

SABIC Innovative Plastics Lexan® HPM1944 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Medium flow specialty polycarbonate with enhanced hemocompatibility. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO and steam sterilizable. 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-HPM1944-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.060 %	0.060 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.23 % @Temperature 23.0 °C	0.23 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0090 cm/cm @Thickness 3.20 mm	0.0060 - 0.0090 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	9.0 g/10 min @Load 1.20 kg, Temperature 300 °C	9.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	63.0 MPa	9140 psi	50 mm/min; ISO 527
	69.0 MPa	10000 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527
	61.0 MPa	8850 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	122 %	122 %	50 mm/min; ISO 527
	138 %	138 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	5.7 %	5.7 %	50 mm/min; ISO 527
	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric Pa	English	Comments, ASTM D 638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	93.0 MPa	13500 psi	2 mm/min; ISO 178
	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.24 GPa	325 ksi	2 mm/min; ISO 178
	2.31 GPa	335 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	6.78 J/cm	12.7 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	9.68 J/cm	18.1 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	20.0 kJ/m ²	9.52 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	2.00 J/cm ²	9.52 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	97.0 J	71.5 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 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	79.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.2 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	79.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	123 °C	253 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	126 °C @Thickness 3.20 mm	259 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	142 °C	288 °F	Rate B/50; ASTM D 1525
	142 °C	288 °F	Rate B/50; ISO 306
	144 °C	291 °F	Rate B/120; ISO 306

Optical Properties	Metric	English	Comments
Haze	4.5 %	4.5 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	77 %	77 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

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

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