

NORYL PPX™ RESIN PPX630F

REGION EUROPE

DESCRIPTION

NORYL PPX630F resin is a 30% glass fiber reinforced alloy of polyphenylene ether (PPE) + polypropylene (PP). This injection moldable grade is NSF 61 certified and exhibits high elongation and stiffness along with temperature performance, impact resistance, hydrolytic and dimensional stability. NORYL PPX630F resin is an excellent candidate for copper and brass replacement in water management applications such as boiler manifolds, condensers, and hydro blocks.

| GENERAL INFORMATION | |
|-----------------------|--|
| Features | Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Food contact, Potable water safe, Dimensional stability, High stiffness/Strength, High temperature resistance, Impact resistant, No PFAS intentionally added |
| Fillers | Glass Fiber |
| Polymer Types | Polyphenylene Ether + PP (PPE+PP) |
| Processing Techniques | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---------------------------|------------------|
| Building and Construction | Water Management |

TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------|--------------|
| MECHANICAL ⁽¹⁾ | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 79 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 79 | MPa | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 7.7 | % | ASTM D638 |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 129 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 5550 | MPa | ASTM D790 |
| IMPACT ⁽¹⁾ | | | |
| Izod Impact, unnotched, 23°C | 827 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 165 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 101 | J/m | ASTM D256 |
| Instrumented Dart Impact Total Energy, 23°C | 19 | J | ASTM D3763 |
| Instrumented Dart Impact Total Energy, -30°C | 20 | J | ASTM D3763 |
| THERMAL ⁽¹⁾ | | | |
| Vicat Softening Temp, Rate B/50 | 162 | °C | ASTM D1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 155 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 133 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 1.44E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 7.74E-05 | 1/°C | ASTM E831 |
| PHYSICAL ⁽¹⁾ | | | |
| Specific Gravity | 1.19 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm ⁽²⁾ | 0.2 – 0.23 | % | SABIC method |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|--------------------------------|----------|--------------|
| Mold Shrinkage, xflow, 3.2 mm ⁽²⁾ | 0.25 – 0.76 | % | SABIC method |
| Melt Flow Rate, 260°C/5.0 kgf | 2.6 | g/10 min | ASTM D1238 |
| FLAME CHARACTERISTICS ⁽³⁾ | | | |
| UL Yellow Card Link | E121562-221227 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING ⁽⁴⁾ | | | |
| Drying Temperature | 65 – 75 | °C | |
| Drying Time | 2 – 4 | Hrs | |
| Drying Time (Cumulative) | 8 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 260 – 300 | °C | |
| Nozzle Temperature | 260 – 300 | °C | |
| Front - Zone 3 Temperature | 255 – 295 | °C | |
| Middle - Zone 2 Temperature | 250 – 290 | °C | |
| Rear - Zone 1 Temperature | 245 – 290 | °C | |
| Mold Temperature | 40 – 65 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 20 – 100 | rpm | |
| Shot to Cylinder Size | 30 – 70 | % | |
| Vent Depth | 0.051 – 0.076 | mm | |

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (3) 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.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

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