

## Hippe PE 500 Polyethylene

Category : Polymer , Thermoplastic , Polyethylene (PE)

### Material Notes:

Tough, flexible and stiff, depending on the crystalline structure (density). Resinous surface. Excellent dielectric properties, Good resistance against solvents, acids and alkalis. Physiologically safe. Low water absorption, not aromatic-resistant. Manifold usable. Easily machinable. Excellent sliding properties. The abrasion is very low. Information provided by Hippe.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Hippe-PE-500-Polyethylene.php](http://www.lookpolymers.com/polymer_Hippe-PE-500-Polyethylene.php)

Physical Properties	Metric	English	Comments
Specific Gravity	0.950 g/cc	0.950 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	<= 0.050 %	<= 0.050 %	Absorption of humidity in standard operating environment; DIN 53 715
Water Absorption at Saturation	<= 0.050 %	<= 0.050 %	DIN 53 495

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	45.0 MPa @Time 30.0 sec	6530 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	25.0 MPa	3630 psi	DIN 53 455
Elongation at Break	>= 500 %	>= 500 %	DIN 53 455
Tensile Modulus	0.800 GPa	116 ksi	DIN 53 457
Flexural Modulus	0.900 GPa	131 ksi	from bending test; DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453
Coefficient of Friction, Dynamic	0.29	0.29	Against steel, p=0.05 N/mm <sup>2</sup> , v=0.6 m/s, hardened and ground
Tear Strength Test	40	40	in MPa; DIN 53 455

Thermal Properties	Metric	English	Comments
CTE, linear	170 µm/m-°C	94.4 µin/in-°F	
Specific Heat Capacity	1.84 J/g-°C	0.440 BTU/lb-°F	
Thermal Conductivity	0.410 W/m-K	2.85 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	130 - 135 °C	266 - 275 °F	DIN 53 736
Maximum Service Temperature, Air	90.0 °C	194 °F	Continuous use

Thermal Properties	120 °C Metric	248 °F English	Short Periods Comments
Deflection Temperature at 0.46 MPa (66 psi)	70.0 °C	158 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	44.0 °C	111 °F	ISO-R 75 Method A
Glass Transition Temp, Tg	-95.0 °C	-139 °F	dynamic; DIN 53 736
Flammability, UL94	HB	HB	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+17 ohm-cm	1.00e+17 ohm-cm	DIN 53 482, VDE 0303, Part 3
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	DIN 53 482
Dielectric Constant	2.9 @Frequency 1.00e+6 Hz	2.9 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250
Dielectric Strength	90.0 kV/mm	2290 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.00040 @Frequency 1.00e+6 Hz	0.00040 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250

Descriptive Properties	Value	Comments
Color	natural/green, black	
Creep Resistance	Grade KC >600	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	not resistant	

## Contact Songhan Plastic Technology Co.,Ltd.

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