

NORYL GTX™ RESIN GTX9400W

REGION AMERICAS

DESCRIPTION

NORYL GTX9400W resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high heat resistance, high flow, and added mold release. NORYL GTX9400W resin is an excellent candidate for automotive under-the-hood applications such as power distribution boxes, relay boxes, connectors, sensors, and fuse box 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

Automotive

Electrical and Electronics

Industrial

SUB INDUSTRY

Automotive Under the Hood

Electronic Components

Electrical

TYPICAL PROPERTY VALUES

Revision 2023 1109

PROPERTIES

TYPICAL VALUES

UNITS

TEST METHODS

MECHANICAL ⁽¹⁾

Tensile Stress, yld, Type I, 50 mm/min

64

MPa

ASTM D638

Tensile Stress, brk, Type I, 50 mm/min

62

MPa

ASTM D638

Tensile Strain, yld, Type I, 50 mm/min

11

%

ASTM D638

Tensile Strain, brk, Type I, 50 mm/min

40

%

ASTM D638

Tensile Modulus, 50 mm/min

1950

MPa

ASTM D638

Flexural Stress, yld, 2.6 mm/min, 100 mm span

100

MPa

ASTM D790

Flexural Modulus, 2.6 mm/min, 100 mm span

2350

MPa

ASTM D790

Tensile Stress, yield, 50 mm/min

69

MPa

ISO 527

Tensile Strain, break, 5 mm/min

39

%

ISO 527

Flexural Modulus, 2 mm/min

2700

MPa

ISO 178

IMPACT ⁽¹⁾

Izod Impact, unnotched, 23°C

849

J/m

ASTM D4812

Izod Impact, unnotched, -30°C

768

J/m

ASTM D4812

Izod Impact, notched, 23°C

256

J/m

ASTM D256

Izod Impact, notched, -30°C

112

J/m

ASTM D256

Instrumented Dart Impact Total Energy, 23°C

43

J

ASTM D3763

Instrumented Dart Impact Total Energy, -30°C

15

J

ASTM D3763

Izod Impact, notched 80°10°4 +23°C

21

kJ/m²

ISO 180/1A

Izod Impact, notched 80°10°4 -20°C

15

kJ/m²

ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 -40°C	13	kJ/m ²	ISO 180/1A
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	212	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	190	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	83	°C	ASTM D648
CTE, -40°C to 40°C, flow	1.22E-04	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	1.42E-04	1/°C	ASTM E831
Vicat Softening Temp, Rate B/50	203	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	187	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	78	°C	ISO 75/Af
PHYSICAL ⁽¹⁾			
Specific Gravity	1.1	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	1.2 – 1.4	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽²⁾	1.1 – 1.4	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	97	g/10 min	ASTM D1238
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.

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.



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