NORYL GTX™ RESIN GTX9810

DESCRIPTION

NORYL GTX9810 resin is a conductive, non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is optimized to allow for in- or on-line primer-less electrostatic and powder coat painting. NORYL GTX9810 resin exhibits high impact resistance and strength, excellent flow and improved dimension stability from low moisture absorption. This product is targeted for automotive painted applications such as body panels, tank flaps and EV service flaps.

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

INDUSTRY	SUB INDUSTRY
Automotive	Automotive Exteriors

TYPICAL PROPERTY VALUES

Revision 20250310

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	53	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	69	%	ASTM D638
Tensile Modulus, 5 mm/min	2450	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2380	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	58	MPa	ISO 527
Tensile Stress, break, 50 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	56	%	ISO 527
Tensile Modulus, 1 mm/min	2370	MPa	ISO 527
Flexural Strength, 2 mm/min	88	MPa	ISO 178
Flexural Modulus, 2 mm/min	2380	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	174	J/m	ASTM D256
Izod Impact, notched, -30°C	58	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	16	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	201	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	95	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	185	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	96	°C	ISO 75/Af
CTE, -40°C to 60°C, flow	7.8E-05	1/°C	ASTM E831
CTE, -40°C to 60°C, xflow	7.7E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, flow	7.8E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	7.7E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	193	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	196	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	193	°C	ISO 306
Vicat Softening Temp, Rate B/120	196	°C	ISO 306
PHYSICAL [1]			
Specific Gravity	1.09	-	ASTM D792
Density	1.10	g/cm³	ISO 1183
Melt Flow Rate, 280°C/5.0 kgf	26	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 280°C/5.0 kg	25	cm³/10 min	ISO 1133
Water Absorption, (23°C/24hrs)	0.38	%	ISO 62-1
Water Absorption, (23°C/saturated)	3.10	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.09	%	ISO 62-4
Mold Shrinkage, flow [2]	1.4 – 1.7	%	SABIC method
Mold Shrinkage, xflow [2]	1.4 – 1.7	%	SABIC method
ELECTRICAL [1]			
Volume Resistivity	5.0E+02 – 1.0E+04	Ω.cm	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	100 – 120	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.07	%	
Melt Temperature	290 – 320	°C	
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	290 – 320	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Mold Temperature	100 – 120	°C	
Back Pressure	0.4 – 1.0	MPa	
Screw Speed	20 – 100	rpm	
Shot to Cylinder Size	30 – 50	%	

(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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