

SABIC Innovative Plastics Lexan® HPX4R PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Medium flow specialty polycarbonate with outstanding processability, ductility and autoclavability. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). Contains mold release. ETO and steam sterilizable.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HPX4R-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 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	0.24 %	0.24 %	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
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	9.0 g/10 min @Load 1.20 kg, Temperature 300 °C	9.0 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	61.0 MPa	8850 psi	50 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	124.9 %	124.9 %	50 mm/min; ISO 527
	131.4 %	131.4 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	5.5 %	5.5 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.21 GPa	321 ksi	50 mm/min; ASTM D638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	94.0 MPa	13600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.15 GPa	312 ksi	2 mm/min; ISO 178
	2.21 GPa	321 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.90 J/cm	16.7 ft-lb/in	ASTM D256
	7.95 J/cm	14.9 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	65.0 kJ/m ²	30.9 ft-lb/in ²	80*10*3; ISO 180/1A
	55.0 kJ/m ²	26.2 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	6.50 J/cm ²	30.9 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	5.50 J/cm ²	26.2 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	82.0 J	60.5 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	85.0 J	62.7 ft-lb	ASTM D3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
	71.5 µm/m-°C	39.7 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
	71.5 µm/m-°C	39.7 µin/in-°F	
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	79.3 µm/m-°C	44.1 µin/in-°F	
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	ASTM E 831
	79.3 µm/m-°C	44.1 µin/in-°F	
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	118 °C	244 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	124 °C	255 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	141 °C	286 °F	Rate A/50; ASTM D1525
	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	V-2	V-2	
	@Thickness 2.50 mm	@Thickness 0.0984 in	UL 94
Glow Wire Test	825 °C	1520 °F	IEC 60695-2-13
	825 °C	1520 °F	IEC 60695-2-13
	960 °C	1760 °F	
	@Thickness 3.00 mm	@Thickness 0.118 in	IEC 60695-2-12

Optical Properties	Metric	English	Comments
Haze	3.0 %	3.0 %	
	@Thickness 2.54 mm	@Thickness 0.100 in	ASTM D1003
Transmission, Visible	82 %	82 %	2.54 mm; ASTM D1003

Electrical Properties	Metric	English	Comments
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Volume Resistivity Electrical Properties	$\geq 1.00\text{e}+15\text{ ohm-cm}$ Metric	$\geq 1.00\text{e}+15\text{ ohm-cm}$ English	ASTM D257 Comments
Surface Resistance	$\geq 1.00\text{e}+15\text{ ohm}$	$\geq 1.00\text{e}+15\text{ ohm}$	ASTM D257

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

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