

NORYL GTX™ GTX4610 resin

Polyphenylene Ether + PS + Nylon

SABIC Innovative Plastics

Message:

NORYL GTX GTX4610 resin is a high performance, 10% glass filled blend of PPE/PA that exhibits an excellent balance of non-halogenated flame retardance, dimensional stability, high heat resistance, strength, and flow. The material is available in limited colors for injection molding.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Features	Good dimensional stability		
	High strength		
	High liquidity		
	Heat resistance, high		
	Halogen-free		
	Flame retardancy		
RoHS Compliance	RoHS compliance		
Appearance	Available colors		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.21	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/5.0 kg)	15.0	cm³/10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.88 - 0.94	%	Internal method
Transverse flow: 3.20mm	0.95 - 1.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	3.8	%	ISO 62
Equilibrium, 23°C, 50% RH	0.50	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	5000	MPa	ASTM D638
--	5000	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	88.0	MPa	ASTM D638
Yield	88.0	MPa	ISO 527-2/5
Fracture ³	88.0	MPa	ASTM D638
Fracture	88.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	3.0	%	ASTM D638

Yield	3.0	%	ISO 527-2/5
Fracture ⁵	7.0	%	ASTM D638
Fracture	7.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	4600	MPa	ASTM D790
-- ⁷	4600	MPa	ISO 178
Flexural Stress			
--	145	MPa	ISO 178
Yield, 50.0mm span ⁸	145	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	7.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	65	J/m	ASTM D256
23°C	80	J/m	ASTM D256
-30°C ¹⁰	5.5	kJ/m ²	ISO 180/1A
23°C ¹¹	7.0	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	12.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	220	°C	ASTM D648
0.45 MPa, unannealed, 64.0mm span ¹²	224	°C	ISO 75-2/Bf
Vicat Softening Temperature			
--	218	°C	ASTM D1525, ISO 306/B50 ¹³
--	220	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	4.1E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	7.4E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms · cm	ASTM D257
Dielectric Strength			
1.60 mm, in Air	23	kV/mm	ASTM D149
1.60 mm, in Oil	24	kV/mm	ASTM D149
Comparative Tracking Index (CTI)	PLC 1		UL 746
Comparative Tracking Index	425	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			
0.800 mm, Testing by SABIC	V-1		UL 94

5VB

2.00 mm, Testing by SABIC

5VA

UL 94

Glow Wire Flammability Index (2.00 mm) 960 °C IEC 60695-2-12

Glow Wire Ignition Temperature (1.00 mm) 825 °C IEC 60695-2-13

Injection	Nominal Value	Unit
Drying Temperature	93.3 - 107	°C
Drying Time	3.0 - 4.0	hr
Drying Time, Maximum	8.0	hr
Suggested Max Moisture	0.070	%
Suggested Shot Size	30 - 50	%
Rear Temperature	266 - 304	°C
Middle Temperature	271 - 304	°C
Front Temperature	277 - 304	°C
Nozzle Temperature	282 - 304	°C
Processing (Melt) Temp	282 - 304	°C
Mold Temperature	76.7 - 121	°C
Back Pressure	0.345 - 1.38	MPa
Screw Speed	20 - 100	rpm
Vent Depth	0.013 - 0.038	mm

Injection instructions

Minimum Moisture Content: 0.02 %

NOTE	
1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	Type 1, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	标准 B (120°C/h), 载荷2 (50N)

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