



Durez 22257 Black Phenolic is a two-stage, medium impact molding material. It is designed for appliance and electrical applications where additional mechanical strength is required. Typical applications include circuit breakers, small motor bases and housings, appliance panels, terminal blocks, barrier strips, etc.

Revision Date Jul 10, 2017

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)	1.40	1.40	1.39	1.39
	Apparent Density (D1895)	0.57 g/cc	0.57 g/cc	0.57 g/cc	0.57 g/cc
	Molding Shrinkage* (D6289)	0.007 m/m	0.007 in/in	0.0110 m/m	0.0110 in/in
	Water Absorption (D570)	0.60 %	0.60 %	0.60 %	0.60 %
Mechanical	Tensile Strength (D638)	52 Mpa	7,500 psi	55 Mpa	8,000 psi
	Flexural Strength (D790)	69 Mpa	10,000 psi	69 Mpa	10,000 psi
	Compressive Strength (D695)	189 Mpa	27,500 psi	193 Mpa	28,000 psi
	Tensile Modulus (D638)	7.6 Gpa	1.1 x10 ⁶ psi	7.7 Gpa	1.1 x 10 ⁶ x10 ⁶ psi
	Izod Impact (D256)	25.1 J/m	0.47 ft lb/in	24.0 J/m	0.45 ft lb/in
Thermal	Deflection Temperature (D648)	171 °C	340 °F	149 °C	300 °F
	UL Flammability (UL-94) @	1.5 mm	HB	1.5 mm	HB
		3.0 mm	HB	3.0 mm	HB
		6.0 mm	V - 0	6.0 mm	V - 0
UL Temperature Index (Elect) @	3.0 mm	150 °C		150 °C	
Electrical	Dielectric Strength (D149)				
	Short Time	14.7 MV/m	375 V/mil	8.8 MV/m	225 V/mil
	Step by Step	12.8 MV/m	325 V/mil	7.9 MV/m	200 V/mil
	Dissipation Factor (D150)1 MHZ	.04	.04	.08	.08
	Dielectric Constant (D150)1 MHZ	4.5	4.5	5.5	5.5
Volume Resistivity(ohms)(D257)	1.0 x10 ¹⁰ m	1.0 x10 ¹² cm	1 x 10 ¹² x10 ¹⁰ m	1 x 10 ¹² x10 ¹² cm	

Properties determined with test specimens molded at 340-350°F *Typical transfer-molded shrinkage is 0.009 in/in or m/m

Other Properties

Coefficient of Thermal Expansion: °C x 10⁻⁶ 23°C to 60°C 42.2
 Coefficient of Thermal Conductivity: Cal/(Sec)(CM²)(°C/CM)x10⁻⁴ 9.6
 Specific Heat: Cal/gm/°C 0.34
 Shear Strength, psi as molded 11,000
 Dimensional Stability: Mil-M14, % 0.54

RoHS2 (2011/65/EU) Compliant
 REACH (EC 1907/2006) SVHC / Annex XIV Compliant
 HR4173 Sec.1502 Conflict Materials Compliant
 Halogen Free

Shelf life- Minimum one year at typical ambient conditions.

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