NORYL GTX™ Resin GTX810

REGION EUROPE

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 (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, Automotive Lighting
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets, Lighting
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20241015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield, 5 mm/min	65	MPa	ISO 527
Tensile Stress, break, 5 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.5	%	ISO 527
Tensile Strain, break, 5 mm/min	6	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, break, 2 mm/min	105	MPa	ISO 178
Flexural Modulus, 2 mm/min	2900	MPa	ISO 178
Ball Indentation Hardness, H358/30	90	MPa	ISO 2039-1
IMPACT [1]			
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	40	kJ/m²	ISO 180/1U
Charpy Impact, notched, 23°C	6	kJ/m²	ISO 179/2C
Charpy Impact, notched, -20°C	4	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	60	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	40	kJ/m²	ISO 179/1eU
THERMAL [1]			
Thermal Conductivity	0.24	W/m-°C	ISO 8302
CTE, 23°C to 60°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	8.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	200	°C	ISO 306
Vicat Softening Temp, Rate B/120	205	°C	ISO 306
Relative Temp Index, Elec [2]	120	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	60	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	125	°C	UL 746B
PHYSICAL [1]			
Mold Shrinkage on Tensile Bar, flow [3]	0.6 – 1	%	SABIC method
Density	1.16	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	3.3	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	1.11	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E45329-101009462	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
Oxygen Index (LOI)	26	%	ISO 4589
INJECTION MOLDING [4]			
Drying Temperature	100 – 110	°C	
Drying Time	2 – 3	Hrs	
Maximum Moisture Content	0.07	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 100	°C	

(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) 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.

(3) 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.

(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.

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