

NORYL GTXTM RESIN NX0031

REGION AMERICAS

DESCRIPTION

NORYL GTXTM NX0031 resin is a non-reinforced alloy of PPE/PA. This conductive, injection moldable grade exhibits high heat resistance, excellent chemical resistance, and high impact resistance. NORYL NX0031 resin was designed for electrostatic painting and powder coating without the need for a conductive primer. This material can also be solvent painted and is an excellent candidate for exterior, painted applications such as trim and fairings for outdoor vehicles, motorcycle, heavy truck, bus, personal watercraft, and marine. It is available only in black.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	52	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	48	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	34	%	ASTM D 638
Tensile Modulus, 5 mm/min	2250	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	79	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	48	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	30	%	ISO 527
Tensile Modulus, 1 mm/min	2000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	75	MPa	ISO 178
Flexural Modulus, 2 mm/min	1900	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	224	J/m	ASTM D 256
Izod Impact, notched, -30°C	117	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	42	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	20	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	18	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	175	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	176	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	136	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.E-04	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	1.E-04	1/°C	ASTM E 831
CTE, 23°C to 60°C, flow	1.E-04	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	9.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	175	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL			
Specific Gravity	1.09	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.3 – 1.6	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	8	g/10 min	ASTM D 1238
Density	1.09	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	4.2	%	ISO 62
Moisture Absorption (23°C / 50% RH)	1.2	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	8	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E121562-533883	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
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) 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.

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