

NORYL GTX™ Resin GTX1040A

DESCRIPTION

GTX1040A resin is a glass fiber and glass beads reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade is featured with high stiffness and low density, excellent chemical resistance, and high heat resistance. GTX1040A is suitable for the applications of consumer electronic components, wearable devices and drones.

GENERAL INFORMATION	
Features	Chemical Resistance, High Flow, Low Specific Gravity, Dimensional stability, High stiffness/Strength
Fillers	Glass Fiber
Polymer Types	Polyphenylene Ether + PA (PPE+Nylon)
Processing Techniques	Injection Molding
INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Drone Solutions, Mobile Phone - Computer - Tablets, Speaker - Earphone

TYPICAL PROPERTY VALUES

Revision 20260914

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 5 mm/min	88	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.98	%	ASTM D638
Tensile Modulus, 5 mm/min	7448	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	145	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6420	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	90	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.9	%	ISO 527
Tensile Modulus, 1 mm/min	7283	MPa	ISO 527
Flexural Strength, 2 mm/min	141	MPa	ISO 178
Flexural Modulus, 2 mm/min	6442	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	65	J/m	ASTM D256
Izod Impact, notched, -30°C	57	J/m	ASTM D256
Izod Impact, unnotched, 23°C	469	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	441	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	6.1	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5.5	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	28.7	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	27.2	kJ/m ²	ISO 180/1U
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	214	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	194	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	214	°C	ISO 75/Bf

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	191	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	2.7E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.4E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	2.8E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.1E-5	1/°C	ISO 11359-2
PHYSICAL ⁽¹⁾			
Specific Gravity	1.12	-	ASTM D792
Density	1.12	g/cm³	ISO 1183
Melt Flow Rate, 300°C/5.0 kgf	30	g/10 min	ASTM D1238
Water Absorption, (23°C/24hrs)	0.4	%	ISO 62-1
Moisture Absorption, (23°C/50% RH/24hrs)	0.09	%	ISO 62-4
Mold Shrinkage, flow ⁽²⁾	0.34	%	SABIC method
Mold Shrinkage, xflow ⁽²⁾	0.51	%	SABIC method
ELECTRICAL ⁽¹⁾			
Surface Resistivity	5.1E14	Ω/sq	ASTM D257
Volume Resistivity	1.2E14	Ω.cm	ASTM D257
INJECTION MOLDING ⁽³⁾			
Drying Temperature	100 – 120	°C	
Drying Time	3 – 5	Hrs	
Melt Temperature	260 – 320	°C	
Nozzle Temperature	250 – 320	°C	
Front - Zone 3 Temperature	260 – 320	°C	
Middle - Zone 2 Temperature	260 – 320	°C	
Rear - Zone 1 Temperature	260 – 320	°C	
Mold Temperature	75 – 150	°C	
Back Pressure	0.2 – 1.6	MPa	
Screw Speed	20 – 100	rpm	

- (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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.