

NORYL™ Resin GFN1720 - Europe

Polyphenylene Ether + PS

SABIC

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

NORYL GFN1720 resin is a 20% glass fiber reinforced blend of polyphenylene ether (PPE) + polystyrene (PS). This injection moldable grade was developed for high heat applications and exhibits a good balance of heat resistance, strength, and electrical performance. NORYL GFN1720 resin is an excellent candidate for applications requiring electrically insulating properties, such as ignition coils and bobbins.

General

Material Status	• Commercial: Active
Literature ¹	• Drones • NORYL Resin - Chemical Resistance Properties • SABIC NORYL Resin Injection Molding Processing Guide • SABIC-MOBILITY-ADAS CAMERA FLYER • SABIC-MOBILITY-ADAS LIDAR FLYER
UL Yellow Card ²	• E45329-236755
Search for UL Yellow Card	• SABIC • NORYL™ Resin
Availability	• Europe
Filler / Reinforcement	• Glass Fiber, 20% Filler by Weight
Features	• Amorphous • Bromine Free • Chlorine Free • Flame Retardant • Good Dimensional Stability • Halogen Free • High Heat Resistance • Hydrolytically Stable • Low Moisture Absorption • Low Shrinkage • Low Specific Gravity • Low Warpage
Uses	• Appliances • Automotive Applications • Automotive Electronics • Automotive Under the Hood • Batteries • Cell Phones • Computer Components • Electric Vehicle Applications • Electrical Parts • Electrical/Electronic Applications • Heavy Transportation • Housings • Industrial Applications • Material Handling • Motorcycle Applications • Pump Parts • Water Management • Wire & Cable Applications
Processing Method	• Injection Molding
Also Available In	• Asia Pacific • Latin America • North America

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity	1.24 g/cm ³	ASTM D792 ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	4.5 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/10.0 kg)	11 cm ³ /10min	ISO 1133
Molding Shrinkage - Flow		Internal Method
-- ⁴	0.20 to 0.40 %	
3.20 mm	0.20 to 0.40 %	
Water Absorption		ISO 62
Saturation, 23°C	0.15 %	
Equilibrium, 23°C, 50% RH	0.060 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Modulus		
-- ⁵	5500 MPa	ASTM D638
--	6000 MPa	ISO 527-1/1
Tensile Strength		
Yield ⁶	90.0 MPa	ASTM D638
Yield	90.0 MPa	ISO 527-2/5
Break ⁶	90.0 MPa	ASTM D638
Break	90.0 MPa	ISO 527-2/5



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Mechanical	Nominal Value Unit	Test Method
Tensile Elongation		
Yield ⁶	2.5 %	ASTM D638
Yield	2.0 %	ISO 527-2/5
Break ⁶	3.0 %	ASTM D638
Break	2.0 %	ISO 527-2/5
Flexural Modulus		
50.0 mm Span ⁷	4800 MPa	ASTM D790
-- ⁸	4500 MPa	ISO 178
Flexural Stress		
-- ^{8,9}	135 MPa	ISO 178
Yield, 50.0 mm Span ⁷	145 MPa	ASTM D790
Taber Abrasion Resistance		Internal Method
1000 Cycles, 1000 g, CS-17 Wheel	45.0 mg	
Impact	Nominal Value Unit	Test Method
Charpy Unnotched Impact Strength ¹⁰		ISO 179/1eU
-30°C	25 kJ/m ²	
23°C	25 kJ/m ²	
Notched Izod Impact		ASTM D256
-30°C	50 J/m	
23°C	60 J/m	
Unnotched Izod Impact Strength ¹¹		ISO 180/1U
-30°C	25 kJ/m ²	
23°C	25 kJ/m ²	
Instrumented Dart Impact		ASTM D3763
23°C, Total Energy	14.0 J	
Hardness	Nominal Value Unit	Test Method
Ball Indentation Hardness (H 358/30)	100 MPa	ISO 2039-1
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		
0.45 MPa, Unannealed, 4.00 mm, 100 mm Span ¹²	170 °C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	171 °C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 100 mm Span ¹²	160 °C	ISO 75-2/Ae
Vicat Softening Temperature		
--	181 °C	ASTM D1525 ¹³
--	180 °C	ISO 306/B120
--	170 °C	ISO 306/A50
Ball Pressure Test		IEC 60695-10-2
123 to 127°C	Pass	
165°C ¹⁴	Pass	
CLTE		
Flow : -40 to 40°C	4.0E-5 cm/cm/°C	ASTM E831
Flow : 23 to 80°C	3.0E-5 cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	5.0E-5 cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.0E-5 cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.26 W/m/K	ISO 8302
RTI Elec	65.0 °C	UL 746B
RTI Imp	65.0 °C	UL 746B
RTI Str	65.0 °C	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	1.0E+15 ohms·cm	IEC 60093



