

NORYL* SE1GFN2 Resin

Polyphenylene Ether + PS

SABIC Innovative Plastics



Prospector

Product Description

PPE+PS blend. 20% Glass reinforced. Non-brominated, non-chlorinated FR system. UL94 V1 and 5VA listing. RTI 110/105/110. Dielectric strength. Dimensional stability. Suitable for E/E applications.

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Glass Fiber Reinforcement, 20% Filler by Weight
Additive	• Flame Retardant
Features	• Bromine Free • Flame Retardant • Chlorine Free • Good Dimensional Stability
Uses	• Electrical/Electronic Applications
Forms	• Pellets
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417) • Tensile Creep (ASTM D2990) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Viscosity vs. Shear Rate (ASTM D3835)

Physical	Nominal Value Unit	Test Method
Specific Gravity	1.23 g/cm ³	ASTM D792
Molding Shrinkage - Flow (3.20 mm)	0.20 to 0.50 %	ASTM D955
Water Absorption (24 hr)	0.060 %	ASTM D570

Mechanical	Nominal Value Unit	Test Method
Tensile Strength ² (Break)	107 MPa	ASTM D638
Tensile Elongation ² (Break)	5.0 %	ASTM D638
Flexural Modulus ³ (100 mm Span)	5720 MPa	ASTM D790
Flexural Strength ³ (Yield, 100 mm Span)	152 MPa	ASTM D790

Impact	Nominal Value Unit	Test Method
Notched Izod Impact		ASTM D256
-40°C	96.1 J/m	
23°C	107 J/m	

Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (L-Scale)	106	ASTM D785

Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138 °C	
1.8 MPa, Unannealed, 6.40 mm	132 °C	
CLTE - Flow (-40 to 95°C)	0.000036 cm/cm/°C	ASTM E831

Electrical	Nominal Value Unit	Test Method
Dielectric Strength (3.20 mm, in Oil)	24 kV/mm	ASTM D149
Dielectric Constant		ASTM D150
50 Hz	2.98	
60 Hz	2.98	
Dissipation Factor		ASTM D150
50 Hz	0.0016	
60 Hz	0.0016	
Arc Resistance (PLC) ⁴	PLC 7	ASTM D495

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Flammability	Nominal Value Unit	Test Method
Flame Rating - UL		UL 94
1.47 mm	V-1	
5.99 mm	V-0	
2.50 mm	5VA	

Oxygen Index	31 %	ASTM D2863
UL 746	Nominal Value Unit	Test Method
RTI Str	110 °C	UL 746
RTI Imp	105 °C	UL 746
RTI Elec	110 °C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 1	UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)		UL 746
--	PLC 4	
Hot-wire Ignition (HWI) (PLC)	PLC 0	UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 1	UL 746

Injection	Nominal Value Unit
Drying Temperature	110 to 121 °C
Drying Time	3.0 to 4.0 hr
Drying Time, Maximum	8.0 hr
Suggested Max Moisture	0.020 %
Suggested Shot Size	30 to 70 %
Rear Temperature	266 to 316 °C
Middle Temperature	277 to 321 °C
Front Temperature	288 to 327 °C
Nozzle Temperature	299 to 327 °C
Processing (Melt) Temp	299 to 327 °C
Mold Temperature	82.2 to 110 °C
Back Pressure	0.345 to 0.689 MPa
Screw Speed	20 to 100 rpm

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type I, 5.0 mm/min

³ 2.6 mm/min

⁴ Tungsten Electrode

Revision History

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