

Plenco 4485 Phenolic, Granular, Compression Molded

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

Material Notes:

PLENCO 04485 is a mineral filled phenolic molding compound offering excellent heat resistance, electrical resistance, and dimensional stability. UL recognized under component file E40654. 04485 is available in black, brown, and red. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-4485-Phenolic-Granular-Compression-Molded.php

Physical Properties	Metric	English	Comments
Bulk Density	0.620 g/cc	0.0224 lb/in ³	ASTM D1895
Density	1.47 g/cc	0.0531 lb/in ³	ASTM D792
Water Absorption	0.211 %	0.211 %	ASTM D570
Linear Mold Shrinkage	0.0036 cm/cm	0.0036 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	88	88	ASTM D785
Tensile Strength, Ultimate	53.0 MPa	7690 psi	ASTM D638
Elongation at Break	0.65 %	0.65 %	ASTM D638
Tensile Modulus	8.50 GPa	1230 ksi	ASTM D638
Flexural Strength	78.0 MPa	11300 psi	ASTM D790
Flexural Modulus	8.20 GPa	1190 ksi	ASTM D790
Compressive Strength	206 MPa	29900 psi	ASTM D695
Izod Impact, Notched	0.159 J/cm	0.298 ft-lb/in	ASTM D256
Charpy Impact, Notched	0.199 J/cm ²	0.947 ft-lb/in ²	ASTM D256
Impact	95	95	J/m Drop Ball Impact; PLENCO

Thermal Properties	Metric	English	Comments
CTE, linear	53.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	29.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	TMA; ASTM E831
	@Temperature 40.0 - 130 $^{\circ}\text{C}$	@Temperature 104 - 266 $^{\circ}\text{F}$	
Thermal Conductivity	0.440 W/m-K	3.05 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ASTM E1461
	@Temperature 100 $^{\circ}\text{C}$	@Temperature 212 $^{\circ}\text{F}$	

Maximum Service Temperature, Air Thermal Properties	204 °C Metric	399 °F English	Heat Resistance; ASTM D570D Comments
Deflection Temperature at 1.8 MPa (264 psi)	192 °C	378 °F	ASTM D648
Flammability, UL94	V-1 @Thickness 3.00 mm	V-1 @Thickness 0.118 in	
Oxygen Index	32 %	32 %	ASTM D2863
Shrinkage	0.172 %	0.172 %	72 hr, 120°C; ASTM D1299

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.20e+12 ohm-cm	3.20e+12 ohm-cm	ASTM D247
Dielectric Constant	5.6	5.6	ASTM D150
Dielectric Strength	11.9 kV/mm	302 kV/in	Short Time; ASTM D149
Dissipation Factor	0.044	0.044	ASTM D150
Arc Resistance	157 sec	157 sec	ASTM D495
Comparative Tracking Index	150 V	150 V	ASTM D3638

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