

Ensinger TECASINT 3012 Polyimide, Ochre Brown (PI)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

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 stability, very creep resistant, good radiation-resistance, low outgassing, good chemical resistance, flame retardant according to UL94 V-0, easily machined, sensitive to hydrolysis in higher thermal range, very good electrical insulation. Applications: Mechanical engineering, vacuum technology, electrical engineering, cryogenics, precision engineering, aircraft and aerospace industries, glass technology, conveyor technology. Preferred Fields: Valve seats, insulators, switch parts, wear sensor for brakes, carriage. Information Provided by Ensinger Sintimid

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http://www.lookpolymers.com/polymer_Ensinger-TECASINT-3012-Polyimide-Ochre-Brown-PI.php

Physical Properties	Metric	English	Comments
Density	1.31 g/cc	0.0473 lb/in ³	DIN 53 479
Water Absorption	0.80 %	0.80 %	24 hours in water; EN ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	2.58 %	2.58 %	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	57.4 MPa	8330 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	6.0 %	6.0 %	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	7.9 %	7.9 %	Flexural Elongation; EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	2.284 GPa	331.3 ksi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	81.0 MPa Metric	11700 psi English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	2.215 GPa	321.3 ksi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Yield Strength	82.0 MPa	11900 psi	EN ISO 604
	@Strain 10.0 %, Temperature 23.0 °C	@Strain 10.0 %, Temperature 73.4 °F	
Compressive Strength	389 MPa	56400 psi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	1.135 GPa	164.6 ksi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	3.11 J/cm ²	14.8 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.560 J/cm ²	2.66 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compression Set	66.3 %	66.3 %	Compression at Break; EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	54.0 µm/m-°C	30.0 µin/in-°F	DIN 53 752
	@Temperature 50.0 - 200 °C	@Temperature 122 - 392 °F	
	71.0 µm/m-°C	39.4 µin/in-°F	DIN 53 752
	@Temperature 200 - 300 °C	@Temperature 392 - 572 °F	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China