

LEXAN™ ML6411 resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

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.

General Information			
Additive	Flame retardancy		
Features	Chlorine Free		
	Workability, good		
	Fast molding cycle		
	High liquidity		
	Bromine-free		
	ductility		
	Flame retardancy		
Uses	Electrical/Electronic Applications		
Appearance	Opacity		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.19	g/cm³	ASTM D792
--	1.20	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	7.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	18.0	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.10	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2500	MPa	ASTM D638
--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	62.0	MPa	ASTM D638
Yield	62.0	MPa	ISO 527-2/50
Fracture ³	54.0	MPa	ASTM D638

Fracture	58.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Fracture ⁵	100	%	ASTM D638
Fracture	100	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2600	MPa	ASTM D790
-- ⁷	2350	MPa	ISO 178
Flexural Stress			
--	90.0	MPa	ISO 178
Yield, 50.0mm span ⁸	95.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
-30°C	150	J/m	ASTM D256
23°C	900	J/m	ASTM D256
-30°C ⁹	15	kJ/m ²	ISO 180/1A
23°C ¹⁰	60	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	72.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 6.40mm	128	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ¹¹	125	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	114	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	119	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹²	115	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	134	°C	ASTM D1525, ISO 306/B50 ⁹ ¹³
--	135	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	7.7E-5	cm/cm/°C	ASTM E831
Flow: -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	5.9E-5	cm/cm/°C	ASTM E831
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec	100	°C	UL 746
RTI Imp	100	°C	UL 746
RTI	100	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	27	kV/mm	ASTM D149

Comparative Tracking Index (CTI)	PLC 2		UL 746
Comparative Tracking Index	250	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
2.00 mm	5VB		UL 94
3.00 mm	5VA		UL 94
3.00 mm, Testing by SABIC	5VA		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	800	°C	IEC 60695-2-13
2.00 mm	800	°C	IEC 60695-2-13
3.00 mm	800	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Drying Temperature	90.0 - 100	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	230 - 260	°C	
Middle Temperature	250 - 290	°C	
Front Temperature	260 - 300	°C	
Nozzle Temperature	250 - 290	°C	
Processing (Melt) Temp	270 - 300	°C	
Mold Temperature	60.0 - 90.0	°C	
NOTE			
1.	50 mm/min		
2.	Type 1, 50mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/min		
6.	1.3 mm/min		
7.	2.0 mm/min		
8.	1.3 mm/min		
9.	80*10*3		
10.	80*10*3		
11.	120*10*4 mm		
12.	120*10*4 mm		
13.	标准 B (120°C/h), 载荷2 (50N)		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

