

## Ensinger TECASINT 4201 SD Polyimide, Black, Carbon Fiber (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, very creep resistant, high gamma radiation resistance, low water absorption, antistatic, low coefficient of thermal expansion, easily machined to tight tolerances, flame retardant according to UL94 V-0. Applications: Mechanical engineering, electronics, cryogenics, nuclear and vacuum technology, aircraft and aerospace industries, semiconductor technology, electrical engineering. Preferred Fields: Switch parts, seals, explosion-protected plants, connector, housing. Information Provided by Ensinger Sintimid

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[http://www.lookpolymers.com/polymer\\_Ensinger-TECASINT-4201-SD-Polyimide-Black-Carbon-Fiber-PI.php](http://www.lookpolymers.com/polymer_Ensinger-TECASINT-4201-SD-Polyimide-Black-Carbon-Fiber-PI.php)

Physical Properties	Metric	English	Comments
Density	1.42 g/cc	0.0513 lb/in <sup>3</sup>	DIN 53 479
Water Absorption	0.14 %	0.14 %	24 hours in water; EN ISO 62
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.66 %	0.66 %	24 hours in water; EN ISO 62
	@Temperature 80.0 °C	@Temperature 176 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	89	89	DIN 53 505
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Elongation at Yield	2.9 %	2.9 %	Flexural Elongation; EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Strength	134 MPa	19400 psi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Flexural Modulus	4.44 GPa	644 ksi	EN ISO 178
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Yield Strength	184 MPa	26700 psi	EN ISO 604
	@Strain 10.0 %, Temperature 23.0 °C	@Strain 10.0 %, Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Compressive Strength	742 MPa	10700 psi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compressive Modulus	2.36 GPa	342 ksi	EN ISO 604
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	1.96 J/cm <sup>2</sup>	9.33 ft-lb/in <sup>2</sup>	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.210 J/cm <sup>2</sup>	0.999 ft-lb/in <sup>2</sup>	EN ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Compression Set	60 %	60 %	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	
	56.0 µm/m-°C	31.1 µin/in-°F	DIN 53 752
	@Temperature 200 - 300 °C	@Temperature 392 - 572 °F	
CTE, linear, Transverse to Flow	43.0 µm/m-°C	23.9 µin/in-°F	DIN 53 752
	@Temperature 50.0 - 200 °C	@Temperature 122 - 392 °F	
	59.0 µm/m-°C	32.8 µin/in-°F	DIN 53 752
	@Temperature 200 - 300 °C	@Temperature 392 - 572 °F	

Electrical Properties	Metric	English	Comments
Surface Resistivity per Square	1.00e+11 - 1.00e+12 ohm	1.00e+11 - 1.00e+12 ohm	IEC 60093
	@Temperature 23.0 °C	@Temperature 73.4 °F	

## Contact Songhan Plastic Technology Co.,Ltd.

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