

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,9.0% Filler by Weight		
Features	Copolymer		
	Ductile		
	Fast Molding Cycle		
	Good Mold Release		
	Good Processability		
	Good Stiffness		
	Medium Flow		
Appearance	Opaque		
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 to 0.60	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.12	%	
Equilibrium, 23°C, 50% RH	0.46	%	
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
Break ³	44.0	MPa	ASTM D638
Break	43.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	4.5	%	ASTM D638

Yield	4.5	%	ISO 527-2/5
Break ⁵	20	%	ASTM D638
Break	13	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁶	3200	MPa	ASTM D790
-- ⁷	3300	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0 mm 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	
23°C	25	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
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		
23°C	No Break		
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, 3.20 mm	135	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm 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
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	4.1E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.9E-5	cm/cm/°C	
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 to 4.0	hr
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 to 60	%
Rear Temperature	288 to 310	°C
Middle Temperature	299 to 321	°C
Front Temperature	310 to 332	°C
Nozzle Temperature	304 to 327	°C
Processing (Melt) Temp	310 to 332	°C
Mold Temperature	82.0 to 116	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm
NOTE		
1.	5.0 mm/min	
2.	Type I, 5.0 mm/min	
3.	Type I, 5.0 mm/min	
4.	Type I, 5.0 mm/min	
5.	Type I, 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.	Rate B (120°C/h), Loading 2 (50 N)	

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