

Plenco 4311 Phenolic, Granular, Compression Molded

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

Material Notes:

PLENCO 04311 is a heat resistant, mineral filled phenolic molding compound offering excellent processability, mechanical strength, and improved cold powder pourability characteristics. UL recognized under component file E40654. 04311 is available in black or brown. Information supplied by Plenco.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Plenco-4311-Phenolic-Granular-Compression-Molded.php

Physical Properties	Metric	English	Comments
Bulk Density	0.680 g/cc	0.0246 lb/in ³	ASTM D1895
Density	1.48 g/cc	0.0535 lb/in ³	ASTM D792
Water Absorption	0.29 %	0.29 %	ASTM D570
Linear Mold Shrinkage	0.0033 cm/cm	0.0033 in/in	ASTM D955

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell E	83	83	ASTM D785
Tensile Strength, Ultimate	54.0 MPa	7830 psi	ASTM D638
Elongation at Break	0.58 %	0.58 %	ASTM D638
Tensile Modulus	8.80 GPa	1280 ksi	ASTM D638
Flexural Strength	78.0 MPa	11300 psi	ASTM D790
Flexural Modulus	9.20 GPa	1330 ksi	ASTM D790
Compressive Strength	186 MPa	27000 psi	ASTM D695
Izod Impact, Notched	0.174 J/cm	0.326 ft-lb/in	ASTM D256
Charpy Impact, Notched	0.199 J/cm ²	0.947 ft-lb/in ²	ASTM D256
Impact	85	85	J/m Drop Ball Impact; PLENCO

Thermal Properties	Metric	English	Comments
CTE, linear	82.0 $\mu\text{m}/\text{m}\cdot\text{C}$	45.6 $\mu\text{in}/\text{in}\cdot\text{F}$	TMA; ASTM E831
	@Temperature 40.0 - 130 °C	@Temperature 104 - 266 °F	
Thermal Conductivity	0.500 W/m-K	3.47 BTU-in/hr-ft ² -°F	ASTM E1461

Thermal Properties	@Temperature 100 °C Metric	@Temperature 212 °F English	Comments
Maximum Service Temperature, Air	203 °C	397 °F	Heat Resistance; ASTM D570D
Deflection Temperature at 1.8 MPa (264 psi)	186 °C	367 °F	ASTM D648
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	
Oxygen Index	27 %	27 %	ASTM D2863
Shrinkage	0.167 %	0.167 %	72 hr, 120°C; ASTM D1299

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.90e+12 ohm-cm	6.90e+12 ohm-cm	ASTM D247
Dielectric Constant	4.7	4.7	ASTM D150
Dielectric Strength	15.0 kV/mm	381 kV/in	Short Time; ASTM D149
Dissipation Factor	0.037	0.037	ASTM D150
Arc Resistance	166 sec	166 sec	ASTM D495
Comparative Tracking Index	175 V	175 V	ASTM D3638

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