

SABIC Innovative Plastics Lexan® FL2000 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

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.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FL2000-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.09 g/cc	1.09 g/cc	foam molded; ASTM D792
	1.21 g/cc	1.21 g/cc	ASTM D792
Water Absorption	0.13 %	0.13 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	0.34 %	0.34 %	ASTM D570
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 6.40 mm	@Thickness 0.252 in	
Melt Flow	10.3 g/10 min	10.3 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	53.0 MPa	7690 psi	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Elongation at Break	7.8 %	7.8 %	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Tensile Modulus	2.30 GPa	334 ksi	ASTM D638
	@Thickness 6.40 mm	@Thickness 0.252 in	
Flexural Yield Strength	75.0 MPa	10900 psi	6.4 mm; ASTM D790
Flexural Modulus	1.93 GPa	280 ksi	6.4 mm; ASTM D790
Izod Impact, Unnotched	26.7 J/cm	50.0 ft-lb/in	ASTM D4812
	@Thickness 6.40 mm	@Thickness 0.252 in	
Dart Drop, Total Energy	122 J	90.0 ft-lb	SABIC Method

Mechanical Properties	Metric	English	Comments
	@Temperature -40.0 °C	@Temperature -40.0 °F	ASTM D3763
	67.0 J	49.4 ft-lb	ASTM D3763
	@Temperature -20.0 °C	@Temperature -4.00 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.8 µm/m-°C	31.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
Specific Heat Capacity	1.18 J/g-°C	0.282 BTU/lb-°F	ASTM C351
Deflection Temperature at 0.46 MPa (66 psi)	137 °C	279 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	126 °C	259 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
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	HB	HB	UL 94
	@Thickness 3.91 mm	@Thickness 0.154 in	
	V-1	V-1	UL 94
	@Thickness 5.99 mm	@Thickness 0.236 in	
Oxygen Index	28.2 %	28.2 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	3.60e+16 ohm-cm	3.60e+16 ohm-cm	ASTM D257
Surface Resistance	>= 1.10e+17 ohm	>= 1.10e+17 ohm	ASTM D257
Dielectric Constant	2.47	2.47	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	2.68	2.68	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.0037	0.0037	

Designation Factor Electrical Properties	Metric @Frequency 100 Hz	English @Frequency 100 Hz	ASTM D150 Comments
	0.0039	0.0039	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495
Comparative Tracking Index	100 - 175 V	100 - 175 V	UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
FOAM - ELECTRICAL 6.4 mm Wt Reduction	20%	
FOAM - Flame Class Minimum Density	0.94g/cm ³	
FOAM - IMPACT 6.4 mm Wt Reduction	10%	
FOAM - MECHANICAL 6.4 mm Wt Reduction	10%	
FOAM - PHYSICAL 6.4mm Wt Reduction	10%	
FOAM - THERMAL 6.4mm Wt Reduction	10%	

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