

## SABIC Innovative Plastics Noryl GTX GTX4110 PPE+PA66

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

### Material Notes:

Non-brominated, non-chorinated Flame Retardant PPE/PA66 alloy, 10% glass reinforced. Combines ductility, modulus and high CTI with dimensional stability. 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-GTX4110-PPEPA66.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Noryl-GTX-GTX4110-PPEPA66.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.20 g/cc	0.0434 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.80 %	0.80 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	4.0 % @Temperature 23.0 <sup>o</sup> C	4.0 % @Temperature 73.4 <sup>o</sup> F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0070 - 0.0090 cm/cm @Thickness 3.20 mm	0.0070 - 0.0090 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	9.0 g/10 min @Load 2.16 kg, Temperature 280 <sup>o</sup> C	9.0 g/10 min @Load 4.76 lb, Temperature 536 <sup>o</sup> F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133
	20 g/10 min @Load 3.80 kg, Temperature 280 <sup>o</sup> C	20 g/10 min @Load 8.38 lb, Temperature 536 <sup>o</sup> F	ASTM D 1238
	39 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	39 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	83.0 MPa	12000 psi	Type I, 5 mm/min; ASTM D 638
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Tensile Strength, Yield	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	90.0 MPa Metric	13100 psi English	5 mm/min: ISO 527 Comments
Elongation at Break	6.0 %	6.0 %	5 mm/min; ISO 527
	8.0 %	8.0 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527
	5.0 %	5.0 %	Type I, 5 mm/min; ASTM D 638
Tensile Modulus	4.30 GPa	624 ksi	5 mm/min; ASTM D 638
	4.30 GPa	624 ksi	1 mm/min; ISO 527
Flexural Strength	144 MPa	20900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Yield Strength	145 MPa	21000 psi	1.3 mm/min, 50 mm span; ASTM D 790
	145 MPa	21000 psi	2 mm/min; ISO 178
Flexural Modulus	4.00 GPa	580 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	4.00 GPa	580 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.530 J/cm @Temperature 23.0 °C	0.993 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	5.87 J/cm @Temperature 23.0 °C	11.0 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	3.00 kJ/m <sup>2</sup> @Temperature -30.0 °C	1.43 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1A
	13.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	6.19 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	30.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	14.3 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1U
	40.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	19.0 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.50 J/cm <sup>2</sup> @Temperature -30.0 °C	16.7 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	3.00 J/cm <sup>Å</sup>	23.0 ft-lb/in <sup>Å</sup>	
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.200 J/cm <sup>Å</sup>	0.952 ft-lb/in <sup>Å</sup>	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
	0.400 J/cm <sup>Å</sup>	1.90 ft-lb/in <sup>Å</sup>	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
Impact Test	3.00 J	2.21 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	54.0 Åµm/m-Å°C	30.0 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	55.0 Åµm/m-Å°C	30.6 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 60.0 Å°C	@Temperature 73.4 - 140 Å°F	
CTE, linear, Transverse to Flow	90.0 Åµm/m-Å°C	50.0 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	100 Åµm/m-Å°C	55.6 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 60.0 Å°C	@Temperature 73.4 - 140 Å°F	
Deflection Temperature at 0.46 MPa (66 psi)	239 Å°C	462 Å°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	235 Å°C	455 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	193 Å°C	379 Å°F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	220 Å°C	428 Å°F	Rate B/50; ASTM D 1525
	230 Å°C	446 Å°F	Rate B/50; ISO 306
	230 Å°C	446 Å°F	Rate B/120; ISO 306
UL RTI, Electrical	120 Å°C	248 Å°F	UL 746B

Thermal Properties <i>UL RTI, Mechanical with Impact</i>	Metric <i>90 U A °C</i>	English <i>100 A °F</i>	Comments <i>UL 746B</i>
UL RTI, Mechanical without Impact	95.0 Â°C	203 Â°F	UL 746B
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 2.48 mm	@Thickness 0.0976 in	
	V-1	V-1	UL 94 by SABIC-IP
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	V-0	V-0	UL 94 by SABIC-IP
	@Thickness 3.00 mm	@Thickness 0.118 in	
	V-0	V-0	UL 94
	@Thickness 2.99 mm	@Thickness 0.118 in	
	5VA	5VA	UL 94
	@Thickness 2.48 mm	@Thickness 0.0976 in	
	5VA	5VA	UL 94 by SABIC-IP
	@Thickness 2.50 mm	@Thickness 0.0984 in	
Oxygen Index	33 %	33 %	LOI; ISO 4589
Glow Wire Test	850 Â°C	1560 Â°F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	960 Â°C	1760 Â°F	Glow Wire Flammability Index; IEC 60695-2-12
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.20e+16 ohm-cm	1.20e+16 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	3.0	3.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.018	0.018	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Comparative Tracking Index Electrical Properties	250 - 400 V Metric	250 - 400 V English	PLC code 2: UL 746A Comments
	375 V	375 V	IEC 60112
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	PLC code 1; UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	surface, PLC code 0; UL 746A

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

## 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