

LEXAN™ FR RESIN BFL4000U

REGION EUROPE

DESCRIPTION

LEXAN BFL4000U Polycarbonate (PC) is an injection moldable non-chlorinated/brominated, unfilled, flame retardant grade with high flow. It is UV stabilized, light reflective and has an MVR of 22 (300°C/1.2kg) and a UL94 V0@1.5mm.

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Tensile Stress, yld, Type I, 5 mm/min	54	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	47	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	56	%	ASTM D638
Tensile Modulus, 5 mm/min	2240	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2050	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	50	MPa	ISO 527
Tensile Stress, break, 5 mm/min	44	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6	%	ISO 527
Tensile Strain, break, 5 mm/min	74	%	ISO 527
Tensile Modulus, 1 mm/min	2040	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	83	MPa	ISO 178
Flexural Modulus, 2 mm/min	2170	MPa	ISO 178
IMPACT ⁽¹⁾			
Izod Impact, notched, 23°C	470	J/m	ASTM D256
Izod Impact, notched, -30°C	240	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	68	J	ASTM D3763
THERMAL ⁽¹⁾			
Vicat Softening Temp, Rate B/50	136	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, annealed	115	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	134	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	124	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	139	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	130	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Af
Relative Temp Index, Elec ⁽²⁾	120	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	105	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/o impact ⁽²⁾	120	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.38	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 300°C/ 1.2 kgf	24	g/ 10 min	ASTM D1238
Density	1.38	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/ 1.2 kg	22	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽¹⁾			
Hot-Wire Ignition (HWI), PLC 2	1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 2	1.5	mm	UL 746A
FLAME CHARACTERISTICS ⁽²⁾			
UL Yellow Card Link	E45329-100081162	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 295	°C	
Nozzle Temperature	265 – 290	°C	
Front - Zone 3 Temperature	270 – 295	°C	
Middle - Zone 2 Temperature	260 – 280	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Mold Temperature	70 – 95	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article. The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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