

SABIC Innovative Plastics Lexan® EXL1112 PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL1112 polycarbonate (PC) siloxane copolymer resin is a high flow opaque injection molding (IM) grade. This resin offers good low temperature (-20 C) ductility in combination with excellent processability and release with opportunities for shorter IM cycle times compared to standard PC. Lexan EXL1112 resin is a product available in wide range of opaque colors and may be an excellent candidate for a wide variety of applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL1112-PC-Copolymer-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 %	0.35 %	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	17 g/10 min	17 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
Melt Index of Compound	16 g/10 min	16 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	95.0 MPa	13800 psi	ISO 2039-1
Tensile Strength at Break	55.0 MPa	7980 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638

Elongation at Break Mechanical Properties	100 % Metric	100 % English	50 mm/min; ISO 527 Comments
	109 %	109 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.0 %	5.0 %	50 mm/min; ISO 527
	5.8 %	5.8 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.15 GPa	312 ksi	1 mm/min; ISO 527
	2.28 GPa	331 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	85.0 MPa	12300 psi	2 mm/min; ISO 178
	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.24 GPa	325 ksi	2 mm/min; ISO 178
	2.32 GPa	336 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	7.47 J/cm	14.0 ft-lb/in	ASTM D256
	6.67 J/cm	12.5 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*3; ISO 180/1A
	20.0 kJ/m ²	9.52 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB	NB	80*10*3; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	6.00 J/cm ²	28.6 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	2.50 J/cm ²	11.9 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	69.0 J	50.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	72.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	40.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	75.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	41.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^{\circ}\text{C}$	@Temperature 73.4 - 176 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	75.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	41.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^{\circ}\text{C}$	@Temperature 73.4 - 176 $^{\circ}\text{F}$	
	75.6 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	42.0 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	136 $^{\circ}\text{C}$	277 $^{\circ}\text{F}$	edgew. Annealed 80 $^{\circ}\text{C}$, 4 hrs; ISO 75/Be
	136 $^{\circ}\text{C}$	277 $^{\circ}\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	125 $^{\circ}\text{C}$	257 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	123 $^{\circ}\text{C}$	253 $^{\circ}\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	144 $^{\circ}\text{C}$	291 $^{\circ}\text{F}$	Rate B/50; ASTM D1525
	144 $^{\circ}\text{C}$	291 $^{\circ}\text{F}$	Rate B/50; ISO 306
	145 $^{\circ}\text{C}$	293 $^{\circ}\text{F}$	Rate B/120; ISO 306
UL RTI, Electrical	130 $^{\circ}\text{C}$	266 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical with Impact	120 $^{\circ}\text{C}$	248 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical without Impact	125 $^{\circ}\text{C}$	257 $^{\circ}\text{F}$	UL 746B
Oxygen Index	32 %	32 %	ISO 4589
Glow Wire Test	875 $^{\circ}\text{C}$	1610 $^{\circ}\text{F}$	IEC 60695-2-13
	875 $^{\circ}\text{C}$	1610 $^{\circ}\text{F}$	IEC 60695-2-13
	850 $^{\circ}\text{C}$	1560 $^{\circ}\text{F}$	IEC 60695-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	960 $^{\circ}\text{C}$	1760 $^{\circ}\text{F}$	

Thermal Properties	Metric @ Thickness 3.00 mm	English @ Thickness 0.118 in	IEC 60695-2-12 Comments
Descriptive Properties	Value		Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES		IEC 60695-10-2

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