SABIC Innovative Plastics NORYL NH7112 PPE+HIPS

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

Material Notes:

Noryl* NH7112 resin is a 10% glass reinforced, modified PPE-PS blend. The material offers an exceptional balance of strength and dimensional stability while using non-halogenated flame retardants to achieve UL94 flame ratings. This grade can be processed via extrusion or injection molding. Noryl NH7112 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-NH7112-PPEHIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.16 g/cc	1.16 g/cc	ASTM D792
Density	1.17 g/cc	0.0423 lb/inÂ³	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 - 0.0040 cm/cm @Thickness 3.20 mm	0.0020 - 0.0040 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	6.5 g/10 min @Load 5.00 kg, Temperature 280 Â°C	6.5 g/10 min @Load 11.0 lb, Temperature 536 Â°F	ASTM D1238
Melt Index of Compound	14 g/10 min @Load 5.00 kg, Temperature 300 Â°C	14 g/10 min @Load 11.0 lb, Temperature 572 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	83.0 MPa	12000 psi	Type I, 5 mm/min; ASTM D638
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Tensile Strength, Yield	83.0 MPa	12000 psi	Type I, 5 mm/min; ASTM D638
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Elongation at Break	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	3.0 %	3.0 %	5 mm/min; ISO 527
Elongation at Yield	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	3.0 %	3.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	4.40 GPa	638 ksi	1 mm/min; ISO 527
Flexural Strength	134 MPa	19400 psi	2 mm/min; ISO 178
Flexural Yield Strength	137 MPa	19900 psi	1.3 mm/min, 50 mm span; ASTM D790
	140 MPa	20300 psi	2 mm/min; ISO 178
Flexural Modulus	3.75 GPa	544 ksi	1.3 mm/min, 50 mm span; ASTM D790
	4.15 GPa	602 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.700 J/cm	1.31 ft-lb/in	ASTM D256
	0.600 J/cm @Temperature -30.0 Â°C	1.12 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Notched (ISO)	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	6.00 kJ/mÂ² @Temperature -30.0 Â°C	2.86 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	24.0 kJ/mÂ²	11.4 ft-lb/inÂ²	80*10*4; ISO 180/1U
	26.0 kJ/mÂ²	12.4 ft-lb/inÂ²	80*10*3; ISO 180/1U
	25.0 kJ/mÂ² @Temperature -30.0 Â°C	11.9 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.10 J/cmÂ²	14.8 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.10 J/cmÂ² @Temperature -30.0 Â°C	14.8 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.700 J/cmÂ²	3.33 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.700 J/cmÂ²	3.33 ft-lb/inÂ²	ISO 179/2C
	0.600 J/cmÂ² @Temperature -30.0 Â°C	2.86 ft-lb/inÂ² @Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	15.0 J @Temperature 23.0	11.1 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Mechanical Properties	Metric	English	Comments
	Â°C		

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	30.6 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
	550 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	306 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
CTE, linear, Transverse to Flow	68.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	37.8 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	68.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	37.8 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	137 Â°C	279 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	138 Â°C @Thickness 3.20 mm	280 Â°F @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 @Thickness 1.00 mm	V-1 @Thickness 0.0394 in	UL 94 by SABIC-IP
	5VA @Thickness 2.50 mm	5VA @Thickness 0.0984 in	UL 94 by SABIC-IP
Glow Wire Test	775 Â°C	1430 Â°F	IEC 60695-2-13
	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

Thermal Properties	Metric	English	Comments
	@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	>= 3.00e+17 ohm	>= 3.00e+17 ohm	ROA; IEC 60093
Dielectric Constant	2.9 @Frequency 1.00e+6 Hz	2.9 @Frequency 1.00e+6 Hz	IEC 60250
	2.93 @Frequency 1.00e+6 Hz	2.93 @Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	16.0 kV/mm @Thickness 3.20 mm	406 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	25.0 kV/mm @Thickness 3.20 mm	635 kV/in @Thickness 0.126 in	in oil; ASTM D149
Dissipation Factor	0.0034 @Frequency 1.00e+6 Hz	0.0034 @Frequency 1.00e+6 Hz	ASTM D150
	0.0034 @Frequency 1.00e+6 Hz	0.0034 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 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, 125Â°C +/- 2Â°C	PASSES	IEC 60695-10-2

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