NORYL™ NH5120 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

NORYL NH5120 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 V1 flame retardant performance. The material is suitable for injection molding and is available in custom colors.

General Information			
UL YellowCard	E121562-631687		
Features	Flame Retardant Halogen Free Hydrolytically Stable Medium Heat Resistance		
Appearance	Colors Available		
Processing Method	Injection Molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	1.10	g/cm³	ASTM D792
--	1.08	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	12	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	11.8	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]	2620	MPa	ASTM D638
--	2650	MPa	ISO 527-2/1
Tensile Strength			
Yield [2]	66.1	MPa	ASTM D638
Yield	66.0	MPa	ISO 527-2/50
Break [3]	52.3	MPa	ASTM D638
Break	57.5	MPa	ISO 527-2/50
Tensile Elongation			
Yield [4]	4.5	%	ASTM D638
Yield	4.5	%	ISO 527-2/50
Break [5]	29	%	ASTM D638
Break	9.3	%	ISO 527-2/50

Flexural Modulus			
50.0 mm Span [6]	2680	MPa	ASTM D790
-- [7]	2620	MPa	ISO 178
Flexural Stress			
--	106	MPa	ISO 178
Yield, 50.0 mm Span [8]	105	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [9] (23°C)	18	kJ/m^2	ISO 179/1eA
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
23°C	190	J/m	ASTM D256
-30°C [10]	12	kJ/m^2	ISO 180/1A
23°C [11]	16	kJ/m^2	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	53.5	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	131	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	134	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	116	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	123	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span [12]	118	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	137	°C	ASTM D1525 [13]
--	136	°C	ISO 306/B50
--	138	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	8.1E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.7E-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**		**Test Method**
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
Flammability	**Nominal Value**		**Test Method**
Flame Rating (1.50 mm)	V-1		UL 94
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	249 to 299	°C
Middle Temperature	260 to 304	°C
Front Temperature	271 to 310	°C
Nozzle Temperature	282 to 310	°C
Processing (Melt) Temp	282 to 310	°C
Mold Temperature	76.7 to 104	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	20 to 100	rpm

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)

Recommended distributors for this material

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