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Electrical	Nominal Value Unit	Test Method
Electric Strength		IEC 60243-1
0.800 mm, in Oil	30 kV/mm	
1.60 mm, in Oil	26 kV/mm	
3.20 mm, in Oil	16 kV/mm	
Relative Permittivity		IEC 60250
50 Hz	2.70	
60 Hz	2.70	
1 MHz	2.60	
Dissipation Factor		IEC 60250
50 Hz	6.0E-3	
60 Hz	6.0E-3	
1 MHz	2.0E-3	
Comparative Tracking Index ¹⁵	200 V	IEC 60112

Flammability	Nominal Value Unit	Test Method
Flame Rating (> 1.5 mm)	HB	UL 94
Glow Wire Flammability Index (3.2 mm)	960 °C	Internal Method
Oxygen Index	23 %	ISO 4589-2

Injection	Nominal Value Unit
Drying Temperature	110 to 120 °C
Drying Time	2.0 to 4.0 hr
Hopper Temperature	60 to 80 °C
Rear Temperature	270 to 290 °C
Middle Temperature	290 to 310 °C
Front Temperature	310 to 330 °C
Nozzle Temperature	290 to 310 °C
Processing (Melt) Temp	290 to 330 °C
Mold Temperature	80 to 120 °C

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Tensile Bar

⁵ 5.0 mm/min

⁶ Type I, 5.0 mm/min

⁷ 1.3 mm/min

⁸ 2.0 mm/min

⁹ at Break

¹⁰ 80*10*4 sp=62mm

¹¹ 80*10*4 mm

¹² 120*10*4 mm

¹³ Rate A (50°C/h), Loading 2 (50 N)

¹⁴ Approximate Maximum

¹⁵ Value shown here is based on internal measurement.



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Where to Buy

Supplier

SABIC

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

Distributor

AECTRA

Telephone: +33-4-72-54-36-42

Web: <https://www.aectra.fr/>

Availability: Bulgaria, Romania

AGI-Augusto Guimarães & Irmão

Telephone: +351-22753-7400

Web: <https://www.agi.pt/en/>

Availability: Portugal

GRÄSSLIN

Telephone: +49-7721-4040-261

Web: <https://www.graesslin-kunststoffe.de>

Availability: Germany

Guzmán Polymers

Telephone: +34-963-992-400

Web: <https://www.guzmanglobal.com/en/productos/plastics/>

Availability: Italy, Spain, Turkey

Lenorplastics

Telephone: +41-61-706-11-11

Web: <https://www.lenorplastics.ch>

Availability: Switzerland

Plastoplan

Telephone: +43-1-25040-0

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

Availability: Austria, Czech Republic, Hungary, Slovakia

POLYMIX

POLYMIX is a Pan European distribution company. Contact POLYMIX for availability of individual products by country.

Telephone: +33-3-8920-1380

Web: <http://www.polymix.eu/>

Availability: France

Ultrapolymers

Ultrapolymers is a Pan European distribution company. Contact Ultrapolymers for availability of individual products by country.

Telephone: +32-11-57-95-57

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

Availability: Belgium, Netherlands, South Africa

