

SABIC Innovative Plastics Lexan® HPX4R PC Copolymer (Europe-Africa-Middle East)

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. 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-HPX4R-PC-Copolymer-Europe-Africa-Middle-East.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	0.090 %	0.090 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.24 % @Temperature 23.0 °C	0.24 % @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
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	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	61.0 MPa	8850 psi	50 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	124.9 %	124.9 %	50 mm/min; ISO 527

Mechanical Properties	131.4 % Metric	131.4 % English	Type I, 50 mm/min; ASTM D 638 Comments
Elongation at Yield	5.5 %	5.5 %	50 mm/min; ISO 527
	5.8 %	5.8 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.21 GPa	321 ksi	50 mm/min; ASTM D 638
	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 D 790
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 D 790
Izod Impact, Notched	7.95 J/cm @Temperature -30.0 °C	14.9 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	8.90 J/cm @Temperature 23.0 °C	16.7 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	55.0 kJ/m ² @Temperature -30.0 °C	26.2 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	65.0 kJ/m ² @Temperature 23.0 °C	30.9 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	5.50 J/cm ² @Temperature -30.0 °C	26.2 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	6.50 J/cm ² @Temperature 23.0 °C	30.9 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA

Mechanical Properties	Metric	English	Comments
	82.0 J	60.5 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	85.0 J	62.7 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	71.5 µm/m-°C	39.7 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
	71.5 µm/m-°C	39.7 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
CTE, linear, Transverse to Flow	79.3 µm/m-°C	44.1 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
	79.3 µm/m-°C	44.1 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
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 D 648
Vicat Softening Point	141 °C	286 °F	Rate A/50; ASTM D 1525
	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306
Flammability, UL94	V-2	V-2	UL 94
	@Thickness 2.50 mm	@Thickness 0.0984 in	
Glow Wire Test	850 °C	1560 °F	Glow Wire Ignitability Temperature; IEC 60695-2-13
	@Thickness 1.00 mm	@Thickness 0.0394 in	

Optical Properties	Metric	English	Comments
Haze	3.0 %	3.0 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	82 %	82 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

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

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