# NORYL GTX™ RESIN GTX810

REGION ASIA

## DESCRIPTION

NORYL GTX810 resin is a 10% glass fiber reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 3000 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX810 resin is an excellent candidate for a wide variety of applications including automotive under the hood, electrical and lighting components, security (CCTV) housings.

| GENERAL INFORMATION | |
|---|---|
| Features | Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Moisture Absorption, Low Specific Gravity, 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, Automotive Lighting |
| Electrical and Electronics | Electronic Components, Mobile Phone - Computer - Tablets, Lighting |
| Industrial | Electrical |

## TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| MECHANICAL [1] | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 89 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 88 | MPa | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 10 | % | ASTM D638 |
| Flexural Stress, yld, 2.6 mm/min, 100 mm span | 155 | MPa | ASTM D790 |
| Flexural Modulus, 2.6 mm/min, 100 mm span | 3960 | MPa | ASTM D790 |
| Hardness, Rockwell R | 119 | - | ASTM D785 |
| IMPACT [1] | | | |
| Izod Impact, notched, 23°C | 80 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 53 | J/m | ASTM D256 |
| THERMAL [1] | | | |
| Vicat Softening Temp, Rate B/50 | 240 | °C | ASTM D1525 |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 245 | °C | ASTM D648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 210 | °C | ASTM D648 |
| CTE, -20°C to 150°C, flow | 3.9E-05 – 5.0E-05 | 1/°C | ASTM E831 |
| PHYSICAL [1] | | | |
| Specific Gravity | 1.16 | - | ASTM D792 |
| Density | 1.162 | g/cm³ | ASTM D792 |
| 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] | 0.6 – 0.8 | % | SABIC method |



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| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| Mold Shrinkage, xflow, 3.2 mm [2] | 0.65 – 0.85 | % | SABIC method |
| INJECTION MOLDING [3] | | | |
| 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) 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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