

NORYL GTX™ RESIN GTX944

REGION EUROPE

DESCRIPTION

NORYL GTX944 is an unfilled GTX grade with improved processability and increased impact performance.

TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	50	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	45	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D 638
Tensile Modulus, 50 mm/min	1900	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	75	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	1950	MPa	ASTM D 790
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	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	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
Hardness, H358/30	75	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	680	J/m	ASTM D 256
Izod Impact, notched, -30°C	280	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	55	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	55	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -20°C	25	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	25	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	55	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	25	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	180	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	185	°C	ASTM D 648
CTE, -40°C to 40°C, flow	9.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	1.E-04	1/°C	ASTM E 831
Thermal Conductivity	0.24	W/m-°C	ISO 8302
CTE, 23°C to 60°C, flow	9.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	9.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	240	°C	ISO 306
Vicat Softening Temp, Rate B/50	180	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/120	185	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	175	°C	ISO 75/Be
PHYSICAL			
Specific Gravity	1.08	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	1.4 – 1.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	1.4 – 1.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	1.1 – 1.4	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	12.5	g/10 min	ASTM D 1238
Density	1.07	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	3.5	%	ISO 62
Moisture Absorption (23°C / 50% RH)	1.2	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	12	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	2.2E+13	Ohm-cm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	20	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.072	-	IEC 60250
Dissipation Factor, 1 MHz	0.024	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
FLAME CHARACTERISTICS			
UL Compliant, 94HB Flame Class Rating	1.6	mm	UL 94 by SABIC-IP
Oxygen Index (LOI)	21	%	ISO 4589
INJECTION MOLDING			
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	

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