NORYL GTX™ RESIN GTX934

REGION EUROPE

DESCRIPTION

NORYL GTX934 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits improved processability and excellent heat aging performance. NORYL GTX934 resin was designed for high heat automotive under-the-hood applications.

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 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D638
Tensile Modulus, 50 mm/min	2300	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2350	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	65	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.5	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	2400	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
Ball Indentation Hardness, H358/30	85	MPa	ISO 2039-1
IMPACT [1]			
Izod Impact, notched, 23°C	220	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	60	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	20	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m²	ISO 179/1eA
THERMAL [1]			
Vicat Softening Temp, Rate B/50	205	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	190	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.5E-05	1/°C	ASTM E831
Thermal Conductivity	0.23	W/m-°C	ISO 8302
CTE, 23°C to 60°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	250	°C	ISO 306
Vicat Softening Temp, Rate B/50	200	°C	ISO 306
Vicat Softening Temp, Rate B/120	205	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	190	°C	ISO 75/Be
Relative Temp Index, Elec [2]	100	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	100	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	85	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.09	-	ASTM D792
Mold Shrinkage on Tensile Bar, flow [3]	1.6 – 2	%	SABIC method
Mold Shrinkage, flow, 3.2 mm [3]	1.4 – 1.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	1.1 – 1.4	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	13	g/10 min	ASTM D1238
Density	1.09	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	3.5	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	1.21	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	13	cm³/10 min	ISO 1133
ELECTRICAL [1]			
Comparative Tracking Index [4]	600	V	IEC 60112
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E45329-100066674	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Flammability Index, 0.75 mm	700	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.0 mm	700	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.5 mm	700	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.5 mm	700	°C	IEC 60695-2-12
Glow Wire Flammability Index, 3.0 mm	700	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.0 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.5 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	725	°C	IEC 60695-2-13
INJECTION MOLDING [5]			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	100 – 120	°C	
Drying Time	2 – 3	Hrs	
Maximum Moisture Content	0.07	%	
Melt Temperature	290 – 320	°C	
Nozzle Temperature	280 – 310	°C	
Front - Zone 3 Temperature	290 – 320	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

(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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
(3) 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.
(4) Value shown here is based on internal measurement.
(5) 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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