

SABIC Innovative Plastics Noryl GTX GTX4110 PPE+PA66 (Europe-Africa-Middle East)

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 Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Noryl-GTX-GTX4110-PPEPA66-Europe-Africa-Middle-East.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 ³	ISO 1183
Moisture Absorption at Equilibrium	0.80 %	0.80 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	4.0 % @Temperature 23.0 Â°C	4.0 % @Temperature 73.4 Â°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 Â°C	9.0 g/10 min @Load 4.76 lb, Temperature 536 Â°F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	39 g/10 min @Load 5.00 kg, Temperature 280 Â°C	39 g/10 min @Load 11.0 lb, Temperature 536 Â°F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	130 MPa	18900 psi	ISO 2039-1
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
	90.0 MPa	13100 psi	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Elongation at Break	8.0 %	8.0 %	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 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 Â°C	0.993 ft-lb/in @Temperature 73.4 Â°F	ASTM D 256
Izod Impact, Unnotched	5.87 J/cm @Temperature 23.0 Â°C	11.0 ft-lb/in @Temperature 73.4 Â°F	ASTM D 4812
Izod Impact, Notched (ISO)	3.00 kJ/mÂ² @Temperature -30.0 Â°C	1.43 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
	13.0 kJ/mÂ² @Temperature 23.0 Â°C	6.19 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	30.0 kJ/mÂ² @Temperature -30.0 Â°C	14.3 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
	40.0 kJ/mÂ² @Temperature 23.0 Â°C	19.0 ft-lb/inÂ² @Temperature 73.4 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.50 J/cmÂ² @Temperature -30.0 Â°C	16.7 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.00 J/cmÂ² @Temperature 23.0	23.8 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU

Mechanical Properties	Metric	English	Comments
Charpy Impact, Notched	0.200 J/cm ²	0.952 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	0.400 J/cm ²	1.90 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Impact Test	3.00 J	2.21 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	54.0 Âµm/m-Â°C	30.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	55.0 Âµm/m-Â°C	30.6 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	90.0 Âµm/m-Â°C	50.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	100 Âµm/m-Â°C	55.6 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 60.0 Â°C	@Temperature 73.4 - 140 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	190 Â°C	374 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	239 Â°C	462 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	235 Â°C	455 Â°F	unannealed; ASTM D 648
Vicat Softening Point	@Thickness 3.20 mm	@Thickness 0.126 in	
	220 Â°C	428 Â°F	Rate B/50; ASTM D 1525
	230 Â°C	446 Â°F	Rate B/50; ISO 306
	230 Â°C	446 Â°F	Rate B/120; ISO 306
	120 Â°C	248 Â°F	UL 746B
	90.0 Â°C	194 Â°F	UL 746B
UL RTI, Mechanical without Impact	95.0 Â°C	203 Â°F	UL 746B

Thermal Properties	V-1 Metric	V-1 English	Comments
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	V-1	V-1	UL 94
	@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 3.00 mm	@Thickness 0.118 in	
	5VA	5VA	UL 94 by SABIC-IP
	@Thickness 2.50 mm	@Thickness 0.0984 in	
	5VA	5VA	UL 94
	@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	
	22.0 kV/mm	559 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	31.0 kV/mm	787 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.018	0.018	IEC 60250
	@Frequency 1.00e+6	@Frequency 1.00e+6	

Electrical Properties	Hz Metric	Hz English	Comments
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC code 2; UL 746A
	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

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