NORYL GTX™ RESIN GTX9500

DESCRIPTION

NORYL GTX9500 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This resin exhibits a good balance of high melt flow and low water absorption. Added features include excellent chemical resistance, high heat resistance, and dimensional stability. NORYL GTX9500 is an excellent candidate for various applications in the automotive and electronics industries.

TYPICAL PROPERTY VALUES

Revision 20260430

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	61	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	6	%	ASTM D638
Tensile Modulus, 50 mm/min	2142	MPa	ASTM D638
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	56	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	9	%	ISO 527
Tensile Modulus, 1 mm/min	2355	MPa	ISO 527
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2356.9	MPa	ASTM D790
Flexural Stress, yld, 2.6 mm/min, 100 mm span	66	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	1973	MPa	ASTM D790
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2305	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	41	J/m	ASTM D256
Izod Impact, notched, -30°C	28	J/m	ASTM D256
Izod Impact, unnotched, 23°C	800	J/m	ASTM D4812
Instrumented Impact Total Energy, 23°C	11	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	4	J	ASTM D3763
Charpy Impact, notched, 23°C, 80*10*4mm, Cut	7	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C, 80*10*4mm, Cut	6	kJ/m²	ISO 179/1eA
Charpy Impact, unnotched, 23°C	51	kJ/m²	ISO 179/2C
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*3 +23°C	64	kJ/m²	ISO 180/1U
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	123	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	65	°C	ASTM D648
Vicat Softening Temp, Rate B/50	152	°C	ASTM D1525
Vicat Softening Temp, Rate B/120	155.4	°C	ASTM D1525
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	135.5	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	92.5	°C	ISO 75/Af

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Vicat Softening Temp, Rate B/50	151	°C	ISO 306
Vicat Softening Temp, Rate B/120	154	°C	ISO 306
CTE, -40°C to 40°C, flow	7.17E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.55E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, flow	8.62E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.02E-04	1/°C	ISO 11359-2
PHYSICAL (1)			
Specific Gravity	1.10	-	ASTM D792
Mold Shrinkage, flow (2)	1.771	%	SABIC method
Mold Shrinkage, xflow (2)	1.885	%	SABIC method
Water Absorption, (23°C/48hrs)	0.68	%	ASTM D570
Moisture Absorption (23°C / 50% RH)	0.17	%	ISO 62
Melt Flow Rate			
280°C/2.16 kgf	28	g/10 min	ASTM D1238
ELECTRICAL (1)			
Dielectric Strength, in oil, 1.6 mm	25.9	kV/mm	ASTM D149
Dissipation Factor, 1 MHz	0.01	-	ASTM D150
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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