

SABIC Innovative Plastics NORYL HS2000X PPE+PS

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

Material Notes:

PPE+PS blend. 17% Mineral reinforced. Non-brominated, non-chlorinated FR system. UL94 V0 and 5VA listing. UL746C f1. Radiant panel listing. Dielectric strength. Dimensional stability. Suitable for E/E market indoor/outdoor applications including electrical ceiling boxes and smoke detectors.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-HS2000X-PPEPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	ASTM D792
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	7.6 g/10 min	7.6 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 280 Â°C	@Load 11.0 lb, Temperature 536 Â°F	
	7.6 g/10 min	7.6 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 300 Â°C	@Load 11.0 lb, Temperature 572 Â°F	
Melt Index of Compound	6.0 g/10 min	6.0 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 280 Â°C	@Load 11.0 lb, Temperature 536 Â°F	
	6.0 g/10 min	6.0 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	57.0 MPa	8270 psi	ISO 527
	60.0 MPa	8700 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	71.0 MPa	10300 psi	ISO 527
	74.0 MPa	10700 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	8.4 %	8.4 %	Type I, 5 mm/min; ASTM D638
	10.5 %	10.5 %	ISO 527
Elongation at Yield	3.7 %	3.7 %	ISO 527

Mechanical Properties	Metric	English	ASTM D638 Comments
Tensile Modulus	3.65 GPa	529 ksi	5 mm/min; ASTM D638
	4.00 GPa	580 ksi	1 mm/min; ISO 527
	117 MPa	17000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Strength	117 MPa	17000 psi	ISO 178
	117 MPa	17000 psi	2.6 mm/min, 100 mm span; ASTM D790
Flexural Modulus	3.55 GPa	515 ksi	2.6 mm/min, 100 mm span; ASTM D790
	3.67 GPa	532 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.80 GPa	551 ksi	ISO 178
Izod Impact, Notched	1.31 J/cm	2.45 ft-lb/in	ASTM D256
	8.11 J/cm @Thickness 3.20 mm	15.2 ft-lb/in @Thickness 0.126 in	ASTM D256
Izod Impact, Unnotched	22.3 J/cm	41.8 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	9.00 kJ/m ²	4.28 ft-lb/in ²	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179/2C
Dart Drop, Total Energy	443 J	327 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.6 Âµm/m-Â°C	39.2 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	77.6 Âµm/m-Â°C	43.1 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	126 Â°C	259 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	117 Â°C	243 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	128 Â°C	262 Â°F	

Thermal Properties	Metric @ Thickness 6.40 mm	English @ Thickness 0.252 in	unannealed; ASTM D648 Comments
Deflection Temperature at 1.8 MPa (264 psi)	111 Â°C	232 Â°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	108 Â°C @Thickness 3.20 mm	226 Â°F @Thickness 0.126 in	unannealed; ASTM D648
	116 Â°C @Thickness 6.40 mm	241 Â°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	132 Â°C	270 Â°F	Rate B/50; ISO 306
	136 Â°C	277 Â°F	Rate B/120; ISO 306
UL RTI, Electrical	100 Â°C	212 Â°F	UL 746B
UL RTI, Mechanical with Impact	85.0 Â°C	185 Â°F	UL 746B
UL RTI, Mechanical without Impact	100 Â°C	212 Â°F	UL 746B
Flammability, UL94	V-0 @Thickness 1.47 mm	V-0 @Thickness 0.0579 in	UL 94
	5VA @Thickness 2.00 mm	5VA @Thickness 0.0787 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.20e+16 ohm-cm	1.20e+16 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+16 ohm	>= 1.00e+16 ohm	ASTM D257
Dielectric Constant	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	ASTM D150
	2.89 @Frequency 50.0 - 60.0 Hz	2.89 @Frequency 50.0 - 60.0 Hz	ASTM D150
Dielectric Strength	17.3 kV/mm @Thickness 3.20 mm	439 kV/in @Thickness 0.126 in	in oil; ASTM D149
Dissipation Factor	0.0044 @Frequency 1.00e+6 Hz	0.0044 @Frequency 1.00e+6 Hz	ASTM D150
	0.017	0.017	ASTM D150

Electrical Properties	@Frequency 50.0 - 60.0 Metric Hz	@Frequency 50.0 - 60.0 English Hz	Comments
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	30 - 60 arcs	30 - 60 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Radiant Panel Listing	YES	UL Tested
UV-light, water exposure/immersion	F1	UL 746C

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