

SABIC Innovative Plastics NORYL V0150B PPE+HIPS

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

Material Notes:

Noryl* V0150B is an unfilled, injection moldable modified polyphenylene ether resin.. Designed for high heat resistance and thin wall FR performance, this resin delivers a UL94 V0 rating at 1.5 mm and a UL94 5Va rating at 2.0 mm. Noryl V0150B is also halogen free according to VDE/DIN 472 part 815 and may be an excellent material candidate where flame resistance and high temperature resistance is required.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-NORYL-V0150B-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 | 0.0600 % | 0.0600 % | 23 ^o C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.18 % | 0.18 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm | 0.0050 - 0.0070 in/in | on Tensile Bar; SABIC Method |
| | 0.0050 - 0.0070 cm/cm @Thickness 3.20 mm | 0.0050 - 0.0070 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 3.5 g/10 min @Load 5.00 kg, Temperature 280 ^o C | 3.5 g/10 min @Load 11.0 lb, Temperature 536 ^o F | ASTM D1238 |
| Melt Index of Compound | 10 g/10 min @Load 5.00 kg, Temperature 300 ^o C | 10 g/10 min @Load 11.0 lb, Temperature 572 ^o F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|-----------|------------------------------|
| Hardness, H358/30 | 113 MPa | 16400 psi | ISO 2039-1 |
| Tensile Strength at Break | 55.0 MPa | 7980 psi | 50 mm/min; ISO 527 |
| | 60.0 MPa | 8700 psi | Type I, 50 mm/min; ASTM D638 |
| Tensile Strength, Yield | 70.0 MPa | 10200 psi | Type I, 50 mm/min; ASTM D638 |
| | 70.0 MPa | 10200 psi | 50 mm/min; ISO 527 |
| Elongation at Break | 7.0 % | 7.0 % | Type I, 50 mm/min; ASTM D638 |
| | 10 % | 10 % | 50 mm/min; ISO 527 |
| Elongation at Yield | 4.0 % | 4.0 % | 50 mm/min; ISO 527 |

| Mechanical Properties | Metric | English | Comments |
|--------------------------------|--------------------------|----------------------------|------------------------------------|
| | 5.0 GPa | 5.0 GPa | Type I, 50 mm/min; ASTM D638 |
| Tensile Modulus | 2.50 GPa | 363 ksi | 5 mm/min; ASTM D638 |
| | 2.50 GPa | 363 ksi | 1 mm/min; ISO 527 |
| Flexural Yield Strength | 105 MPa | 15200 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 110 MPa | 16000 psi | 2 mm/min; ISO 178 |
| Flexural Modulus | 2.40 GPa | 348 ksi | 2 mm/min; ISO 178 |
| | 2.55 GPa | 370 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Izod Impact, Notched | 3.30 J/cm | 6.18 ft-lb/in | ASTM D256 |
| | 1.80 J/cm | 3.37 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Notched (ISO) | 13.0 kJ/m ² | 6.19 ft-lb/in ² | 80*10*4; ISO 180/1A |
| | 5.00 kJ/m ² | 2.38 ft-lb/in ² | 80*10*4; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 1.40 J/cm ² | 6.66 ft-lb/in ² | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| | 0.500 J/cm ² | 2.38 ft-lb/in ² | Edgew 80*10*4 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Dart Drop, Total Energy | 50.0 J | 36.9 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |
| Taber Abrasion, mg/1000 Cycles | 35 | 35 | CS-17, 1 kg; SABIC Method |

| Thermal Properties | Metric | English | Comments |
|---------------------------------|----------------------------------|---------------------------------|-------------|
| CTE, linear, Parallel to Flow | 70.0 Åµm/m-Å°C | 38.9 Åµin/in-Å°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 Å°C | @Temperature 73.4 - 176 Å°F | |
| | 75.0 Åµm/m-Å°C | 41.7 Åµin/in-Å°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 Å°C | @Temperature -40.0 - 104 Å°F | |
| CTE, linear, Transverse to Flow | 75.0 Åµm/m-Å°C | 41.7 Åµin/in-Å°F | ASTM E 831 |

| Thermal Properties | Metric @Temperature -40.0 - 40.0 Â°C | English @Temperature -40.0 - 100 Â°F | Comments |
|--|--|--|---------------------------------------|
| | 90.0 Âµm/m-Â°C | 50.0 Âµin/in-Â°F | ISO 11359-2 |
| | @Temperature 23.0 - 80.0 Â°C | @Temperature 73.4 - 176 Â°F | |
| Thermal Conductivity | 0.270 W/m-K | 1.87 BTU-in/hr-ftÂ²- Â°F | ISO 8302 |
| Hot Ball Pressure Test | <= 140 Â°C | <= 284 Â°F | IEC 60695-10-2 |
| Deflection Temperature at 0.46 MPa (66 psi) | 140 Â°C | 284 Â°F | Edgew 120*10*4 sp=100mm; ISO 75/Be |
| Deflection Temperature at 1.8 MPa (264 psi) | 130 Â°C | 266 Â°F | Edgew 120*10*4 sp=100mm; ISO 75/Ae |
| | 135 Â°C | 275 Â°F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| Vicat Softening Point | 145 Â°C | 293 Â°F | Rate B/50; ISO 306 |
| | 155 Â°C | 311 Â°F | Rate B/120; ISO 306 |
| | 155 Â°C | 311 Â°F | Rate B/50; ASTM D1525 |
| | 160 Â°C | 320 Â°F | Rate A/50; 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 | 115 Â°C | 239 Â°F | UL 746B |
| Flammability, UL94 | V-0 | V-0 | UL 94 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| | 5VA | 5VA | UL 94 |
| | @Thickness 2.00 mm | @Thickness 0.0787 in | |
| Oxygen Index | 32 % | 32 % | 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 |
| | 775 Â°C | 1430 Â°F | IEC 60695-2-13 |
| | 960 Â°C | 1760 Â°F | IEC 60695-2-12 |
| | @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 | >= 1.00e+15 ohm | >= 1.00e+15 ohm | ROA; IEC 60093 |
| Dielectric Constant | 2.7 | 2.7 | IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| | 2.8 | 2.8 | IEC 60250 |
| | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz | |
| Dielectric Strength | 16.0 kV/mm | 406 kV/in | in oil; IEC 60243-1 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| | 26.0 kV/mm | 660 kV/in | |
| | @Thickness 1.60 mm | @Thickness 0.0630 in | in oil; IEC 60243-1 |
| | 33.0 kV/mm | 838 kV/in | in oil; IEC 60243-1 |
| | @Thickness 0.800 mm | @Thickness 0.0315 in | |
| Dissipation Factor | 0.00090 | 0.00090 | IEC 60250 |
| | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz | |
| | 0.0030 | 0.0030 | IEC 60250 |
| | @Frequency 1.00e+6 Hz | @Frequency 1.00e+6 Hz | |
| Comparative Tracking Index | 250 V | 250 V | IEC 60112 |

| Descriptive Properties | Value | Comments |
|-------------------------------------|--------|----------------|
| Ball Pressure Test, 125Â°C +/- 2Â°C | PASSES | IEC 60695-10-2 |

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