

SABIC Innovative Plastics Lexan® EXL1443T PC Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL1443T polycarbonate (PC) siloxane copolymer resin is an injection molding grade with FDA and EU food contact compliance. This resin offers excellent low temperature (-30 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. Lexan EXL1443T resin is available in transparent and opaque colors and is an excellent candidate for a broad range of food contact applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL1443T-PC-Copolymer-Asia-Pacific.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 @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	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	9.0 g/10 min @Load 1.20 kg, Temperature 300 °C	9.0 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	89	89	ASTM D785
Tensile Strength at Break	61.0 MPa	8850 psi	50 mm/min; ISO 527
	64.0 MPa	9280 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	124.9 %	124.9 %	50 mm/min; ISO 527

Mechanical Properties	131.4 % Metric	131.4 % English	Type I, 50 mm/min; ASTM D638 Comments
Elongation at Yield	5.5 %	5.5 %	50 mm/min; ISO 527
	5.8 %	5.8 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.21 GPa	321 ksi	50 mm/min; ASTM D638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	94.0 MPa	13600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.15 GPa	312 ksi	2 mm/min; ISO 178
	2.21 GPa	321 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.90 J/cm	16.7 ft-lb/in	ASTM D256
	7.95 J/cm	14.9 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	65.0 kJ/m ²	30.9 ft-lb/in ²	80*10*3; ISO 180/1A
	45.0 kJ/m ²	21.4 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	7.00 J/cm ²	33.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	5.00 J/cm ²	23.8 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	82.0 J	60.5 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	85.0 J	62.7 ft-lb	ASTM D3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	71.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	39.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $^{\circ}\text{C}$	@Temperature -40.0 - 203 $^{\circ}\text{F}$	
	71.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	39.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^{\circ}\text{C}$	@Temperature 73.4 - 176 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	79.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 95.0 $^{\circ}\text{C}$	@Temperature -40.0 - 203 $^{\circ}\text{F}$	
	79.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature 23.0 - 80.0 $^{\circ}\text{C}$	@Temperature 73.4 - 176 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	118 $^{\circ}\text{C}$	244 $^{\circ}\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	124 $^{\circ}\text{C}$	255 $^{\circ}\text{F}$	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	141 $^{\circ}\text{C}$	286 $^{\circ}\text{F}$	Rate A/50; ASTM D1525
	141 $^{\circ}\text{C}$	286 $^{\circ}\text{F}$	Rate B/50; ISO 306
	142 $^{\circ}\text{C}$	288 $^{\circ}\text{F}$	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	V-2	V-2	UL 94 by SABIC-IP
	@Thickness 3.00 mm	@Thickness 0.118 in	
	V-2	V-2	UL 94
	@Thickness 2.50 mm	@Thickness 0.0984 in	
Glow Wire Test	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	IEC 60695-2-13
	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	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

Optical Properties	@Thickness 2.54 mm Metric	@Thickness 0.100 in English	Comments
Transmission, Visible	82 %	82 %	2.54 mm; ASTM D1003

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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