

SABIC Innovative Plastics Lexan® HP1HF PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Very high flow, biocompatible polycarbonate for healthcare applications. EtO sterilizable.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HP1HF-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption	0.0900 %	0.0900 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.27 %	0.27 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	39 g/10 min @Load 1.20 kg, Temperature 300 °C	39 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	36 g/10 min @Load 1.20 kg, Temperature 300 °C	36 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	55.0 MPa	7980 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527
	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	108 %	108 %	Type I, 50 mm/min; ASTM D638
	110 %	110 %	50 mm/min; ISO 527
Elongation at Yield	5.7 %	5.7 %	50 mm/min; ISO 527
	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527
	2.41 GPa	350 ksi	50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	102 MPa	14800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.41 GPa	350 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	6.87 J/cm	12.9 ft-lb/in	ASTM D256
	0.550 J/cm	1.03 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	60.0 kJ/m ²	28.6 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	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
	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	6.50 J/cm ²	30.9 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	66.0 J	48.7 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	72.0 µm/m-°C	40.0 µin/in-°F	ISO 11359-2
	@Temperature -40.0 -	@Temperature -40.0 -	

Thermal Properties	40.0 °C Metric	104 °F English	Comments
CTE, linear, Transverse to Flow	78.0 µm/m-°C	43.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	78.0 µm/m-°C	43.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Deflection Temperature at 1.8 MPa (264 psi)	121 °C	250 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	125 °C	257 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	139 °C	282 °F	Rate B/50; ISO 306
	140 °C	284 °F	Rate B/120; ISO 306
	140 °C	284 °F	Rate B/50; ASTM D1525
Flammability, UL94	V-2	V-2	UL 94 by SABIC-IP
	@Thickness 3.00 mm	@Thickness 0.118 in	

Optical Properties	Metric	English	Comments
Haze	<= 1.0 %	<= 1.0 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

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

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