

Zell-Metall Engineering Plastics Zellamid 1100

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

Material Notes:

Zellamid® 1100 is the registered trademark for Zell-Metall's cast nylon 6 in different qualities. Our standard quality is a heavy duty, high impact, wear and heat resistant polyamide. It offers excellent machineability and chemical resistance. Standard color is ivory. Black and blue are available upon request. Zellamid® 1100 is ideally suited for heavy duty plastic components and offers many advantages in comparison with steel: corrosion resistance, low weight, and low wear - e.g. for crane sheaves or carriage wheels for ropeways which are produced as finished parts by spin casting.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zell-Metall-Engineering-Plastics-Zellamid-1100.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in ³	
Moisture Absorption at Equilibrium	2.5 - 3.0 %	2.5 - 3.0 %	Saturation at 50% RH
Water Absorption at Saturation	6.0 - 7.0 %	6.0 - 7.0 %	23°C

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	83 - 85	83 - 85	DIN 53505
Ball Indentation Hardness	163 MPa	23600 psi	DIN 53456
Tensile Strength at Break	88.0 - 90.0 MPa	12800 - 13100 psi	DIN 53455
Elongation at Break	10 - 40 %	10 - 40 %	DIN 53455
Tensile Modulus	3.90 GPa	566 ksi	DIN 53457
	0.800 GPa	116 ksi	DIN 53457
	@Temperature 100 °C	@Temperature 212 °F	
Charpy Impact Unnotched	NB	NB	DIN 53453
Charpy Impact, Notched	2.50 - 3.00 J/cm ²	11.9 - 14.3 ft-lb/in ²	DIN 53453
Coefficient of Friction	0.050 - 0.10	0.050 - 0.10	to steel, added lubrication
	0.30 - 0.35	0.30 - 0.35	to steel, no lubrication; ISO/DTR 7147
Abrasion	82	82	mm ³ ; DIN 53516

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C	44.4 µin/in-°F	

Thermal Properties	@Temperature 20.0 °C Metric	@Temperature 68.0 °F English	Comments
Specific Heat Capacity	1.67 J/g-°C	0.399 BTU/lb-°F	
Thermal Conductivity	0.280 W/m-K	1.94 BTU-in/hr-ft ² -°F	DIN 52612
Melting Point	220 °C	428 °F	
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	long time operation
	120 - 140 °C	248 - 284 °F	medium time operation
	160 °C	320 °F	a few hours operation
Minimum Service Temperature, Air	-40.0 °C	-40.0 °F	
Flammability, UL94	HB	HB	

Descriptive Properties	Value	Comments
Permissible Unit Pressure	25 - 30 MPa	
Time yield limit	up to 5	s1/1000; DIN.53444

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