

SABIC Innovative Plastics Lexan® BPL1000 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-BPL1000-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.16 g/cc	1.16 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 %	0.35 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	25.2 g/10 min @Load 1.20 kg, Temperature 300 °C	25.2 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	23 g/10 min @Load 1.20 kg, Temperature 300 °C	23 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	51.0 MPa	7400 psi	Type I, 50 mm/min; ASTM D638
	53.0 MPa	7690 psi	50 mm/min; ISO 527
Tensile Strength, Yield	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D638
	64.0 MPa	9280 psi	50 mm/min; ISO 527
Elongation at Break	96.3 %	96.3 %	Type I, 50 mm/min; ASTM D638
	96.8 %	96.8 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	4.7 %	4.7 %	50 mm/min; ISO 527
Tensile Modulus	2.46 GPa	357 ksi	1 mm/min; ISO 527
	2.67 GPa	387 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	94.0 MPa	13600 psi	2 mm/min; ISO 178
	102 MPa	14800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.36 GPa	342 ksi	2 mm/min; ISO 178
	2.66 GPa	386 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	6.00 J/cm	11.2 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	17.0 kJ/m ²	8.09 ft-lb/in ²	80*10*4; ISO 180/1A
	12.0 kJ/m ²	5.71 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.70 J/cm ²	8.09 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	48.0 J	35.4 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Deflection Temperature at 0.46 MPa (66 psi)	105 °C	221 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	

Thermal Properties	Metric	English	Comments
Vicat Softening Point	111 °C	232 °F	Rate B/50; ASTM D1525
	112 °C	234 °F	Rate B/50; ISO 306
	114 °C	237 °F	Rate B/120; ISO 306
UL RTI, Electrical	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	80.0 °C	176 °F	UL 746B
Flammability, UL94	V-2	V-2	UL 94
	@Thickness 0.450 mm	@Thickness 0.0177 in	
	V-0	V-0	UL 94
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Oxygen Index	36 %	36 %	ISO 4589
Glow Wire Test	800 °C	1470 °F	IEC 60695-2-13
	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	2.9	2.9	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.0	3.0	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	27.0 kV/mm	686 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.010	0.010	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.030	0.030	IEC 60250
	@Frequency 50.0 - 60.0	@Frequency 50.0 - 60.0	

Electrical Properties	Hz Metric	Hz English	Comments
Comparative Tracking Index	200 V	200 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	PASS	IEC 60695-10-2

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