

GEHR Plastics PPE Polyphenylene Ether (discontinued **)

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO

Material Notes:

Polyphenylenether belongs to the group of amorphous materials and can be used in temperatures ranging from -50°C to approximately 105°C. PPE exhibits a high impact strength, a low water absorption, a very high dimensional stability and a very low tendency to creep. The electrical properties will not be influenced by the surrounding frequencies and therefore can be used in a lot of applications in electrical engineering. Properties: high dimensional stability, low tendency to creep, high thermostability, high impact strength, good electrical characteristics over a wide frequency range, high resistance to hydrolysis, self-extinguishing, not resistant to some hydrocarbons. Applications include parts for electrical engineering and household utensils, shafts, gear wheels, and parts in the hydrolysis.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-PPE-Polyphenylene-Ether-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.06 g/cc	1.06 g/cc	ISO 1183
Water Absorption	0.23 %	0.23 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	86	86	DIN 53505
Ball Indentation Hardness	100 MPa	14500 psi	ISO 2039
Tensile Strength at Break	50.0 MPa	7250 psi	ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	ISO 527
Elongation at Break	30 %	30 %	ISO 527
Elongation at Yield	5.0 %	5.0 %	ISO 527
Modulus of Elasticity	2.30 GPa	334 ksi	ISO 527
Flexural Strength	75.0 MPa	10900 psi	3.5%; ISO 178
Charpy Impact, Notched	1.50 J/cm ²	7.14 ft-lb/in ²	ISO 179
Coefficient of Friction	0.35	0.35	DIN 53375

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 μm/m-°C	33.3 μin/in-°F	DIN 53752
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² -°F	DIN 52612
Maximum Service Temperature, Air	105 °C	221 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	138 °C	268 °F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	ISO 75
Vicat Softening Point	135 °C	275 °F	VST/B/50; ISO 306
	145 °C	293 °F	VST/A/50; ISO 306
Minimum Service Temperature, Air	-50.0 °C	-58.0 °F	
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	VDE 0303
Surface Resistivity per Square	>= 1.00e+15 ohm	>= 1.00e+15 ohm	VDE 0303
Dielectric Constant	2.6 @Frequency 1.00e+6 Hz	2.6 @Frequency 1.00e+6 Hz	DIN 53483
Dielectric Strength	19.0 kV/mm	483 kV/in	VDE 0303
Dielectric Loss Index	0.0010 @Frequency 1.00e+6 Hz	0.0010 @Frequency 1.00e+6 Hz	DIN 53483
Comparative Tracking Index	175 V	175 V	CTI; IEC 60112

Descriptive Properties	Value	Comments
Acid Resistance	yes	
Aromatic Resistance	no	
Bondability	yes	
CKW Resistance	no	
Color	Grey	
Hydrocarbonate Resistance	limited	
Hydroxide Resistance	yes	
Ketone Resistance	yes	
Physiological indifference according	no	
Resistance Against Hot Water	yes	

Descriptive Properties	Value	Comments
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