

NORYL GTX™ Resin GTX9900

DESCRIPTION

NORYL GTX9900 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high heat resistance with improved processability and exceptional impact performance, specially at temperatures below zero degrees Celsius. NORYL GTX9900 may provide ductile impact behavior down to -30°C while maintaining excellent mechanical integrity and dimensional stability. For these characteristics NORYL GTX9900 may be an excellent candidate for protective applications exposed to extreme environments, including firefighter, industrial safety, rescue and civil protection helmets, where a combination of impact resistance, stiffness, and thermal performance is required.

INDUSTRY	SUB INDUSTRY
Industrial	Industrial General

TYPICAL PROPERTY VALUES

Revision 20261030

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
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	65	%	ISO 527
Tensile Modulus, 1 mm/min	1900	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	73	MPa	ISO 178
Flexural Modulus, 2 mm/min	1840	MPa	ISO 178
Tensile Stress, yld, Type I, 50 mm/min	46	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	43	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	60	%	ASTM D638
Tensile Modulus, 50 mm/min	1900	MPa	ASTM D638
IMPACT ⁽¹⁾			
Izod Impact, notched 80*10*4 +23°C	60	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	50	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	40	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	137	kJ/m ²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eA
Izod Impact, notched, 23°C	760	J/m	ASTM D256
Izod Impact, notched, -30°C	640	J/m	ASTM D256
THERMAL ⁽¹⁾			
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	175	°C	ISO 75/Be
Vicat Softening Temp, Rate A/50	227	°C	ISO 306
Vicat Softening Temp, Rate B/50	175	°C	ISO 306
Vicat Softening Temp, Rate B/120	176	°C	ISO 306
Vicat Softening Temp, Rate B/50	172	°C	ASTM D1525
CTE, 23°C to 60°C, flow	1.1E-04	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.1E-04	1/°C	ISO 11359-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 40°C, flow	1.E-04	1 / °C	ISO 11359-2
CTE, -40°C to 40°C, xflow	1.E-04	1 / °C	ISO 11359-2
PHYSICAL ⁽¹⁾			
Melt Volume Rate			
280°C/5.0 kg	7	cm ³ /10 min	ISO 1133
300°C/5.0 kg	17	cm ³ /10 min	ISO 1133
Water Absorption, (23°C/saturated)	3.5	%	ISO 62-1
Water Absorption, (23°C/24hrs)	0.5	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.85	%	ISO 62
Density	1.07	g / cm ³	ISO 1183
Mold Shrinkage, flow, 3.2 mm ⁽²⁾	1.1 – 1.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm ⁽²⁾	1.1 – 1.3	%	SABIC method
INJECTION MOLDING ⁽³⁾			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	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	70 – 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) 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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