

SABIC Innovative Plastics NORYL SE1GFN3 PPE+HIPS (Europe-Africa-Middle East)

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

Material Notes:

Noryl* SE1GFN3 is a 30% glass reinforced, injection moldable modified polyphenylene ether resin. Designed for improved dimensional stability and good flow , this resin also uses non-chlorinated, non-brominated FR additives to achieve a V1 UL94 rating at 1.5 mm and UL94 5VA rating @ 3.0 mm. Noryl SE1GFN3 may be an excellent material candidate for electrical or electronic applications requiring good rheological properties, heat resistance, hydrolysis resistance, low density and thin wall flame resistance. SE1GFN3 is halogen free according to VDE/DIN 472 part 815.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-SE1GFN3-PPEHIPS-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.29 g/cc	0.0466 lb/in ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.23 %	0.23 %	ISO 62
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm	0.0010 - 0.0030 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	9.0 g/10 min @Load 10.0 kg, Temperature 280 ^o C	9.0 g/10 min @Load 22.0 lb, Temperature 536 ^o 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	105 MPa	15200 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	8.00 GPa	1160 ksi	1 mm/min; ISO 527
Flexural Strength	130 MPa	18900 psi	2 mm/min; ISO 178
Flexural Modulus	6.00 GPa	870 ksi	2 mm/min; ISO 178
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 @Temperature -30.0 ^o C	11.9 ft-lb/in ² @Temperature -22.0 ^o F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.00 J/cm ²	14.3 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	3.00 /cm ²	14.3 lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Taber Abrasion, mg/1000 Cycles	55	55	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	30.0 Âµm/m-Â°C	16.7 Âµin/in-Â°F	ISO 11359-2
	@Temperature 23.0 - 80.0 Â°C	@Temperature 73.4 - 176 Â°F	
	37.0 Âµm/m-Â°C	20.6 Âµin/in-Â°F	ASTM E 831
CTE, linear, Transverse to Flow	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	ASTM E 831
	37.0 Âµm/m-Â°C	20.6 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	55.0 Âµm/m-Â°C	30.6 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	ISO 11359-2
	55.0 Âµm/m-Â°C	30.6 Âµin/in-Â°F	ISO 11359-2
Thermal Conductivity	0.280 W/m-K	1.94 BTU-in/hr-ftÂ²- Â°F	ISO 8302
	@Temperature 23.0 - 80.0 Â°C	@Temperature 73.4 - 176 Â°F	ISO 11359-2
Hot Ball Pressure Test	<= 140 Â°C	<= 284 Â°F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	140 Â°C	284 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	135 Â°C	275 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	145 Â°C	293 Â°F	Rate B/50; ISO 306
	150 Â°C	302 Â°F	Rate B/120; ISO 306
	155 Â°C	311 Â°F	Rate A/50; ISO 306
UL RTI, Electrical	110 Â°C	230 Â°F	UL 746B
UL RTI, Mechanical with Impact	105 Â°C	221 Â°F	UL 746B

III RTI Mechanical without Impact Thermal Properties	110 Â°C Metric	230 Â°F English	III 746B Comments
Flammability, UL94	V-1	V-1	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	
	@Thickness 6.00 mm	@Thickness 0.236 in	UL 94
	5VA	5VA	UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	
Oxygen Index	31 %	31 %	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
Dielectric Constant	3.0	3.0	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.1	3.1	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	
	25.0 kV/mm	635 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	0.0050	0.0050	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0080	0.0080	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Comparative Tracking Index	300 V	300 V	IEC 60112

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

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