NORYL GTX™ RESIN GTX951W

REGION AMERICAS

DESCRIPTION

NORYL GTX951W resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high heat resistance, excellent chemical resistance, high melt flow, and added mold release. NORYL GTX951W resin was designed for automotive under-the-hood applications such as power distribution boxes, relay boxes, and junction boxes.

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability, High stiffness/Strength, High temperature resistance, Impact resistant, No PFAS intentionally added
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PA (PPE+Nylon)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Under the Hood
Electrical and Electronics	Electronic Components, Lighting
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20241016

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	55	%	ASTM D638
Tensile Modulus, 50 mm/min	2250	MPa	ASTM D638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	100	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2550	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	66	MPa	ISO 527
Tensile Strain, break, 50 mm/min	51	%	ISO 527
Flexural Stress, break, 2 mm/min	98	MPa	ISO 178
Flexural Modulus, 2 mm/min	2370	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	211	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	48	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, -30°C	32	J	ASTM D3763
Izod Impact, notched 63.5*12.7*3.2, 23°C	13	kJ/m²	ISO 180/4A
Izod Impact, notched 63.5*12.7*3.2, -30°C	8	kJ/m²	ISO 180/4A
Charpy Impact, notched, 23°C	21	kJ/m²	ISO 179/2C

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy Impact, notched, -20°C	10	kJ/m²	ISO 179/2C
THERMAL [1]			
HDT, 0.45 MPa, 6.4 mm, unannealed	195	°C	ASTM D648
CTE, -40°C to 40°C, flow	9.E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ASTM E831
CTE, 60°C to 138°C, flow	1.67E-04	1/°C	ASTM E831
CTE, 60°C to 138°C, xflow	1.53E-04	1/°C	ASTM E831
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	181	°C	ISO 75/Be
PHYSICAL [1]			
Specific Gravity	1.1	-	ASTM D792
Mold Shrinkage, flow, 24 hrs [2]	1.4 – 1.7	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	1.2 – 1.5	%	ASTM D955
Melt Flow Rate, 280°C/2.16 kgf	24	g/10 min	ASTM D1238
Melt Flow Rate, 280°C/5.0 kgf	65	g/10 min	ASTM D1238
Water Absorption, (23°C/24hrs)	1.99	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/Equilibrium)	0.39	%	ISO 62-4
ELECTRICAL [1]			
Dielectric Strength, in oil, 1.6 mm	22.4	kV/mm	ASTM D149
Dissipation Factor, 1 MHz	0.017	-	ASTM D150
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E121562-102315342	-	-
UL Recognized, 94HB Flame Class Rating	1.2	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	270 – 295	°C	
Nozzle Temperature	270 – 295	°C	
Front - Zone 3 Temperature	265 – 295	°C	
Middle - Zone 2 Temperature	260 – 295	°C	
Rear - Zone 1 Temperature	255 – 295	°C	
Mold Temperature	65 – 95	°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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