

Ensinger TECASINT 1031 Polyimide, 40% Graphite Filled (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 Good radiation-resistance Broad chemical compatibility Easily machined to tight tolerances Flame retardant according to UL94 V-0 Very creep resistant Good sliding properties Low thermal expansion Low outgassing Sensitive to hydrolysis in higher thermal range Applications Mechanical engineering Materials handling equipment Aircraft and aerospace industries Precision engineering Automotive industry Hot glass technology Cryogenics Textile industry Preferred Fields Valve seating, piston rings, chain guides, gripper finger for hot glass, bearings Information Provided by Ensinger, Inc.

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http://www.lookpolymers.com/polymer_Ensinger-TECASINT-1031-Polyimide-40-Graphite-Filled-PI.php

Physical Properties	Metric	English	Comments
Density	1.57 g/cc @Temperature 23.0 °C	0.0567 lb/in³ @Temperature 73.4 °F	DIN 53 479
Filler Content	40 %	40 %	Graphite
Water Absorption	0.42 % @Temperature 23.0 °C, Time 86400 sec	0.42 % @Temperature 73.4 °F, Time 24.0 hour	EN ISO 62

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85 @Temperature 23.0 °C	85 @Temperature 73.4 °F	DIN 53 505
Tensile Strength, Yield	65.0 MPa @Temperature 23.0 °C	9430 psi @Temperature 73.4 °F	EN ISO 527
Elongation at Break	2.2 % @Temperature 23.0 °C	2.2 % @Temperature 73.4 °F	EN ISO 527
Elongation at Yield	1.4 %	1.4 %	Flexural; EN ISO 178
Flexural Strength	88.0 MPa @Temperature 23.0 °C	12800 psi @Temperature 73.4 °F	EN ISO 178

Mechanical Properties Compressive Strength	180 MPa Metric	26100 psi English	Comments EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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
Glass Transition Temp, Tg	330 °C	626 °F	DMTA
Flammability, UL94	V-0	V-0	

Electrical Properties	Metric	English	Comments
Surface Resistance	<= 1000 ohm @Temperature 23.0 °C	<= 1000 ohm @Temperature 73.4 °F	IEC 60093

Descriptive Properties	Value	Comments
Color	Black	
DIN-Abbreviation	PI CS 40	

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