# NORYL PPX™ RESIN PPX7200U

REGION AMERICAS

## DESCRIPTION

NORYL PPX™ 7200U resin is a non-reinforced alloy of polyphenylene ether (PPE) + polypropylene (PP). This UV-stabilized, injection moldable grade exhibits improved chemical resistance and surface aesthetics along with high-temperature performance, excellent melt strength, modulus, impact resistance, hydrolytic and dimensional stability. NORYL PPX7200U resin is an excellent candidate for applications such as hot water tank components and outdoor housings and enclosures.

## TYPICAL PROPERTY VALUES

Revision 20190925

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 33 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 27 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 10 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 130 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 1240 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 48 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 1440 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 34 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 28 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 8.2 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | 115 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 1670 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 48 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 1600 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, unnotched, 23°C | 1441 | J/m | ASTM D 4812 |
| Izod Impact, notched, 23°C | 149 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 36 | J | ASTM D 3763 |
| Izod Impact, unnotched 80*10*4 +23°C | NB | kJ/m² | ISO 180/1U |
| Izod Impact, unnotched 80*10*4 -30°C | NB | kJ/m² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 14 | kJ/m² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 8 | kJ/m² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 12 | kJ/m² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 6 | kJ/m² | ISO 179/1eA |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | NB | kJ/m² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | 80 | kJ/m² | ISO 179/1eU |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 146 | °C | ASTM D 1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 110 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 71 | °C | ASTM D 648 |
| CTE, -40°C to 40°C, flow | 9.9E-05 | 1/°C | ASTM E 831 |
| CTE, -40°C to 40°C, xflow | 1.08E-04 | 1/°C | ASTM E 831 |

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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Vicat Softening Temp, Rate B/50 | 103 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 107 | °C | ISO 306 |
| PHYSICAL | | | |
| Specific Gravity | 0.99 | - | ASTM D 792 |
| Mold Shrinkage on Tensile Bar, flow | 0.6 – 0.8 | % | SABIC method |
| Mold Shrinkage, flow, 3.2 mm | 0.6 – 0.8 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 0.6 – 0.8 | % | SABIC method |
| Melt Flow Rate, 260°C/5.0 kgf | 16 | g/10 min | ASTM D 1238 |
| Density | 0.99 | g/cm³ | ISO 1183 |
| Melt Volume Rate, MVR at 260°C/5.0 kg | 18 | cm³/10 min | ISO 1133 |
| FLAME CHARACTERISTICS (1) | | | |
| UL Yellow Card Link | E121562-256210 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING | | | |
| Drying Temperature | 60 – 65 | °C | |
| Drying Time | 2 – 4 | hrs | |
| Drying Time (Cumulative) | 8 | hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 260 – 290 | °C | |
| Nozzle Temperature | 260 – 290 | °C | |
| Front - Zone 3 Temperature | 250 – 290 | °C | |
| Middle - Zone 2 Temperature | 240 – 280 | °C | |
| Rear - Zone 1 Temperature | 225 – 275 | °C | |
| Mold Temperature | 30 – 50 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 20 – 100 | rpm | |
| Shot to Cylinder Size | 30 – 70 | % | |
| Vent Depth | 0.038 – 0.051 | 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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