (Powder) density	0.8	g/cm ³	ASTM D1895	
	Molding shrinkage	0.25	%	ASTM D955	
	Post shrinkage	-	%	ASTM D955	
	Water absorption				
	24 hour	-	%	ASTM D570	
	48 hour	0.23	%	ASTM D570	
Thermal	Temperature of deflection under load				
		As Molded	190	°C at 1,8 MPa	ASTM D648A
		Post Baked	> 282	°C at 1,8 MPa	ASTM D648A
	Thermal Conductivity		-	W/mK	ASTM C518
	UL Temperature Index		150	°C	UL 746B
	UL-flammability				
	3.2 mm	V-0	-	UL 94	
	1,6 mm	-	-	UL 94	
Coefficient of linear thermal expansion					
		parallel	19	10 E-6/°C	ASTM E831
	perpendicular	-	10 E-6/°C	ASTM E831	
Mechanical	Flexural strength	140	MPa	ASTM D790	
	Flexural modulus	15	GPa	ASTM D790	
	Strain to failure in flexure	-	%	ASTM D790	
	Tensile strength	75	MPa	ASTM D638	
	Izod impact strength, notched	30	J/m	ASTM D256A	
	Compressive strength	255	MPa	ASTM D695	
	Rockwell Hardness, E Scale	-			ASTM D785
Electrical	Dielectric Constant, 1 MHz, wet	-		ASTM D150	
	Dissipation Factor, 1 MHz, wet	-		ASTM D150	
	Arc Resistance	180	Seconds	ASTM D495	
	Dielectric strength,				
	60 Hz, wet	ST	10	kV/mm	ASTM D149
		SS	8	kV/mm	ASTM D149
Tracking resistance		-	V	ASTM D3638 (IEC 112)	

¹ Properties measured on compression molded ASTM specimens

² Values are typical, not statistical minimums. Contact your Sumitomo Bakelite representative for specifications.

ST = short time. SS = step-by-step. Wet = immersed in H₂O for 48 hrs. at 50 °C prior to testing.

Certification to ASTM D-5948 requires batch testing. All testing in accordance with ASTM D-5948. ASTM D-5948 supersedes MIL-M-14.

Contact your Sumitomo Bakelite representative for post baking recommendations.

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