

NORYL™ NH5020 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

NORYL NH5020 Resin is an unreinforced blend of Polyphenylene Ether(PPE) + Polystyrene resin. The material offers a good balance of heat, flow, hydrolytic stability, and non-halogenated flame retardant. The material is suitable for injection molding and is available in custom colors.

General Information			
UL YellowCard	E121562-100153209	E121562-619734	
Features	Flame Retardant		
	Good Flow		
	Halogen Free		
	Hydrolytically Stable		
	Medium Heat Resistance		
Appearance	Colors Available		
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)	9.8	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	10.1	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.25	%	
Equilibrium, 23°C, 50% RH	0.050	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2730	MPa	ASTM D638
--	3060	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	79.2	MPa	ASTM D638
Yield	80.1	MPa	ISO 527-2/50
Break ³	62.2	MPa	ASTM D638
Break	77.5	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	4.8	%	ISO 527-2/50
Break ⁵	15	%	ASTM D638
Break	5.7	%	ISO 527-2/50
Flexural Modulus			

50.0 mm Span ⁶	3000	MPa	ASTM D790
-- ⁷	2980	MPa	ISO 178
Flexural Stress			
--	126	MPa	ISO 178
Yield, 50.0 mm Span ⁸	122	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	7.9	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	59	J/m	ASTM D256
23°C	91	J/m	ASTM D256
-30°C ¹⁰	6.1	kJ/m ²	ISO 180/1A
23°C ¹¹	8.1	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	19.3	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	122	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	134	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	117	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	123	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	119	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	138	°C	ASTM D1525, ISO 306/B50 11 ¹³
--	139	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	6.1E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.8E-5	cm/cm/°C	
RTI Elec	110	°C	UL 746
RTI Imp	105	°C	UL 746
RTI Str	110	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Electric Strength (3.20 mm, in Oil)	49	kV/mm	IEC 60243-1
Arc Resistance ¹⁴	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746
Comparative Tracking Index	2.00	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Resistance to Ignition (HVAR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94

0.400 mm	V-2	
0.750 mm	V-0	
2.50 mm	5VA	
Injection	Nominal Value	Unit
Drying Temperature	104 to 110	°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	243 to 293	°C
Middle Temperature	254 to 299	°C
Front Temperature	266 to 304	°C
Nozzle Temperature	277 to 304	°C
Processing (Melt) Temp	277 to 304	°C
Mold Temperature	71.1 to 98.9	°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. 50 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)
14. Tungsten Electrode

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

