

NORYL* SE1 Resin
Polyphenylene Ether + PS
SABIC Innovative Plastics Europe



Prospector

Product Description

NORYL SE1 is an unfilled, flame retardant material with a Vicat B/120 of 140°C according ISO 306. NORYL SE1 is V1 at 1.47 mm according UL94 and halogen free according VDE/DIN 472 part 815.

General

Material Status	• Commercial: Active
Availability	• Europe
Additive	• Flame Retardant
Features	• Flame Retardant • Halogen Free
Agency Ratings	• DIN VDE 0472 Part 815
RoHS Compliance	• RoHS Compliant
Forms	• Pellets
Processing Method	• Injection Molding

Physical	Nominal Value Unit	Test Method
Density	1.11 g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	7.00 cm ³ /10min	ISO 1133
Molding Shrinkage - Flow	0.50 to 0.70 %	ASTM D955
Water Absorption		ISO 62
Saturation, 23°C	0.23 %	
Equilibrium, 23°C, 50% RH	0.060 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus	2500 MPa	ISO 527-2/1
Tensile Stress		ISO 527-2/50
Yield	55.0 MPa	
Break	50.0 MPa	
Tensile Strain		ISO 527-2/50
Yield	5.0 %	
Break	10 %	
Flexural Modulus ²	2300 MPa	ISO 178
Flexural Strength ^{2,3}	90.0 MPa	ISO 178

Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179/1eA
-30°C	7.0 kJ/m ²	
23°C	15 kJ/m ²	
Notched Izod Impact Strength		ISO 180/1A
-30°C	7.00 kJ/m ²	
23°C	15.0 kJ/m ²	

Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0 MPa	ISO 2039-1

Thermal	Nominal Value Unit	Test Method
Heat Deflection Temperature ⁴		
0.45 MPa, Unannealed, 100 mm Span	130 °C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	120 °C	ISO 75-2/Ae
Vicat Softening Temperature		
--	140 °C	ISO 306/A50 ISO 306/B120
--	130 °C	ISO 306/B50
Ball Pressure Test ⁵ (125°C)	Pass	IEC 60695-10-2
CLTE		ISO 11359-2
Flow: 23 to 80°C	0.000070 cm/cm/°C	
Transverse: 23 to 80°C	0.000080 cm/cm/°C	
Thermal Conductivity	0.23 W/m/K	ISO 8302

Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.0E+15 ohms	IEC 60093

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Electrical	Nominal Value Unit	Test Method
Volume Resistivity	1.0E+15 ohm-cm	IEC 60093
Relative Permittivity		IEC 60250
50 Hz	2.80	
60 Hz	2.80	
1 MHz	2.70	
Dissipation Factor		IEC 60250
50 Hz	0.0040	
60 Hz	0.0040	
1 MHz	0.0020	
Comparative Tracking Index	200 V	IEC 60112
Electric Strength		IEC 60243-1
0.800 mm, in Oil	33 kV/mm	
1.60 mm, in Oil	26 kV/mm	
3.20 mm, in Oil	16 kV/mm	

Flammability	Nominal Value Unit	Test Method
Flame Rating - UL		UL 94
0.750 mm	V-1	
6.00 mm	V-0	
Glow Wire Flammability Index (3.20 mm)	960 °C	IEC 60695-2-12
Oxygen Index	31 %	ISO 4589-2

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

Injection	Nominal Value Unit
Drying Temperature	80.0 to 100 °C
Drying Time	2.0 to 3.0 hr
Hopper Temperature	60.0 to 80.0 °C
Rear Temperature	240 to 260 °C
Middle Temperature	260 to 280 °C
Front Temperature	280 to 300 °C
Nozzle Temperature	260 to 280 °C
Processing (Melt) Temp	280 to 300 °C
Mold Temperature	90.0 to 120 °C

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² 2.0 mm/min
- ³ Yield
- ⁴ 120*10*4 mm
- ⁵ Approximate maximum

Revision History

Document Created: Tuesday, June 29, 2010
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