NORYL GTX™ RESIN GTX914

REGION EUROPE

DESCRIPTION

NORYL GTX™ 914 resin is a non-reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits an ideal combination of impact performance and dimensional stability at elevated temperatures along with excellent chemical resistance and processability. NORYL GTX914 resin may be an excellent candidate for various automotive applications such as tank flaps, exterior trim, and wheel covers.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	15	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D 638
Tensile Modulus, 50 mm/min	1950	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	80	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	1900	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	15	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7.5	%	ISO 527
Tensile Strain, break, 50 mm/min	60	%	ISO 527
Tensile Modulus, 1 mm/min	2100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2000	MPa	ISO 178
Ball Indentation Hardness, H358/30	90	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	280	J/m	ASTM D 256
Izod Impact, notched, -30°C	120	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	60	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	30	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	15	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	30	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	195	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	180	°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	9.5E-05	1/°C	ASTM E 831
Thermal Conductivity	0.23	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

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	245	°C	ISO 306
Vicat Softening Temp, Rate B/50	190	°C	ISO 306
Vicat Softening Temp, Rate B/120	195	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	180	°C	ISO 75/Be
PHYSICAL			
Specific Gravity	1.1	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow	1.5 – 1.9	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	1.3 – 1.6	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	1.1 – 1.4	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	12	g/10 min	ASTM D 1238
Density	1.09	g/cm³	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	11	cm³/10 min	ISO 1133
ELECTRICAL			
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
INJECTION MOLDING			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 3	hrs	
Maximum Moisture Content	0.07	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	270 – 300	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

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