NORYL GTX™ RESIN GTX202

REGION AMERICAS

DESCRIPTION

NORYL GTX202 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits excellent chemical resistance and excellent paintability.

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	Heavy Truck, Automotive Exteriors, Recreational/Specialty Vehicles
Consumer	Personal Recreation

TYPICAL PROPERTY VALUES

Revision 20241015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, break, 5 mm/min	54	MPa	ISO 527
Tensile Strain, break, 5 mm/min	46	%	ISO 527
Tensile Modulus, 1 mm/min @ 120°C	2154	MPa	ISO 527
Flexural Modulus, 2 mm/min	2227	MPa	ISO 178
Tensile Modulus, 5 mm/min	2173	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	38	%	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	56	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	9	%	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	52	%	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	52	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	2120	MPa	ASTM D790
Flexural Stress, yld, 2.6 mm/min, 100 mm span	89	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2240	MPa	ASTM D790
Hardness, Rockwell R	118	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	19	mg/1000cy	ASTM D1044
IMPACT [1]			
Izod Impact, notched 80*10*4 +23°C	18	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	DB	kJ/m²	ISO 180/1U
Izod Impact, notched, 23°C	167	J/m	ASTM D256
Izod Impact, notched, -40°C	53	J/m	ASTM D256

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched, -30°C	117	J/m	ASTM D256
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D4812
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	19	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	DB	kJ/m²	ISO 179/1eU
Izod Impact, unnotched, -30°C	3204	J/m	ASTM D4812
Izod Impact, unnotched, -40°C	3204	J/m	ASTM D4812
Instrumented Dart Impact Energy @ peak, 23°C	46	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, -30°C	36	J	ASTM D3763
Instrumented Impact Energy @ peak, -40°C	19	J	ASTM D3763
THERMAL [1]			
Vicat Softening Temp, Rate A/50	235	°C	ISO 306
Vicat Softening Temp, Rate B/50	166	°C	ISO 306
Vicat Softening Temp, Rate A/50	232	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	167	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	155	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	127	°C	ASTM D648
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	113	°C	ISO 75/Af
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	154	°C	ISO 75/Bf
CTE, 23°C to 80°C, flow	9.30E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, xflow	9.30E-05	1/°C	ASTM E831
CTE, -20°C to 150°C, flow	9.00E-05	1/°C	ASTM E831
PHYSICAL [1]			
Specific Gravity	1.08	-	ASTM D792
Mold Shrinkage, flow, 24 hrs [2]	1.03	%	ASTM D955
Density	1.09	g/cm³	ISO 1183
Water Absorption, (23°C/Saturated)	3.6	%	ASTM D570
Water Absorption, (23°C/24hrs)	0.4	%	ASTM D570
Moisture Absorption, (23°C/50% RH/24 hrs)	0.2	%	ASTM D570
Moisture Absorption (23°C / 50% RH)	0.57	%	ISO 62
Water Absorption, (23°C/saturated)	2.02	%	ISO 62-1
Mold Shrinkage, flow, 24 hrs [2]	1.03	%	ISO 294
Mold Shrinkage, xflow, 24 hrs [2]	1.12	%	ISO 294
Mold Shrink, flow, annealed 130C 1hr [2]	1.1 – 1.5	%	ASTM D955
Mold Shrinkage, xflow, 24 hrs [2]	1.12	%	ASTM D955
Mold Shrinkage, flow, 3.2 mm [2]	0.9 – 1.2	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [2]	0.8 – 1.1	%	SABIC method
Melt Volume Rate, MVR at 280°C/5.0 kg	12	cm³/10 min	ISO 1133
INJECTION MOLDING [3]			
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	275 – 300	°C	
Nozzle Temperature	275 – 300	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Front - Zone 3 Temperature	270 – 300	°C	
Middle - Zone 2 Temperature	265 – 300	°C	
Rear - Zone 1 Temperature	260 – 300	°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) 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