

LEXAN™ BPL1000 resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

Message:

LEXAN BPL1000 Polycarbonate (PC) resin is an injection moldable grade featuring high flow and good impact performance. It contains non-chlorinated and non-brominated flame retardant systems with UL-94 V0 rating at 0.8mm. LEXAN BPL1000 resin offers various opaque color options and is ideal for thin wall applications.

General Information			
UL YellowCard	E207780-228415		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Impact Resistance		
	High Flow		
Uses	Thin-walled Parts		
Appearance	Colors Available		
	Opaque		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.17	g/cm ³	ASTM D792
--	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	25	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	23.2	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow ¹	0.50 to 0.70	%	
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Water Absorption			
24 hr	0.15	%	ASTM D570
Saturation, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2680	MPa	ASTM D638
--	2460	MPa	ISO 527-2/1

Tensile Strength			
Yield	58.8	MPa	Internal Method
Yield ³	63.4	MPa	ASTM D638
Yield	64.8	MPa	ISO 527-2/50
Break ⁴	51.0	MPa	ASTM D638
Break	53.5	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	4.8	%	ASTM D638
Yield	4.7	%	ISO 527-2/50
Break	100	%	Internal Method
Break ⁶	96	%	ASTM D638
Break	97	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2670	MPa	ASTM D790
--	2200	MPa	ASTM D790
-- ⁸	2370	MPa	ISO 178
Flexural Strength			
--	93.2	MPa	ASTM D790
--	94.8	MPa	ISO 178
Yield, 50.0 mm Span ⁹	102	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰ (23°C)	18	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	600	J/m	ASTM D256
-30°C ¹¹	12	kJ/m ²	ISO 180/1A
23°C ¹²	18	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	48.6	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	106	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹³	96.1	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	111	°C	ASTM D1525 ¹⁴
--	113	°C	ISO 306/B50
--	114	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Flow : -30 to 30°C	7.0E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
RTI Elec	80.0	°C	UL 746

RTI Imp	80.0	°C	UL 746
RTI Str	80.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength (1.60 mm, in Oil)	27	kV/mm	ASTM D149
Relative Permittivity			IEC 60250
50 Hz	3.00		
60 Hz	3.00		
1 MHz	2.90		
Dissipation Factor			IEC 60250
50 Hz	0.030		
60 Hz	0.030		
1 MHz	0.010		
Comparative Tracking Index	200	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.450 mm	V-2		
0.800 mm	V-0		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	800	°C	IEC 60695-2-13
Oxygen Index	36	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	90.0	°C	
Drying Time	4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	260 to 280	°C	
Middle Temperature	270 to 290	°C	
Front Temperature	280 to 300	°C	
Nozzle Temperature	270 to 290	°C	
Processing (Melt) Temp	280 to 300	°C	
Mold Temperature	90.0	°C	
NOTE			
1.	Tensile Bar		
2.	5.0 mm/min		
3.	Type I, 50 mm/min		
4.	Type I, 50 mm/min		
5.	Type I, 50 mm/min		
6.	Type I, 50 mm/min		
7.	1.3 mm/min		
8.	2.0 mm/min		

9.	1.3 mm/min
10.	80*10*4 sp=62mm
11.	80*10*4
12.	80*10*4
13.	80*10*4 mm
14.	Rate B (120°C/h), Loading 2 (50 N)

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