

## SABIC Innovative Plastics NORYL GFN1 PPE+HIPS (Europe-Africa-Middle East)

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

### Material Notes:

NORYL GFN1 is a standard 10 % glass fibre reinforced material with a HDT/A of 110C according ISO 75. NORYL GFN1 can be used for all applications where a higher modulus is required. NORYL GFN1 is available in all colours.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-GFN1-PPEHIPS-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GFN1-PPEHIPS-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	ISO 62
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	8.0 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	8.0 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	100 MPa	14500 psi	ISO 2039-1
Tensile Strength at Break	45.0 MPa	6530 psi	5 mm/min; ISO 527
Tensile Strength, Yield	50.0 MPa	7250 psi	5 mm/min; ISO 527
Elongation at Break	4.0 %	4.0 %	5 mm/min; ISO 527
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527
Tensile Modulus	4.00 GPa	580 ksi	1 mm/min; ISO 527
Flexural Strength	95.0 MPa	13800 psi	2 mm/min; ISO 178
Flexural Modulus	3.50 GPa	508 ksi	2 mm/min; ISO 178
Izod Impact, Unnotched (ISO)	20.0 kJ/m <sup>2</sup>	9.52 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
	20.0 kJ/m <sup>2</sup> @Temperature -30.0 <sup>o</sup> C	9.52 ft-lb/in <sup>2</sup> @Temperature -22.0 <sup>o</sup> F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	2.50 J/cm <sup>2</sup>	11.9 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.50 J/cm <sup>2</sup>	11.9 ft-lb/in <sup>2</sup>	

Mechanical Properties	Metric @ Temperature -30.0 Â°C	English @ Temperature -22.0 Â°F	Comments Edgew 80*10*4 sp=62mm; ISO 75/Be
Taber Abrasion, mg/1000 Cycles	50	50	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 Âµm/m-Â°C @Temperature 23.0 - 80.0 Â°C	27.8 Âµin/in-Â°F @Temperature 73.4 - 176 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 Âµm/m-Â°C @Temperature 23.0 - 80.0 Â°C	38.9 Âµin/in-Â°F @Temperature 73.4 - 176 Â°F	ISO 11359-2
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-Â²- Â°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	130 Â°C	266 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	115 Â°C	239 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	125 Â°C	257 Â°F	Rate B/50; ISO 306
	130 Â°C	266 Â°F	Rate B/120; ISO 306
	135 Â°C	275 Â°F	Rate A/50; ISO 306
UL RTI, Electrical	50.0 Â°C	122 Â°F	UL 746B
UL RTI, Mechanical with Impact	50.0 Â°C	122 Â°F	UL 746B
UL RTI, Mechanical without Impact	50.0 Â°C	122 Â°F	UL 746B
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	UL 94
Oxygen Index	26 %	26 %	ISO 4589
Glow Wire Test	750 Â°C @Thickness 3.20 mm	1380 Â°F @Thickness 0.126 in	IEC 60695-2-12

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
Dielectric Constant	2.8 @Frequency 1.00e+6	2.8 @Frequency 1.00e+6	IEC 60250

Electrical Properties	Hz Metric	Hz English	Comments
	2.8	2.8	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm	457 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
Dissipation Factor	0.00050	0.00050	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	0.0010	0.0010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250

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

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