

SABIC Innovative Plastics NORYL GTX GTX678 PPE+PA

Category : Polymer , Thermoplastic , Nylon , Polyphenylene Ether/PPO

Material Notes:

Noryl GTX678 resin is a high performance blend of PPE/PA that exhibits an excellent balance on non-halogenated flame retardance, conductivity, ductility, and high-heat resistance. This grade can be electro-statically painted or powder coated without the need for a conductive primer.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GTX-GTX678-PPEPA.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.12 g/cc	1.12 g/cc	ASTM D792
Density	1.12 g/cc	0.0405 lb/in ³	ISO 1183
Moisture Absorption	0.500 %	0.500 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	4.0 %	4.0 %	ISO 62
Linear Mold Shrinkage, Flow	0.013 - 0.015 cm/cm @Thickness 3.20 mm	0.013 - 0.015 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	7.8 g/10 min @Load 5.00 kg, Temperature 300 ^o C	7.8 g/10 min @Load 11.0 lb, Temperature 572 ^o F	ASTM D1238
Melt Index of Compound	7.0 g/10 min @Load 5.00 kg, Temperature 300 ^o C	7.0 g/10 min @Load 11.0 lb, Temperature 572 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D638
	52.0 MPa	7540 psi	50 mm/min; ISO 527
Tensile Strength, Yield	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
	58.0 MPa	8410 psi	50 mm/min; ISO 527
Elongation at Break	12 %	12 %	Type I, 50 mm/min; ASTM D638
	12 %	12 %	50 mm/min; ISO 527
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D638
	7.0 %	7.0 %	50 mm/min; ISO 527
Tensile Modulus	2.90 GPa	421 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric 2.90 GPa	English 421 ksi	Comments 1 mm/min; ISO 527
Flexural Yield Strength	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
	95.0 MPa	13800 psi	2 mm/min; ISO 178
Flexural Modulus	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.60 GPa	377 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	0.700 J/cm @Temperature -30.0 Â°C	1.31 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Notched (ISO)	10.0 kJ/mÂ²	4.76 ft-lb/inÂ²	80*10*4; ISO 180/1A
	7.00 kJ/mÂ² @Temperature -30.0 Â°C	3.33 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.20 J/cmÂ²	5.71 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	60.0 J	44.3 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	78.0 Âµm/m-Â°C	43.3 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	83.0 Âµm/m-Â°C	46.1 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 60.0 Â°C	@Temperature 73.4 - 140 Â°F	
CTE, linear, Transverse to Flow	80.0 Âµm/m-Â°C	44.4 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Specific Heat Capacity	85.0 Âµm/m-Â°C	47.2 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 60.0 Â°C	@Temperature 73.4 - 140 Â°F	
		0.335 BTU/lb-Â°F	ASTM C351
		1.39 BTU-in/hr-ftÂ²-	

Thermal Properties	0.200 W/m-K Metric	°F English	ASTM C177 Comments
Deflection Temperature at 0.46 MPa (66 psi)	191 °C	376 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	195 °C @Thickness 3.20 mm	383 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	195 °C	383 °F	Rate B/120; ISO 306
	197 °C	387 °F	Rate B/50; ISO 306
	198 °C	388 °F	Rate B/50; ASTM D1525
Flammability, UL94	V-1 @Thickness 1.50 mm	V-1 @Thickness 0.0591 in	UL 94 by SABIC-IP
	V-0 @Thickness 2.00 mm	V-0 @Thickness 0.0787 in	UL 94 by SABIC-IP
	5VB @Thickness 2.00 mm	5VB @Thickness 0.0787 in	UL 94 by SABIC-IP
	5VA @Thickness 2.00 mm	5VA @Thickness 0.0787 in	UL 94 by SABIC-IP
Glow Wire Test	800 °C	1470 °F	IEC 60695-2-13
	960 °C @Thickness 2.00 mm	1760 °F @Thickness 0.0787 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	4000 ohm-cm	4000 ohm-cm	ASTM D257

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASS	IEC 60695-10-2

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