

Hippe PBT Polybutylene Terephthalate

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

The mechanical properties of PBT are generally inferior to the partially crystallized PET, however, PBT is more easily machined. Information provided by Hippe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hippe-PBT-Polybutylene-Terephthalate.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	0.25 %	0.25 %	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	115 MPa @Time 30.0 sec	16700 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	52.0 MPa	7540 psi	DIN 53 455
Elongation at Break	200 %	200 %	DIN 53 455
Tensile Modulus	2.60 GPa	377 ksi	DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453
Coefficient of Friction, Dynamic	0.24	0.24	Against steel, p=0.05 N/mm ² , v=0.6 m/s, hardened and ground
Abrasion	0.20	0.20	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 µm/m-°C	38.9 µin/in-°F	
Specific Heat Capacity	1.21 J/g-°C	0.289 BTU/lb-°F	
Thermal Conductivity	0.210 W/m-K	1.46 BTU-in/hr-ft ² -°F	
Melting Point	225 °C	437 °F	DIN 53 736
Maximum Service Temperature, Air	110 °C	230 °F	Continuous use
	180 °C	356 °F	Short Periods
Deflection Temperature at 0.46 MPa	165 °C	329 °F	

(55 psi) Thermal Properties	Metric	English	ISO-R 75 Method B Comments
Deflection Temperature at 1.8 MPa (264 psi)	65.0 °C	149 °F	ISO-R 75 Method A
Glass Transition Temp, Tg	22.0 °C	71.6 °F	dynamic; DIN 53 736
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	DIN 53 482, VDE 0303, Part 3
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	DIN 53 482
Dielectric Constant	3.0 @Frequency 1.00e+6 Hz	3.0 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250
Dielectric Strength	>= 45.0 kV/mm	>= 1140 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.012 @Frequency 1.00e+6 Hz	0.012 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250

Descriptive Properties	Value	Comments
Creep Resistance	Grade CTI 600	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	not resistant	

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