

Schwartz Technical Plastics OPTAMIDÂ® Cast Polyamide 6, Dry

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6 , Cast

Material Notes:

Application: deflection rope sheaves for elevators
Information provided by Schwartz Technical Plastics GmbH

Order this product through the following link:

http://www.lookpolymers.com/polymer_Schwartz-Technical-Plastics-OPTAMID-Cast-Polyamide-6-Dry.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/inÂ³	ISO R 1183
Moisture Absorption at Equilibrium	2.2 %	2.2 %	DIN 53473
Water Absorption at Saturation	7.0 % @Temperature 20.0 Â°C	7.0 % @Temperature 68.0 Â°F	ISO R 62

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	150 MPa	21800 psi	Hc 30; ISO 2039; partially
Tensile Strength, Yield	80.0 MPa	11600 psi	ISO-DIS 527
Creep Strength	20.0 MPa	2900 psi	1% elongation, 1000 h; DIN 53444
	22.0 MPa	3190 psi	2% elongation, 1000 h; DIN 53444
Tensile Modulus	3.50 GPa	508 ksi	DIN 53457
Flexural Strength	130 MPa	18900 psi	DIN 54352
Flexural Modulus	3.10 GPa	450 ksi	DIN 53457
Izod Impact, Notched (ISO)	>= 3.70 kJ/mÂ²	>= 1.76 ft-lb/inÂ²	DIN 53453
Izod Impact Resistance	NB	NB	swinging hammer 0,1 DIN 51222; DIN 53453
Coefficient of Friction	0.040	0.040	With lubrication
Coefficient of Friction, Dynamic	0.35	0.35	no lube; Steel 2162, Rvst=2E-6m, p=0.05 Mpa, v=0.6 m/s, t=40Â°C
Tear Strength Test	>= 0.25	>= 0.25	ISO-DIS 527
K Factor (Wear Factor)	9.00e-11	9.00e-11	

Thermal Properties	Metric	English	Comments
CTE, linear	70.0 - 80.0 Âµm/m-Â°C	38.9 - 44.4 Âµin/in-Â°F	DIN 53752

Thermal Properties	@Temperature 20.0 - Metric 100 Â°C	@Temperature 68.0 - English 212 Â°F	Comments
Specific Heat Capacity	1.67 J/g-Â°C	0.399 BTU/lb-Â°F	
Thermal Conductivity	0.250 W/m-K	1.74 BTU-in/hr-ftÂ²- Â°F	DIN 52612
Melting Point	220 Â°C	428 Â°F	ISO R 1218
Maximum Service Temperature, Air	120 Â°C	248 Â°F	Continuous
	180 Â°C	356 Â°F	Intermittent
Deflection Temperature at 0.46 MPa (66 psi)	210 Â°C	410 Â°F	V-notch; ISO R 75
Deflection Temperature at 1.8 MPa (264 psi)	120 Â°C	248 Â°F	V-notch; ISO R 75
Minimum Service Temperature, Air	-40.0 Â°C	-40.0 Â°F	Continuous

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	DIN 53482
Surface Resistance	1.00e+12 ohm	1.00e+12 ohm	DIN 53482
Dielectric Constant	3.7	3.7	DIN 53483
Dielectric Strength	50.0 kV/mm	1270 kV/in	DIN 53481
Dielectric Loss Index	0.030	0.030	DIN 53483

Descriptive Properties	Value	Comments
Creepage/leakage Resistance	KA3c	DIN 53480

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