SABIC Innovative Plastics Lexan® ML7682 PC Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan ML7682 resin is a flame retardant polycarbonate blend featuring high flow, good processability, good impact, good heat resistance, and UV stability. It is of non-chlorine and non-bromine flame retardant systems with UL-94 listing of V0 and 5V. Lexan ML7682 resin offers limited opaque colors for aesthetics needs.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-ML7682-PC-Copolymer-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.22 g/cc	1.22 g/cc	ASTM D792
Density	1.21 g/cc	0.0437 lb/in³	ISO 1183
Moisture Absorption	0.170 %	0.170 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.36 %	0.36 %	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0060 - 0.0080 cm/cm @Thickness 3.20 mm	0.0060 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	22 g/10 min @Load 1.20 kg, Temperature 300 °C	22 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	21 g/10 min @Load 1.20 kg, Temperature 300 °C	21 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	57.0 MPa	8270 psi	50 mm/min; ISO 527
	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Elongation at Break	91 %	91 %	50 mm/min; ISO 527
	93 %	93 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.3 %	5.3 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.46 GPa	357 ksi	1 mm/min; ISO 527
	2.50 GPa	363 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	89.0 MPa	12900 psi	1.3 mm/min, 50 mm span; ASTM D790
	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.40 GPa	348 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.43 GPa	352 ksi	2 mm/min; ISO 178
Izod Impact, Notched	7.60 J/cm	14.2 ft-lb/in	ASTM D256
	1.30 J/cm @Temperature -30.0 °C	2.44 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	21.5 J/cm	40.3 ft-lb/in	ASTM D4812
	21.0 J/cm @Temperature -30.0 °C	39.3 ft-lb/in @Temperature -22.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	63.0 kJ/m²	30.0 ft-lb/in²	80*10*3; ISO 180/1A
	15.0 kJ/m² @Temperature -30.0 °C	7.14 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	181 kJ/m²	86.1 ft-lb/in²	80*10*3; ISO 180/1U
	180 kJ/m² @Temperature -30.0 °C	85.7 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	13.3 J/cm²	63.3 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	13.2 J/cm² @Temperature -30.0 °C	62.8 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	6.20 J/cm²	29.5 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.60 J/cm² @Temperature -30.0 °C	7.61 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	62.0 J @Temperature 23.0 °C	45.7 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	64.0 µm/m-°C @Temperature -40.0 - 40.0 °C	35.6 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	67.0 µm/m-°C @Temperature 23.0 - 80.0 °C	37.2 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	68.0 µm/m-°C @Temperature -40.0 - 40.0 °C	37.8 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	74.0 µm/m-°C @Temperature 23.0 - 80.0 °C	41.1 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	132 °C	270 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	131 °C @Thickness 3.20 mm	268 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	120 °C	248 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	119 °C @Thickness 3.20 mm	246 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	138 °C	280 °F	Rate B/50; ASTM D1525
	138 °C	280 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306
UL RTI, Electrical	125 °C	257 °F	UL 746B
UL RTI, Mechanical with Impact	110 °C	230 °F	UL 746B
UL RTI, Mechanical without Impact	120 °C	248 °F	UL 746B
Flammability, UL94	V-0 @Thickness 1.80 mm	V-0 @Thickness 0.0709 in	UL 94
	5VB @Thickness 1.80 mm	5VB @Thickness 0.0709 in	UL 94
	5VA @Thickness 2.50 mm	5VA @Thickness 0.0984 in	UL 94

Thermal Properties	Metric	English	Comments
Glow Wire Test	850 °C	1560 °F	IEC 60695-2-13
	960 °C @Thickness 3.00 mm	1760 °F @Thickness 0.118 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 - 1.00e+16 ohm-cm	1.00e+15 - 1.00e+16 ohm-cm	ASTM D257
Surface Resistance	1.00e+15 - 1.00e+16 ohm	1.00e+15 - 1.00e+16 ohm	ASTM D257

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	Pass	IEC 60695-10-2
UV-light, water exposure/immersion	F1	UL 746C

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