SABIC Innovative Plastics Lexan® EXL1330 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan* EXL1330 polycarbonate (PC) siloxane copolymer resin is a UV stabilized opaque injection molding (IM) and sheet extrusion grade. This resin offers extreme low temperature (-60 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. Lexan EXL1330 resin is a general purpose product available in a wide range of opaque colors and is an excellent candidate for a broad range of applications.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL1330-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.18 g/cc	0.0426 lb/in³	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	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, H358/30	90.0 MPa	13100 psi	ISO 2039-1
Tensile Strength at Break	56.0 MPa	8120 psi	50 mm/min; ISO 527
	61.0 MPa	8850 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	55.0 MPa	7980 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	>= 100 %	>= 100 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	130 %	130 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.0 %	5.0 %	50 mm/min; ISO 527
	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.10 GPa	305 ksi	50 mm/min; ASTM D638
	2.10 GPa	305 ksi	1 mm/min; ISO 527
Flexural Yield Strength	85.0 MPa	12300 psi	2 mm/min; ISO 178
	88.0 MPa	12800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.06 GPa	299 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.10 GPa	305 ksi	2 mm/min; ISO 178
Izod Impact, Notched	8.01 J/cm	15.0 ft-lb/in	ASTM D256
	10.68 J/cm	20.01 ft-lb/in	Izod Impact, double-gated, 23°C; SABIC Method
	5.87 J/cm @Temperature -50.0 °C	11.0 ft-lb/in @Temperature -58.0 °F	ASTM D256
	6.80 J/cm @Temperature -30.0 °C	12.7 ft-lb/in @Temperature -22.0 °F	ASTM D256
	6.40 J/cm @Thickness 6.40 mm	12.0 ft-lb/in @Thickness 0.252 in	ASTM D256
Izod Impact, Notched (ISO)	70.0 kJ/m²	33.3 ft-lb/in²	80*10*3; ISO 180/1A
	55.0 kJ/m² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	7.50 J/cm²	35.7 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	6.00 J/cm²	28.6 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	179/1eA
Dart Drop, Total Energy	52.0 J @Temperature 23.0 °C	38.4 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	66.6 µm/m-°C @Temperature -40.0 - 40.0 °C	37.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	72.0 µm/m-°C @Temperature 23.0 - 80.0 °C	40.0 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	66.6 µm/m-°C @Temperature -40.0 - 40.0 °C	37.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	72.0 µm/m-°C @Temperature 23.0 - 80.0 °C	40.0 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	134 °C @Thickness 3.20 mm	273 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	120 °C @Thickness 3.20 mm	248 °F @Thickness 0.126 in	unannealed; ASTM D648
	124 °C @Thickness 6.40 mm	255 °F @Thickness 0.252 in	unannealed; ASTM D648
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
UL RTI, Electrical	125 °C	257 °F	UL 746B
UL RTI, Mechanical with Impact	115 °C	239 °F	UL 746B
UL RTI, Mechanical without Impact	120 °C	248 °F	UL 746B
	HB	HB	

Thermal Properties	Metric	English	Comments
Flammability, UL 94	@Thickness 0.800 mm	@Thickness 0.0315 in	UL 94
Oxygen Index	35 %	35 %	ISO 4589
Glow Wire Test	875 °C	1610 °F	IEC 60695-2-13
	875 °C	1610 °F	IEC 60695-2-13
	850 °C @Thickness 0.800 mm	1560 °F @Thickness 0.0315 in	IEC 60695-2-12
	960 °C @Thickness 1.00 mm	1760 °F @Thickness 0.0394 in	IEC 60695-2-12

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

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