

GEHR Plastics PEI Polyetherimide

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

Polyetherimide has a high mechanical strength in connection with a good chemical and heat resistance, good dimensional stability and creep resistance. Its unique torque strength permits the economical substitution of machining fabricated small parts from steel. Properties very high strength and rigidity high torque strength and hardness high thermostability high weather resistance high radiation resistance self-extinguishing limited resistance to stress cracks Applications include parts for electrical engineering, food industry, and aircraft construction.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-PEI-Polyetherimide.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	ISO 1183
Water Absorption	0.25 %	0.25 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	109	109	
Hardness, Shore D	82	82	DIN 53505
Tensile Strength at Break	85.0 MPa	12300 psi	ISO 527
Tensile Strength, Yield	105 MPa	15200 psi	ISO 527
Elongation at Break	60 %	60 %	ISO 527
Elongation at Yield	6.0 %	6.0 %	ISO 527
Modulus of Elasticity	3.20 GPa	464 ksi	ISO 527
Flexural Strength	145 MPa	21000 psi	3.5%; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179

Thermal Properties	Metric	English	Comments
CTE, linear	56.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$ @Temperature 20.0 $\text{Å}^\circ\text{C}$	31.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$ @Temperature 68.0 $\text{Å}^\circ\text{F}$	DIN 53752
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft ² - $\text{Å}^\circ\text{F}$	DIN 52612

Maximum Service Temperature, Air Thermal Properties	170 Å°C Metric	338 Å°F English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	200 Å°C	392 Å°F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	190 Å°C	374 Å°F	ISO 75
Vicat Softening Point	211 Å°C	412 Å°F	VST/B/50; ISO 306
	215 Å°C	419 Å°F	VST/A/50; ISO 306
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	VDE 0303
Surface Resistivity per Square	>= 1.00e+15 ohm	>= 1.00e+15 ohm	VDE 0303
Dielectric Constant	2.9 @Frequency 1.00e+6 Hz	2.9 @Frequency 1.00e+6 Hz	DIN 53483
Dielectric Strength	33.0 kV/mm	838 kV/in	VDE 0303
Dielectric Loss Index	0.0013 @Frequency 1.00e+6 Hz	0.0013 @Frequency 1.00e+6 Hz	DIN 53483
Comparative Tracking Index	150 V	150 V	CTI; IEC 60112

Descriptive Properties	Value	Comments
Acid Resistance	yes	
Aromatic Resistance	yes	
Bondability	yes	
CKW Resistance	limited	
Color	Natural	
Hydrocarbonate Resistance	yes	
Hydroxide Resistance	yes	
Ketone Resistance	yes	
Physiological indifference according	yes	
Resistance Against Hot Water	yes	

UV Stabilization Descriptive Properties	yes Value	Comments
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