

Zell-Metall Engineering Plastics Zellamid 1400T (PET + solid lubricant)

Category : Polymer , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

Zellamid® 1400 is the registered trademark of Zell-Metall's partly crystalline thermoplastic Polyester based on Polyethylene Terephthalate. This PETP features outstanding dimensional stability, as it is virtually unaffected by ambient moisture. A low coefficient of friction and excellent wear resistance combined with low creep and high modulus make this the choice material for moving parts. Hot water resistance is low. Zellamid® 1400 is produced without centerline porosity. This material exhibits properties which make it suited to particular applications, especially high precision components. Typical applications are components for food processing machines, mandrels, liquid and gas proof parts, electrical engineering and all parts where Acetal's microporosity in the centerline is not desirable. For friction applications we offer Zellamid® 1400T (PETP with a solid lubricant) which shows a significantly reduced friction coefficient and increased resistance to wear.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Zell-Metall-Engineering-Plastics-Zellamid-1400T-PET-solid-lubricant.php

Physical Properties	Metric	English	Comments
Density	1.38 g/cc	0.0499 lb/in ³	
Moisture Absorption at Equilibrium	0.23 %	0.23 %	Saturation at 50% RH; ISO 1110; DIN 53714
Water Absorption at Saturation	0.50 %	0.50 %	23°C; ISO 62; DIN 53495

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	75.0 MPa	10900 psi	ISO 527; DIN 53455
Elongation at Break	5.0 %	5.0 %	ISO 527; DIN 53455
Tensile Modulus	2.23 GPa	323 ksi	ISO 527; DIN 53452
Charpy Impact Unnotched	2.30 J/cm ² @Temperature 23.0 °C	10.9 ft-lb/in ² @Temperature 73.4 °F	ISO 179; DIN 53453
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	double V-notch, rk=1.5 mm; DIN 53753

Thermal Properties	Metric	English	Comments
CTE, linear	60.0 µm/m-°C @Temperature 20.0 °C	33.3 µin/in-°F @Temperature 68.0 °F	DIN 53752
Maximum Service Temperature, Air	100 °C	212 °F	20,000 hours; 50% Tensile Strength; IEC 216; DIN 53446
	115 °C	239 °F	5000 hours; 50% Tensile Strength; IEC 216; DIN 53446

Thermal Properties	160 °C Metric	320 °F English	a few hours operation Comments
Flammability, UL94	HB @Thickness 1.60 mm	HB @Thickness 0.0630 in	

Descriptive Properties	Value	Comments
Resistance to Wear	1.1 µm/km	DIN-ISO 7148-2; Ra = 0.35 - 0.45 µm (steel disc), v = 0.3 m/s, p = 3 N/mm2, time T > 16 h

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