



Date Issued Jan 24, 2008

Durez 23570 Black Phenolic is a glass and mineral filled two-stage, special purpose molding material. It is designed for high strength, good dimensional stability, and electrical properties even after long term exposure to elevated temperatures. It is designed to meet the requirements of Mil-M-14G, Type MFH. Typical uses are connectors, automotive transmission components, computer parts and brush holders.

Plasticities available for compression, transfer, and injection molding.

Form of Material Granular

Feeding & Preforming Good

Storage Life One Year

PHENOLIC

Typical Properties		Compression		Injection Grade	
		International Units	English Units	International Units	English Units
Physical	Specific Gravity (D792)	1.77	1.77	1.77	1.77
	Apparent Density (D1895)	0.80 g/cc	0.80 g/cc	0.80 g/cc	0.80 g/cc
	Molding Shrinkage* (D6289)	0.0030 m/m	0.0030 in/in	0.0030 m/m	0.0030 in/in
	Water Absorption (D570)	0.05 %	0.05 %	0.05 %	0.05 %
Mechanical	Tensile Strength (D638)	90 Mpa	13,000 psi	103 Mpa	15,000 psi
	Flexural Strength (D790)	124 Mpa	18,000 psi	172 Mpa	25,000 psi
	Compressive Strength (D695)	248 Mpa	36,000 psi	262 Mpa	38,000 psi
	Tensile Modulus (D638)	17.2 Gpa	2.5 x10 ⁶ psi	17.2 Gpa	2.5 x10 ⁶ psi
	Izod Impact (D256)	26.7 J/m	0.50 ft lb/in	26.7 J/m	0.50 ft lb/in
Thermal	Deflection Temperature (D648)	204 °C	400 °F	204 °C	400 °F
	UL Flammability (UL-94) @	1.5 mm	5VA	1.5 mm	5VA
	For complete UL Listing for this material refer to the UL web Site www.ul.com	1.5 mm	V - 0	1.5 mm	V - 0
	UL Temperature Index (Elect) @	3.0 mm	V - 0	3.0 mm	V - 0
Electrical	Dielectric Strength (D149)				
	Short Time	16.7 MV/m	425 V/mil	17.7 MV/m	450 V/mil
	Step by Step	14.7 MV/m	375 V/mil	14.7 MV/m	375 V/mil
	Dissipation Factor (D150)1 MHZ	.01	.01	0.01	0.01
	Dielectric Constant (D150)1 MHZ	5.5	5.5	5.5	5.5
	Volume Resistivity(ohms)(D257)	1.0 x10 ¹⁰ m	1.0 x10 ¹² cm	1.0 x10 ¹⁰ m	1.0 x10 ¹² cm

Properties determined with test specimens molded at 340-350°F *Typical transfer-molded shrinkage is 0.004 in/in or m/m

Other Properties

Durez 23570 is Fungus Resistant per Mil-I-631D AND MIL-810 A/E-5272

Coefficient of Thermal Expansion: °C x 10⁻⁶ 23°C to 60°C = 20.5

Coefficient of Thermal Conductivity: Cal/(Sec)(CM²)(°C/CM)x10⁻⁴ =10.8

Specific Heat: Cal/gm/°C = 0.28

Shear Strength, psi as molded 12,300, psi after 16 hrs. @ 300°F 9,100

Dimensional Stability: (Mil-M-14) 0.11, Poisson's Ratio 0.32

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