

Lexan* Resin FL2000

Americas: COMMERCIAL

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.

Property

TYPICAL PROPERTIES ⁽¹⁾			
	Value	Unit	Standard
MECHANICAL			
FOAM - MECHANICAL 6.4 mm Wt Reduction	10	%	-
Tensile Stress, yield, 6.35 mm	53	MPa	ASTM D 638
Tensile Strain, break, 6.35 mm	7.8	%	ASTM D 638
Tensile Modulus, 6.4 mm	2300	MPa	ASTM D 638
Flexural Stress, yield, 6.4 mm	75	MPa	ASTM D 790
Flexural Modulus, 6.4 mm	1930	MPa	ASTM D 790
IMPACT			
	Value	Unit	Standard
FOAM - IMPACT 6.4 mm Wt Reduction	10	%	-
Izod Impact, unnotched, 23°C, 6.4mm	2670	J/m	ASTM D 4812
Falling Dart Impact, 23°C	122	J	SABIC Method
Instrumented Impact Total Energy, -20°C	67	J	ASTM D 3763
Instrumented Impact Total Energy, -40°C	8	J	ASTM D 3673
THERMAL			
	Value	Unit	Standard
FOAM - THERMAL 6.4mm Wt Reduction	10	%	-
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	126	°C	ASTM D 648
CTE, -40°C to 95°C, flow	5.58E-05	1/°C	ASTM E 831
Specific Heat	1.18	J/g·°C	ASTM C 351
Relative Temp Index, Elec	80	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	80	°C	UL 746B
PHYSICAL			
	Value	Unit	Standard
FOAM - PHYSICAL 6.4mm Wt Reduction	10	%	-
Specific Gravity	1.21	-	ASTM D 792
Specific Gravity, foam molded	1.09	-	ASTM D 792
Water Absorption, 24 hours	0.13	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.34	%	ASTM D 570
Mold Shrinkage, flow, 6.4 mm	0.6 - 0.8	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	10.3	g/10 min	ASTM D 1238
ELECTRICAL			
	Value	Unit	Standard
FOAM - ELECTRICAL 6.4 mm Wt Reduction	20	%	-
Volume Resistivity	3.6E+16	Ohm-cm	ASTM D 257
Surface Resistivity	>1.1E+17	Ohm	ASTM D 257
Relative Permittivity, 100 Hz	2.47	-	ASTM D 150
Relative Permittivity, 1 MHz	2.68	-	ASTM D 150
Dissipation Factor, 100 Hz	0.0037	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0039	-	ASTM D 150

Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
FOAM - Flame Class Minimum Density	0.94	g/cm ³	-
UL Recognized, 94HB Flame Class Rating (3)	3.91	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating (3)	5.99	mm	UL 94
Oxygen Index (LOI)	28.2	%	ASTM D 2863

Source GMD, last updated:08/07/1989

Processing

- MOLD SHRINKAGE - 0.6% - 0.8% (NOTE: Shrink values as high as 1.0% can occur under extreme weight reduction and/or low cavity pressure conditions.)

Parameter	Value	Unit
Structural Foam Molding		
Blowing Agent, Physical System	Nitrogen Gas	-
Blowing Agent, Chemical System	FLC298	-
Drying Time (Blowing Agent)	4	hrs
Drying Temperature (Blowing Agent)	105	°C
Concentration Range (Blowing Agent)	3 - 5	%
Recommended Concentration (Blowing Agent)	1.5	%
Drying Temperature (Resin)	120	°C
Drying Time (Resin)	3 - 4	hrs
Drying Time (Resin, Cumulative)	48	hrs
Melt Temperature	290 - 310	°C
Nozzle Temperature	280 - 305	°C
Front Temperature	295 - 315	°C
Middle Temperature	295 - 315	°C
Rear Temperature	240 - 260	°C
Mold Temperature	70 - 95	°C

Source GMD, last updated:08/07/1989

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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