

SABIC Innovative Plastics Lexan® EXL1890T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL1890T polycarbonate (PC) siloxane copolymer resin is a transparent injection molding grade for food contact applications. This resin offers cold temperature (0 °C) ductility in combination with very high flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC resin. Lexan EXL1890T resin offers enhanced release performance and is available in transparent colors and is an excellent candidate for a broad range of applications in food handling or food preparation markets.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL1890T-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption	0.0900 %	0.0900 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.12 %	0.12 %	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	35 g/10 min	35 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
Melt Index of Compound	33 g/10 min	33 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, Rockwell L	90	90	ASTM D785
Tensile Strength at Break	56.0 MPa	8120 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D638
	59.0 MPa	8560 psi	50 mm/min; ISO 527

Elongation at Break Mechanical Properties	118.6 % Metric	118.6 % English	50 mm/min; ISO 527 Comments
	118.9 %	118.9 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.4 %	5.4 %	50 mm/min; ISO 527
	5.7 %	5.7 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.36 GPa	342 ksi	50 mm/min; ASTM D638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	92.0 MPa	13300 psi	2 mm/min; ISO 178
	99.0 MPa	14400 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.25 GPa	326 ksi	2 mm/min; ISO 178
	2.35 GPa	341 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	7.02 J/cm	13.2 ft-lb/in	ASTM D256
	2.20 J/cm	4.12 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	60.0 kJ/m²	28.6 ft-lb/in²	80*10*3; ISO 180/1A
	30.0 kJ/m²	14.3 ft-lb/in²	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	6.50 J/cm²	30.9 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	4.00 J/cm²	19.0 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	79.0 J	58.3 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	65.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
	65.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	36.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $^\circ\text{C}$	@Temperature -40.0 - 203 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	74.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	41.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^\circ\text{C}$	@Temperature 73.4 - 176 $^\circ\text{F}$	
	74.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	41.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $^\circ\text{C}$	@Temperature -40.0 - 203 $^\circ\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	117 $^\circ\text{C}$	243 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	120 $^\circ\text{C}$	248 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	137 $^\circ\text{C}$	279 $^\circ\text{F}$	Rate B/50; ISO 306
	138 $^\circ\text{C}$	280 $^\circ\text{F}$	Rate A/50; ASTM D1525
	140 $^\circ\text{C}$	284 $^\circ\text{F}$	Rate B/120; ISO 306
UL RTI, Electrical	130 $^\circ\text{C}$	266 $^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	130 $^\circ\text{C}$	266 $^\circ\text{F}$	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Glow Wire Test	825 $^\circ\text{C}$	1520 $^\circ\text{F}$	IEC 60695-2-13
	850 $^\circ\text{C}$	1560 $^\circ\text{F}$	IEC 60695-2-13
	960 $^\circ\text{C}$	1760 $^\circ\text{F}$	IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	
Optical Properties	Metric	English	Comments
Haze	3.0 %	3.0 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	82 %	82 %	2.54 mm; ASTM D1003

Optical Properties	Metric	English	Comments
Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00 \times 10^{15}$ ohm-cm	$\geq 1.00 \times 10^{15}$ ohm-cm	ASTM D257
Surface Resistance	$\geq 1.00 \times 10^{15}$ ohm	$\geq 1.00 \times 10^{15}$ ohm	ASTM D257

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASS	IEC 60695-10-2

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