

LEXAN™ EXL4019 resin

Polycarbonate

SABIC Innovative Plastics

PROSPECTOR®

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Technical Data

Product Description

LEXAN EXL4019 is an opaque 9% Glass Fiber (GF) reinforced polycarbonate (PC) siloxane copolymer resin for injection molding (IM) applications requiring improved stiffness. This resin also offers improved ductility over conventional GF reinforced PC resins in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times when compared to standard PC. LEXAN EXL4019 resin is a product that may be an excellent candidate for a wide variety of applications. Available in limited colors only.

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
UL Yellow Card ²	• E121562-508391
Search for UL Yellow Card	• SABIC Innovative Plastics • LEXAN™
Availability	• North America
Filler / Reinforcement	• Glass Fiber, 9.0% Filler by Weight
Features	• Copolymer • Ductile • Fast Molding Cycle • Good Processability • Good Stiffness • Medium Flow
Appearance	• Colors Available • Opaque
Processing Method	• Injection Molding

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Specific Gravity			
--	1.25	1.25 g/cm ³	ASTM D792
--	1.25 g/cm ³	1.25 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.5 g/10 min	7.5 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	0.397 in ³ /10min	6.50 cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 0.126 in (3.20 mm)	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	
Across Flow : 0.126 in (3.20 mm)	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	
Water Absorption			ISO 62
Saturation, 73°F (23°C)	0.15 %	0.15 %	
Equilibrium, 73°F (23°C), 50% RH	0.40 %	0.40 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus			
-- ⁴	573000 psi	3950 MPa	ASTM D638
--	566000 psi	3900 MPa	ISO 527-2/1
Tensile Strength			
Yield ⁵	7980 psi	55.0 MPa	ASTM D638
Yield	7830 psi	54.0 MPa	ISO 527-2/5
Break ⁵	6530 psi	45.0 MPa	ASTM D638
Break	6960 psi	48.0 MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	4.3 %	4.3 %	ASTM D638
Yield	4.3 %	4.3 %	ISO 527-2/5
Break ⁵	14 %	14 %	ASTM D638
Break	8.7 %	8.7 %	ISO 527-2/5
Flexural Modulus			
1.97 in (50.0 mm) Span ⁶	508000 psi	3500 MPa	ASTM D790
-- ⁷	500000 psi	3450 MPa	ISO 178
Flexural Stress			
-- ^{7,8}	14200 psi	98.0 MPa	ISO 178
Yield, 1.97 in (50.0 mm) Span ⁶	14900 psi	103 MPa	ASTM D790



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Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-22°F (-30°C)	7.1 ft·lb/in ²	15 kJ/m ²	
73°F (23°C)	12 ft·lb/in ²	25 kJ/m ²	
Charpy Unnotched Impact Strength ⁹			ISO 179/1eU
-22°F (-30°C)	No Break	No Break	
73°F (23°C)	No Break	No Break	
Notched Izod Impact			
-22°F (-30°C)	2.8 ft·lb/in	150 J/m	ASTM D256
73°F (23°C)	6.5 ft·lb/in	350 J/m	ASTM D256
-22°F (-30°C) ¹⁰	4.8 ft·lb/in ²	10 kJ/m ²	ISO 180/1A
73°F (23°C) ¹⁰	12 ft·lb/in ²	25 kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁰			ISO 180/1U
-22°F (-30°C)	No Break	No Break	
73°F (23°C)	No Break	No Break	
Instrumented Dart Impact			ASTM D3763
73°F (23°C), Total Energy	354 in·lb	40.0 J	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
264 psi (1.8 MPa), Unannealed, 0.126 in (3.20 mm)	279 °F	137 °C	ASTM D648
264 psi (1.8 MPa), Unannealed, 3.94 in (100 mm) Span ¹¹	275 °F	135 °C	ISO 75-2/Ae
Vicat Softening Temperature	295 °F	146 °C	ASTM D1525 ¹² ISO 306/B50 ISO 306/B120
Ball Pressure Test (167°F (75°C))	Pass	Pass	IEC 60695-10-2
CLTE			ASTM E831 ISO 11359-2
Flow : -40 to 104°F (-40 to 40°C)	2.6E-5 in/in/°F	4.7E-5 cm/cm/°C	
Transverse : -40 to 104°F (-40 to 40°C)	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.0295 in (0.750 mm))	HB	HB	UL 94
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	250 °F	121 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Drying Time, Maximum	48 hr	48 hr	
Suggested Max Moisture	0.020 %	0.020 %	
Suggested Shot Size	40 to 60 %	40 to 60 %	
Rear Temperature	550 to 590 °F	288 to 310 °C	
Middle Temperature	570 to 610 °F	299 to 321 °C	
Front Temperature	590 to 630 °F	310 to 332 °C	
Nozzle Temperature	579 to 621 °F	304 to 327 °C	
Processing (Melt) Temp	590 to 630 °F	310 to 332 °C	
Mold Temperature	180 to 241 °F	82.0 to 116 °C	
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa	
Screw Speed	40 to 70 rpm	40 to 70 rpm	
Vent Depth	1.0E-3 to 3.0E-3 in	0.025 to 0.076 mm	



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 0.20 in/min (5.0 mm/min)

⁵ Type I, 0.20 in/min (5.0 mm/min)

⁶ 0.051 in/min (1.3 mm/min)

⁷ 0.079 in/min (2.0 mm/min)

⁸ Yield

⁹ 80*10*3 sp=62mm

¹⁰ 80*10*3

¹¹ 120*10*4 mm

¹² Rate B (120°C/h), Loading 2 (50 N)



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Where to Buy

Supplier

SABIC Innovative Plastics

Pittsfield, MA USA

Telephone: 800-845-0600

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

Distributor

Nexeo Solutions

Telephone: 888-594-6009

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

Availability: North America

Reseller

A Reseller is not a distributor authorized by the Supplier.

Guangzhou Huaxiu Plastics Co., Ltd.

Telephone: +86-20-82582555

Web: <http://www.va-so.com>

Availability: China

