

NORYL GTXTM RESIN GTX830N

DESCRIPTION

NORYL GTX830N resin is a 30% glass fiber reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 8200 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX830 resin is an excellent candidate for a wide variety of applications including automotive under the bonnet applications and water meter housings.

GENERAL INFORMATION

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

| INDUSTRY | SUB INDUSTRY |
|----------------------------|---------------------------|
| Automotive | Automotive Under the Hood |
| Building and Construction | Water Management |
| Electrical and Electronics | Electronic Components |
| Industrial | Electrical |

TYPICAL PROPERTY VALUES

PROPERTIES **TYPICAL VALUES** UNITS **TEST METHODS** MECHANICAL⁽¹⁾ Nominal Stress, yld, Type I, 5 mm/min 151 MPa ASTM D638 158 Nominal Strain, brk, 5 mm/min % ASTM D638 MPa ASTM D790 Flexural Stress, yld, 2.6 mm/min, 100 mm span 248 Flexural Modulus, 2.6 mm/min, 100 mm span 8580 MPa ASTM D790 Hardness, Rockwell R 120 ASTM D785 IMPACT (1) Izod Impact, notched, 23°C ASTM D256 106 J/m Izod Impact, notched, -30°C 80 J/m ASTM D256 THERMAL °C Vicat Softening Temp, Rate B/50 248 ASTM D1525 HDT, 0.45 MPa, 6.4 mm, unannealed °C ASTM D648 254 °C HDT, 1.82 MPa, 6.4 mm, unannealed 240 ASTM D648 CTE, -20°C to 150°C, flow 0 - 01/°C ASTM F831 PHYSICAL (1) Specific Gravity 1.33 ASTM D792 1.328 ASTM D792 Density g/cm³ Moisture Absorption, (50% RH, Equilibrium) 1 % ASTM D570 Moisture Absorption, (23°C/50% RH/24 hrs) 0.5 % ASTM D570 Mold Shrinkage, flow, 3.2 mm (2) 0.2 - 0.3 % SABIC method

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CHEMISTRY THAT MATTERS

Revision 20240618



| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|--------------------------|----------|----------------|
| Mold Shrinkage, xflow, 3.2 mm ⁽²⁾ | 0.65 – 0.85 | % | SABIC method |
| ELECTRICAL ⁽¹⁾ | | | |
| Arc Resistance, Tungsten {PLC} | 4 | PLC Code | ASTM D495 |
| Comparative Tracking Index (UL) {PLC} | 4 | PLC Code | UL 746A |
| Hot-Wire Ignition (HWI), PLC 0 | ≥1.5 | mm | UL 746A |
| High Amp Arc Ignition (HAI), PLC 0 | ≥1.5 | mm | UL 746A |
| Volume Resistivity | 1.0E+13 | Ω.cm | IEC 60093 |
| Dielectric Strength, in oil, 1.6 mm | 19 | kV/mm | ASTM D149 |
| FLAME CHARACTERISTICS (3) | | | |
| UL Yellow Card Link | <u>E121562-104672232</u> | | |
| UL Recognized, 94HB Flame Class Rating | ≥1.5 | mm | UL 94 |
| Glow Wire Ignitability Temperature, 3.0 mm | 800 | °C | IEC 60695-2-13 |
| Glow Wire Flammability Index, 3.0 mm | 960 | °C | IEC 60695-2-12 |
| INJECTION MOLDING (4) | | | |
| 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 | 280 – 305 | °C | |
| Nozzle Temperature | 280 – 305 | °C | |
| Front - Zone 3 Temperature | 275 – 305 | °C | |
| Middle - Zone 2 Temperature | 270 – 305 | °C | |
| Rear - Zone 1 Temperature | 265 – 305 | °C | |
| Mold Temperature | 75 – 120 | °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) 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, colors and regions. 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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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