

# NORYL GTX™ RESIN GTX964W

## DESCRIPTION

NORYL GTX964W resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA) that exhibits very high impact resistance and high flow. This injection moldable grade was designed for large parts, such as automotive body panels, and thin wall applications

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Shrinkage, Low Moisture Absorption, 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 EV, Automotive Exteriors

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 50 mm/min	44	MPa	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	56	%	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	73	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	1830	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	1800	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	528	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	41	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	50	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	20	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL <sup>(1)</sup></b>			
HDT, 0.45 MPa, 6.4 mm, unannealed	185	°C	ASTM D648
Thermal Conductivity	0.23	W/m·°C	ASTM C177
Vicat Softening Temp, Rate A/50	240	°C	ISO 306
Vicat Softening Temp, Rate B/50	175	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	175	°C	ISO 75/Be
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.08	-	ASTM D792
Water Absorption, (23°C/Saturated)	3.5	%	ASTM D570
Moisture Absorption, (50% RH, Equilibrium)	1.19	%	ASTM D570
Mold Shrinkage, flow <sup>(2)</sup>	1.5	%	SABIC method
Mold Shrinkage, xflow <sup>(2)</sup>	1.3	%	SABIC method
Melt Volume Rate, MVR at 280°C/2.16 kg	7	cm <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING <sup>(3)</sup></b>			
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	295 – 315	°C	
Nozzle Temperature	295 – 315	°C	
Front - Zone 3 Temperature	290 – 315	°C	
Middle - Zone 2 Temperature	280 – 315	°C	
Rear - Zone 1 Temperature	275 – 315	°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) 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.

## MORE INFORMATION

For curve data and CAE cards, please visit and register at <https://materialfinder.sabic-specialties.com>

## ADDITIONAL PRODUCT NOTES

No PFAS intentionally added: The grade listed in this document does not contain PFAS intentionally added during Seller's manufacturing process and is not expected to contain unintentional PFAS impurities. Each user is responsible for evaluating the presence of unintentional PFAS impurities.

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.