

SABIC Innovative Plastics Lexan® FL1000 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

5% GR. Various weight reductions at .250" (6.35mm) wall. Excellent flex strength/rigidity, high heat/creep resistance. V-0/5VA rated.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FL1000-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.08 g/cc	1.08 g/cc	foam molded; ASTM D792
	1.20 g/cc	1.20 g/cc	ASTM D792
Water Absorption	0.20 %	0.20 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	0.40 %	0.40 %	ASTM D570
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC Method
	@Thickness 6.40 mm	@Thickness 0.252 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	48.0 MPa	6960 psi	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Elongation at Break	5.2 %	5.2 %	ASTM D638
	@Thickness 6.35 mm	@Thickness 0.250 in	
Tensile Modulus	2.44 GPa	354 ksi	ASTM D638
	@Thickness 6.40 mm	@Thickness 0.252 in	
Flexural Yield Strength	89.0 MPa	12900 psi	6.4 mm; ASTM D790
Flexural Modulus	2.75 GPa	399 ksi	6.4 mm; ASTM D790
Izod Impact, Unnotched	6.94 J/cm	13.0 ft-lb/in	ASTM D4812
Dart Drop, Total Energy	48.0 J	35.4 ft-lb	SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	50.4 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	28.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $^{\circ}\text{C}$	@Temperature -40.0 - 203 $^{\circ}\text{F}$	
Specific Heat Capacity	1.22 J/g- $^{\circ}\text{C}$	0.292 BTU/lb- $^{\circ}\text{F}$	ASTM C351

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.48 MPa (66 psi)	@Thickness 6.40 mm	@Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	126 °C @Thickness 6.40 mm	259 °F @Thickness 0.252 in	unannealed; ASTM D648
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	V-2 @Thickness 1.47 mm	V-2 @Thickness 0.0579 in	UL 94
	V-0 @Thickness 2.99 mm	V-0 @Thickness 0.118 in	UL 94
	5VA @Thickness 5.99 mm	5VA @Thickness 0.236 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	2.90e+17 ohm-cm	2.90e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.10e+17 ohm	>= 1.10e+17 ohm	ASTM D257
Dielectric Constant	2.48 @Frequency 100 Hz	2.48 @Frequency 100 Hz	ASTM D150
	2.48 @Frequency 1.00e+6 Hz	2.48 @Frequency 1.00e+6 Hz	ASTM D150
Dissipation Factor	0.0010 @Frequency 100 Hz	0.0010 @Frequency 100 Hz	ASTM D150
	0.0042 @Frequency 1.00e+6 Hz	0.0042 @Frequency 1.00e+6 Hz	ASTM D150
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	Tungsten; ASTM D495
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
FOAM - ELECTRICAL 6.4 mm Wt Reduction	20%	
FOAM - Flame Class Minimum Density	1.15g/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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