

SABIC Innovative Plastics Lexan® EXL8414 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL8414 is a PC/siloxane copolymer resin with medium flow, excellent low temperature impact and up to 25% post consumer recycle content. Availability of resin is restricted and lead times are longer due to limited manufacturing capability. Higher color variability and contamination risks including black specs needs to be considered before approval for use in applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL8414-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 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 @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	9.2 g/10 min @Load 1.20 kg, Temperature 300 °C	9.2 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 1.20 kg, Temperature 300 °C	8.0 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	58.0 MPa	8410 psi	50 mm/min; ISO 527
	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	57.0 MPa	8270 psi	Type I, 50 mm/min; ASTM D638
	57.0 MPa	8270 psi	50 mm/min; ISO 527
Elongation at Break	105 %	105 %	50 mm/min; ISO 527
	113 %	113 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments, ISO 527
Tensile Modulus	2.15 GPa	312 ksi	50 mm/min; ASTM D638
	2.36 GPa	342 ksi	1 mm/min; ISO 527
Flexural Yield Strength	86.0 MPa	12500 psi	2 mm/min; ISO 178
	91.0 MPa	13200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.17 GPa	315 ksi	2 mm/min; ISO 178
	2.21 GPa	321 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.52 J/cm	16.0 ft-lb/in	ASTM D256
	7.41 J/cm @Temperature -30.0 °C	13.9 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	67.0 kJ/m ²	31.9 ft-lb/in ²	80*10*4; ISO 180/1A
	56.0 kJ/m ² @Temperature -30.0 °C	26.6 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	8.20 J/cm ²	39.0 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	71.0 J	52.4 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	64.4 μm/m-°C	35.8 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	72.2 μm/m-°C	40.1 μin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	65.1 μm/m-°C	36.2 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	75.5 μm/m-°C	41.9 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)	138 °C	280 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be

Thermal Properties	Metric	English	Comments
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	126 °C	259 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	126 °C	259 °F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	143 °C	289 °F	Rate B/50; ASTM D1525
	143 °C	289 °F	Rate B/50; ISO 306
	145 °C	293 °F	Rate B/120; ISO 306
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	
Glow Wire Test	875 °C	1610 °F	IEC 60695-2-13
	875 °C	1610 °F	IEC 60695-2-13
	850 °C	1560 °F	IEC 60695-2-12
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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