

Hippe PEI

Category : Polymer , Thermoplastic , Polyetherimide (PEI)

Material Notes:

A material with very high mechanical strength and high thermoforming stability which can be used at high temperatures. Distinguished by constant dielectric properties, a wide range of frequency and temperature, high dielectric strength, high flame resistance, high resistance against x-rays and good machinability. Information provided by Hippe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hippe-PEI.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.27 g/cc	1.27 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	0.50 %	0.50 %	Absorption of humidity in standard operating environment; DIN 53 715
Water Absorption at Saturation	1.25 %	1.25 %	DIN 53 495

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	165 MPa @Time 30.0 sec	23900 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	85.0 MPa	12300 psi	DIN 53 455
Elongation at Break	60 %	60 %	DIN 53 455
Tensile Modulus	3.10 GPa	450 ksi	DIN 53 457
Flexural Modulus	3.30 GPa	479 ksi	from bending test; DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453

Thermal Properties	Metric	English	Comments
CTE, linear	55.0 - 60.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	30.6 - 33.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
Thermal Conductivity	0.220 W/m-K	1.53 BTU-in/hr-ft ² -°F	
Maximum Service Temperature, Air	170 °C	338 °F	Continuous use
	200 °C	392 °F	Short Periods
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	190 °C	374 °F	ISO-R 75 Method A
Glass Transition Temp, Tg	215 °C	419 °F	dynamic; DIN 53 736

Thermal Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Volume Resistivity	6.70e+17 ohm-cm	6.70e+17 ohm-cm	DIN 53 482, VDE 0303, Part 3
Surface Resistance	>= 1.00e+16 ohm	>= 1.00e+16 ohm	DIN 53 482
Dielectric Constant	3.15	3.15	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	25.0 kV/mm	635 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.0010	0.0010	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Color	translucent	
Creep Resistance	Grade CTI 175	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	resistant	

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