

Plenco 3597 Phenolic, Granular, Injection Molded

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

Material Notes:

PLENCO 03597 is a mineral filled phenolic molding compound offering excellent flammability ratings even at thin cross sections, along with excellent arc and comparative track resistance values. UL recognized under component file E40654. 03597 is available in black. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-3597-Phenolic-Granular-Injection-Molded.php

Physical Properties	Metric	English	Comments
Bulk Density	0.640 g/cc	0.0231 lb/in ³	ASTM D1895
Density	1.55 g/cc	0.0560 lb/in ³	ASTM D792
Water Absorption	0.111 %	0.111 %	ASTM D570
Linear Mold Shrinkage	0.0075 cm/cm	0.0075 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	79	79	ASTM D785
Tensile Strength, Ultimate	52.0 MPa	7540 psi	ASTM D638
Elongation at Break	0.50 %	0.50 %	ASTM D638
Tensile Modulus	11.3 GPa	1640 ksi	ASTM D638
Flexural Strength	89.0 MPa	12900 psi	ASTM D790
Flexural Modulus	9.80 GPa	1420 ksi	ASTM D790
Compressive Strength	180 MPa	26100 psi	ASTM D695
Izod Impact, Notched	0.164 J/cm	0.307 ft-lb/in	ASTM D256
Charpy Impact, Notched	0.173 J/cm ²	0.823 ft-lb/in ²	ASTM D256
Impact	93	93	J/m Drop Ball Impact; PLENCO

Thermal Properties	Metric	English	Comments
CTE, linear	48.0 $\mu\text{m}/\text{m}\cdot\text{C}$	26.7 $\mu\text{in}/\text{in}\cdot\text{F}$	TMA; ASTM E831
	@Temperature 40.0 - 130 °C	@Temperature 104 - 266 °F	
Thermal Conductivity	0.530 W/m-K	3.68 BTU-in/hr-ft ² -°F	ASTM E1461

Thermal Properties	@Temperature 100 °C Metric	@Temperature 212 °F English	Comments
Maximum Service Temperature, Air	206 °C	403 °F	Heat Resistance; ASTM D570D
Deflection Temperature at 1.8 MPa (264 psi)	162 °C	324 °F	ASTM D648
Flammability, UL94	V-0 @Thickness 0.510 mm	V-0 @Thickness 0.0201 in	
Oxygen Index	39 %	39 %	ASTM D2863
Shrinkage	0.14 %	0.14 %	72 hr, 120°C; ASTM D1299

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.20e+12 ohm-cm	2.20e+12 ohm-cm	ASTM D247
Dielectric Constant	4.7	4.7	ASTM D150
Dielectric Strength	10.0 kV/mm	254 kV/in	Step by Step; ASTM D149
	13.4 kV/mm	340 kV/in	Short Time; ASTM D149
Dissipation Factor	0.046	0.046	ASTM D150
Arc Resistance	185 sec	185 sec	ASTM D495
Comparative Tracking Index	175 V	175 V	ASTM D3638

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