

SABIC Innovative Plastics Lexan® 123X PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Improved flow PC with excellent processability and mold release. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-123X-PC-Copolymer-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D 792
Density	1.20 g/cc	0.0434 lb/in ³	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	18 g/10 min @Load 5.00 kg, Temperature 220 °C	18 g/10 min @Load 11.0 lb, Temperature 428 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	19.5 g/10 min @Load 1.20 kg, Temperature 300 °C	19.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	59.0 MPa	8560 psi	50 mm/min; ISO 527
	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D 638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Elongation at Break	115 %	115 %	50 mm/min; ISO 527
	117 %	117 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638
	6.0 %	6.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric Pa	English	Comments, ASTM D 638
	2.45 GPa	355 ksi	1 mm/min; ISO 527
Flexural Yield Strength	71.0 MPa	10300 psi	2 mm/min; ISO 178
	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.31 GPa	335 ksi	2 mm/min; ISO 178
	2.36 GPa	342 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	2.42 J/cm	4.53 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.28 J/cm	15.5 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	11.0 kJ/m ²	5.23 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	65.0 kJ/m ²	30.9 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	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
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.20 J/cm ²	5.71 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.50 J/cm ²	30.9 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	72.0 J	53.1 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	English $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Comments
CTE, linear, Parallel to Flow	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	60.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	60.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	122 $^\circ\text{C}$	252 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	128 $^\circ\text{C}$	262 $^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	129 $^\circ\text{C}$	264 $^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	140 $^\circ\text{C}$	284 $^\circ\text{F}$	Rate B/120; ISO 306
	141 $^\circ\text{C}$	286 $^\circ\text{F}$	Rate B/50; ASTM D 1525
	141 $^\circ\text{C}$	286 $^\circ\text{F}$	Rate B/50; ISO 306

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