

# LEXAN™ FR RESIN BPL1000

REGION ASIA

## DESCRIPTION

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.

## TYPICAL PROPERTY VALUES

Revision 20180906

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yield	58	MPa	SABIC - Japan Method
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	51	MPa	ASTM D 638
Tensile Strain, break	100 – 100	%	SABIC - Japan Method
Tensile Strain, yld, Type I, 50 mm/min	4.7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	96.3	%	ASTM D 638
Tensile Modulus, 5 mm/min	2670	MPa	ASTM D 638
Flexural Stress	93	MPa	ASTM D 790
Flexural Stress, yld, 1.3 mm/min, 50 mm span	102	MPa	ASTM D 790
Flexural Modulus	2200	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2660	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	64	MPa	ISO 527
Tensile Stress, break, 50 mm/min	53	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.7	%	ISO 527
Tensile Strain, break, 50 mm/min	96.8	%	ISO 527
Tensile Modulus, 1 mm/min	2460	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	94	MPa	ISO 178
Flexural Modulus, 2 mm/min	2360	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	600	J/m	ASTM D 256
Izod Impact, notched, -30°C	N/A	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	48	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	17	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	17	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	111	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	105	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
CTE, -30°C to 30°C	0.00007 – 0.00007	1/°C	TMA
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASS	-	IEC 60695-10-2

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/50	112	°C	ISO 306
Vicat Softening Temp, Rate B/120	114	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	96	°C	ISO 75/Af
Relative Temp Index, Elec	80	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	80	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.16	-	ASTM D 792
Water Absorption, 24 hours	0.15	%	ASTM D 570
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	25.2	g/10 min	ASTM D 1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	23	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Dielectric Strength, in oil, 1.6 mm	27	kV/mm	ASTM D 149
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.03	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
Relative Permittivity, 50/60 Hz	3	-	IEC 60250
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94V-2 Flame Class Rating	0.45	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	0.8	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	800	°C	IEC 60695-2-13
Oxygen Index (LOI)	36	%	ISO 4589
<b>INJECTION MOLDING</b>			
Drying Temperature	90	°C	
Drying Time	4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	90	°C	



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