

SABIC Innovative Plastics Lexan® OQ1060 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Optical quality, high flow, high purity Polycarbonate copolymer resin with reduced oxygen transmission for advanced DVD applications such as Limited Play DVD. 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-OQ1060-PC-Copolymer.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	ISO 1183
Oxygen Transmission	<= 59.1 cc-mm/m ² -24hr-atm	<= 150 cc-mil/100 in ² -24hr-atm	-
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	42 g/10 min @Load 1.20 kg, Temperature 300 °C	42 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	44 g/10 min @Load 1.20 kg, Temperature 300 °C	44 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	110 MPa	16000 psi	ISO 2039-1
Tensile Strength at Break	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
	55.0 MPa	7980 psi	50 mm/min; ISO 527
Tensile Strength, Yield	69.0 MPa	10000 psi	Type I, 50 mm/min; ASTM D 638
	73.0 MPa	10600 psi	50 mm/min; ISO 527
Elongation at Break	>= 25 %	>= 25 %	50 mm/min; ISO 527
	50 %	50 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	7.0% Metric	7.0% English	50 mm/min; ISO 527 Comments
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
	2.55 GPa	370 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	100 MPa	14500 psi	2 mm/min; ISO 178
	110 MPa	16000 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.50 GPa	363 ksi	2 mm/min; ISO 178
	2.51 GPa	364 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.100 J/cm	0.187 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	2.00 kJ/m ²	0.952 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	2.00 kJ/m ²	0.952 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	80*10*4; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	0.200 J/cm ²	0.952 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@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	68.4 µm/m-°C	38.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	73.0 µm/m-°C	40.6 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °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
	73.0 µm/m-°C @Temperature 23.0 - 80.0 °C	40.6 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	133 °C	271 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	132 °C @Thickness 3.20 mm	270 °F @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	120 °C	248 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 °C @Thickness 3.20 mm	250 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	137 °C	279 °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
Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D 542

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