

SABIC Innovative Plastics Lexan® HPS6 PC (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Med/low flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, steam e-beam and gamma sterilizable. Contains mold release.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HPS6-PC-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption	0.150 %	0.150 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 %	0.35 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	7.0 g/10 min @Load 1.20 kg, Temperature 300 °C	7.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
	112.2 g/10 min @Load 5.00 kg, Temperature 300 °C	112.2 g/10 min @Load 11.0 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 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	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D638
	75.0 MPa	10900 psi	50 mm/min; ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527
	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D638

Elongation at Break Mechanical Properties	135 % Metric	135 % English	Type I, 50 mm/min; ASTM D638 Comments
	140 %	140 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.5 %	6.5 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527
	2.31 GPa	335 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	95.0 MPa	13800 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.25 GPa	326 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	9.07 J/cm	17.0 ft-lb/in	ASTM D256
	1.39 J/cm	2.60 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	70.0 kJ/m ²	33.3 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
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	7.50 J/cm ²	35.7 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.50 J/cm ²	7.14 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	65.0 J	47.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	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
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	62.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	34.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	57.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	31.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	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
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	129 $^{\circ}\text{C}$	264 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
	135 $^{\circ}\text{C}$	275 $^{\circ}\text{F}$	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	124 $^{\circ}\text{C}$	255 $^{\circ}\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	141 $^{\circ}\text{C}$	286 $^{\circ}\text{F}$	
	124 $^{\circ}\text{C}$	255 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	140 $^{\circ}\text{C}$	284 $^{\circ}\text{F}$	Rate B/120; ISO 306
	143 $^{\circ}\text{C}$	289 $^{\circ}\text{F}$	Rate B/50; ISO 306
	154 $^{\circ}\text{C}$	309 $^{\circ}\text{F}$	Rate B/50; ASTM D1525

Optical Properties	Metric	English	Comments
Haze	$\leq 0.80\%$	$\leq 0.80\%$	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 - 90 %	88 - 90 %	2.54 mm; ASTM D1003

Descriptive Properties	Value	Comments
Ball Pressure Test, 75 $^{\circ}\text{C}$ +/- 2 $^{\circ}\text{C}$	PASSES	IEC 60695-10-2

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