

Hippe PEEK Polyetheretherketone

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

Material Notes:

PEEK is a crystalline, easily machinable thermoplastic which is characterized by high tensile and constant good electrical properties between 0°-220°C, as well as due to favorable tribological behavior and flame resistance. Information provided by Hippe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hippe-PEEK-Polyetheretherketone.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.32 g/cc	1.32 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	0.10 %	0.10 %	Absorption of humidity in standard operating environment; DIN 53 715
Water Absorption at Saturation	0.50 %	0.50 %	DIN 53 495

Mechanical Properties	Metric	English	Comments
Tensile Strength	92.0 MPa	13300 psi	DIN 53 455
Elongation at Break	50 %	50 %	DIN 53 455
Tensile Modulus	3.60 GPa	522 ksi	DIN 53 457
Flexural Modulus	4.10 GPa	595 ksi	from bending test; DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453
Coefficient of Friction, Dynamic	0.30 - 0.38	0.30 - 0.38	Against steel, p=0.05 N/mm ² , v=0.6 m/s, hardened and ground

Thermal Properties	Metric	English	Comments
CTE, linear	47.0 µm/m-°C	26.1 µin/in-°F	
Specific Heat Capacity	0.320 J/g-°C	0.0765 BTU/lb-°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ft ² -°F	
Melting Point	334 °C	633 °F	DIN 53 736
Maximum Service Temperature, Air	250 °C	482 °F	Continuous use
	300 °C	572 °F	Short Periods
Deflection Temperature at 0.46 MPa (66 psi)	182 °C	360 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	140 °C	284 °F	ISO-R 75 Method A

Thermal Properties	Metric	English	Comments
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.90e+16 ohm-cm	4.90e+16 ohm-cm	DIN 53 482, VDE 0303, Part 3
Dielectric Constant	3.2 - 3.3	3.2 - 3.3	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	20.0 kV/mm	508 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.0010 - 0.0040	0.0010 - 0.0040	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Color	gray	
Creep Resistance	Grade CTI 150	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	resistant	

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