

## Hippe PE 300 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-300-Polyethylene.php](http://www.lookpolymers.com/polymer_Hippe-PE-300-Polyethylene.php)

Physical Properties	Metric	English	Comments
Specific Gravity	0.950 - 0.960 g/cc	0.950 - 0.960 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	54.0 - 60.0 MPa @Time 30.0 sec	7830 - 8700 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	24.0 - 31.0 MPa	3480 - 4500 psi	DIN 53 455
Elongation at Break	400 - 800 %	400 - 800 %	DIN 53 455
Tensile Modulus	1.00 - 1.40 GPa	145 - 203 ksi	DIN 53 457
Flexural Modulus	1.00 - 1.40 GPa	145 - 203 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	36	36	in MPa; DIN 53 455
Abrasion	1.0	1.0	µm/km; Against steel, p=0.05 N/mm <sup>2</sup> , v=0.6 m/s, hardened and ground

Thermal Properties	Metric	English	Comments
CTE, linear	130 - 150 µm/m-°C	72.2 - 83.3 µin/in-°F	
Specific Heat Capacity	1.70 - 2.00 J/g-°C	0.406 - 0.478 BTU/lb-°F	
Thermal Conductivity	0.350 - 0.430 W/m-K	2.43 - 2.98 BTU-in/hr-ft <sup>2</sup> -°F	

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	90.0 °C	194 °F	Continuous use
	120 °C	248 °F	Short Periods
Deflection Temperature at 0.46 MPa (66 psi)	70.0 - 85.0 °C	158 - 185 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	42.0 - 49.0 °C	108 - 120 °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+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	2.4	2.4	DIN 53 483, IEC-250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	150 kV/mm	3810 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.00020	0.00020	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 KA 3c	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	resistant	

## Contact Songhan Plastic Technology Co.,Ltd.

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