

Zell-Metall Engineering Plastics Zellamid 250 (PA6.6)

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, Impact Grade

Material Notes:

Zellamid® 250 is noted for its high temperature resistance and high tensile strength. It is the hardest and most rigid type of extruded Nylon. Main characteristics are high resistance to fuels, oils, greases, most organic solvents and alkalis. Moisture absorption is lower than for Nylon 6. Typical applications are friction bearings, gears, cams and cam followers, guides, sleeves, valve seats and articles subjected to high loads and/or for high temperature.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zell-Metall-Engineering-Plastics-Zellamid-250-PA66.php

Physical Properties	Metric	English	Comments
Density	1.13 - 1.15 g/cc	0.0408 - 0.0415 lb/in ³	
Moisture Absorption at Equilibrium	2.5 - 3.1 %	2.5 - 3.1 %	Saturation at 50% RH; ISO 1110; DIN 53714
Water Absorption at Saturation	8.0 - 9.0 %	8.0 - 9.0 %	23°C; ISO 62; DIN 53495

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	160 MPa	23200 psi	H 358/30; ISO 2039; DIN 53456
Tensile Strength at Break	80.0 MPa	11600 psi	ISO 527; DIN 53455
Elongation at Break	50 %	50 %	ISO 527; DIN 53455
Tensile Modulus	3.20 GPa	464 ksi	ISO 527; DIN 53452
Izod Impact, Notched	0.300 J/cm @Temperature -40.0 °C	0.562 ft-lb/in @Temperature -40.0 °F	ISO 180 Method A
Charpy Impact Unnotched	NB @Temperature -40.0 °C	NB @Temperature -40.0 °F	ISO 179; DIN 53453
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179; DIN 53453
Charpy Impact, Notched	8.00 J/cm ²	38.1 ft-lb/in ²	double V-notch, rk=1.5 mm; DIN 53753
Dart Drop, Total Energy	>= 140 J	>= 103 ft-lb	DIN 53443
	50.0 J @Temperature -20.0 °C	36.9 ft-lb @Temperature -4.00 °F	DIN 53443

Thermal Properties	Metric	English	Comments
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Thermal Properties <i>CTE, linear</i>	Metric <i>70.0 - 100 µm/m-°C</i>	English <i>38.9 - 55.6 µin/in-°F</i>	Comments <i>DIN 53752</i>
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Specific Heat Capacity	1.70 J/g-°C	0.406 BTU/lb-°F	DIN 52612
Thermal Conductivity	0.230 W/m-K	1.60 BTU-in/hr-ft ² -°F	DIN 53612 Method A
Melting Point	255 °C	491 °F	ISO 1218 Method A; DIN 53736
Maximum Service Temperature, Air	80.0 °C	176 °F	20,000 hours; 50% Tensile Strength; IEC 216; DIN 53446
	95.0 °C	203 °F	5000 hours; 50% Tensile Strength; IEC 216; DIN 53446
	<= 200 °C	<= 392 °F	a few hours operation
Deflection Temperature at 0.46 MPa (66 psi)	>= 200 °C	>= 392 °F	ISO 75; DIN 53461
Deflection Temperature at 1.8 MPa (264 psi)	100 °C	212 °F	ISO 75; DIN 53461
Flammability, UL94	HB	HB	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 167; DIN 53482
Surface Resistance	1.00e+13 ohm	1.00e+13 ohm	IEC 167; DIN 53482
Dielectric Constant	3.2	3.2	IEC 250; DIN 53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	120 kV/mm	3050 kV/in	IEC 243; DIN 53481
Dissipation Factor	0.026	0.026	IEC 250; DIN 53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Comparative Tracking Index	>= 600 V	>= 600 V	KB Method; IEC 112; DIN 53480
	>= 600 V	>= 600 V	KC Method; IEC 112; VDE 0303T1

Descriptive Properties	Value	Comments
Time yield limit	3.5 MPa	100°C, s1/1000; ISO.899 DIN.53444
VDE Fire Performance	II b	VDE 0304T3

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