Polikim KESTOIL® Polyamide 6 + Lubricant

Category : Polymer , Thermoplastic , Nylon , Nylon 6

Material Notes:

Kestoil® is a self-lubricated, strong, wear resistant engineering plastic with a low coefficient of friction. Implicit in its nature, it has many properties that no other material has in combination. It is ideal for bearings without lubrication and for guides. Lubricants and impact and wear resistance increasing additives are added during production to turn Kestamid® into Kestoi®.Integrated into the material, lubricant additives become inseparable and homogenous components. Additives do not leak out even in heaviest operating conditions. Material quality and mechanical machining performance remain unaffected. No oily sensation is felt by touching the surface because additives are spread evenly inside the material.As bearing material, Kestoil® has a wear resistance 5-7 times the standard cast polyamide. This considerable result comes from the fact that the self-lubricating characteristic of the material keeps the coefficient of friction low during operation and thus prevents formation of heat between components that rub against each other. In the absence of self-lubrication, friction is reduced by external lubrication. Yet heat that is formed when lubricant is diminished or totally cleared away shortens material life due to increasing wear.Kestoil® should be preferred in applications where dimensional stability and weatherability of Kestamid® are questionable. As additives fill up pores, humidity and water absorption are reduced; sustaining dimensional stability. As the lubricant additive in Kestoil® is liquid, in high pressure and bearing applications liquid oil may leak out.Information provided by Polikim Polimer.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Polikim-KESTOIL-Polyamide-6-Lubricant.php

Physical Properties	Metric	English	Comments
Density	1.14 g/cc	0.0412 lb/in³	ISO 1183
Water Absorption at Saturation	5.0 %	5.0 %	ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	83	83	ISO 868
Tensile Strength, Ultimate	73.5 MPa	10700 psi	ISO 527
Elongation at Break	>= 30 %	>= 30 %	ISO 527
Tensile Modulus	4.00 GPa	580 ksi	ISO 527
Compressive Strength	93.2 MPa	13500 psi	ISO 604
Compressive Modulus	2.50 GPa	363 ksi	ISO 604
Izod Impact, Notched (ISO)	6.00 kJ/m²	2.86 ft-lb/in²	ISO 180
Charpy Impact Unnotched	NB	NB	ISO 179
Coefficient of Friction	0.15	0.15	
K Factor (Wear Factor)	0.11	0.11	[mg/km]
		59.6 x 10^{-10} in³-min/ft-	

Mechanical Properties	Metric	English	Comments
K (wear) Factor	120 x 10^{-8} mm³/N-M	lb-hr	

Thermal Properties	Metric	English	Comments
CTE, linear	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359
Melting Point	220 °C	428 °F	
Maximum Service Temperature, Air	110 °C	230 °F	continuous
	170 °C	338 °F	short term

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+14 ohm-cm	>= 1.00e+14 ohm-cm	ISO 60093
Surface Resistance	>= 1.00e+13 ohm	>= 1.00e+13 ohm	ISO 60093
Dielectric Constant	3.7	3.7	ISO 60250
Dielectric Strength	25.0 kV/mm	635 kV/in	ISO 50243

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