

SABIC Innovative Plastics Lexan® ML7647 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Non FR Impact modified PC, excellent Fatigue performance with balanced Flow and impact. Available in Opaque only 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-ML7647-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.26 % @Temperature 23.0 °C	0.26 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0080 cm/cm @Thickness 3.20 mm	0.0050 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	10.7 g/10 min @Load 1.20 kg, Temperature 300 °C	10.7 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	50.0 MPa	7250 psi	50 mm/min; ISO 527
	54.0 MPa	7830 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	52.0 MPa	7540 psi	Type I, 50 mm/min; ASTM D 638
	53.0 MPa	7690 psi	50 mm/min; ISO 527
Elongation at Break	94 %	94 %	50 mm/min; ISO 527
	110 %	110 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	5.3 %	5.3 %	Type I, 50 mm/min; ASTM D 638
	5.7 %	5.7 %	50 mm/min; ISO 527
Tensile Modulus	2.15 GPa	312 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric 2.18 GPa	English 318 ksi	Comments 50 mm/min; ASTM D 638
Flexural Yield Strength	84.0 MPa	12200 psi	2 mm/min; ISO 178
	87.0 MPa	12600 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.13 GPa	309 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.22 GPa	322 ksi	2 mm/min; ISO 178
Izod Impact, Notched	7.20 J/cm @Temperature -30.0 °C	13.5 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	7.70 J/cm @Temperature 23.0 °C	14.4 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	49.0 kJ/m ² @Temperature -30.0 °C	23.3 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	57.0 kJ/m ² @Temperature 23.0 °C	27.1 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	6.00 J/cm ² @Temperature 23.0 °C	28.6 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	69.0 J @Temperature 23.0 °C	50.9 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	69.4 µm/m-°C @Temperature -40.0 - 40.0 °C	38.6 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	70.9 µm/m-°C @Temperature -40.0 - 40.0 °C	39.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	72.0 µm/m-°C @Temperature -40.0 - 40.0 °C	40.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	74.8 µm/m-°C @Temperature -40.0 - 40.0 °C	41.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	119 °C	246 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af

Thermal Properties	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	138 °C	280 °F	Rate B/50; ASTM D 1525
	138 °C	280 °F	Rate B/50; ISO 306
	140 °C	284 °F	Rate B/120; ISO 306

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