

## Ensinger TECASINT 5051 Polyimide, 30% Glass Fiber Filled (PI)

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic , Thermoplastic Polyimide, Glass 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 Flame retardant according to UL94 V-0 Very creep resistant Good wear properties Low coefficient of thermal expansion Very good electrical insulation Sensitive to hydrolysis in higher thermal range Applications Mechanical engineering Cryogenics Aircraft and aerospace industries Electronics Nuclear and vacuum technology Electrical engineering Preferred Fields Switch parts, connector, housing, lead backer Information Provided by Ensinger, Inc.

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[http://www.lookpolymers.com/polymer\\_Ensinger-TECASINT-5051-Polyimide-30-Glass-Fiber-Filled-PI.php](http://www.lookpolymers.com/polymer_Ensinger-TECASINT-5051-Polyimide-30-Glass-Fiber-Filled-PI.php)

Physical Properties	Metric	English	Comments
Density	1.57 g/cc	0.0567 lb/in <sup>3</sup>	DIN 53 479
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Filler Content	30 %	30 %	Glass Fiber
Water Absorption	3.13 %	3.13 %	3 week saturation; EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	
	0.53 %	0.53 %	EN ISO 62
	@Temperature 23.0 °C, Time 86400 sec	@Temperature 73.4 °F, Time 24.0 hour	
	1.66 %	1.66 %	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	92	92	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Tensile Strength, Yield	94.0 MPa	13600 psi	EN ISO 527
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Break	3.4 %	3.4 %	EN ISO 527

Mechanical Properties	@Temperature 23.0 °C Metric	@Temperature 73.4 °F English	Comments
Elongation at Yield	3.1 %	3.1 %	Flexural; EN ISO 178
Tensile Modulus	5.80 GPa @Temperature 23.0 °C	841 ksi @Temperature 73.4 °F	EN ISO 527
Flexural Strength	163 MPa @Temperature 23.0 °C	23600 psi @Temperature 73.4 °F	EN ISO 178
Flexural Modulus	6.625 GPa @Temperature 23.0 °C	960.9 ksi @Temperature 73.4 °F	EN ISO 178
Compressive Strength	260 MPa @Temperature 23.0 °C	37700 psi @Temperature 73.4 °F	EN ISO 604
Charpy Impact Unnotched	2.73 J/cm <sup>2</sup>	13.0 ft-lb/in <sup>2</sup>	EN ISO 179
Charpy Impact, Notched	0.510 J/cm <sup>2</sup> @Temperature 23.0 °C	2.43 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	EN ISO 179
Compression Set	72 %	72 %	Compression at Break; EN ISO 604

Thermal Properties	Metric	English	Comments
CTE, linear	33.0 µm/m-°C @Temperature 50.0 - 200 °C	18.3 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	

Electrical Properties	Metric	English	Comments
Surface Resistance	>= 1.00e+14 ohm @Temperature 23.0 °C	>= 1.00e+14 ohm @Temperature 73.4 °F	IEC 60093
Dielectric Constant	3.59 @Frequency 1000 Hz, Temperature 23.0 °C	3.59 @Frequency 1000 Hz, Temperature 73.4 °F	IEC 60250

Descriptive Properties	Value	Comments
Color	Dark Brown	
DIN-Abbreviation	PAI GF30	

## **Contact Songhan Plastic Technology Co.,Ltd.**

**Website : [www.lookpolymers.com](http://www.lookpolymers.com)**

**Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)**

**Tel : +86 021-51131842**

**Mobile : +86 13061808058**

**Skype : lookpolymers**

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