

Hippe PA 12 Nylon 12

Category : Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Maintenance-free bearing and gear components under water, insulated components, seals, gear wheels. Parts for pumps and household units. Application in the electrical sector - less water absorption than with PA 11. Information provided by Hippe.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Hippe-PA-12-Nylon-12.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.02 g/cc	1.02 g/cc	DIN 53 479
Moisture Absorption at Equilibrium	0.70 %	0.70 %	Absorption of humidity in standard operating environment; DIN 53 715
Water Absorption at Saturation	1.6 %	1.6 %	DIN 53 495

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	95.0 MPa @Time 30.0 sec	13800 psi @Time 0.00833 hour	DIN 53 456
Tensile Strength	35.0 MPa	5080 psi	DIN 53 455
Elongation at Break	240 %	240 %	DIN 53 455
Tensile Modulus	1.80 GPa	261 ksi	DIN 53 457
Charpy Impact, Notched	NB	NB	DIN 53 453
Coefficient of Friction, Dynamic	0.32 - 0.38	0.32 - 0.38	Against steel, p=0.05 N/mm ² , v=0.6 m/s, hardened and ground
Tear Strength Test	46 - 52	46 - 52	in MPa; DIN 53 455
Abrasion	0.80	0.80	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	100 µm/m-°C	55.6 µin/in-°F	
Specific Heat Capacity	2.10 J/g-°C	0.502 BTU/lb-°F	
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	
Melting Point	179 °C	354 °F	DIN 53 736
Maximum Service Temperature, Air	80.0 °C	176 °F	Continuous use
			Short Periods

Thermal Properties	150 °C Metric	302 °F English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	140 °C	284 °F	ISO-R 75 Method B
Deflection Temperature at 1.8 MPa (264 psi)	50.0 °C	122 °F	ISO-R 75 Method A
Glass Transition Temp, Tg	41.0 °C	106 °F	dynamic; DIN 53 736
Flammability, UL94	V-2	V-2	

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.00e+15 ohm-cm	2.00e+15 ohm-cm	DIN 53 482, VDE 0303, Part 3
Surface Resistance	1.00e+14 ohm	1.00e+14 ohm	DIN 53 482
Dielectric Constant	3.6 @Frequency 1.00e+6 Hz	3.6 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250
Dielectric Strength	33.0 kV/mm	838 kV/in	Breakdown; DIN 53 481, IEC-243, VDE 0303 Part 1
Dielectric Loss Index	0.040 @Frequency 1.00e+6 Hz	0.040 @Frequency 1.00e+6 Hz	DIN 53 483, IEC-250

Descriptive Properties	Value	Comments
Color	natural	
Creep Resistance	Grade CTI 600	DIN 53 480, IEC-112, VDE 0303 Part 1
Resistance to hot water, suds	resistant	

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