

SABIC Innovative Plastics Lexan® EXL1033C PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan®EXL1033C polycarbonate (PC) siloxane copolymer resin is a low flow, UV stabilized grade designed for (co)-extrusion. This resin offers low temperature (-30C) ductility and excellent extrusion processing characteristics. Available in transparent and opaque colors. 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-EXL1033C-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.18 g/cc	0.0426 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.010 %	0.010 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.18 % @Temperature 23.0 °C	0.18 % @Temperature 73.4 °F	NB; 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
Melt Flow	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	6.5 g/10 min @Load 1.20 kg, Temperature 300 °C	6.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell L	88	88	ASTM D 785
Tensile Strength at Break	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D 638
	64.0 MPa	9280 psi	50 mm/min; ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527
	61.0 MPa	8850 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	114 %	114 %	Type I, 50 mm/min; ASTM D 638
	142.4 %	142.4 %	50 mm/min; ISO 527
Elongation at Yield	5.9 %	5.9 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments, ISO 527
Tensile Modulus	2.00 GPa	290 ksi	1 mm/min; ISO 527
	2.30 GPa	334 ksi	50 mm/min; ASTM D 638
Flexural Yield Strength	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D 790
	2.27 GPa	329 ksi	2 mm/min; ISO 178
Flexural Modulus	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	7.20 J/cm	13.5 ft-lb/in	ASTM D 256
Izod Impact, Notched	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.93 J/cm	16.7 ft-lb/in	ASTM D 256
Izod Impact, Notched (ISO)	@Temperature 23.0 °C	@Temperature 73.4 °F	
	23.0 kJ/m ²	10.9 ft-lb/in ²	80*10*3; ISO 180/1A
Izod Impact, Notched (ISO)	@Temperature -30.0 °C	@Temperature -22.0 °F	
	66.0 kJ/m ²	31.4 ft-lb/in ²	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	80*10*3; ISO 180/1U
Izod Impact, Unnotched (ISO)	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	80*10*3; ISO 180/1U
Charpy Impact Unnotched	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact Unnotched	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	@Temperature -30.0 °C	@Temperature -22.0 °F	
	2.80 J/cm ²	13.3 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Charpy Impact, Notched	@Temperature 23.0 °C	@Temperature 73.4 °F	
	8.40 J/cm ²	40.0 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	75.0 J	55.3 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	English $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Comments
CTE, linear, Parallel to Flow	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	60.6 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.7 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	66.7 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	37.1 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	135 $^\circ\text{C}$	275 $^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	119 $^\circ\text{C}$	246 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 $^\circ\text{C}$	250 $^\circ\text{F}$	unannealed; ASTM D 648
Vicat Softening Point	138 $^\circ\text{C}$	280 $^\circ\text{F}$	Rate B/50; ISO 306
	141 $^\circ\text{C}$	286 $^\circ\text{F}$	Rate B/120; ISO 306
Flammability, UL94	145 $^\circ\text{C}$	293 $^\circ\text{F}$	Rate B/50; ASTM D 1525
	HB	HB	UL 94
Flammability, UL94	@Thickness 0.750 mm	@Thickness 0.0295 in	UL 94
	V-2	V-2	UL 94
Flammability, UL94	@Thickness 2.50 mm	@Thickness 0.0984 in	UL 94

Optical Properties	Metric	English	Comments
Haze	1.7 %	1.7 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	86 %	86 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

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