# NORYL™ RESIN GFN3LF

## DESCRIPTION

NORYL GFN3LF resin is a 30% glass fiber reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade exhibits improved hydrolytic stability along with very low moisture absorption, high strength, Low warp, low specific gravity, and excellent dimensional stability. NORYL GFN3LF carries a FDA food contact compliance and NSF 61 listings in specific colors. NORYL GFN3LF target applications are drinking water management such as water filter and meter components, pump housings / impellers, shower + faucet, and valves. *See NORYL GFN3L resin for NON-FDA compliant/NON-NSF version.

| GENERAL INFORMATION | |
|---|---|
| **Features** | Hydrolytic Stability, Low Warpage, Amorphous, Low Corrosivity, Low Moisture Absorption, Low Specific Gravity, Food contact, Potable water safe, Dimensional stability, High stiffness/Strength, No PFAS intentionally added |
| **Fillers** | Glass Fiber |
| **Polymer Types** | Polyphenylene Ether + PS (PPE+PS) |
| **Processing Techniques** | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|---|---|
| Building and Construction | Water Management |
| Hygiene and Healthcare | Personal and Professional Hygiene |

## TYPICAL PROPERTY VALUES

Revision 20250306

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **MECHANICAL** [1] | | | |
| **Tensile Stress, yield** | 117 | MPa | SABIC - Japan Method |
| **Tensile Strain, break** | 8 – 10 | % | SABIC - Japan Method |
| **Flexural Stress** | 159 | MPa | ASTM D790 |
| **Flexural Modulus** | 7440 | MPa | ASTM D790 |
| **Hardness, Rockwell R** | 121 | - | ASTM D785 |
| **IMPACT** [1] | | | |
| **Izod Impact, notched, 23°C** | 127 | J/m | ASTM D256 |
| **THERMAL** [1] | | | |
| **HDT, 1.82 MPa, 6.4 mm, unannealed** | 140 | °C | ASTM D648 |
| **CTE, -30°C to 30°C** | 0.00002 – 0.000043 | 1/°C | TMA |
| **PHYSICAL** [1] | | | |
| **Specific Gravity** | 1.31 | - | ASTM D792 |
| **Water Absorption, (23°C/24hrs)** | 0.06 | % | ASTM D570 |
| **Mold Shrinkage, flow, 3.2 mm** [2] | 0.2 – 0.3 | % | SABIC method |
| **Melt Flow Rate, 300°C/5.0 kgf** | 8.3 | g/10 min | ASTM D1238 |
| **ELECTRICAL** [1] | | | |
| **Surface Resistivity** | 1.E+16 | Ω | ASTM D257 |
| **Relative Permittivity, 50/60 Hz** | 2.93 | - | ASTM D150 |
| **Arc Resistance, Tungsten {PLC}** | 6 | PLC Code | ASTM D495 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| FLAME CHARACTERISTICS [3] | | | |
| UL Yellow Card Link | E45587-237023 | - | - |
| UL Recognized, 94HB Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING [4] | | | |
| Drying Temperature | 110 – 120 | °C | |
| Drying Time | 3 – 4 | Hrs | |
| Drying Time (Cumulative) | 8 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 300 – 325 | °C | |
| Nozzle Temperature | 300 – 325 | °C | |
| Front - Zone 3 Temperature | 290 – 325 | °C | |
| Middle - Zone 2 Temperature | 275 – 320 | °C | |
| Rear - Zone 1 Temperature | 265 – 315 | °C | |
| Mold Temperature | 80 – 110 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 20 – 100 | rpm | |

(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.

## DISCLAIMER