

SABIC Innovative Plastics Lexan® ML6412 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

ML6412 is an impact modified PC resin with non-brominated, non-chlorinated flame retardant system.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-ML6412-PC-Copolymer.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	5.0 g/10 min @Load 2.16 kg, Temperature 260 °C	5.0 g/10 min @Load 4.76 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	15 g/10 min @Load 5.00 kg, Temperature 260 °C	15 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	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
	63.0 MPa	9140 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	110 %	110 %	50 mm/min; ISO 527
Elongation at Yield	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.33 GPa	338 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

Mechanical Properties	Metric	English	Comments
	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	9.50 J/cm	17.8 ft-lb/in	ASTM D256
Izod Impact, Notched (ISO)	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*4; ISO 180/1A
	15.0 kJ/m ²	7.14 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	42.0 kJ/m ²	20.0 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Charpy Impact, Notched	5.00 J/cm ²	23.8 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	75.0 J	55.3 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 (66 psi)	127 °C	261 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	128 °C	262 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	119 °C	246 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	

Vicat Softening Point Thermal Properties	134 °C Metric	273 °F English	Rate B/50; ISO 306 Comments
	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-1	V-1	UL 94
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	V-0	V-0	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
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	1760 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
	250 V	250 V	IEC 60112
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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