

SABIC Innovative Plastics Lexan® ML6413 PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® ML6413 resin is an impact modified, flame retardant polycarbonate grade with Br- & Cl-free FR systems. It features improved light shielding capability with good flow, impact and thermal properties suitable for various applications. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-ML6413-PC-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.10 %	0.10 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	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	20 g/10 min @Load 5.00 kg, Temperature 260 °C	20 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	24 g/10 min @Load 5.00 kg, Temperature 260 °C	24 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
	58.0 MPa	8410 psi	50 mm/min; ISO 527
Tensile Strength, Yield	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638
	62.0 MPa	8990 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	Type I, 50 mm/min; ASTM D 638
	100 %	100 %	50 mm/min; ISO 527
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D 638
	5.0 %	5.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric Pa	English	Comments ISO 527
	2.50 GPa	363 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	85.0 MPa	12300 psi	1.3 mm/min, 50 mm span; ASTM D 790
	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.25 GPa	326 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.35 GPa	341 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.50 J/cm	2.81 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.90 J/cm	14.8 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	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	
	60.0 kJ/m ²	28.6 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	72.0 J	53.1 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@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)	125 °C	257 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa			Edgew 120*10*4 sp=100mm; ISO

(264 psi) Thermal Properties	115 °C Metric	239 °F English	75/Ae Comments
	118 °C @Thickness 6.40 mm	244 °F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	134 °C	273 °F	Rate B/50; ASTM D 1525
	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 1.60 mm	V-0 @Thickness 0.0630 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
Glow Wire Test	800 °C @Thickness 2.00 mm	1470 °F @Thickness 0.0787 in	Glow Wire Ignitability Temperature; IEC 60695-2-13
	800 °C @Thickness 3.00 mm	1470 °F @Thickness 0.118 in	Glow Wire Ignitability Temperature; IEC 60695-2-13
	960 °C @Thickness 1.60 mm	1760 °F @Thickness 0.0630 in	Glow Wire Flammability Index; IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D 257
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC code 2; UL 746A
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	PLC code 3; UL 746A

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