NORYL GTX™ Resin GTX850

DESCRIPTION

NORYL GTX850 resin is a 50% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 15.2 GPa), excellent chemical resistance, and high heat resistance. Target application of GTX850 is a wide variety of automotive under-the-hood, water management and consumer electronics structural applications.

GENERAL INFORMATION	
Features	Chemical Resistance, Low Warpage, 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	Electrical Devices and Displays

TYPICAL PROPERTY VALUES

Revision 20260210

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, brk, Type I, 5 mm/min	232	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.6	%	ASTM D638
Tensile Modulus, 5 mm/min	17500	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	370	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	15200	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	226	MPa	ISO 527
Tensile Strain, break, 5 mm/min	3.3	%	ISO 527
Tensile Modulus, 1 mm/min	17000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	365	MPa	ISO 178
Flexural Modulus, 2 mm/min	14800	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	128	J/m	ASTM D256
Izod Impact, unnotched, 23°C	1200	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	12.5	kJ/m²	ISO 180/1A
THERMAL [1]			
HDT, 1.82 MPa, 3.2mm, unannealed	251	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	250	°C	ISO 75/Af
PHYSICAL [1]			
Specific Gravity	1.575	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.31	%	ISO 62-1
Mold Shrinkage, flow [2]	0.3 – 0.4	%	SABIC method

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, xflow [2]	0.35 – 0.45	%	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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