

SABIC Innovative Plastics Lexan® EXL1192T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL1192T polycarbonate (PC) siloxane copolymer resin is a transparent injection molding (IM) grade with extra release properties for food contact applications. This resin offers good low temperature (-20 C) ductility in combination with high flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC resins. Lexan EXL1192T resin offers enhanced release performance, is available in transparent colors and is an excellent candidate for a broad range of applications in food handling or food preparation markets. 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-EXL1192T-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.090 %	0.090 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.12 % @Temperature 23.0 °C	0.12 % @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
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	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	89	89	ASTM D 785
Tensile Strength at Break	56.0 MPa	8120 psi	50 mm/min; ISO 527
	57.0 MPa	8270 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Break	117.9 %	117.9 %	Type I, 50 mm/min; ASTM D 638
	119.4 %	119.4 %	50 mm/min; ISO 527
Elongation at Yield	5.4 %	5.4 %	50 mm/min; ISO 527
	5.7 %	5.7 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.26 GPa	328 ksi	50 mm/min; ASTM D 638
	2.34 GPa	339 ksi	1 mm/min; ISO 527
Flexural Yield Strength	89.0 MPa	12900 psi	2 mm/min; ISO 178
	94.0 MPa	13600 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.14 GPa	310 ksi	2 mm/min; ISO 178
	2.24 GPa	325 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	6.18 J/cm	11.6 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.36 J/cm	13.8 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	40.0 kJ/m ²	19.0 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	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
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	4.50 J/cm ²	21.4 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.50 J/cm ²	30.9 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm;

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ISO 179/1eA Comments
Impact Test	74.0 J @ Temperature 23.0 °C	54.6 ft-lb @ Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763
Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	74.8 µm/m-°C @ Temperature -40.0 - 95.0 °C	41.6 µin/in-°F @ Temperature -40.0 - 203 °F	ASTM E 831
	74.8 µm/m-°C @ Temperature 23.0 - 80.0 °C	41.6 µin/in-°F @ Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	76.4 µm/m-°C @ Temperature -40.0 - 95.0 °C	42.4 µin/in-°F @ Temperature -40.0 - 203 °F	ASTM E 831
	76.4 µm/m-°C @ Temperature 23.0 - 80.0 °C	42.4 µin/in-°F @ Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	116 °C	241 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 °C @ Thickness 3.20 mm	250 °F @ Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	138 °C	280 °F	Rate A/50; ASTM D 1525
	138 °C	280 °F	Rate B/50; ISO 306
	139 °C	282 °F	Rate B/120; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	HB @ Thickness 1.50 mm	HB @ Thickness 0.0591 in	UL 94
	850 °C @ Thickness 0.800 mm	1560 °F @ Thickness 0.0315 in	Glow Wire Ignitability Temperature; IEC 60695-2-13
Glow Wire Test	850 °C @ Thickness 3.00 mm	1560 °F @ Thickness 0.118 in	Glow Wire Ignitability Temperature; IEC 60695-2-13
	960 °C	1760 °F	Glow Wire Flammability Index; IEC

Thermal Properties	@Thickness 3.00 mm Metric	@Thickness 0.118 in English	60695-2-12 Comments
Optical Properties	Metric	English	Comments
Haze	3.0 % @Thickness 2.54 mm	3.0 % @Thickness 0.100 in	ASTM D 1003
Transmission, Visible	82 % @Thickness 2.54 mm	82 % @Thickness 0.100 in	ASTM D 1003
Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D 257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ASTM D 257
Descriptive Properties		Value	Comments
Ball Pressure Test, 125°C +/- 2°C		pass	IEC 60695-10-2

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