

## SABIC Innovative Plastics NORYL NH7114 PPE+HIPS (Asia Pacific)

Category : Polymer , Thermoplastic , Polyphenylene Ether/PPO , Polystyrene (PS)

### Material Notes:

Noryl\* NH7114 resin is a 20% glass reinforced, modified PPE-PS blend. The material uses non-halogenated flame retardants to achieve UL94 flame ratings while offering an exceptional balance of strength and dimensional stability. This grade can be processed via extrusion or injection molding. Noryl NH7114 is available in custom colors and may be an excellent material candidate for use in electrical and electronics markets.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-NORYL-NH7114-PPEHIPS-Asia-Pacific.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-NH7114-PPEHIPS-Asia-Pacific.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	ASTM D792
Density	1.25 g/cc	0.0452 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23 <sup>o</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.22 %	0.22 %	ISO 62
Linear Mold Shrinkage, Flow	0.0020 - 0.0030 cm/cm @Thickness 3.20 mm	0.0020 - 0.0030 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.8 g/10 min @Load 5.00 kg, Temperature 280 <sup>o</sup> C	5.8 g/10 min @Load 11.0 lb, Temperature 536 <sup>o</sup> F	ASTM D1238
Melt Index of Compound	10 g/10 min @Load 5.00 kg, Temperature 300 <sup>o</sup> C	10 g/10 min @Load 11.0 lb, Temperature 572 <sup>o</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	105 MPa	15200 psi	5 mm/min; ISO 527
	107 MPa	15500 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	105 MPa	15200 psi	5 mm/min; ISO 527
	107 MPa	15500 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric <sup>Pa</sup>	English	Comments <sup>ASTM D638</sup>
	6.80 GPa	986 ksi	1 mm/min; ISO 527
Flexural Yield Strength	150 MPa	21800 psi	2 mm/min; ISO 178
	152 MPa	22000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	6.00 GPa	870 ksi	1.3 mm/min, 50 mm span; ASTM D790
	6.30 GPa	914 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.770 J/cm	1.44 ft-lb/in	ASTM D256
	0.700 J/cm	1.31 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m <sup>2</sup>	3.33 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	6.00 kJ/m <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	27.0 kJ/m <sup>2</sup>	12.8 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
	27.0 kJ/m <sup>2</sup>	12.8 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	3.00 J/cm <sup>2</sup>	14.3 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cm <sup>2</sup>	14.3 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.800 J/cm <sup>2</sup>	3.81 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	15.0 J	11.1 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	51.4 Åµm/m-Å°C	28.6 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	51.4 Åµm/m-Å°C	28.6 Åµin/in-Å°F	ISO 11359-2

Thermal Properties	Metric @Temperature -40.0 - 40.0 Â°C	English @Temperature -40.0 - 104 Â°F	Comments
CTE, linear, Transverse to Flow	68.0 Âµm/m-Â°C	37.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	68.0 Âµm/m-Â°C	37.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	140 Â°C	284 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	140 Â°C	284 Â°F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	148 Â°C	298 Â°F	Rate B/50; ASTM D1525
	148 Â°C	298 Â°F	Rate B/50; ISO 306
	150 Â°C	302 Â°F	Rate B/120; ISO 306
UL RTI, Electrical	110 Â°C	230 Â°F	UL 746B
UL RTI, Mechanical with Impact	105 Â°C	221 Â°F	UL 746B
UL RTI, Mechanical without Impact	110 Â°C	230 Â°F	UL 746B
Flammability, UL94	V-1	V-1	UL 94 by SABIC-IP
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-0	V-0	UL 94 by SABIC-IP
	@Thickness 6.00 mm	@Thickness 0.236 in	
	5VA	5VA	UL 94 by SABIC-IP
	@Thickness 2.00 mm	@Thickness 0.0787 in	
Oxygen Index	30 %	30 %	ISO 4589
Glow Wire Test	800 Â°C	1470 Â°F	IEC 60695-2-13
	800 Â°C	1470 Â°F	IEC 60695-2-13
	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 5.00e+17 ohm	>= 5.00e+17 ohm	ROA; IEC 60093

Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	2.73	2.73	ASTM D150
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	25.0 kV/mm	635 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0029	0.0029	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0029	0.0029	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	180 - 240 sec	180 - 240 sec	UL 746A
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Å°C +/- 2Å°C	PASSES	IEC 60695-10-2

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