

## SABIC Innovative Plastics NORYL GFN1V PPE+HIPS (Europe-Africa-Middle East)

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

### Material Notes:

NORYL GFN1V is a 10 % glass fibre reinforced material with a HDT/A of 110C according ISO 75. NORYL GFN1V cust spec 1977 has been approved for potable water applications up to 85C by the UK WFBS according BS 6920 in limited colours.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-GFN1V-PPEHIPS-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-GFN1V-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 Yield 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 Mechanical Properties	2.50 J/cm <sup>2</sup> Metric	11.9 ft-lb/in <sup>2</sup> English	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.50 J/cm <sup>2</sup>	11.9 ft-lb/in <sup>2</sup>	
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
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	27.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 80.0 Â°C	@Temperature 73.4 - 176 Â°F	
CTE, linear, Transverse to Flow	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	0.240 W/m-K	1.67 BTU-in/hr-ftÂ²- 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	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	26 %	26 %	ISO 4589
Glow Wire Test	750 Â°C	1380 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

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

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

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