

NORYL GTX™ RESIN GTX909

REGION ASIA

DESCRIPTION

NORYL GTX909 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high impact performance, high heat resistance, and excellent chemical resistance. NORYL GTX909 resin may be an excellent candidate for various exterior automotive applications such as door handles and wheel covers.

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 Exteriors

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 50 mm/min	66	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	59	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	9	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	50	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	99	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	2370	MPa	ASTM D790
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	176	J/m	ASTM D256
Izod Impact, notched, -30°C	106	J/m	ASTM D256
Instrumented Dart Impact Energy @ peak, 23°C	40	J	ASTM D3763
Instrumented Dart Impact Energy @ peak, -30°C	24	J	ASTM D3763
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	245	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	204	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	125	°C	ASTM D648
CTE, -20°C to 150°C, flow	9.54E-05	1/°C	ASTM E831
CTE, -20°C to 150°C, xflow	8.1E-05	1/°C	ASTM E831
PHYSICAL ⁽¹⁾			
Specific Gravity	1.13	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.54	%	ASTM D570
Water Absorption, (23°C/Saturated)	4.4	%	ASTM D570

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	1.3 – 1.7	%	SABIC method
ELECTRICAL ⁽¹⁾			
Volume Resistivity	4.4E+16	Ω.cm	ASTM D257
Surface Resistivity	1.7E+16	Ω	ASTM D257
Dielectric Strength, in oil, 3.2 mm	25.5	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.27	-	ASTM D150
Relative Permittivity, 1 MHz	2.76	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.039	-	ASTM D150
Dissipation Factor, 1 MHz	0.019	-	ASTM D150
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	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) 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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