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	SUB INDUSTRY
Automotive	Automotive Under the Hood
Electrical and Electronics	Electronic Components
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20261110

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
-30°C	768	J/m	ASTM D4812
Izod impact, notched			
23°C	256	J/m	ASTM D256
-30°C	112	J/m	ASTM D256
80*10*4 +23°C	21	kJ/m²	ISO 180/1A
80*10*4 -20°C	15	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
80*10*4 -40°C	13	kJ/m²	ISO 180/1A
Instrumented Dart Impact Total Energy, 23°C	43	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	15	J	ASTM D3763
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.

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