

SABIC Innovative Plastics Lexan® EXL1192C PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

High flow, polycarbonate siloxane copolymer resin. Notched izod ductile to -20C ductility. Enhanced processability compared to standard PC resins. Available in a range of transparent colors. US FDA compliant only. Not yet approved for EU FC applications 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-EXL1192C-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D 792
Density	1.18 g/cc	0.0426 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.10 %	0.10 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.29 % @Temperature 23.0 °C	0.29 % @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	19 g/10 min @Load 1.20 kg, Temperature 300 °C	19 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	20 g/10 min @Load 1.20 kg, Temperature 300 °C	20 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	92	92	ASTM D 785
Tensile Strength at Break	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D 638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Tensile Strength, Yield	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D 638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Elongation at Break	122.5 %	122.5 %	50 mm/min; ISO 527
	125.1 %	125.1 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	5.3 %	5.3 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.35 GPa	341 ksi	5 mm/min; ASTM D 638
	2.46 GPa	357 ksi	1 mm/min; ISO 527
Flexural Yield Strength	91.0 MPa	13200 psi	2 mm/min; ISO 178
	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.22 GPa	322 ksi	2 mm/min; ISO 178
	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	4.26 J/cm	7.98 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.77 J/cm	10.8 ft-lb/in	ASTM D 256
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	6.16 J/cm	11.5 ft-lb/in	ASTM D 256
	@Temperature -10.0 °C	@Temperature 14.0 °F	
	7.37 J/cm	13.8 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	16.0 kJ/m ²	7.61 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	46.0 kJ/m ²	21.9 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.90 J/cm ²	9.04 ft-lb/in ²	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.20 J/cm ²	29.5 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	70.0 J	51.6 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	61.5 µm/m-°C	34.2 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831

Thermal Properties	61.5 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Metric	34.2 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ English	Comments ISO 11359-2
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	64.5 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	35.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	64.5 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	35.8 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	116 $^\circ\text{C}$	241 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	119 $^\circ\text{C}$	246 $^\circ\text{F}$	unannealed; ASTM D 648
Vicat Softening Point	@Thickness 3.20 mm	@Thickness 0.126 in	
	137 $^\circ\text{C}$	279 $^\circ\text{F}$	Rate A/50; ASTM D 1525
	137 $^\circ\text{C}$	279 $^\circ\text{F}$	Rate B/50; ISO 306
	139 $^\circ\text{C}$	282 $^\circ\text{F}$	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
	V-2	V-2	UL 94
	@Thickness 2.50 mm	@Thickness 0.0984 in	

Optical Properties	Metric	English	Comments
Haze	1.4 %	1.4 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	86 %	86 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

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