

NORYL™ V0150B resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Europe

Message:

NORYL V0150B is an unfilled, injection moldable modified polyphenylene ether resin. Designed for high heat resistance and thin wall FR performance, this resin delivers a UL94 V0 rating at 1.5 mm and a UL94 5Va rating at 2.0 mm. NORYL V0150B is also halogen free according to VDE/DIN 472 part 815 and may be an excellent material candidate where flame resistance and high temperature resistance is required.

General Information			
UL YellowCard	E45329-100146076	E45329-599099	
Additive	Flame Retardant		
Features	Flame Retardant		
	Halogen Free		
	High Heat Resistance		
Agency Ratings	DIN VDE 0472 Part 815		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	3.5	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/5.0 kg)	10.0	cm³/10min	ISO 1133
Molding Shrinkage - Flow			Internal Method
-- ¹	0.50 to 0.70	%	
3.20 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	0.18	%	
Equilibrium, 23°C, 50% RH	0.060	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	113	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2500	MPa	ASTM D638
--	2500	MPa	ISO 527-2/1
Tensile Strength			
Yield ³	70.0	MPa	ASTM D638
Yield	70.0	MPa	ISO 527-2/50
Break ⁴	60.0	MPa	ASTM D638
Break	55.0	MPa	ISO 527-2/50
Tensile Elongation			

Yield ⁵	5.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/50
Break ⁶	7.0	%	ASTM D638
Break	10	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2550	MPa	ASTM D790
-- ⁸	2400	MPa	ISO 178
Flexural Stress			
--	110	MPa	ISO 178
Yield, 50.0 mm Span ⁹	105	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	35.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰			ISO 179/1eA
-30°C	5.0	kJ/m ²	
23°C	14	kJ/m ²	
Notched Izod Impact			
-30°C	180	J/m	ASTM D256
23°C	330	J/m	ASTM D256
-30°C ¹¹	5.0	kJ/m ²	ISO 180/1A
23°C ¹²	13	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	50.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed, 100 mm Span ¹³	140	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	135	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁴	130	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	155	°C	ASTM D1525, ISO 306/B120 12 ¹⁵
--	160	°C	ISO 306/A50
--	145	°C	ISO 306/B50
Ball Pressure Test ¹⁶ (140°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	9.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.27	W/m/K	ISO 8302
RTI Elec	110	°C	UL 746
RTI Imp	105	°C	UL 746
RTI Str	115	°C	UL 746

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	IEC 60093
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	
Relative Permittivity			IEC 60250
50 Hz	2.80		
60 Hz	2.80		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	3.0E-3		
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		
2.00 mm	5VA		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	775	°C	
2.00 mm	775	°C	
3.00 mm	775	°C	
Oxygen Index	32	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	110 to 120	°C	
Drying Time	2.0 to 3.0	hr	
Hopper Temperature	80.0 to 100	°C	
Rear Temperature	260 to 280	°C	
Middle Temperature	280 to 300	°C	
Front Temperature	300 to 320	°C	
Nozzle Temperature	280 to 300	°C	
Processing (Melt) Temp	300 to 320	°C	
Mold Temperature	100 to 130	°C	
NOTE			
1.	Tensile Bar		
2.	5.0 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/min		

6.	Type I, 50 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*4 sp=62mm
11.	80*10*4
12.	80*10*4
13.	120*10*4 mm
14.	120*10*4 mm
15.	Rate B (120°C/h), Loading 2 (50 N)
16.	Approximate maximum

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