

Zell-Metall Engineering Plastics Zellamid 1115 at 50% RH

Category : Polymer , Thermoplastic , Nylon , Nylon 612 , Nylon 612, Unreinforced

Material Notes:

By special additives, impact strength and abrasion resistance are further improved. We particularly recommend this material for slipper pads for rolling mills. Color: Ivory Applications: slipper pads for rolling mills.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zell-Metall-Engineering-Plastics-Zellamid-1115-at-50-RH.php

Physical Properties	Metric	English	Comments
Density	1.13 g/cc	0.0408 lb/in ³	Dry Density
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	76 - 78	76 - 78	DIN 53505
Tensile Strength at Break	63.0 - 65.0 MPa	9140 - 9430 psi	DIN 53455
Elongation at Break	100 - 150 %	100 - 150 %	DIN 53455
Tensile Modulus	2.00 GPa	290 ksi	DIN 53457
	0.300 GPa	43.5 ksi	DIN 53457
	@Temperature 100 °C	@Temperature 212 °F	
Charpy Impact, Notched	6.00 - 12.0 J/cm ²	28.6 - 57.1 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
Tensile Creep Modulus, 1000 hours	<= 450 MPa	<= 65300 psi	DIN 53444

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C	44.4 µin/in-°F	
	@Temperature 20.0 °C	@Temperature 68.0 °F	
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	205 °C	401 °F	
Maximum Service Temperature, Air	100 - 120 °C	212 - 248 °F	long time operation

Thermal Properties	Metric 120 - 140 °C	English 248 - 284 °F	Comments 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	

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.00e+12 - 5.00e+12 ohm-cm	3.00e+12 - 5.00e+12 ohm-cm	DIN 53482
Surface Resistance	1.00e+10 - 3.00e+10 ohm	1.00e+10 - 3.00e+10 ohm	DIN 53482
Dielectric Constant	12 @Frequency 1e+6 Hz	12 @Frequency 1e+6 Hz	DIN 53483
Dielectric Strength	15.0 - 20.0 kV/mm	381 - 508 kV/in	DIN 53481
Dissipation Factor	0.15 @Frequency 1e+6 Hz	0.15 @Frequency 1e+6 Hz	DIN 53483
Comparative Tracking Index	600 V	600 V	KV Method; DIN 53480

Descriptive Properties	Value	Comments
Permissible Unit Pressure	25 - 30 MPa	
Time yield limit	up to 8	s1/1000; DIN.53444

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