

NORYL™ SE1GFN3 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

PPE+PS blend. 30% Glass reinforced. Non-brominated, non-chlorinated FR system. UL94 V1 listing. RTI 110/105/110. Dielectric strength. Dimensional stability. Suitable for E/E applications.

General Information			
UL YellowCard	E121562-221216		
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Dimensional Stability		
Uses	Electrical/Electronic Applications		
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 Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.31	g/cm ³	ASTM D792
Molding Shrinkage - Flow (3.20 mm)	0.10 to 0.40	%	Internal Method
Water Absorption (24 hr)	0.060	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	108		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (Break)	121	MPa	ASTM D638
Tensile Elongation ² (Break)	5.0	%	ASTM D638
Flexural Modulus ³ (100 mm Span)	7790	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 100 mm Span)	172	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256

-40°C	96	J/m	
23°C	120	J/m	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	141	°C	
1.8 MPa, Unannealed, 6.40 mm	135	°C	
CLTE - Flow (-40 to 95°C)	2.5E-5	cm/cm/°C	ASTM E831
RTI Elec	110	°C	UL 746
RTI Imp	105	°C	UL 746
RTI Str	110	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength (3.20 mm, in Oil)	21	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.15		
60 Hz	3.15		
Dissipation Factor			ASTM D150
50 Hz	2.0E-3		
60 Hz	2.0E-3		
Arc Resistance ⁵	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 2		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.47 mm	V-1		
5.99 mm	V-0		
Oxygen Index	36	%	ASTM D2863
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	

NOTE	
1.	Type I, 5.0 mm/min
2.	Type I, 5.0 mm/min
3.	2.6 mm/min
4.	2.6 mm/min
5.	Tungsten Electrode

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