

Hippe PET Polyethylene Terephthalate

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

Linear, saturated polyesters are thermoplastics which are used where good dimensional accuracy, high creep resistance and good sliding and wear behavior are required. Partially crystallized PET possesses high hardness, strength at high temperatures and resistance against stress cracking. Information provided by Hippe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hippe-PET-Polyethylene-Terephthalate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.37 g/cc	1.37 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	0.30 %	0.30 %	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
Ball Indentation Hardness	145 MPa @Time 30.0 sec	21000 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	80.0 MPa	11600 psi	DIN 53 455
Elongation at Break	70 %	70 %	DIN 53 455
Tensile Modulus	2.80 GPa	406 ksi	DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453
Coefficient of Friction, Dynamic	0.25	0.25	Against steel, p=0.05 N/mm ² , v=0.6 m/s, hardened and ground
Abrasion	0.35	0.35	µm/km; Against steel, p=0.05 N/mm ² , v=0.6 m/s, hardened and ground

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 - 80.0 µm/m-°C	38.9 - 44.4 µin/in-°F	
Specific Heat Capacity	1.10 J/g-°C	0.263 BTU/lb-°F	
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft ² -°F	
Melting Point	255 °C	491 °F	DIN 53 736
Maximum Service Temperature, Air	110 °C	230 °F	Continuous use
	180 °C	356 °F	Short Periods

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	118 °C	238 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	75.0 °C	167 °F	ISO-R 75 Method A
Glass Transition Temp, Tg	69.0 °C	156 °F	dynamic; DIN 53 736
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	DIN 53 482, VDE 0303, Part 3
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	DIN 53 482
Dielectric Constant	3.2	3.2	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	30.0 kV/mm	762 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.021	0.021	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Descriptive Properties	Value	Comments
Color	natural/black	
Creep Resistance	Grade CTI 350	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	not resistant	

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