

SABIC Innovative Plastics NORYL NH7114 PPE+HIPS (Europe-Africa-Middle East)

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-Europe-Africa-Middle-East.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 ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23Â°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	0.0020 - 0.0030 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	5.8 g/10 min	5.8 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 280 Â°C	@Load 11.0 lb, Temperature 536 Â°F	
Melt Index of Compound	10 g/10 min	10 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 300 Â°C	@Load 11.0 lb, Temperature 572 Â°F	

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

Mechanical Properties	2.0 % Metric	2.0 % English	5 mm/min* ISO 527 Comments
Tensile Modulus	6.80 GPa	986 ksi	5 mm/min; ASTM D638
	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 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched (ISO)	27.0 kJ/mÂ²	12.8 ft-lb/inÂ²	80*10*4; ISO 180/1U
	27.0 kJ/mÂ²	12.8 ft-lb/inÂ²	80*10*4; ISO 180/1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact Unnotched	3.00 J/cmÂ²	14.3 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cmÂ²	14.3 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	0.800 J/cmÂ²	3.81 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	15.0 J	11.1 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	51.4 Âµm/m-Â°C	28.6 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	

Thermal Properties	51.4 Åµm/m-Å°C Metric	28.6 Åµin/in-Å°F English	Comments ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
CTE, linear, Transverse to Flow	68.0 Åµm/m-Å°C	37.8 Åµin/in-Å°F	ASTM E 831
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	68.0 Åµm/m-Å°C	37.8 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
Deflection Temperature at 1.8 MPa (264 psi)	140 Å°C	284 Å°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	140 Å°C	284 Å°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	148 Å°C	298 Å°F	Rate B/50; ASTM D1525
	148 Å°C	298 Å°F	Rate B/50; ISO 306
	150 Å°C	302 Å°F	Rate B/120; ISO 306
UL RTI, Electrical	110 Å°C	230 Å°F	UL 746B
UL RTI, Mechanical with Impact	105 Å°C	221 Å°F	UL 746B
UL RTI, Mechanical without Impact	110 Å°C	230 Å°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 Å°C	1470 Å°F	IEC 60695-2-13
	800 Å°C	1470 Å°F	IEC 60695-2-13
	960 Å°C	1760 Å°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

Electrical Properties	Metric	English	Comments
Surface Resistance	$\geq 5.00 \times 10^{17} \text{ ohm}$	$\geq 5.00 \times 10^{17} \text{ ohm}$	ROA, IEC 60093
Dielectric Constant	2.7	2.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.73	2.73	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
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	$\geq 120 \text{ sec}$	$\geq 120 \text{ sec}$	UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	$\geq 150 \text{ mm/min}$	$\geq 5.91 \text{ in/min}$	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125 $\pm$ 2 $^{\circ}$ C	PASSES	IEC 60695-10-2

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