

Ensinger TECASINT 3032 Polyimide, Black, 40% Graphite (PI)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic , Thermoplastic Polyimide, Graphite 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, good radiation-resistance, good sliding properties, broad chemical compatibility, low thermal expansion, no electrical insulation, sensitive to hydrolysis in higher thermal range, flame retardant according to UL94 V-0, low water absorption, high toughness. Applications: Mechanical engineering, automotive industry, materials handling equipment, hot glass technology, aircraft and aerospace industries, cryogenics, precision engineering, textile industry. Preferred Fields: Valve seating, piston rings, chain guides, gripper finger for hot glass, bearing discs, washers, bushings. Information Provided by Ensinger Sintimid

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http://www.lookpolymers.com/polymer_Ensinger-TECASINT-3032-Polyimide-Black-40-Graphite-PI.php

Physical Properties	Metric	English	Comments
Density	1.49 g/cc	0.0538 lb/in ³	DIN 53 479
Water Absorption	0.54 %	0.54 %	24 hours in water; EN ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	3.15 %	3.15 %	24 hours in water; EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	80	80	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	41.6 MPa	6030 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	2.2 %	2.2 %	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	2.2 %	2.2 %	Flexural Elongation; EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	3.524 GPa	511.1 ksi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Flexural Strength	86.0 MPa @Temperature 23.0 °C	12400 psi @Temperature 73.4 °F	EN ISO 178
Flexural Modulus	3.865 GPa @Temperature 23.0 °C	560.6 ksi @Temperature 73.4 °F	EN ISO 178
Compressive Yield Strength	87.0 MPa @Strain 10.0 %, Temperature 23.0 °C	12600 psi @Strain 10.0 %, Temperature 73.4 °F	EN ISO 604
Compressive Strength	133 MPa @Temperature 23.0 °C	19300 psi @Temperature 73.4 °F	EN ISO 604
Compressive Modulus	1.044 GPa @Temperature 23.0 °C	151.4 ksi @Temperature 73.4 °F	EN ISO 604
Charpy Impact Unnotched	1.07 J/cm ² @Temperature 23.0 °C	5.09 ft-lb/in ² @Temperature 73.4 °F	EN ISO 179
Charpy Impact, Notched	0.300 J/cm ² @Temperature 23.0 °C	1.43 ft-lb/in ² @Temperature 73.4 °F	EN ISO 179
Compression Set	29 % @Temperature 23.0 °C	29 % @Temperature 73.4 °F	Compression at Break; EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	31.0 μm/m-°C @Temperature 50.0 - 200 °C	17.2 μin/in-°F @Temperature 122 - 392 °F	DIN 53 752
	40.0 μm/m-°C @Temperature 200 - 300 °C	22.2 μin/in-°F @Temperature 392 - 572 °F	DIN 53 752

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