NORYL GTX™ RESIN GTX679

REGION ASIA

DESCRIPTION

NORYL GTX™ 679 resin is a conductive, mineral reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is optimized to allow for primer-less electrostatic painting. NORYL GTX679 resin has improved impact / elongation, and the mineral content allows for the material to be used in structural applications such as metal and thermoset resin replacement. This material is available only in black.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	64	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	62	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Modulus, 5 mm/min	4450	MPa	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	108	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4000	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	61	MPa	ISO 527
Tensile Stress, break, 5 mm/min	61	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	5	%	ISO 527
Tensile Modulus, 1 mm/min	4790	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	109	MPa	ISO 178
Flexural Modulus, 2 mm/min	4440	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	39	J/m	ASTM D 256
Izod Impact, notched, -30°C	31	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	7	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	3	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	3	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	185	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	185	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.95E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.49E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	5.95E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.49E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	185	°C	ISO 306
Vicat Softening Temp, Rate B/120	188	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	184	°C	ISO 75/Bf
PHYSICAL			
Specific Gravity	1.24	-	ASTM D 792

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm	0.7 – 0.9	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	16	g/10 min	ASTM D 1238
Density	1.24	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	3.6	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.7	%	ISO 62
Melt Volume Rate, MVR at 220°C/5.0 kg	14	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	275 – 300	°C	
Nozzle Temperature	275 – 300	°C	
Front - Zone 3 Temperature	270 – 300	°C	
Middle - Zone 2 Temperature	265 – 300	°C	
Rear - Zone 1 Temperature	260 – 300	°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	

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