SABIC Innovative Plastics Lexan® ML7652 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Opaque PC-Siloxane copolymer with excellent processability. Medium flow, excellent low temperature ductility.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-ML7652-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/in³	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	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	13 g/10 min @Load 1.20 kg, Temperature 300 °C	13 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm^3/10 min] Melt Volume Rate; ISO 1133
	14 g/10 min @Load 1.20 kg, Temperature 300 °C	14 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

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 D 638
Tensile Strength, Yield	54.0 MPa	7830 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	120 %	120 %	50 mm/min; ISO 527
	130 %	130 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	5.6 %	5.6 %	Type I, 50 mm/min; ASTM D 638
	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	2.02 GPa	293 ksi	50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
	2.20 GPa	319 ksi	1 mm/min; ISO 527
Flexural Yield Strength	80.0 MPa	11600 psi	1.3 mm/min, 50 mm span; ASTM D 790
	85.0 MPa	12300 psi	2 mm/min; ISO 178
Flexural Modulus	2.00 GPa	290 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.10 GPa	305 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.50 J/cm @Temperature -30.0 °C	12.2 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	7.90 J/cm @Temperature 23.0 °C	14.8 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	52.0 kJ/m² @Temperature -30.0 °C	24.7 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	61.0 kJ/m² @Temperature 23.0 °C	29.0 ft-lb/in² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	7.20 J/cm² @Temperature 23.0 °C	34.3 ft-lb/in² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	62.0 J @Temperature 23.0 °C	45.7 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	69.0 µm/m-°C @Temperature -40.0 - 40.0 °C	38.3 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
	70.2 µm/m-°C @Temperature -40.0 - 40.0 °C	39.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	72.0 µm/m-°C @Temperature -40.0 - 40.0 °C	40.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	73.0 µm/m-°C @Temperature -40.0 - 40.0 °C	40.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	123 °C	253 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae

Thermal Properties	Metric	English	Comments
	122 °C @Thickness 3.20 mm	252 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	140 °C	284 °F	Rate B/50; ASTM D 1525
	140 °C	284 °F	Rate B/120; ISO 306
	141 °C	286 °F	Rate B/50; ISO 306

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	PASSES	IEC 60695-10-2

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