

LEXAN™ EXL1112 resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN EXL1112 polycarbonate (PC) siloxane copolymer resin is a high flow opaque injection molding (IM) grade. This resin offers good low temperature (-20 C) ductility in combination with excellent processability and release with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1112 resin is a product available in wide range of opaque colors and may be an excellent candidate for a wide variety of applications.

General Information			
Features	Copolymer		
	Ductile		
	Fast Molding Cycle		
	Good Mold Release		
	Good Processability		
	High Flow		
Uses	General Purpose		
Appearance	Colors Available		
	Opaque		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm ³	ASTM D792
--	1.19	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	17	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	16.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.40 to 0.80	%	
Across Flow : 3.20 mm	0.40 to 0.80	%	
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.15	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2280	MPa	ASTM D638
--	2150	MPa	ISO 527-2/1
Tensile Strength			

Yield ²	58.1	MPa	ASTM D638
Yield	57.0	MPa	ISO 527-2/50
Break ³	58.7	MPa	ASTM D638
Break	55.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.8	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Break ⁵	110	%	ASTM D638
Break	100	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2320	MPa	ASTM D790
-- ⁷	2240	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	95.1	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	25	kJ/m ²	
23°C	60	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	670	J/m	ASTM D256
23°C	750	J/m	ASTM D256
-30°C ¹¹	20	kJ/m ²	ISO 180/1A
23°C ¹²	55	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)	69.6	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	137	°C	ASTM D648
0.45 MPa, Annealed ¹⁴	136	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	124	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁵	125	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	144	°C	ASTM D1525, ISO 306/B50 12 ¹⁶
--	145	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2

CLTE			
Flow : -40 to 40°C	7.2E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	7.5E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.6E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.5E-5	cm/cm/°C	ISO 11359-2
RTI Elec	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	125	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index			IEC 60695-2-12
0.800 mm	850	°C	
3.00 mm	960	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	875	°C	
3.00 mm	875	°C	
Oxygen Index	32	%	ISO 4589-2
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	217 to 293	°C	
Middle Temperature	282 to 304	°C	
Front Temperature	293 to 316	°C	
Nozzle Temperature	288 to 310	°C	
Processing (Melt) Temp	293 to 316	°C	
Mold Temperature	71.0 to 93.0	°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.	50 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 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.	4 hr, 80°C
15.	120*10*4 mm
16.	Rate B (120°C/h), Loading 2 (50 N)

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