

NORYL™ N1150 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Asia Pacific

Message:

NORYL N1150 is an unfilled, injection moldable modified polyphenylene ether resin. Designed for good dimensional stability and good flow, this resin also uses non-chlorinated, non-brominated FR additives to achieve a V0 UL94 rating at 0.75 mm with a specific density of 1.11 g/cm³. NORYL 1150 may be an excellent material candidate for applications requiring electrically insulating properties, low moisture absorption, low warpage, and thin wall flame resistance.

General Information			
UL YellowCard	E207780-228560		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Electrically Insulating		
	Flame Retardant		
	Good Dimensional Stability		
	Good Flow		
	Low Moisture Absorption		
	Low Warpage		
Uses	Thin-walled Parts		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	15	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	15.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption (Saturation, 23°C)	0.070	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2700	MPa	ASTM D638
--	2650	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	75.0	MPa	ASTM D638
Yield	72.0	MPa	ISO 527-2/50
Break ³	55.0	MPa	ASTM D638
Break	52.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	4.0	%	ASTM D638

Yield	3.5	%	ISO 527-2/50
Break ⁵	8.0	%	ASTM D638
Break	7.0	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	3050	MPa	ASTM D790
-- ⁷	2600	MPa	ISO 178
Flexural Stress			
--	105	MPa	ISO 178
Yield, 50.0 mm Span ⁸	117	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	6.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	65	J/m	ASTM D256
23°C	85	J/m	ASTM D256
-30°C ¹⁰	4.0	kJ/m ²	ISO 180/1A
23°C ¹¹	6.0	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	40.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	108	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	109	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	130	°C	ASTM D1525, ISO 306/B50 ¹³
--	132	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	5.5E-5	cm/cm/°C	
Transverse : -40 to 40°C	5.8E-5	cm/cm/°C	
Flammability	Nominal Value		Test Method
Flame Rating (0.750 mm)	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	93.3 to 98.9	°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	227 to 277	°C	
Middle Temperature	238 to 282	°C	
Front Temperature	249 to 288	°C	
Nozzle Temperature	260 to 288	°C	
Processing (Melt) Temp	260 to 288	°C	
Mold Temperature	71.1 to 93.3	°C	

Back Pressure	0.345 to 0.689	MPa
Screw Speed	20 to 100	rpm
Vent Depth	0.038 to 0.051	mm

NOTE

1.	5.0 mm/min
2.	Type I, 50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)

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