

Plenco 3509 Phenolic, Granular, Injection Molded

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

Material Notes:

PLENCO 03509 is a mineral and flock filled phenolic molding compound offering excellent electrical properties, dimensional stability, and improved heat resistance. UL recognized under component file E40654. 03509 is available in black or brown. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-3509-Phenolic-Granular-Injection-Molded.php

Physical Properties	Metric	English	Comments
Bulk Density	0.670 g/cc	0.0242 lb/in ³	ASTM D1895
Density	1.57 g/cc	0.0567 lb/in ³	ASTM D792
Water Absorption	0.202 %	0.202 %	ASTM D570
Linear Mold Shrinkage	0.0064 cm/cm	0.0064 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	81	81	ASTM D785
Tensile Strength, Ultimate	53.0 MPa	7690 psi	ASTM D638
Elongation at Break	0.97 %	0.97 %	ASTM D638
Tensile Modulus	8.50 GPa	1230 ksi	ASTM D638
Flexural Strength	84.0 MPa	12200 psi	ASTM D790
Flexural Modulus	8.40 GPa	1220 ksi	ASTM D790
Compressive Strength	181 MPa	26300 psi	ASTM D695
Poissons Ratio	0.33	0.33	ASTM D638
Shear Modulus	3.20 GPa	464 ksi	Calculated
Izod Impact, Notched	0.170 J/cm	0.318 ft-lb/in	ASTM D256
Charpy Impact, Notched	0.195 J/cm ²	0.928 ft-lb/in ²	ASTM D256
Impact	118	118	J/m Drop Ball Impact; PLENCO

Thermal Properties	Metric	English	Comments
CTE, linear	49.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	27.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	TMA; ASTM E831
	@Temperature 40.0 -	@Temperature 104 -	

Thermal Properties	130 °C Metric	266 °F English	Comments
Thermal Conductivity	0.450 W/m-K @Temperature 100 °C	3.12 BTU-in/hr-ft ² -°F @Temperature 212 °F	ASTM E1461
Maximum Service Temperature, Air	197 °C	387 °F	Heat Resistance; ASTM D570D
Deflection Temperature at 1.8 MPa (264 psi)	182 °C	360 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 3.00 mm	V-0 @Thickness 0.118 in	
Oxygen Index	36 %	36 %	ASTM D2863
Shrinkage	0.238 %	0.238 %	72 hr, 120°C; ASTM D1299

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.60e+11 ohm-cm	3.60e+11 ohm-cm	ASTM D247
Dielectric Constant	5.2	5.2	ASTM D150
Dielectric Strength	8.50 kV/mm	216 kV/in	Step by Step; ASTM D149
	12.8 kV/mm	325 kV/in	Short Time; ASTM D149
Dissipation Factor	0.052	0.052	ASTM D150
Arc Resistance	168 sec	168 sec	ASTM D495
Comparative Tracking Index	175 V	175 V	ASTM D3638

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