

SABIC Innovative Plastics EXTEM XH1005 TPI Resin

Category : Polymer , Thermoplastic , Polyimide, Thermoplastic

Material Notes:

Thermoplastic Polyimide Extem* XH1005 Resin.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-EXTEM-XH1005-TPI-Resin.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Water Absorption	0.60 % @Time 173000 sec	0.60 % @Time 48.0 hour	ASTM D570
Water Absorption at Saturation	2.3 %	2.3 %	ISO 62
Linear Mold Shrinkage, Flow	0.010 - 0.012 cm/cm @Thickness 3.20 mm	0.010 - 0.012 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	6.0 g/10 min @Load 6.60 kg, Temperature 367 °C	6.0 g/10 min @Load 14.6 lb, Temperature 693 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	70.0 MPa	10200 psi	5 mm/min; ISO 527
	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	101 MPa	14600 psi	5 mm/min; ISO 527
	103 MPa	14900 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	6.0 %	6.0 %	5 mm/min; ISO 527
	15 %	15 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	5 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.16 GPa	458 ksi	1 mm/min; ISO 527
	3.42 GPa	496 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	150 MPa	21800 psi	2 mm/min; ISO 178

Mechanical Properties	168 MPa Metric	24400 psi English	1.3 mm/min, 50 mm span; ASTM D790 Comments
Flexural Modulus	2.85 GPa	413 ksi	2 mm/min; ISO 178
	3.13 GPa	454 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.430 J/cm	0.806 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	4.00 kJ/m ²	1.90 ft-lb/in ²	80*10*4; ISO 180/1A
Charpy Impact, Notched	2.10 J/cm ²	9.99 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	20.0 J @Temperature 23.0 °C	14.8 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 µm/m-°C @Temperature 23.0 - 150 °C	27.8 µin/in-°F @Temperature 73.4 - 302 °F	ISO 11359-2
CTE, linear, Transverse to Flow	51.0 µm/m-°C @Temperature 23.0 - 150 °C	28.3 µin/in-°F @Temperature 73.4 - 302 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	250 °C @Thickness 3.20 mm	482 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	225 °C	437 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	235 °C @Thickness 3.20 mm	455 °F @Thickness 0.126 in	unannealed; ASTM D648
	237 °C @Thickness 6.40 mm	459 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	252 °C	486 °F	Rate B/50; ISO 306
	252 °C	486 °F	Rate B/120; ISO 306
	260 °C	500 °F	Rate B/50; ASTM D1525

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