

SABIC Innovative Plastics Lexan® ML7678 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

17.5 MFR, for small, intricate parts. FDA food contact compliant in limited colors. Enhanced mold release package. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-ML7678-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ASTM D 792
	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Water Absorption	0.15 % @Time 86400 sec	0.15 % @Time 24.0 hour	ASTM D 570
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	ASTM D 570
	0.58 % @Temperature 100 °C	0.58 % @Temperature 212 °F	ASTM D 570
Water Absorption at Saturation	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	16 g/10 min @Load 1.20 kg, Temperature 300 °C	16 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	17.5 g/10 min @Load 1.20 kg, Temperature 300 °C	17.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D 785
Hardness, Rockwell R	118	118	ASTM D 785

Tensile Strength at Break Mechanical Properties	65.0 MPa Metric	9430 psi English	50 mm/min; ISO 527 Comments
	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	50 mm/min; ISO 527
	134 %	134 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527
	2.43 GPa	352 ksi	50 mm/min; ASTM D 638
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.16 GPa	313 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.94 J/cm @Temperature 23.0 °C	13.0 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	32.04 J/cm @Temperature 23.0 °C	60.02 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	12.0 kJ/m ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
	60.0 kJ/m ² @Temperature 23.0 °C	28.6 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*3; ISO 180/1U
	NB	NB	

Mechanical Properties	Metric @ Temperature -30.0 °C	English @ Temperature -22.0 °F	80*10*3-ISO 180/1U Comments
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ² @Temperature 23.0 °C	4.76 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.50 J/cm ² @Temperature -30.0 °C	7.14 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	3.50 J/cm ² @Temperature 23.0 °C	16.7 ft-lb/in ² @Temperature 73.4 °F	ISO 179/2C
	6.50 J/cm ² @Temperature 23.0 °C	30.9 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Tensile Impact Strength	546 kJ/m ²	260 ft-lb/in ²	Type S; ASTM D 1822
Dart Drop, Total Energy	169 J @Temperature 23.0 °C	125 ft-lb @Temperature 73.4 °F	ASTM D 3029
Impact Test	62.0 J @Temperature 23.0 °C	45.7 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C @Temperature -40.0 - 40.0 °C	38.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	68.4 µm/m-°C @Temperature -40.0 - 40.0 °C	38.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	70.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.9 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	ASTM C 351

Thermal Properties	Metric	English	Comments
	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	137 °C @Thickness 6.40 mm	279 °F @Thickness 0.252 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	122 °C	252 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	129 °C @Thickness 6.40 mm	264 °F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	140 °C	284 °F	Rate B/50; ASTM D 1525
	140 °C	284 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D 542
Haze	1.0 % @Thickness 2.54 mm	1.0 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	88 % @Thickness 2.54 mm	88 % @Thickness 0.100 in	ASTM D 1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	ASTM D 257
Dielectric Constant	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	IEC 60250
	2.7 @Frequency 50.0 - 60.0 Hz	2.7 @Frequency 50.0 - 60.0 Hz	IEC 60250
	2.96 @Frequency 1.00e+6 Hz	2.96 @Frequency 1.00e+6 Hz	ASTM D 150

Electrical Properties	Metric	English	Comments
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	ASTM D 150
Dielectric Strength	14.9 kV/mm	378 kV/in	in air; ASTM D 149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dissipation Factor	0.00090	0.00090	ASTM D 150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0010	0.0010	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.010	0.010	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.010	0.010	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com

Email : sales@lookpolymers.com

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China