

Ensinger TECASINT 5011 Polyimide (PI)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic , Thermoplastic Polyimide, Carbon Fiber

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 High gamma radiation resistance Good chemical resistance Easily machined Good electrical insulation Very creep resistant Wear resistance Low coefficient of thermal expansion Flame retardant according to UL94 V-0 Sensitive to hydrolysis in higher thermal range Applications Cryogenics Aircraft and aerospace industries Electrical engineering Nuclear and vacuum technology Mechanical engineering Chemical plant engineering Preferred Fields Switch parts, seals, connector, housing, lead backer Information Provided by Ensinger, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Ensinger-TECASINT-5011-Polyimide-PI.php

Physical Properties	Metric	English	Comments
Density	1.38 g/cc	0.0499 lb/in ³	DIN 53 479
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Water Absorption	4.17 %	4.17 %	3 week saturation; EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	
	0.69 %	0.69 %	EN ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
	2.24 %	2.24 %	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	91	91	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	110 MPa	16000 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	5.5 %	5.5 %	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	4.3 %	4.3 %	Flexural; EN ISO 178

Mechanical Properties	Metric	English	Comments
Tensile Modulus	4.50 GPa @Temperature 23.0 °C	652 ksi @Temperature 73.4 °F	EN ISO 527
Flexural Strength	162 MPa @Temperature 23.0 °C	23500 psi @Temperature 73.4 °F	EN ISO 178
Flexural Modulus	4.24 GPa @Temperature 23.0 °C	615 ksi @Temperature 73.4 °F	EN ISO 178
Compressive Strength	474 MPa @Temperature 23.0 °C	68700 psi @Temperature 73.4 °F	EN ISO 604
Charpy Impact Unnotched	3.74 J/cm²	17.8 ft-lb/in²	EN ISO 179
Compression Set	98 %	98 %	Compression at Break; EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	48.0 µm/m-°C @Temperature 50.0 - 200 °C	26.7 µin/in-°F @Temperature 122 - 392 °F	DIN 53 752
Glass Transition Temp, Tg	340 °C	644 °F	DMTA
Flammability, UL94	V-0	V-0	

Descriptive Properties	Value	Comments
Color	Sandy	
DIN-Abbreviation	PAI CF	

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