

SABIC Innovative Plastics Lexan® EXL9112 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Opaque PC-Siloxane copolymer with excellent processability. Improved flow, low temp. ductility. Non-chlorinated, non-brominated flame retardant product. UL rated V-0/5VA.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL9112-PC-Copolymer.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 @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	17 g/10 min @Load 1.20 kg, Temperature 300 °C	17 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	16 g/10 min @Load 1.20 kg, Temperature 300 °C	16 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

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	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Elongation at Break	100 %	100 %	50 mm/min; ISO 527
	103 %	103 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.0 %	5.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.20 GPa	319 ksi	1 mm/min; ISO 527
	2.26 GPa	328 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	88.0 MPa	12800 psi	2 mm/min; ISO 178
	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.33 GPa	338 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	7.31 J/cm	13.7 ft-lb/in	ASTM D256
	5.60 J/cm	10.5 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	53.0 kJ/m ²	25.2 ft-lb/in ²	80*10*4; ISO 180/1A
	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*3; ISO 180/1A
	18.0 kJ/m ²	8.57 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	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, 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	67.0 J	49.4 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	75.0 µm/m-°C Metric	41.7 µin/in-°F English	Comments ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	75.0 µm/m-°C	41.7 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	136 °C	277 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	124 °C	255 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	123 °C	253 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	143 °C	289 °F	Rate B/50; ASTM D1525
	143 °C	289 °F	Rate B/50; ISO 306
	144 °C	291 °F	Rate B/120; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	120 °C	248 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 1.52 mm	@Thickness 0.0598 in	
	5VA	5VA	UL 94
	@Thickness 3.04 mm	@Thickness 0.120 in	
Oxygen Index	40 %	40 %	ISO 4589
Glow Wire Test	825 °C	1520 °F	IEC 60695-2-13
	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Electrical Properties	Metric	English	Comments
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Electrical Properties Dielectric Constant	^{2.7} Metric	^{2.7} English	Comments IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.7	2.7	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	19.0 kV/mm	483 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
Dissipation Factor	0.00040	0.00040	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	0.010	0.010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	175 V	175 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2
UV-light, water exposure/immersion	f1	UL 746C

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