NORYL GTX™ Resin GTX820

REGION ASIA

DESCRIPTION

NORYL GTX820 resin is a 20% glass fiber reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 4000 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX820 resin is an excellent candidate for a wide variety of applications including valves for water management.

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 (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 20241015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	117	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	117	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	7	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	194	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	5960	MPa	ASTM D790
Hardness, Rockwell R	119	-	ASTM D785
IMPACT [1]			
Izod Impact, notched, 23°C	93	J/m	ASTM D256
Izod Impact, notched, -30°C	53	J/m	ASTM D256
THERMAL [1]			
HDT, 1.82 MPa, 6.4 mm, unannealed	232	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	254	°C	ASTM D648
Vicat Softening Temp, Rate B/50	248	°C	ASTM D1525
CTE, -20°C to 150°C, flow	3.06E-05 – 3.96E-05	1/°C	ASTM E831
PHYSICAL [1]			
Specific Gravity	1.24	-	ASTM D792
Density	1.24	g/cm³	ASTM D792
Water Absorption, (23°C/24hrs)	0.70	%	ASTM D570
Water Absorption, (23°C/Saturated)	1.88	%	ASTM D570

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Melt Flow Rate, 280°C/5.0 kgf	7.0	g/10 min	ASTM D1238
Mold Shrinkage, flow, 3.2 mm [2]	0.4 – 0.6	%	SABIC method
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.

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