

LEXAN* BFL2000U Resin

General Information

Product Description

Lexan* BFL2000U Polycarbonat (PC) resin is an injection moldable grade. It contains non-brominated, non-chlorinated flame retardant systems with UL-94 V0 rating. Lexan* BFL2000U is designed for high reflectance applications with weathering capability.

General

Material Status	• Commercial: Active		
Availability	• North America		
Additive	• Flame Retardant		
Features	• Bromine Free	• Chlorine Free	• Flame Retardant
Processing Method	• Injection Molding		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.29	g/cm ³	ASTM D792
Density	1.29	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	26	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	24.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption (24 hr)	0.35	%	ASTM D570
Water Absorption (Saturation, 23°C)	0.35	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2200	MPa	ASTM D638
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Strength ³ (Yield)	60.0	MPa	ASTM D638
Tensile Stress (Yield)	60.0	MPa	ISO 527-2/50
Tensile Strength ³ (Break)	50.0	MPa	ASTM D638
Tensile Stress (Break)	52.0	MPa	ISO 527-2/50
Tensile Elongation ³ (Yield)	5.0	%	ASTM D638
Tensile Strain (Yield)	5.0	%	ISO 527-2/50
Tensile Elongation ³ (Break)	80	%	ASTM D638
Tensile Strain (Break)	70	%	ISO 527-2/50
Flexural Modulus ⁴ (50.0 mm Span)	2450	MPa	ASTM D790
Flexural Modulus ⁵	2300	MPa	ISO 178
Flexural Strength ^{5, 6}	90.0	MPa	ISO 178
Flexural Strength ⁴ (Yield, 50.0 mm Span)	93.0	MPa	ASTM D790

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	11	kJ/m ²	
23°C	12	kJ/m ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			ASTM D256
-30°C	200	J/m	
23°C	620	J/m	
Notched Izod Impact Strength ⁸			ISO 180/1A
-30°C	10	kJ/m ²	
23°C	11	kJ/m ²	
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact (23°C, Total Energy)	55.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	132	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Bf
0.45 MPa, Unannealed, 64.0 mm Span	132	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	120	°C	
Heat Deflection Temperature ⁹			ISO 75-2/Af
1.8 MPa, Unannealed, 64.0 mm Span	120	°C	
Vicat Softening Temperature	138	°C	ASTM D1525 ¹⁰
Vicat Softening Temperature			
--	139	°C	ISO 306/B50
--	141	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (-30 to 30°C)	0.000070	cm/cm/°C	ASTM D696
CLTE - Flow (23 to 80°C)	0.000070	cm/cm/°C	ISO 11359-2
CLTE - Transverse (-30 to 30°C)	0.000070	cm/cm/°C	ASTM D696
CLTE - Transverse (23 to 80°C)	0.000070	cm/cm/°C	ISO 11359-2
Electrical	Nominal Value	Unit	Test Method
Comparative Tracking Index	350	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
0.750 mm	V-2		
1.50 mm	V-0		
UL	Nominal Value	Unit	Test Method
RTI Str	80.0	°C	UL 746

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UL	Nominal Value	Unit	Test Method
RTI Imp	80.0	°C	UL 746
RTI Elec	80.0	°C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2		UL 746

Processing Information			
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	249 to 271	°C	
Middle Temperature	260 to 282	°C	
Front Temperature	271 to 293	°C	
Nozzle Temperature	266 to 288	°C	
Processing (Melt) Temp	271 to 293	°C	
Mold Temperature	71.1 to 93.3	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	

Notes

¹ Typical properties: these are not to be construed as specifications.
² 50 mm/min
³ Type I, 50 mm/min
⁴ 1.3 mm/min
⁵ 2.0 mm/min
⁶ Yield
⁷ 80*10*3 sp=62mm
⁸ 80*10*3
⁹ 80*10*4 mm
¹⁰ Rate B (120°C/h), Loading 2 (50 N)