

SABIC Innovative Plastics Noryl GTX GTX977 PPE+PA66

Category : Polymer , Thermoplastic , Polyester, TP , Polyphenylene Ether/PPO

Material Notes:

Noryl GTX GTX977 resin is a mineral reinforced conductive Noryl GTX with a improved CTE (7) with a balanced performance of Impact and stiffness. (developmental grade : EXNX0074)This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Noryl-GTX-GTX977-PPEPA66.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D 792
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.80 %	0.80 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	3.5 % @Temperature 23.0 ^o C	3.5 % @Temperature 73.4 ^o F	ISO 62
Linear Mold Shrinkage, Flow	0.010 - 0.013 cm/cm @Thickness 3.20 mm	0.010 - 0.013 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.010 - 0.013 cm/cm @Thickness 3.20 mm	0.010 - 0.013 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	9.0 g/10 min @Load 5.00 kg, Temperature 280 ^o C	9.0 g/10 min @Load 11.0 lb, Temperature 536 ^o F	ASTM D 1238
	11 g/10 min @Load 5.00 kg, Temperature 280 ^o C	11 g/10 min @Load 11.0 lb, Temperature 536 ^o F	[cm ³ /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	62.0 MPa	8990 psi	Type I, 5 mm/min; ASTM D 638
	65.0 MPa	9430 psi	50 mm/min; ISO 527
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 5 mm/min; ASTM D 638
	65.0 MPa	9430 psi	50 mm/min; ISO 527
Elongation at Break	12 %	12 %	50 mm/min; ISO 527
	18 %	18 %	Type I, 5 mm/min; ASTM D 638

Elongation at Yield Mechanical Properties	4.0 % Metric	4.0 % English	Type I, 5 mm/min; ASTM D 638 Comments
	9.0 %	9.0 %	50 mm/min; ISO 527
Tensile Modulus	3.40 GPa	493 ksi	1 mm/min; ISO 527
	3.90 GPa	566 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	100 MPa	14500 psi	2 mm/min; ISO 178
	110 MPa	16000 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	3.30 GPa	479 ksi	2 mm/min; ISO 178
	3.70 GPa	537 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.650 J/cm @Temperature -30.0 °C	1.22 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	0.900 J/cm @Temperature 23.0 °C	1.69 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	6.00 kJ/m ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	11.0 kJ/m ² @Temperature 23.0 °C	5.23 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	120 kJ/m ² @Temperature -30.0 °C	57.1 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1U
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*4; ISO 180/1U
Charpy Impact, Notched	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cm ² @Temperature 23.0 °C	4.76 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	5.00 J @Temperature 23.0	3.69 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Mechanical Properties	Metric	English	Comments
Thermal Properties			
	Metric	English	Comments
CTE, linear, Parallel to Flow	65.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	70.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 60.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 140 $\text{Å}^\circ\text{F}$	
CTE, linear, Transverse to Flow	75.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	41.7 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	80.0 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 60.0 $\text{Å}^\circ\text{C}$	@Temperature 73.4 - 140 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	195 $\text{Å}^\circ\text{C}$	383 $\text{Å}^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	199 $\text{Å}^\circ\text{C}$	390 $\text{Å}^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
	212 $\text{Å}^\circ\text{C}$	414 $\text{Å}^\circ\text{F}$	unannealed; ASTM D 648
Vicat Softening Point	@Thickness 3.20 mm	@Thickness 0.126 in	
	200 $\text{Å}^\circ\text{C}$	392 $\text{Å}^\circ\text{F}$	Rate B/120; ISO 306
	202 $\text{Å}^\circ\text{C}$	396 $\text{Å}^\circ\text{F}$	Rate B/50; ISO 306
	205 $\text{Å}^\circ\text{C}$	401 $\text{Å}^\circ\text{F}$	Rate B/50; ASTM D 1525
Electrical Properties	Metric	English	Comments
Volume Resistivity	1000 - 10000 ohm-cm	1000 - 10000 ohm-cm	SABIC Method

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