SABIC NORYL GFN1V PPE+HIPS (Europe-Africa-Middle East) (Unverified Data**)

Categories: 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.

Vendors: No vendors are listed for this material. Please click here if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	1.17 g/cc	0.0423 lb/in³	ISO 1183
Moisture Absorption	0.0600 %	0.0600 %	23°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 °C	8.0 g/10 min @Load 11.0 lb, Temperature 536 °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	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/m²	9.52 ft-lb/in²	80*10*4; ISO 180/1U
☒	20.0 kJ/m² @Temperature -30.0 °C	9.52 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	2.50 J/cm²	11.9 ft-lb/in²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
☒	2.50 J/cm² @Temperature -30.0 °C	11.9 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Taber Abrasion, mg/1000 Cycles	50	50	CS-17, 1 kg; SABIC Method

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

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.0 µm/m-°C @Temperature 23.0 - 80.0 °C	27.8 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft²-°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	130 °C	266 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	125 °C	257 °F	Rate B/50; ISO 306
	130 °C	266 °F	Rate B/120; ISO 306
	135 °C	275 °F	Rate A/50; ISO 306

UL RTI, Electrical	50.0 °C	122 °F	UL 746B
UL RTI, Mechanical with Impact	50.0 °C	122 °F	UL 746B
UL RTI, Mechanical without Impact	50.0 °C	122 °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 Flammability Index	750 °C @Thickness 3.20 mm	1380 °F @Thickness 0.126 in	IEC 60695-2-12

Descriptive Properties

Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2