

Ensinger TECASINT™ 2022 Polyimide, Black, 15% Graphite (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-2022-Polyimide-Black-15-Graphite-PI.php

Physical Properties	Metric	English	Comments
Density	1.35 g/cc	0.0488 lb/in ³	DIN 53 479
Water Absorption	1.04 %	1.04 %	24 hours in water; DIN EN ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.62 %	2.62 %	24 hours in water; DIN EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	84	84	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	77.0 MPa	11200 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	3.6 %	3.6 %	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	3.20 GPa	464 ksi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	105 MPa	15200 psi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	3.353 GPa	486.3 ksi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Yield Strength	123 MPa	17800 psi	EN ISO 604
	@Strain 10.0 %, Temperature 23.0 °C	@Strain 10.0 %, Temperature 73.4 °F	
Compressive Strength	255 MPa	37000 psi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	1.64 GPa	238 ksi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	2.36 J/cm ²	11.2 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.260 J/cm ²	1.24 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compression Set	45 %	45 %	Compression at Break; EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	41.0 μm/m-°C	22.8 μin/in-°F	DIN 53 752
	@Temperature 50.0 - 200 °C	@Temperature 122 - 392 °F	
	52.0 μm/m-°C	28.9 μin/in-°F	DIN 53 752
	@Temperature 200 - 300 °C	@Temperature 392 - 572 °F	
Specific Heat Capacity	0.970 J/g-°C	0.232 BTU/lb-°F	
Thermal Conductivity	0.490 W/m-K	3.40 BTU-in/hr-ft ² -°F	ISO 8302
	@Temperature 40.0 °C	@Temperature 104 °F	
Maximum Service Temperature, Air	300 °C	572 °F	

Thermal Properties Glass Transition Temperature at 1.8 MPa (204 psi)	Metric	English	Comments
Glass Transition Temp, Tg	370 °C	698 °F	DMTA

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