

Ensinger TECASINT 4021 Polyimide, Black, 15% Graphite (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: Very high temperature and oxidative resistance, high creep resistant, good radiation-resistance, good sliding properties, very high chemical resistance, very low absorption of water, flame retardant according to UL94 V-0, not electrically insulating, easily machined, sensitive to hydrolysis in higher thermal range Applications: Mechanical engineering, automotive engineering, conveyor technology, hot glass technology, precision engineering Preferred Fields: Valve seats, friction rings, skid rails, chain guides, piston rings, gripper for hot glass, washers, bearings Information Provided by Ensinger Sintimid

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http://www.lookpolymers.com/polymer_Ensinger-TECASINT-4021-Polyimide-Black-15-Graphite-PI.php

Physical Properties	Metric	English	Comments
Density	1.49 g/cc	0.0538 lb/in ³	DIN 53 479
Water Absorption	0.080 %	0.080 %	24 hours in water; EN ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.53 %	0.53 %	24 hours in water; EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	86	86	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength	93.0 MPa	13500 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	3.0 %	3.0 %	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	3.4 %	3.4 %	Flexural Elongation; EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Modulus	4.943 GPa	716.9 ksi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	131 MPa Metric	19000 psi English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	4.93 GPa	715 ksi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Yield Strength	163 MPa	23600 psi	EN ISO 604
	@Strain 10.0 %, Temperature 23.0 °C	@Strain 10.0 %, Temperature 73.4 °F	
Compressive Strength	208 MPa	30200 psi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	2.067 GPa	299.8 ksi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	2.44 J/cm ²	11.6 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.480 J/cm ²	2.28 ft-lb/in ²	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compression Set	36 %	36 %	Compression at Break; EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Glass Transition Temp, Tg	260 °C	500 °F	DMTA

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