NORYL GTX™ RESIN GTX910C

REGION ASIA

DESCRIPTION

NORYL GTX910C resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). NORYL GTX910C resin exhibits excellent chemical resistance and is targeted for automotive applications such as exterior automotive applications such as wheel covers and wheel trim.

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, Low Specific Gravity, Creep resistant, 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 Exteriors

TYPICAL PROPERTY VALUES

Revision 20240531

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	46	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	22	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	63	%	ASTM D638
Tensile Modulus, 50 mm/min	1992	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	67	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	1530	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	9	%	ISO 527
Tensile Strain, break, 50 mm/min	69	%	ISO 527
Tensile Modulus, 1 mm/min	1955	MPa	ISO 527
Flexural Strength, 2 mm/min	63	MPa	ISO 178
Flexural Modulus, 2 mm/min	1538	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	621	J/m	ASTM D256
Izod Impact, notched, -30°C	166	J/m	ASTM D256
Izod Impact, notched 80*10*4 +23°C	50	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	16	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eA
Instrumented Dart Impact Total Energy, 23°C	50	J	ASTM D3763

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Instrumented Dart Impact Total Energy, -30°C	45	J	ASTM D3763
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	158	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	86	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	159	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	75	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	8.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.6E-05	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	172	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	172	°C	ASTM D1525
Vicat Softening Temp, Rate A/50	208	°C	ISO 306
Vicat Softening Temp, Rate A/120	206	°C	ISO 306
PHYSICAL [1]			
Specific Gravity	1.09	-	ASTM D792
Melt Flow Rate, 280°C/2.16 kgf	15	g/10 min	ASTM D1238
Melt Flow Rate, 280°C/5.0 kgf	50	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 280°C/2.16 kg	19	cm³/10 min	ISO 1133
Water Absorption, 23°C/24hrs	0.81	%	SABIC method
Mold Shrinkage, flow [2]	0.98 – 1.01	%	SABIC method
Mold Shrinkage, xflow [2]	1.01 – 1.04	%	SABIC method
INJECTION MOLDING [3]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 305	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	280 – 305	°C	
Middle - Zone 2 Temperature	270 – 300	°C	
Rear - Zone 1 Temperature	260 – 290	°C	
Mold Temperature	20 – 80	°C	
Back Pressure	0.4 – 0.6	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