

NORYL™ SE1GFN2 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

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

General Information			
UL YellowCard	E45587-100036373	E207780-228590	
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Additive	Flame retardancy		
Features	Chlorine Free		
	Good dimensional stability		
	Bromine-free		
	Flame retardancy		
Uses	Electrical/Electronic Applications		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.23	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	3.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	3.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.50	%	Internal method
Water Absorption			ISO 62
23°C, 24 hr	0.11	%	ISO 62
23°C, 24 hr ¹	0.040	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	7100	MPa	ASTM D638
--	6400	MPa	ISO 527-2/1
Tensile Strength			
Fracture ³	120	MPa	ASTM D638
Fracture	100	MPa	ISO 527-2/50
Tensile Elongation			
Fracture ⁴	3.0	%	ASTM D638
Fracture	2.5	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁵	5500	MPa	ASTM D790
-- ⁶	5600	MPa	ISO 178
Flexural Stress			

--	150	MPa	ISO 178
Yield, 50.0mm span ⁷	140	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.0	kJ/m ²	ISO 179/2C
Notched Izod Impact			
-30°C	90	J/m	ASTM D256
23°C	100	J/m	ASTM D256
-30°C ⁸	8.0	kJ/m ²	ISO 180/1A
23°C ⁹	9.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	520	J/m	ASTM D4812
-30°C ¹⁰	27	kJ/m ²	ISO 180/1U
23°C ¹¹	28	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	18.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	142	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	134	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹²	133	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	142	°C	ASTM D1525, ISO 306/B50 11 ¹³
--	144	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	2.5E-5	cm/cm/°C	ASTM E831
Flow: -40 to 40°C	3.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.3E+17	ohms	ASTM D257, IEC 60093
Volume Resistivity	2.0E+16	ohms · cm	ASTM D257, IEC 60093
Dielectric Strength			
1.60 mm, in Oil	26	kV/mm	ASTM D149
1.50, in oil	26	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	2.93		ASTM D150, IEC 60250
Dissipation Factor (1 MHz)	3.4E-3		ASTM D150, IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-1		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	110 - 121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.020	%	

Suggested Shot Size	30 - 70	%
Rear Temperature	266 - 316	°C
Middle Temperature	277 - 321	°C
Front Temperature	288 - 327	°C
Nozzle Temperature	299 - 327	°C
Processing (Melt) Temp	299 - 327	°C
Mold Temperature	82.2 - 110	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	20 - 100	rpm

NOTE

1.	50% RH
2.	5.0 mm/min
3.	Type 1, 50mm/min
4.	Type 1, 50mm/min
5.	1.3 mm/min
6.	2.0 mm/min
7.	1.3 mm/min
8.	80*10*4
9.	80*10*4
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	标准 B (120°C/h), 载荷2 (50N)

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