

GEHR Plastics PEEK Polyetheretherketone

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

Polyether etherketone can be used at very high temperatures and it shows good mechanical strength, toughness, hardness, flexural strength, and torsional strength. PEEK exhibits excellent chemical resistance, very good dielectric properties up to 260°C and a very good resistance to all kinds of radiation. Properties: very high mechanical strength, very high rigidity, very high thermal stability, very high creep resistance, very high dimensional stability, very high radiation resistance, very high hydrolysis resistance, relatively low notch impact strength, low resistance against acetone. Applications include bearing shells, piston rings, valve seats, gears, seals, aviation, cog-wheels, pump vanes, fittings, plug connectors, and wafer carriers.

Order this product through the following link:

http://www.lookpolymers.com/polymer_GEHR-Plastics-PEEK-Polyetheretherketone.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.32 g/cc	1.32 g/cc	ISO 1183
Water Absorption	0.10 %	0.10 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	99	99	
Hardness, Shore D	90	90	DIN 53505
Tensile Strength, Yield	97.0 MPa	14100 psi	ISO 527
Elongation at Break	>= 60 %	>= 60 %	ISO 527
Elongation at Yield	4.9 %	4.9 %	ISO 527
Modulus of Elasticity	3.66 GPa	531 ksi	ISO 527
Flexural Strength	170 MPa	24700 psi	3.5%; ISO 178
Charpy Impact Unnotched	NB	NB	ISO 179
Charpy Impact, Notched	0.820 J/cm ²	3.90 ft-lb/in ²	ISO 179
Coefficient of Friction	0.34	0.34	DIN 53375

Thermal Properties	Metric	English	Comments
CTE, linear	47.0 Åµm/m-Å°C	26.1 Åµin/in-Å°F	DIN 53752
	@Temperature 20.0 Å°C	@Temperature 68.0 Å°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ftÅ²-Å°F	DIN 52612

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	240 Â°C	464 Â°F	ISO 75
Deflection Temperature at 1.8 MPa (264 psi)	152 Â°C	306 Â°F	ISO 75
Vicat Softening Point	250 Â°C	482 Â°F	VST/B/50; ISO 306
Minimum Service Temperature, Air	-40.0 Â°C	-40.0 Â°F	
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+16 ohm-cm	>= 1.00e+16 ohm-cm	VDE 0303
Surface Resistivity per Square	>= 1.00e+15 ohm	>= 1.00e+15 ohm	VDE 0303
Dielectric Constant	3.2	3.2	DIN 53483
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	19.0 kV/mm	483 kV/in	VDE 0303
Dielectric Loss Index	0.0030	0.0030	DIN 53483
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
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	

Descriptive Properties

Value

Comments

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