NORYL GTX™ 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 (Total fluorine >50ppm only from inorganic fluorine)
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

Revision 20240618

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Nominal Stress, yld, Type I, 5 mm/min	151	MPa	ASTM D638
Nominal Strain, brk, 5 mm/min	158	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	248	MPa	ASTM D790
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	106	J/m	ASTM D256
Izod Impact, notched, -30°C	80	J/m	ASTM D256
THERMAL			
Vicat Softening Temp, Rate B/50	248	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	254	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	240	°C	ASTM D648
CTE, -20°C to 150°C, flow	0 – 0	1/°C	ASTM E831
PHYSICAL [1]			
Specific Gravity	1.33	-	ASTM D792
Density	1.328	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]	0.2 – 0.3	%	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
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	E121562-104672232	-	-
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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