NORYL GTX™ RESIN GTX910

REGION AMERICAS

DESCRIPTION

NORYL GTX910 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). NORYL GTX910 resin exhibits excellent chemical resistance and is an
excellent candidate for automotive applications such as plastic/metal hybrid components, rail extensions, crash cans, wheel covers, and energy absorbers.

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	Glass Fiber, Unreinforced
Polymer Types	Polyphenylene Ether + PA (PPE+Nylon)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Crash and Chassis, Automotive Exteriors
Building and Construction	Building Component

TYPICAL PROPERTY VALUES

Revision 20241014

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	95	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2240	MPa	ASTM D790
Hardness, Rockwell R	116	-	ASTM D785
IMPACT [1]			
Izod Impact, notched, 23°C	240	J/m	ASTM D256
Izod Impact, notched, -30°C	133	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	50	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, -30°C	39	J	ASTM D3763
THERMAL [1]			
Vicat Softening Temp, Rate B/50	232	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	193	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	143	°C	ASTM D648
CTE, -40°C to 95°C, flow	9.E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	9.E-05	1/°C	ASTM E831
CTE, 60°C to 138°C, flow	1.26E-04	1/°C	ASTM E831
CTE, 60°C to 138°C, xflow	1.26E-04	1/°C	ASTM E831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL [1]			
Specific Gravity	1.1	-	ASTM D792
Density	1.107	g/cm³	ASTM D792
Moisture Absorption, (50% RH, Equilibrium)	1	%	ASTM D570
Moisture Absorption, (23°C/50% RH/24 hrs)	0.5	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [2]	1.1 – 1.3	%	SABIC method
Mold Shrink, flow, annealed 130C 1hr [2]	1.6 – 1.8	%	ASTM D955
Mold Shrinkage, xflow, 3.2 mm [2]	1 – 1.2	%	SABIC method
ELECTRICAL [1]			
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
FLAME CHARACTERISTICS [3]			
UL Yellow Card Link	E121562-220766	-	-
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.

DISCLAIMER