

SABIC Innovative Plastics NORYL N190X PPE+PS

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

Material Notes:

PPE+PS blend. Unfilled. Non-brominated, non-chlorinated FR system. UL94 V0/5VA rated. RTI Elec/Imp/Str 95/80/95. Dielectric strength. Suitable for E/E market applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-N190X-PPEPS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.13 g/cc	1.13 g/cc	ASTM D792
Water Absorption	0.080 %	0.080 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
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	20 g/10 min	20 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	23 g/10 min	23 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	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength at Break	47.0 MPa	6820 psi	Type I, 50 mm/min; ASTM D638
	50.0 MPa	7250 psi	
Tensile Strength, Yield	58.0 MPa	8410 psi	50 mm/min; ISO 527
	60.0 MPa	8700 psi	
Elongation at Break	9.0 %	9.0 %	Type I, 50 mm/min; ASTM D638
	9.2 %	9.2 %	
Elongation at Yield	3.2 %	3.2 %	50 mm/min; ISO 527
	3.6 %	3.6 %	
Tensile Modulus	2.58 GPa	374 ksi	50 mm/min; ASTM D638
	2.60 GPa	377 ksi	

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	87.0 MPa	12600 psi	2 mm/min; ISO 178
	91.0 MPa	13200 psi	2.6 mm/min, 100 mm span; ASTM D790
	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	2.6 mm/min, 100 mm span; ASTM D790
	2.35 GPa	341 ksi	2 mm/min; ISO 178
	2.50 GPa	363 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	2.93 J/cm	5.49 ft-lb/in	ASTM D256
	1.00 J/cm	1.87 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched	7.20 J/cm	13.5 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	20.0 kJ/mÂ²	9.52 ft-lb/inÂ²	80*10*4; ISO 180/1A
Charpy Impact, Notched	2.00 J/cmÂ²	9.52 ft-lb/inÂ²	ISO 179/2C
Dart Drop, Total Energy	50.0 J	36.9 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	
Taber Abrasion, mg/1000 Cycles	76	76	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	77.0 Âµm/m-Â°C	42.8 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	81.0 Âµm/m-Â°C	45.0 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ftÂ²- Â°F	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	95.0 Â°C	203 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	95.0 Â°C	203 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa	82.0 Â°C	180 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af

Thermal Properties	Metric	English	Comments
(264 psi)	78.0 Å°C	172 Å°F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
	86.0 Å°C	187 Å°F	
	@Thickness 6.40 mm	@Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	104 Å°C	219 Å°F	Rate B/50; ASTM D1525
	107 Å°C	225 Å°F	Rate B/120; ISO 306
UL RTI, Electrical	95.0 Å°C	203 Å°F	UL 746B
UL RTI, Mechanical with Impact	80.0 Å°C	176 Å°F	UL 746B
UL RTI, Mechanical without Impact	95.0 Å°C	203 Å°F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.01 mm	@Thickness 0.0398 in	
	V-0	V-0	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	
	5VA	5VA	UL 94
	@Thickness 2.99 mm	@Thickness 0.118 in	
Oxygen Index	39 %	39 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.80e+16 ohm-cm	1.80e+16 ohm-cm	ASTM D257
Dielectric Constant	2.6	2.6	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	2.74	2.74	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	19.2 kV/mm	488 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.0055	0.0055	ASTM D150
	@Frequency 100000 Hz	@Frequency 100000 Hz	
	0.013	0.013	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	Tungsten; ASTM D495

Electrical Properties Comparative Tracking Index	Metric 400 - 500 V	English 400 - 500 V	Comments UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	30 - 60 arcs	30 - 60 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
UV-light, water exposure/immersion	F1	UL 746C

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