

Ensinger TECASINT™ 2031 Polyimide, 40% Graphite Filled (PI)

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

Material Notes:

TECASINT™ 2000 series of polyimide stock shapes provide a superior combination of high temperature and bearing and wear, properties that make it an ideal choice for the most demanding applications. TECASINT™ 2011 is very pure, and exhibits low outgassing. It is also characterized by its long term thermal stability, outstanding wear resistance, high creep resistance, and strength up to its continuous use temperature of 536° F. TECASINT™ 2021 contains 15% graphite and is also available for applications requiring improved wear resistance & lower coefficient of friction. Superior high temperature characteristics (TECASINT™ 2000 series can operate up to 536° F continuously)Excellent long-term thermal stabilityOutstanding bearing and wear properties (at elevated temperatures, TECASINT™ 2000 formulations offer superior wear rates)Excellent creep resistanceHigh strength and stiffness propertiesHigh purity characteristics (only extremely low levels of extractables and ionic impurities are apparent in TECASINT™ 2011)Good chemical resistance (TECASINT™ 2000 series is not attacked by common solvents or fuels and is acceptable for use in contact with many acids)TECASINT™ 2000 series with their superior physical properties, are ideal for applications in the aerospace, nuclear, automotive, electrical/electronics, and chemical processing industries. TECASINT™ shapes are excellent candidates for high purity applications in the semiconductor processing industry. Typical components produced from TECASINT™ applications include seals, thrust washers, bushings and wear pads in transportation/off-highway equipment, insulating and support elements in electrical welding and brazing equipment, and wafer-handling components in the harsh environment of semiconductor plasma ovens. Pump and valve seals, vanes, and piston rings are also commonly produced from TECASINT™ series materials.Information Provided by Ensinger Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ensinger-TECASINT-2031-Polyimide-40-Graphite-Filled-PI.php

Physical Properties	Metric	English	Comments
Density	1.59 g/cc	0.0574 lb/in ³	DIN 53 479
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Filler Content	40 %	40 %	Graphite
Water Absorption	1.2 %	1.2 %	EN ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
	2.18 %	2.18 %	EN ISO 62
	@Temperature 80.0 °C, Time 86400 sec	@Temperature 176 °F, Time 24.0 hour	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	84	84	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	65.0 MPa	9430 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Elongation at Break	@Temperature 23.0 °C	@Temperature 73.4 °F	EN ISO 527
Elongation at Yield	2.2 %	2.2 %	Flexural; EN ISO 178
Tensile Modulus	6.30 GPa @Temperature 23.0 °C	914 ksi @Temperature 73.4 °F	EN ISO 527
Flexural Strength	87.5 MPa @Temperature 23.0 °C	12700 psi @Temperature 73.4 °F	EN ISO 178
Flexural Modulus	5.207 GPa @Temperature 23.0 °C	755.2 ksi @Temperature 73.4 °F	EN ISO 178
Compressive Yield Strength	124 MPa	18000 psi	10% Strain; EN ISO 604
Compressive Strength	131 MPa @Temperature 23.0 °C	19000 psi @Temperature 73.4 °F	EN ISO 604
Compressive Modulus	2.027 GPa @Temperature 23.0 °C	294.0 ksi @Temperature 73.4 °F	EN ISO 604
Charpy Impact Unnotched	1.42 J/cm ²	6.76 ft-lb/in ²	EN ISO 179
Charpy Impact, Notched	0.330 J/cm ² @Temperature 23.0 °C	1.57 ft-lb/in ² @Temperature 73.4 °F	EN ISO 179
Compression Set	12.5 %	12.5 %	Compression at Break; EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	30.0 µm/m-°C	16.7 µin/in-°F	DIN 53 752
	@Temperature 50.0 - 200 °C	@Temperature 122 - 392 °F	
	38.0 µm/m-°C	21.1 µin/in-°F	DIN 53 752
	@Temperature 200 - 300 °C	@Temperature 392 - 572 °F	
Maximum Service Temperature, Air	300 °C	572 °F	
Glass Transition Temp, Tg	370 °C	698 °F	DMTA
Flammability, UL94	V-0	V-0	

Descriptive Properties	Value	Comments
Color	Black	

Descriptive Properties	Value	Comments
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