Ensinger TECASINT 3062 Polyimide, Shiny Black, 15% Graphite, 10% PTFE (PI)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic , Thermoplastic Polyimide, Graphite Filled , Thermoplastic Polyimide, Molded, PTFE Filled

Material Notes:

TECASINT is a range of non-melting high temperature polyimides characterized by high strength over a wide range of temperatures, good long term thermal stability, minimal thermal expansion and excellent wear resistance among other things. The TECASINT 2000 series offers these enhanced thermal properties along with lower moisture absorption, a higher degree of toughness, and better machining properties. TECASINT 2011 is unfilled, while TECASINT 2021 contains 15% graphite which offer improved wear resistance and a lower coefficient of friction. TECASINT 2000 series with their superior physical properties, are ideal for application in the aerospace, nuclear, automotive, electrical/electronics, and chemical processing industries.Main features: High thermal and mechanical capacity, very creep resistant, broad chemical compatibility, good sliding properties, low water absorption, no electrical insulation, flame retardant according to UL94 V-0, sensitive to hydrolysis in higher thermal range, low static frictionApplications: Mechanical engineering, automotive industry, materials handling equipment, precision engineering, aircraft and aerospace industries, textile industryPreferred Fields: Valve seating, chain guides, piston rings, sliding rails, thrust washers, bearings, bushingsInformation Provided by Ensinger Sintimid

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http://www.lookpolymers.com/polymer_Ensinger-TECASINT-3062-Polyimide-Shiny-Black-15-Graphite-10-PTFE-PI.php

Physical Properties	Metric	English	Comments
Density	1.41 g/cc	0.0509 lb/in³	DIN 53 479
Water Absorption	0.43 % @Temperature 23.0 °C	0.43 % @Temperature 73.4 °F	24 hours in water; EN ISO 62
	1.7 % @Temperature 80.0 °C	1.7 % @Temperature 176 °F	24 hours in water; EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	78 @Temperature 23.0 °C	78 @Temperature 73.4 °F	DIN 53 505
Tensile Strength	44.1 MPa @Temperature 23.0 °C	6400 psi @Temperature 73.4 °F	EN ISO 527
Elongation at Break	3.6 % @Temperature 23.0 °C	3.6 % @Temperature 73.4 °F	EN ISO 527
Elongation at Yield	3.3 % @Temperature 23.0 °C	3.3 % @Temperature 73.4 °F	Flexural Elongation; EN ISO 178
Tensile Modulus	2.646 GPa @Temperature 23.0 °C	383.8 ksi @Temperature 73.4 °F	EN ISO 527

Mechanical Properties	Metric	English	Comments
Flexural Strength	62.0 MPa	8990 psi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	2.74 GPa @Temperature 23.0 °C	397 ksi @Temperature 73.4 °F	EN ISO 178
Compressive Yield Strength	70.0 MPa @Strain 10.0 %, Temperature 23.0 °C	10200 psi @Strain 10.0 %, Temperature 73.4 °F	EN ISO 604
Compressive Strength	180 MPa @Temperature 23.0 °C	26100 psi @Temperature 73.4 °F	EN ISO 604
Compressive Modulus	0.847 GPa @Temperature 23.0 °C	123 ksi @Temperature 73.4 °F	EN ISO 604
Charpy Impact Unnotched	1.78 J/cm² @Temperature 23.0 °C	8.47 ft-lb/in² @Temperature 73.4 °F	EN ISO 179
Charpy Impact, Notched	0.420 J/cm² @Temperature 23.0 °C	2.00 ft-lb/in² @Temperature 73.4 °F	EN ISO 179
Compression Set	48 % @Temperature 23.0 °C	48 % @Temperature 73.4 °F	Compression at Break; EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	45.0 µm/m-°C @Temperature 50.0 - 200 °C	25.0 µin/in-°F @Temperature 122 - 392 °F	DIN 53 752
	57.0 µm/m-°C @Temperature 200 - 300 °C	31.7 µin/in-°F @Temperature 392 - 572 °F	DIN 53 752

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