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 peroformance. 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	
Additive	Flame retardancy
Features	Chlorine Free Impact resistance, good High liquidity Bromine-free Flame retardancy
Uses	Thin wall parts
Appearance	Opacity Available colors
Processing Method	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.17	g/cm³	ASTM D792
--	1.20	g/cm³	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	cm³/10min	ISO 1133
Molding Shrinkage			Internal method
Flow [1]	0.50 - 0.70	%	Internal method
Flow: 3.20mm	0.50 - 0.70	%	Internal method
Transverse flow: 3.20mm	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 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 [3]	63.4	MPa	ASTM D638

Yield	64.8	MPa	ISO 527-2/50
Fracture [4]	51.0	MPa	ASTM D638
Fracture	53.5	MPa	ISO 527-2/50
Tensile Elongation			
Yield [5]	4.8	%	ASTM D638
Yield	4.7	%	ISO 527-2/50
Fracture [6]	96	%	ASTM D638
Fracture	97	%	ISO 527-2/50
Flexural Modulus			
50.0mm span [7]	2670	MPa	ASTM D790
-- [8]	2370	MPa	ISO 178
Flexural Stress			
--	94.8	MPa	ISO 178
Yield, 50.0mm span [9]	102	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength [10] (23°C)	18	kJ/m²	ISO 179/1eA
Notched Izod Impact			
23°C	600	J/m	ASTM D256
-30°C [11]	12	kJ/m²	ISO 180/1A
23°C [12]	18	kJ/m²	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, 3.20mm	106	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm 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
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -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	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		IEC 60250
60 Hz	3.00		IEC 60250
1 MHz	2.90		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	0.030		IEC 60250
60 Hz	0.030		IEC 60250
1 MHz	0.010		IEC 60250
Comparative Tracking Index	200	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.450 mm	V-2		UL 94
0.800 mm	V-0		UL 94
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 - 80.0	°C	
Rear Temperature	260 - 280	°C	
Middle Temperature	270 - 290	°C	
Front Temperature	280 - 300	°C	
Nozzle Temperature	270 - 290	°C	
Processing (Melt) Temp	280 - 300	°C	
Mold Temperature	90.0	°C	

NOTE	
1.	Tensile Bar
2.	5.0 mm/min
3.	Type 1, 50mm/min
4.	Type 1, 50mm/min
5.	Type 1, 50mm/min
6.	Type 1, 50mm/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.	标准 B (120°C/h), 载荷2 (50N)

Recommended distributors for this material

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