

NORYL GTX™ Resin GTX3210

DESCRIPTION

NORYL GTX3210 is an unreinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade contains non-brominated, non-chlorinated flame retardant and carries a UL94 flame rating of V0 at 1.5mm. NORYL GTX3210 has high heat resistance, low density (1.12g/cm³) and excellent chemical resistance. GTX3210 is suitable for the applications of industrial, electric and mobility components.

GENERAL INFORMATION	
Features	Flame Retardant, Chemical Resistance, High Flow, Low Specific Gravity
Fillers	Unreinforced
Polymer Types	Polyphenylene Ether + PA (PPE+Nylon)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components, Wireless Communication
Industrial	Electrical

TYPICAL PROPERTY VALUES

Revision 20260917

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, brk, Type I, 5 mm/min	39	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	18	%	ASTM D638
Tensile Modulus, 5 mm/min	2344	MPa	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	74	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2130	MPa	ASTM D790
Tensile Stress, break, 5 mm/min	40	MPa	ISO 527
Tensile Strain, break, 5 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2354	MPa	ISO 527
Flexural Strength, 2 mm/min	77	MPa	ISO 178
Flexural Modulus, 2 mm/min	2318	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	74	J/m	ASTM D256
Izod Impact, notched, -30°C	49	J/m	ASTM D256
Izod Impact, unnotched, 23°C	2160	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	955	J/m	ASTM D4812
Izod Impact, notched 80*10*4 +23°C	8.2	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5.3	kJ/m ²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	135	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	84	kJ/m ²	ISO 180/1U
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	195	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	140	°C	ASTM D648

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	187	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	110	°C	ISO 75/Af
CTE, -40°C to 40°C, flow	8.7E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	8.7E-5	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	8.7E-5	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.5E-5	1/°C	ISO 11359-2
Relative Temp Index, Elec ⁽²⁾	65	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	65	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	65	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.12	-	ASTM D792
Density	1.12	g/cm ³	ISO 1183
Melt Flow Rate, 300°C/5.0 kgf	45	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/5.0 kg	41	cm ³ /10 min	ISO 1133
Water Absorption, (23°C/24hrs)	0.73	%	ISO 62-1
Mold Shrinkage, flow ⁽³⁾	1.12	%	SABIC method
Mold Shrinkage, xflow ⁽³⁾	1.07	%	SABIC method
ELECTRICAL ⁽¹⁾			
Surface Resistivity	1.7E15	Ω/sq	ASTM D257
Volume Resistivity	1.0E15	Ω.cm	ASTM D257
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E207780-10547473	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
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) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(3) 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.

(4) 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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