NORYL GTX™ RESIN GTX8408

REGION AMERICAS

DESCRIPTION

NORYL GTX8408 resin is an 8% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade exhibits high elongation, excellent chemical resistance, high heat resistance, and flow. NORYL GTX8408 resin is an excellent candidate for a wide variety of structural and electrical connector applications.

GENERAL INFORMATION	
Features	Chemical Resistance, Hydrolytic Stability, Low Warpage, Low Moisture Absorption, Low Specific Gravity, Dimensional stability, High stiffness/Strength, High temperature resistance, No PFAS intentionally added
Fillers	Glass Fiber
Polymer Types	Polyphenylene Ether + PA (PPE+Nylon)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Building and Construction	Building Component
Electrical and Electronics	Electronic Components, Mobile Phone - Computer - Tablets
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20241015

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 5 mm/min	84	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	80	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	4.3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	10.2	%	ASTM D638
Tensile Modulus, 5 mm/min	3560	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	92	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3320	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	87	MPa	ISO 527
Tensile Stress, break, 5 mm/min	82	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.5	%	ISO 527
Tensile Strain, break, 5 mm/min	10	%	ISO 527
Tensile Modulus, 1 mm/min	4000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	133	MPa	ISO 178
Flexural Modulus, 2 mm/min	3520	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	82	J/m	ASTM D256
Izod Impact, notched, -30°C	45	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	4	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	7	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	3	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	8	kJ/m²	ISO 179/1eA
THERMAL [1]			
Vicat Softening Temp, Rate B/50	224	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	239	°C	ASTM D648
CTE, -40°C to 40°C, flow	6.83E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.46E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	6.83E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.46E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	224	°C	ISO 306
Vicat Softening Temp, Rate B/120	224	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	240	°C	ISO 75/Bf
PHYSICAL [1]			
Specific Gravity	1.15	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [2]	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 280°C/5.0 kgf	26.3	g/10 min	ASTM D1238
Density	1.15	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.35	%	ISO 62
Melt Volume Rate, MVR at 280°C/5.0 kg	22	cm³/10 min	ISO 1133
INJECTION MOLDING [3]			
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	280 – 305	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	275 – 305	°C	
Middle - Zone 2 Temperature	270 – 305	°C	
Rear - Zone 1 Temperature	265 – 305	°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	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.

(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(3) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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