# NORYL GTX™ RESIN GTX918WR

REGION ASIA

## DESCRIPTION

NORYL GTX™ 918WR resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high heat resistance, excellent chemical resistance, high melt flow, and added mold release. NORYL GTX918WR resin may be an excellent candidate for automotive under-the-hood and electrical applications requiring the retention of properties while under thermal load.

## TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 62 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 57 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 11.4 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 53 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 810 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 98 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2360 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 60 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 55 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 4.5 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 30 | % | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 85 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2200 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 202 | J/m | ASTM D 256 |
| Instrumented Impact Energy @ peak, 23°C | 40 | J | ASTM D 3763 |
| Izod Impact, notched 80*10*4 +23°C | 20 | kJ/m² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 10 | kJ/m² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 20 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 10 | kJ/m² | ISO 179/1eA |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 242 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 188 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 148 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 6.48E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 6.84E-05 | 1/°C | ASTM E 831 |
| Thermal Conductivity | 0.25 | W/m-°C | ASTM C177 |
| CTE, 23°C to 60°C, flow | 8.E-05 | 1/°C | ISO 11359-2 |
| CTE, 23°C to 60°C, xflow | 8.E-05 | 1/°C | ISO 11359-2 |
| Vicat Softening Temp, Rate A/50 | 245 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/50 | 190 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 195 | °C | ISO 306 |
| HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm | 185 | °C | ISO 75/Be |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Relative Temp Index, Elec [1] | 65 | °C | UL 746B |
| Relative Temp Index, Mech w/impact [1] | 65 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact [1] | 65 | °C | UL 746B |
| PHYSICAL | | | |
| Specific Gravity | 1.09 | - | ASTM D 792 |
| Water Absorption, (23°C/sat) | 4.2 | % | ASTM D 570 |
| Mold Shrinkage, flow, 3.2 mm | 1.3 – 1.6 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 1 – 1.3 | % | SABIC method |
| Melt Flow Rate, 280°C/5.0 kgf | 45 | g/10 min | ASTM D 1238 |
| Melt Volume Rate, MVR at 280°C/1.2 kg | 5 | cm³/10 min | ISO 1133 |
| FLAME CHARACTERISTICS [1] | | | |
| UL Yellow Card Link | E207780-102297328 | - | - |
| UL Recognized, 94HB Flame Class Rating | 1.2 | mm | UL 94 |
| INJECTION MOLDING | | | |
| Drying Temperature | 95 – 105 | °C | |
| Drying Time | 3 – 4 | hrs | |
| Drying Time (Cumulative) | 8 | hrs | |
| Maximum Moisture Content | 0.07 | % | |
| Minimum Moisture Content | 0.02 | % | |
| Melt Temperature | 270 – 295 | °C | |
| Nozzle Temperature | 270 – 295 | °C | |
| Front - Zone 3 Temperature | 265 – 295 | °C | |
| Middle - Zone 2 Temperature | 260 – 295 | °C | |
| Rear - Zone 1 Temperature | 255 – 295 | °C | |
| Mold Temperature | 65 – 95 | °C | |
| Back Pressure | 0.3 – 1.4 | MPa | |
| Screw Speed | 20 – 100 | rpm | |
| Shot to Cylinder Size | 30 – 50 | % | |
| Vent Depth | 0.013 – 0.038 | mm | |

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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