

NORYL GTX™ Resin GTX820 - Americas

Polyphenylene Ether + PS + PA

SABIC

Technical Data

Product Description

NORYL GTX™ 820 resin is a 20% glass reinforced alloy of Polyphenylene Ether (PPE) + Polyamide (PA). This injection moldable grade has high stiffness (flexural modulus 4000 MPa), excellent chemical resistance, and high heat resistance. NORYL GTX GTX830 resin is an excellent candidate for a wide variety of applications including valves for water management.

General

Material Status	• Commercial: Active
Search for UL Yellow Card	• SABIC • NORYL GTX™ Resin
Availability	• Latin America • North America
Uses	• Automotive Exterior Parts • Electrical/Electronic Applications • Water Management
Multi-Point Data	• Flexural DMA (ASTM D4065) • Tensile Creep (ASTM D2990) • Shear DMA (ASTM D4065) • Tensile Stress vs. Strain (ASTM D638)
Also Available In	• Asia Pacific

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity		
--	• 1.24	ASTM D792
	• 1.24 g/cm ³	
--	1.25 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	7.0 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	7.1 cm ³ /10min	ISO 1133
Molding Shrinkage		
Flow : 24 hr	0.27 %	ASTM D955 ISO 294-4
Across Flow : 24 hr	0.93 %	ASTM D955 ISO 294-4
Across Flow : 3.20 mm	0.65 to 0.85 %	Internal Method
Flow : 3.20 mm	0.40 to 0.60 %	Internal Method
Water Absorption		
24 hr, 23°C	0.70 %	ASTM D570 ISO 62
Saturation, 23°C	1.9 %	ASTM D570 ISO 62
Equilibrium, 23°C, 50% RH	0.49 %	ISO 62
Equilibrium, 23°C, 50% RH ²	0.17 %	ISO 62

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- ³	6350 MPa	ASTM D638
--	6400 MPa	ISO 527-1/1
Tensile Strength		
Break ⁴	133 MPa	ASTM D638
Break	139 MPa	ISO 527-2/5
Tensile Elongation		
Break ⁴	3.6 %	ASTM D638
Break	3.6 %	ISO 527-2/5
Flexural Modulus		
50.0 mm Span ⁵	6030 MPa	ASTM D790
100 mm Span ⁶	5960 MPa	ASTM D790
-- ⁷	5960 MPa	ISO 178



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Mechanical	Nominal Value Unit	Test Method
Flexural Stress		
-- 7, 8	217 MPa	ISO 178
Yield, 100 mm Span ⁶	194 MPa	ASTM D790
Break, 50.0 mm Span ⁵	210 MPa	ASTM D790
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	8.7 kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁹ (23°C)	62 kJ/m ²	ISO 179/1eU
Notched Izod Impact		
-30°C	53 J/m	ASTM D256
23°C	93 J/m	ASTM D256
23°C ¹⁰	8.8 kJ/m ²	ISO 180/1A
Unnotched Izod Impact		
23°C	900 J/m	ASTM D4812
23°C ¹⁰	86 kJ/m ²	ISO 180/1U
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (R-Scale)	119	ASTM D785
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed, 6.40 mm	254 °C	ASTM D648
0.45 MPa, Unannealed, 4.00 mm, 64.0 mm Span ¹⁰	248 °C	ISO 75-2/Bf
1.8 MPa, Unannealed, 6.40 mm	232 °C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 64.0 mm Span ¹⁰	211 °C	ISO 75-2/ Af
Vicat Softening Temperature		
--	231 °C	ASTM D1525 ¹¹
--	229 °C	ISO 306/B50
--	252 °C	ISO 306/A50
CLTE		
Flow : 23 to 60°C	2.7E-5 cm/cm/°C	ASTM E831 ISO 11359-2
Flow : -20 to 150°C	3.1E-5 to 4.0E-5 cm/cm/°C	ASTM E831
Transverse : 23 to 60°C	7.8E-5 cm/cm/°C	ASTM E831 ISO 11359-2
Injection	Nominal Value Unit	
Drying Temperature	95 to 105 °C	
Drying Time	3.0 to 4.0 hr	
Suggested Max Moisture	0.070 %	
Suggested Shot Size	30 to 50 %	
Rear Temperature	265 to 305 °C	
Middle Temperature	270 to 305 °C	
Front Temperature	275 to 305 °C	
Nozzle Temperature	280 to 305 °C	
Processing (Melt) Temp	280 to 305 °C	
Mold Temperature	75 to 120 °C	
Back Pressure	0.300 to 1.40 MPa	
Screw Speed	20 to 100 rpm	
Vent Depth	0.013 to 0.038 mm	

Injection Notes

Injection Molding Parameters

- Drying Time (Cumulative): 8 hrs
- Minimum Moisture Content : 0.02 %



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Notes

¹ Typical properties: these are not to be construed as specifications.

² 24 hrs

³ 5.0 mm/min

⁴ Type I, 5.0 mm/min

⁵ 1.3 mm/min

⁶ 2.6 mm/min

⁷ 2.0 mm/min

⁸ at Break

⁹ 80*10*4 sp=62mm

¹⁰ 80*10*4 mm

¹¹ Rate A (50°C/h), Loading 2 (50 N)



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Where to Buy

Supplier

SABIC

Web: <http://www.sabic.com/>

Distributor

3Polymer (Guangzhou) Chemical Technology Co., Ltd.

Telephone: +86-20-3466-7988

Web: <http://3polymer.com>

Availability: China

Amco Polymers

Telephone: 800-262-6685

Web: <http://www.amcopolymers.com/>

Availability: North America

Chase Plastic Services, Inc.

Chase Plastics Services is a North American distributor with representatives throughout the region. Please find your rep here: <http://www.chaseplastics.com/contact/locations>

Telephone: 800-232-4273

Web: <http://www.chaseplastics.com/>

Availability: North America

Nexeo Plastics

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Telephone: 833-446-3936

Web: <https://www.nexeoplastics.com/>

Availability: North America

