

SABIC Innovative Plastics Lexan® ML6411 PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® ML6411 polycarbonate (PC) siloxane resin, is a high flow opaque injection molding (IM) grade with very low temperature ductility characteristics. This grade offers UL94 V0 @ 1.5mm and 5VA @ 3.0mm flame retardancy based on non-chlorine, non-bromine FR systems. Lexan ML6411 resin offers excellent processing characteristics with opportunity for shorter IM cycle times compared to standard PC. This product is available in a wide range of opaque colors and is an excellent candidate for a wide range of electrical applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-ML6411-PC-Copolymer-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption	0.100 %	0.100 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.30 %	0.30 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	7.0 g/10 min @Load 2.16 kg, Temperature 260 °C	7.0 g/10 min @Load 4.76 lb, Temperature 500 °F	ASTM D1238
	15 g/10 min @Load 1.20 kg, Temperature 300 °C	15 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	18 g/10 min @Load 5.00 kg, Temperature 260 °C	18 g/10 min @Load 11.0 lb, Temperature 500 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	54.0 MPa	7830 psi	Type I, 50 mm/min; ASTM D638
	58.0 MPa	8410 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D638
	62.0 MPa	8990 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	100 % Metric	100 % English	50 mm/min; ISO 527 Comments
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527
	2.50 GPa	363 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.35 GPa	341 ksi	2 mm/min; ISO 178
	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	9.00 J/cm	16.9 ft-lb/in	ASTM D256
	1.50 J/cm	2.81 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	60.0 kJ/m ²	28.6 ft-lb/in ²	80*10*3; ISO 180/1A
	15.0 kJ/m ²	7.14 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	72.0 J	53.1 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 μm/m-°C	38.9 μin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	77.0 μm/m-°C	42.8 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	59.0 μm/m-°C	32.8 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	70.0 μm/m-°C	38.9 μin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Deflection Temperature at 0.46 MPa			Edgew 120*10*4 sp=100mm; ISO

(56 psi) Thermal Properties	125 °C Metric	257 °F English	75/Re Comments
	128 °C @Thickness 6.40 mm	262 °F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	114 °C @Thickness 3.20 mm	237 °F @Thickness 0.126 in	unannealed; ASTM D648
	119 °C @Thickness 6.40 mm	246 °F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	134 °C	273 °F	Rate B/50; ASTM D1525
	134 °C	273 °F	Rate B/50; ISO 306
	135 °C	275 °F	Rate B/120; ISO 306
UL RTI, Electrical	100 °C	212 °F	UL 746B
UL RTI, Mechanical with Impact	100 °C	212 °F	UL 746B
UL RTI, Mechanical without Impact	100 °C	212 °F	UL 746B
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94
	5VB @Thickness 2.00 mm	5VB @Thickness 0.0787 in	UL 94
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94 by SABIC-IP
Glow Wire Test	800 °C	1470 °F	IEC 60695-2-13
	800 °C	1470 °F	IEC 60695-2-13
	800 °C	1470 °F	IEC 60695-2-13
	960 °C @Thickness 1.00 mm	1760 °F @Thickness 0.0394 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093

Electrical Properties	Metric	English	Comments
Dielectric Strength			in oil, ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Comparative Tracking Index	250 V	250 V	IEC 60112
	250 - 400 V	250 - 400 V	UL 746A
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2

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