NORYL GTX™ RESIN GTX840

REGION ASIA

DESCRIPTION

NORYL GTX™ 840 resin is a 40% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 11860 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX GTX840 resin is an excellent candidate for a wide variety of applications including automotive under-the-hood and water management.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	178	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	13520	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	249	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	11860	MPa	ASTM D 790
Hardness, Rockwell R	108	-	ASTM D 785
Tensile Stress, break, 5 mm/min	198	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	13940	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	280	MPa	ISO 178
Flexural Modulus, 2 mm/min	12270	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	94	J/m	ASTM D 256
Izod Impact, notched, -30°C	90	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	11	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C	11	kJ/m²	ISO 179/2C
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	260	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	247	°C	ASTM D 648
CTE, -40°C to 40°C, flow	0.000016 – 0.0000196	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	0.00009 – 0.0000937	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	246	°C	ISO 306
Vicat Softening Temp, Rate B/120	246	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	258	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	244	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.45	-	ASTM D 792
Water Absorption, equilibrium, 23C	0.3	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.24 – 0.27	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.6 – 0.63	%	SABIC method
Density	1.45	g/cm³	ISO 1183

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	10	cm³/10 min	ISO 1133
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	295 – 315	°C	
Nozzle Temperature	295 – 315	°C	
Front - Zone 3 Temperature	290 – 315	°C	
Middle - Zone 2 Temperature	280 – 315	°C	
Rear - Zone 1 Temperature	275 – 315	°C	
Mold Temperature	75 – 120	°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	

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