

LEXAN™ FL2000 resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN FL2000 is a medium flow specialty polycarbonate (PC) resin for structural foam molding, allowing for various weight reductions at 0.24" (6.0mm) wall. This product offers low temperature impact strength and high heat resistance in combination with LEXAN FL2000 resin is available in opaque colors only.

General Information			
UL YellowCard	E121562-220920		
Features	Foamable property		
	Medium liquidity		
	Low temperature impact resistance		
	Heat resistance, high		
Appearance	Opacity		
Processing Method	Foam treatment		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
-- ¹	1.09	g/cm ³	ASTM D792
--	1.21	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Molding Shrinkage - Flow (6.40 mm)	0.60 - 0.80	%	Internal method
Water Absorption			ASTM D570
24 hr	0.13	%	ASTM D570
Equilibrium, 23°C	0.34	%	ASTM D570
Foam - Physical ²	10	%	Internal method
Foam - Mechanical ³	10	%	Internal method
Foam - Impact ⁴	10	%	Internal method
Foam - Thermal ⁵	10	%	Internal method
Foam - Electrical ⁶	20	%	Internal method
Foam - Flame Class Minimum Density	940	kg/m ³	Internal method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus (6.40 mm)	2310	MPa	ASTM D638
Tensile Strength (Yield, 6.35 mm)	53.8	MPa	ASTM D638
Tensile Elongation (Break, 6.35 mm)	7.8	%	ASTM D638
Flexural Modulus (6.40 mm)	1930	MPa	ASTM D790
Flexural Strength (Yield, 6.40 mm)	75.8	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Unnotched Izod Impact (23°C, 6.40 mm)	2700	J/m	ASTM D4812
Instrumented Dart Impact			ASTM D3763

-40°C, Total Energy	8.13	J	ASTM D3763
-20°C, Total Energy	67.8	J	ASTM D3763
Dart Drop Impact (23°C)	122	J	Internal method
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	138	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	127	°C	ASTM D648
CLTE - Flow (-40 to 95°C)	5.6E-5	cm/cm/°C	ASTM E831
Specific Heat	1180	J/kg/°C	ASTM C351
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	> 1.1E+17	ohms	ASTM D257
Volume Resistivity	3.6E+16	ohms · cm	ASTM D257
Dielectric Constant			ASTM D150
100 Hz	2.47		ASTM D150
1 MHz	2.68		ASTM D150
Dissipation Factor			ASTM D150
100 Hz	3.7E-3		ASTM D150
1 MHz	3.9E-3		ASTM D150
Arc Resistance ⁷	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 4		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
3.91 mm	HB		UL 94
5.99 mm	V-1		UL 94
Oxygen Index	28	%	ASTM D2863
Additional Information			
Structural Foam Molding - Blowing Agent, Chemical System: FLC298 Structural Foam Molding - Blowing Agent, Physical System: Nitrogen Gas Structural Foam Molding - Concentration Range (Blowing Agent): 3 - 5 % Structural Foam Molding - Drying Temperature (Blowing Agent): 104 °C Structural Foam Molding - Drying Temperature (Resin): 121 °C Structural Foam Molding - Drying Time (Blowing Agent): 4 hrs Structural Foam Molding - Drying Time (Resin): 3 - 4 hrs Structural Foam Molding - Drying Time (Resin, Cumulative): 48 hrs Structural Foam Molding - Front Temperature: 293 - 316 °C Structural Foam Molding - Melt Temperature: 291 - 310 °C Structural Foam Molding - Middle Temperature: 293 - 316 °C Structural Foam Molding - Mold Temperature: 71 - 93 °C Structural Foam Molding - Nozzle Temperature: 282 - 304 °C Structural Foam Molding - Rear Temperature: 238 - 260 °C Structural Foam Molding - Recommended Concentration (Blowing Agent): 1.5 %			
NOTE			
1.	Foam molded		
2.	6.4 mm wt reduction		
3.	6.4 mm wt reduction		
4.	6.4 mm wt reduction		

5.	6.4 mm wt reduction
6.	6.4 mm wt reduction
7.	Tungsten electrode

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