SABIC Innovative Plastics NORYL GFN1630V PPE+HIPS

Categories: Polymer; Thermoplastic; Polyphenylene Ether/PPO; Polystyrene (PS)

Material Notes: Noryl* GFN1630V Polyphenylene Oxide (PPO) + Polystyrene (PS) resin is a 30 % Glass Reinforced, injection moldable grade with improved hydrolytic stability; this grade has been developed for fluid engineering applications. Noryl* GFN1630V has been certified for potable water applications up to 85C in Europe and North America 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
Specific Gravity	1.29 g/cc	1.29 g/cc	ASTM D792
Density	1.30 g/cc	0.0470 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	0.0010 - 0.0030 cm/cm @Thickness 3.20 mm	0.0010 - 0.0030 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0020 - 0.0050 cm/cm @Thickness 3.20 mm	0.0020 - 0.0050 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 5.00 kg, Temperature 300 °C	10 g/10 min @Load 11.0 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	17 g/10 min @Load 10.0 kg, Temperature 300 °C	17 g/10 min @Load 22.0 lb, Temperature 572 °F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	130 MPa	18900 psi	ISO 2039-1
Tensile Strength at Break	119 MPa	17300 psi	Type I, 5 mm/min; ASTM D638
	120 MPa	17400 psi	5 mm/min; ISO 527
Tensile Strength, Yield	119 MPa	17300 psi	Type I, 5 mm/min; ASTM D638
	120 MPa	17400 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
	2.6 %	2.6 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	2.0 %	2.0 %	5 mm/min; ISO 527
	2.6 %	2.6 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	8.50 GPa	1230 ksi	1 mm/min; ISO 527
	9.10 GPa	1320 ksi	5 mm/min; ASTM D638
Flexural Strength	175 MPa	25400 psi	2 mm/min; ISO 178
Flexural Yield Strength	175 MPa	25400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	7.20 GPa	1040 ksi	2 mm/min; ISO 178
	7.30 GPa	1060 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.960 J/cm	1.80 ft-lb/in	ASTM D256
	0.790 J/cm @Temperature -30.0 °C	1.48 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	5.30 J/cm	9.93 ft-lb/in	ASTM D4812
	5.30 J/cm @Temperature -30.0 °C	9.93 ft-lb/in @Temperature -22.0 °F	ASTM D4812
Izod Impact, Unnotched (ISO)	30.0 kJ/m²	14.3 ft-lb/in²	80*10*4; ISO 180/1U
	30.0 kJ/m² @Temperature -30.0 °C	14.3 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.00 J/cm²	14.3 ft-lb/in²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cm² @Temperature -30.0 °C	14.3 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Dart Drop, Total Energy	15.0 J @Temperature 23.0 °C	11.1 ft-lb @Temperature 73.4 °F	ASTM D3763
Taber Abrasion, mg/1000 Cycles	70	70	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	2.9 @Frequency 1.00e+6 Hz	2.9 @Frequency 1.00e+6 Hz	IEC 60250
	2.9 @Frequency 50.0 - 60.0 Hz	2.9 @Frequency 50.0 - 60.0 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	0.00060 @Frequency 50.0 - 60.0 Hz	0.00060 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.0010	0.0010	IEC 60250

	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 µm/m-°C @Temperature -40.0 - 40.0 °C	16.7 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	30.0 µm/m-°C @Temperature -40.0 - 40.0 °C	16.7 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	145 °C	293 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	140 °C	284 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	148 °C @Thickness 3.20 mm	298 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	149 °C	300 °F	Rate B/50; ISO 306
	152 °C	306 °F	Rate B/50; ASTM D1525
	155 °C	311 °F	Rate A/50; ISO 306
	158 °C	316 °F	Rate B/120; ISO 306
Flammability, UL94	HB @Thickness 1.50 mm	HB @Thickness 0.0591 in	UL 94
Oxygen Index	26 %	26 %	ISO 4589

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