

SABIC Innovative Plastics NORYL N300X PPE+PS

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

Material Notes:

PPE+PS blend. Unfilled. Non-brominated, non-chlorinated FR system. UL94 V0. High heat. Dielectric strength. Dimensional stability.

Suitable for E/E applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-N300X-PPEPS.php

| Physical Properties | Metric | English | Comments |
|------------------------------------|---|---|---|
| Specific Gravity | 1.10 g/cc | 1.10 g/cc | ASTM D792 |
| Moisture Absorption at Equilibrium | 0.060 % | 0.060 % | ASTM D570 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm @Thickness 3.20 mm | 0.0050 - 0.0070 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in | on Tensile Bar; SABIC Method |
| Melt Flow | 7.4 g/10 min @Load 5.00 kg, Temperature 280 Â°C | 7.4 g/10 min @Load 11.0 lb, Temperature 536 Â°F | ASTM D1238 |
| Melt Index of Compound | 7.0 g/10 min @Load 5.00 kg, Temperature 280 Â°C | 7.0 g/10 min @Load 11.0 lb, Temperature 536 Â°F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|------------------------------|
| Hardness, Rockwell R | 119 | 119 | ASTM D785 |
| Tensile Strength at Break | 66.0 MPa | 9570 psi | ISO 527 |
| | 73.0 MPa | 10600 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield | 74.0 MPa | 10700 psi | Type I, 50 mm/min; ASTM D638 |
| | 75.0 MPa | 10900 psi | ISO 527 |
| Elongation at Break | 7.6 % | 7.6 % | Type I, 50 mm/min; ASTM D638 |
| | 13 % | 13 % | ISO 527 |
| Elongation at Yield | 5.2 % | 5.2 % | ISO 527 |
| | 5.3 % | 5.3 % | Type I, 50 mm/min; ASTM D638 |
| Tensile Modulus | 2.22 GPa | 322 ksi | 1 mm/min; ISO 527 |

| Mechanical Properties | 2.38 GPa Metric | 345 ksi English | 5 mm/min: ASTM D638 Comments |
|----------------------------|---------------------------|----------------------------|------------------------------------|
| Flexural Strength | 112 MPa | 16200 psi | ISO 178 |
| Flexural Yield Strength | 110 MPa | 16000 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 110 MPa | 16000 psi | 2.6 mm/min, 100 mm span; ASTM D790 |
| Flexural Modulus | 2.50 GPa | 363 ksi | 2.6 mm/min, 100 mm span; ASTM D790 |
| | 2.52 GPa | 365 ksi | ISO 178 |
| | 2.65 GPa | 384 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 1.90 J/cm | 3.56 ft-lb/in | ASTM D256 |
| | 0.550 J/cm | 1.03 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 Â°C | @Temperature -22.0 Â°F | |
| Izod Impact, Notched (ISO) | 15.0 kJ/m ² | 7.14 ft-lb/in ² | 80*10*4; ISO 180/1A |
| Dart Drop, Total Energy | 54.0 J | 39.8 ft-lb | ASTM D3763 |
| | @Temperature 23.0 Â°C | @Temperature 73.4 Â°F | |

| Thermal Properties | Metric | English | Comments |
|--|----------------------------------|---------------------------------|------------------------------------|
| CTE, linear, Parallel to Flow | 80.0 Âµm/m-Â°C | 44.4 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 | 80.0 Âµm/m-Â°C | 44.4 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) | 156 Â°C | 313 Â°F | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| | 155 Â°C | 311 Â°F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Deflection Temperature at 1.8 MPa (264 psi) | 140 Â°C | 284 Â°F | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| | 140 Â°C | 284 Â°F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| | 145 Â°C | 293 Â°F | unannealed; ASTM D648 |
| | @Thickness 6.40 mm | @Thickness 0.252 in | |

| Thermal Properties Vicat Softening Point | Metric 162 Â°C | English 322 Â°F | Comments Rate B/50; ISO 305 |
|---|---------------------------|-----------------------------|--------------------------------|
| | 164 Â°C | 327 Â°F | Rate B/120; ISO 306 |
| UL RTI, Electrical | 105 Â°C | 221 Â°F | UL 746B |
| UL RTI, Mechanical with Impact | 105 Â°C | 221 Â°F | UL 746B |
| UL RTI, Mechanical without Impact | 105 Â°C | 221 Â°F | UL 746B |
| Flammability, UL94 | V-0 @Thickness 1.47 mm | V-0 @Thickness 0.0579 in | UL 94 |

| Electrical Properties | Metric | English | Comments |
|--------------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Volume Resistivity | 1.00e+17 ohm-cm | 1.00e+17 ohm-cm | ASTM D257 |
| Surface Resistance | 1.00e+17 ohm | 1.00e+17 ohm | ASTM D257 |
| Dielectric Constant | 2.63 @Frequency 1.00e+6 Hz | 2.63 @Frequency 1.00e+6 Hz | ASTM D150 |
| | 2.68 @Frequency 50.0 - 60.0 Hz | 2.68 @Frequency 50.0 - 60.0 Hz | ASTM D150 |
| Dielectric Strength | 19.4 kV/mm @Thickness 3.20 mm | 493 kV/in @Thickness 0.126 in | in oil; ASTM D149 |
| Dissipation Factor | 0.0031 @Frequency 50.0 - 60.0 Hz | 0.0031 @Frequency 50.0 - 60.0 Hz | ASTM D150 |
| | 0.0090 @Frequency 1.00e+6 Hz | 0.0090 @Frequency 1.00e+6 Hz | ASTM D150 |
| Arc Resistance | 60 - 120 sec | 60 - 120 sec | Tungsten; ASTM D495 |
| Comparative Tracking Index | 175 - 250 V | 175 - 250 V | UL 746A |
| Hot Wire Ignition, HWI | >= 120 sec | >= 120 sec | UL 746A |
| High Amp Arc Ignition, HAI | 0.00 - 15 arcs | 0.00 - 15 arcs | UL 746A |
| High Voltage Arc-Tracking Rate, HVTR | >= 150 mm/min | >= 5.91 in/min | UL 746A |

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