

SABIC Innovative Plastics NORYL GFN1720 PPE+HIPS (Asia Pacific)

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polystyrene (PS)

Material Notes:

Noryl* GFN1720 is a 20% glass fiber reinforced, injection moldable grade. This modified polyphenylene ether resin is designed to deliver a balance of heat, strength and electrical properties. Noryl GFN1720 is available in multiple colors and may be an excellent material candidate for ignition coils, bobbins and other application requiring electrically insulating properties.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GFN1720-PPEHIPS-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.24 g/cc	1.24 g/cc	ASTM D792
Density	1.24 g/cc	0.0448 lb/in ³	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.15 %	0.15 %	ISO 62
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm	0.0020 - 0.0040 in/in	on Tensile Bar; SABIC Method
	0.0020 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	4.5 g/10 min @Load 5.00 kg, Temperature 300 ^o C	4.5 g/10 min @Load 11.0 lb, Temperature 572 ^o F	ASTM D1238
Melt Index of Compound	11 g/10 min @Load 10.0 kg, Temperature 300 ^o C	11 g/10 min @Load 22.0 lb, Temperature 572 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	100 MPa	14500 psi	ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	5 mm/min; ISO 527
	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D638
	90.0 MPa	13100 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
			Type I, 5 mm/min; ASTM D638
Tensile Modulus	5.50 GPa	798 ksi	5 mm/min; ASTM D638
	6.00 GPa	870 ksi	1 mm/min; ISO 527
Flexural Strength	135 MPa	19600 psi	2 mm/min; ISO 178
Flexural Yield Strength	145 MPa	21000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	4.50 GPa	653 ksi	2 mm/min; ISO 178
	4.80 GPa	696 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.600 J/cm	1.12 ft-lb/in	ASTM D256
	0.500 J/cm	0.937 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	25.0 kJ/m ²	11.9 ft-lb/in ²	80*10*4; ISO 180/1U
	25.0 kJ/m ²	11.9 ft-lb/in ²	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	2.50 J/cm ²	11.9 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.50 J/cm ²	11.9 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	14.0 J	10.3 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	45	45	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 Åµm/m-Å°C	16.7 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 80.0 Å°C	@Temperature 73.4 - 176 Å°F	
	40.0 Åµm/m-Å°C	22.2 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
CTE, linear, Transverse to Flow	50.0 Åµm/m-Å°C	27.8 Åµin/in-Å°F	ASTM E 831

Thermal Properties	Metric @Temperature -40.0 - 40.0 Â°C	English @Temperature -40.0 - 104 Â°F	Comments
	70.0 Âµm/m-Â°C	38.9 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 80.0 Â°C	@Temperature 73.4 - 176 Â°F	
Thermal Conductivity	0.260 W/m-K	1.80 BTU-in/hr-ftÂ²- Â°F	ISO 8302
Hot Ball Pressure Test	<= 165 Â°C	<= 329 Â°F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	170 Â°C	338 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	160 Â°C	320 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	171 Â°C	340 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	170 Â°C	338 Â°F	Rate B/50; ISO 306
	180 Â°C	356 Â°F	Rate B/120; ISO 306
	180 Â°C	356 Â°F	Rate A/50; ISO 306
	181 Â°C	358 Â°F	Rate B/50; ASTM D1525
UL RTI, Electrical	65.0 Â°C	149 Â°F	UL 746B
UL RTI, Mechanical with Impact	65.0 Â°C	149 Â°F	UL 746B
UL RTI, Mechanical without Impact	65.0 Â°C	149 Â°F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	HB	HB	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	
Oxygen Index	23 %	23 %	ISO 4589
Glow Wire Test	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
	2.6	2.6	

Dielectric Constant Electrical Properties	Metric @Frequency 1.00e+6 Hz	English @Frequency 1.00e+6 Hz	IEC 60250 Comments
	2.7	2.7	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	30.0 kV/mm	762 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.0020	0.0020	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0060	0.0060	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Comparative Tracking Index	200 V	200 V	IEC 60112

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

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