

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	E121562-100883043	E121562-100883044	
Additive	Flame retardancy		
Features	Heat resistance, high		
	Halogen-free		
	Flame retardancy		
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 - 0.70	%	Internal method
3.20 mm	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.18	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
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
Fracture ⁴	60.0	MPa	ASTM D638
Fracture	55.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	5.0	%	ASTM D638
Yield	4.0	%	ISO 527-2/50

Fracture ⁶	7.0	%	ASTM D638
Fracture	10	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁷	2550	MPa	ASTM D790
-- ⁸	2400	MPa	ISO 178
Flexural Stress			
--	110	MPa	ISO 178
Yield, 50.0mm 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	ISO 179/1eA
23°C	14	kJ/m ²	ISO 179/1eA
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, 3.20mm	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			IEC 60695-10-2
125°C	Pass		IEC 60695-10-2
140°C ¹⁶	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
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
Lateral: -40 to 40°C	7.5E-5	cm/cm/°C	ASTM E831
Lateral: 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	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
Dielectric Strength			IEC 60243-1
0.800mm, in oil	33	kV/mm	IEC 60243-1
1.60mm, in oil	26	kV/mm	IEC 60243-1
3.20mm, in oil	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.80		IEC 60250
60 Hz	2.80		IEC 60250
1 MHz	2.70		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	9.0E-4		IEC 60250
60 Hz	9.0E-4		IEC 60250
1 MHz	3.0E-3		IEC 60250
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
2.00 mm	5VA		UL 94
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	IEC 60695-2-13
2.00 mm	775	°C	IEC 60695-2-13
3.00 mm	775	°C	IEC 60695-2-13
Oxygen Index	32	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	2.0 - 3.0	hr	
Hopper Temperature	80.0 - 100	°C	
Rear Temperature	260 - 280	°C	
Middle Temperature	280 - 300	°C	
Front Temperature	300 - 320	°C	
Nozzle Temperature	280 - 300	°C	
Processing (Melt) Temp	300 - 320	°C	
Mold Temperature	100 - 130	°C	
NOTE			
1.	Tensile Bar		
2.	5.0 mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/min		

6.	Type 1, 50mm/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.	标准 B (120°C/h), 载荷2 (50N)
16.	Approximate maximum

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