NORYL GTX™ Resin GTX8720

REGION AMERICAS

DESCRIPTION

NORYL GTX GTX8720 resin is a glass filled, high performance blend of PPE/PA that exhibits an excellent balance of high-heat resistance, strength, flow, and conductivity. This grade can be electro-statically painted or powder coated without the need for a conductive primer.

GENERAL INFORMATION	
Features	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
Consumer	Home Appliances
Electrical and Electronics	Electrical Devices and Displays

TYPICAL PROPERTY VALUES

Revision 20240215

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.1	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D638
Tensile Modulus, 5 mm/min	7000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	200	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6600	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	140	MPa	ISO 527
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.1	%	ISO 527
Tensile Strain, break, 5 mm/min	4	%	ISO 527
Tensile Modulus, 1 mm/min	7000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	200	MPa	ISO 178
Flexural Modulus, 2 mm/min	6600	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	85	J/m	ASTM D256
Izod Impact, notched, -30°C	60	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	17	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
THERMAL [1]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	215	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	215	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.3E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.3E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	215	°C	ISO 306
Vicat Softening Temp, Rate B/120	225	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	215	°C	ISO 75/Bf
PHYSICAL [1]			
Specific Gravity	1.26	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.26 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.72 – 0.85	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	8.6	g/10 min	ASTM D1238
Density	1.26	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	4	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.5	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	7	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+03 – 1.E+04	Ω.cm	SABIC method
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E121562-100086663	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
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 and colors. 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.

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