

LEXAN™ EXL4419 resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN EXL4419 polycarbonate (PC) siloxane copolymer resin is a 9% Glass Fiber (GF) reinforced opaque injection molding (IM) grade. This medium flow resin offers much higher ductility, improved release characteristics and excellent processability with opportunities for shorter IM cycle times when compared to GF reinforced standard PC resins. LEXAN EXL4419 resin is available in opaque colors only and is an excellent candidate for a broad range of applications that require a combination of stiffness and ductility.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 9.0% filler by weight		
Features	Rigid, good		
	Copolymer		
	Workability, good		
	Fast molding cycle		
	Medium liquidity		
	Good demoulding performance		
	ductility		
Appearance	Opacity		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.25	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	11	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	10.3	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.60	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.12	%	ISO 62
Equilibrium, 23°C, 50% RH	0.46	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3300	MPa	ASTM D638
--	3300	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	53.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/5
Fracture ³	44.0	MPa	ASTM D638
Fracture	43.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	4.5	%	ASTM D638

Yield	4.5	%	ISO 527-2/5
Fracture ⁵	20	%	ASTM D638
Fracture	13	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁶	3200	MPa	ASTM D790
-- ⁷	3300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0mm span ⁸	95.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	15	kJ/m ²	ISO 179/1eA
23°C	25	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	110	J/m	ASTM D256
23°C	280	J/m	ASTM D256
-30°C ¹¹	10	kJ/m ²	ISO 180/1A
23°C ¹²	25	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	40.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	135	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁴	134	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	145	°C	ASTM D1525 ¹⁵
--	144	°C	ISO 306/B50
--	146	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	4.1E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	6.9E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	2.9E+17	ohms	ASTM D257
Volume Resistivity	1.8E+17	ohms · cm	ASTM D257
Dielectric Strength (1.60 mm, in Oil)	32	kV/mm	ASTM D149

Dielectric Constant		
1 MHz	3.04	ASTM D150
1.90 GHz	2.95	Internal method
Dissipation Factor		
1 MHz	8.6E-3	ASTM D150
1.90 GHz	5.8E-3	Internal method
Injection	Nominal Value	Unit
Drying Temperature	121	°C
Drying Time	3.0 - 4.0	hr
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 - 60	%
Rear Temperature	288 - 310	°C
Middle Temperature	299 - 321	°C
Front Temperature	310 - 332	°C
Nozzle Temperature	304 - 327	°C
Processing (Melt) Temp	310 - 332	°C
Mold Temperature	82.0 - 116	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm
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*3 sp=62mm	
10.	80*10*3 sp=62mm	
11.	80*10*3	
12.	80*10*3	
13.	80*10*3	
14.	80*10*4 mm	
15.	标准 B (120°C/h), 载荷2 (50N)	

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