

## SABIC Innovative Plastics NORYL GTX GTX4610 PPE+PA

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

### Material Notes:

Noryl GTX\* GTX4610 resin is a high performance, 10% glass filled blend of PPE/PA that exhibits an excellent balance of non-halogenated flame retardance, dimensional stability, high heat resistance, strength, and flow. The material is available in limited colors for injection molding.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-GTX-GTX4610-PPEPA.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GTX-GTX4610-PPEPA.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.21 g/cc	1.21 g/cc	ASTM D792
Density	1.21 g/cc	0.0437 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.500 %	0.500 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	3.8 %	3.8 %	ISO 62
Linear Mold Shrinkage, Flow	0.0088 - 0.0094 cm/cm @Thickness 3.20 mm	0.0088 - 0.0094 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0095 - 0.0101 cm/cm @Thickness 3.20 mm	0.0095 - 0.0101 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	18 g/10 min @Load 5.00 kg, Temperature 300 <sup>o</sup> C	18 g/10 min @Load 11.0 lb, Temperature 572 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	15 g/10 min @Load 5.00 kg, Temperature 300 <sup>o</sup> C	15 g/10 min @Load 11.0 lb, Temperature 572 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	88.0 MPa	12800 psi	Type I, 5 mm/min; ASTM D638
	88.0 MPa	12800 psi	5 mm/min; ISO 527
Tensile Strength, Yield	88.0 MPa	12800 psi	Type I, 5 mm/min; ASTM D638
	88.0 MPa	12800 psi	5 mm/min; ISO 527
Elongation at Break	3.0 %	3.0 %	5 mm/min; ISO 527
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527
Tensile Modulus	5.00 GPa	725 ksi	5 mm/min; ASTM D638

Mechanical Properties	Metric Pa	English	Comments ISO 527
Flexural Yield Strength	145 MPa	21000 psi	1.3 mm/min, 50 mm span; ASTM D790
	145 MPa	21000 psi	2 mm/min; ISO 178
Flexural Modulus	4.60 GPa	667 ksi	1.3 mm/min, 50 mm span; ASTM D790
	4.60 GPa	667 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.650 J/cm @Temperature -30.0 Â°C	1.22 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Notched (ISO)	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	80*10*4; ISO 180/1A
Charpy Impact, Notched	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	12.0 J	8.85 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	41.0 Âµm/m-Â°C	22.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	41.0 Âµm/m-Â°C	22.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	74.0 Âµm/m-Â°C	41.1 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	74.0 Âµm/m-Â°C	41.1 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	224 Â°C	435 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	220 Â°C @Thickness 3.20 mm	428 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	218 Â°C	424 Â°F	Rate B/50; ASTM D1525

Thermal Properties	218 Â°C Metric	424 Â°F English	Rate B/50: ISO 306 Comments
	220 Â°C	428 Â°F	Rate B/120; ISO 306
Flammability, UL94	V-1	V-1	UL 94 by SABIC-IP
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	5VB	5VB	
	@Thickness 2.00 mm	@Thickness 0.0787 in	UL 94 by SABIC-IP
	5VA	5VA	UL 94 by SABIC-IP
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Glow Wire Test	825 Â°C	1520 Â°F	IEC 60695-2-13
	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+16 ohm-cm	1.00e+16 ohm-cm	ASTM D257
Dielectric Strength	23.2 kV/mm	589 kV/in	in air; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	24.4 kV/mm	620 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Comparative Tracking Index	425 V	425 V	IEC 60112
	400 - 600 V	400 - 600 V	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A

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