

SABIC Innovative Plastics Lexan® I2220 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

General purpose polycarbonate with melt flow rate of 10.5. 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-I2220-PC.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
Water Absorption	0.15 %	0.15 %	ASTM D 570
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 %	0.35 %	ASTM D 570
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.35 %	0.35 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	10.5 g/10 min	10.5 g/10 min	ASTM D 1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
	12 g/10 min	12 g/10 min	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D 638
	70.0 MPa	10200 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	110 %	110 %	50 mm/min; ISO 527
	130 %	130 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
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
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	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	8.01 J/cm @Temperature 23.0 °C	15.0 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*4; 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
Charpy Impact Unnotched	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Impact Test	63.0 J @Temperature 23.0 °C	46.5 ft-lb @Temperature 73.4 °F	Instrumented Impact Energy @ peak; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	68.0 µm/m-°C @Temperature 23.0 - 80.0 °C	37.8 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
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)	125 °C	257 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae

Thermal Properties	132 °C	270 °F	Comments
	Metric	English	
	@Thickness 6.40 mm	@Thickness 0.252 in	MD 648, ASTM D 648
Vicat Softening Point	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
	154 °C	309 °F	Rate B/50; ASTM D 1525

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