

SABIC Innovative Plastics NORYL NH6010B PPE+HIPS

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

Material Notes:

Noryl* NH6010B resin is a high performance, modified PPE-PS blend that exhibits an excellent balance of lower smoke production upon burning, nonhalogenated flame retardance and low specific gravity. This grade can be processed via extrusion or injection molding. Noryl NH6010B is available in custom colors and may be an excellent material candidate for use in building and construction and electrical markets.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-NH6010B-PPEHIPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.11 g/cc	1.11 g/cc	ASTM D792
Density	1.11 g/cc	0.0401 lb/in ³	ISO 1183
Moisture Absorption	0.0500 %	0.0500 %	23 ^o C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0080 cm/cm @Thickness 3.20 mm	0.0050 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.6 g/10 min @Load 5.00 kg, Temperature 280 ^o C	5.6 g/10 min @Load 11.0 lb, Temperature 536 ^o F	ASTM D1238
Melt Index of Compound	5.0 g/10 min @Load 5.00 kg, Temperature 280 ^o C	5.0 g/10 min @Load 11.0 lb, Temperature 536 ^o F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	70	70	4min; ISO 5659-2
Tensile Strength at Break	53.0 MPa	7690 psi	Type I, 50 mm/min; ASTM D638
	58.0 MPa	8410 psi	50 mm/min; ISO 527
Tensile Strength, Yield	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D638
	64.0 MPa	9280 psi	50 mm/min; ISO 527
Elongation at Break	8.3 %	8.3 %	50 mm/min; ISO 527
	20 %	20 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	4.6 %	4.6 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments ; ISO 527
Tensile Modulus	2.22 GPa	322 ksi	5 mm/min; ASTM D638
	2.44 GPa	354 ksi	1 mm/min; ISO 527
Flexural Yield Strength	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Modulus	2.36 GPa	342 ksi	2 mm/min; ISO 178
	2.39 GPa	347 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	3.00 J/cm	5.62 ft-lb/in	ASTM D256
	1.81 J/cm	3.39 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	18.0 kJ/mÂ²	8.57 ft-lb/inÂ²	80*10*4; ISO 180/1A
	14.0 kJ/mÂ²	6.66 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	2.00 J/cmÂ²	9.52 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	52.0 J	38.4 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	67.0 Âµm/m-Â°C	37.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	67.0 Âµm/m-Â°C	37.2 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	67.0 Âµm/m-Â°C	37.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	67.0 Âµm/m-Â°C	37.2 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 1.8 MPa (100 psi)	122 Â°C	252 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	143 Â°C	289 Â°F	Rate B/50; ASTM D1525
	143 Â°C	289 Â°F	Rate B/50; ISO 306
	146 Â°C	295 Â°F	Rate B/120; ISO 306
UL RTI, Electrical	65.0 Â°C	149 Â°F	UL 746B
UL RTI, Mechanical with Impact	65.0 Â°C	149 Â°F	UL 746B
UL RTI, Mechanical without Impact	65.0 Â°C	149 Â°F	UL 746B
Flammability, UL94	V-0	V-0	UL 94 by SABIC-IP
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	33 %	33 %	ISO 4589
Glow Wire Test	775 Â°C	1430 Â°F	IEC 60695-2-13
	775 Â°C	1430 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 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	7.62e+17 ohm-cm	7.62e+17 ohm-cm	ASTM D257
	7.62e+17 ohm-cm	7.62e+17 ohm-cm	IEC 60093
Surface Resistance	1.25e+18 ohm	1.25e+18 ohm	ASTM D257
	1.25e+18 ohm	1.25e+18 ohm	ROA; IEC 60093
Dielectric Constant	2.7	2.7	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.78	2.78	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	34.1 kV/mm	866 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	

Electrical Properties	Metric	English	Comments
	34.1 kV/mm	550 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
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	
Comparative Tracking Index	225 V	225 V	IEC 60112
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746A

Descriptive Properties	Value	Comments
F1 Class Smoke and Toxicity Rating	3mm	NF F16-101
Flame Spread Index (1.52mm)	15	ASTM E 162
Heat Release, MAHRE	33.6kW/m ²	ISO 5660-1
Lateral Flame Spread, CFE	20kW/m ²	ISO 5658-2
M1 Flame Class Rating	2mm	NF P 92501
NBS Smoke Density, Flaming, 20 min (3.2 mm)	120	ASTM E 662
NBS Smoke Density, Flaming, 4 min (1.52mm)	30	ASTM E 662
NBS Smoke Density, Flaming, 4 min (3.2 mm)	30	ASTM E 662
NBS Smoke Density, Non-Flaming, 4 min (1.52mm)	7	ASTM E 662
Toxicity	0	ISO 5659-2
Toxicity (3 mm)	21.76	NF X70-100

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