

SABIC Innovative Plastics Lexan® EXL6414 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

PC-Siloxane copolymer with excellent processability. Impact modified, medium flow, extreme low temp. ductility.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL6414-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D792
Density	1.18 g/cc	0.0426 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	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	8.0 g/10 min	8.0 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
Melt Index of Compound	7.0 g/10 min	7.0 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
Tensile Strength at Break	58.0 MPa	8410 psi	50 mm/min; ISO 527
	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	54.0 MPa	7830 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	88 %	88 %	50 mm/min; ISO 527
	100 %	100 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.5 %	5.5 %	Type I, 50 mm/min; ASTM D638
	6.0 %	6.0 %	50 mm/min; ISO 527

Tensile Modulus Mechanical Properties	1.72 GPa Metric	249 ksi English	50 mm/min; ASTM D638 Comments
	2.27 GPa	329 ksi	1 mm/min; ISO 527
Flexural Yield Strength	79.0 MPa	11500 psi	1.3 mm/min, 50 mm span; ASTM D790
	85.0 MPa	12300 psi	2 mm/min; ISO 178
Flexural Modulus	1.99 GPa	289 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.09 GPa	303 ksi	2 mm/min; ISO 178
Izod Impact, Notched	8.01 J/cm	15.0 ft-lb/in	ASTM D256
	6.94 J/cm	13.0 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A
	60.0 kJ/m ²	28.6 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
	6.00 J/cm ²	28.6 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	61.0 J	45.0 ft-lb	ASTM D3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	62.0 J	45.7 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
	69.0 µm/m-°C	38.3 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	@ Temperature 23.0 - 80.0 °C	@ Temperature 73.4 - 176 °F	ISO 11359-2
	70.2 µm/m-°C	39.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °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	
	73.0 µm/m-°C	40.6 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)	122 °C	252 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	122 °C	252 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	140 °C	284 °F	Rate B/120; ISO 306
	141 °C	286 °F	Rate B/50; ASTM D1525
	141 °C	286 °F	Rate B/50; ISO 306
UL RTI, Electrical	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	80.0 °C	176 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.70e+17 ohm-cm	1.70e+17 ohm-cm	IEC 60093
Surface Resistance	4.10e+17 ohm	4.10e+17 ohm	ROA; IEC 60093
Dielectric Constant	2.6	2.6	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Electrical Properties	18.0 kV/mm Metric	457 kV/in English	Comments
Dielectric Strength	@Thickness 3.20 mm	@Thickness 0.126 in	in oil, IEC 60243-1
Dissipation Factor	0.0094 @Frequency 1.00e+6 Hz	0.0094 @Frequency 1.00e+6 Hz	IEC 60250
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

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

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