

Plenco 4002 Phenolic, Granular, Injection Molded

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

Material Notes:

PLENCO 04002 is a heat resistant, mineral filled phenolic molding compound offering excellent mechanical strength and dimensional stability at elevated temperatures. UL recognized under component file E40654. 04002 is available in black. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-4002-Phenolic-Granular-Injection-Molded.php

Physical Properties	Metric	English	Comments
Bulk Density	0.680 g/cc	0.0246 lb/in ³	ASTM D1895
Density	1.59 g/cc	0.0574 lb/in ³	ASTM D792
Water Absorption	0.088 %	0.088 %	ASTM D570
Linear Mold Shrinkage	0.0067 cm/cm	0.0067 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	79	79	ASTM D785
Tensile Strength, Ultimate	44.0 MPa	6380 psi	ASTM D638
Elongation at Break	0.49 %	0.49 %	ASTM D638
Tensile Modulus	10.5 GPa	1520 ksi	ASTM D638
Flexural Strength	72.0 MPa	10400 psi	ASTM D790
Flexural Modulus	9.10 GPa	1320 ksi	ASTM D790
Compressive Strength	185 MPa	26800 psi	ASTM D695
Poissons Ratio	0.32	0.32	ASTM D638
Shear Modulus	3.98 GPa	577 ksi	Calculated
Izod Impact, Notched	0.160 J/cm	0.300 ft-lb/in	ASTM D256
Charpy Impact, Notched	0.150 J/cm ²	0.714 ft-lb/in ²	ASTM D256
Impact	64	64	J/m Drop Ball Impact; PLENCO

Thermal Properties	Metric	English	Comments
CTE, linear	49.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	27.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	TMA; ASTM E831
	@ Temperature 40.0 - 130 °C	@ Temperature 104 - 266 °F	

Thermal Properties	Metric	English	Comments
Thermal Conductivity	0.538 W/m-K	2.51 BTU-in/hr-ft ² -F	ASTM E1461
	@Temperature 100 °C	@Temperature 212 °F	
Maximum Service Temperature, Air	220 °C	428 °F	Heat Resistance; ASTM D570D
Deflection Temperature at 1.8 MPa (264 psi)	164 °C	327 °F	ASTM D648
Flammability, UL94	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	45 %	45 %	ASTM D2863
Shrinkage	0.133 %	0.133 %	72 hr, 120°C; ASTM D1299

Electrical Properties	Metric	English	Comments
Volume Resistivity	9.30e+11 ohm-cm	9.30e+11 ohm-cm	ASTM D247
Dielectric Constant	5.6	5.6	ASTM D150
Dielectric Strength	9.70 kV/mm	246 kV/in	Short Time; ASTM D149
Dissipation Factor	0.045	0.045	ASTM D150
Arc Resistance	180 sec	180 sec	ASTM D495
Comparative Tracking Index	175 V	175 V	ASTM D3638

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