

SABIC Innovative Plastics Lexan® HFD1014 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

7 MFR LEXAN HFD Copolymer

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HFD1014-PC-Copolymer.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	ASTM D792
	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	0.30 %	0.30 %	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	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
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
Hardness, Rockwell R	120	120	ASTM D785
Tensile Strength at Break	67.0 MPa	9720 psi	Type I, 50 mm/min; ASTM D638
	73.0 MPa	10600 psi	50 mm/min; ISO 527
Tensile Strength, Yield	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Elongation at Break	141 %	141 %	50 mm/min; ISO 527
	142 %	142 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	2.26 GPa	328 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	89.0 MPa	12900 psi	2 mm/min; ISO 178
	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.07 GPa	300 ksi	2 mm/min; ISO 178
	2.24 GPa	325 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	9.66 J/cm	18.1 ft-lb/in	ASTM D256
	8.99 J/cm	16.8 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	72.0 kJ/m ²	34.3 ft-lb/in ²	80*10*3; ISO 180/1A
	63.0 kJ/m ²	30.0 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	8.20 J/cm ²	39.0 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	6.90 J/cm ²	32.8 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	78.0 J	57.5 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	134 J	98.8 ft-lb	Multiaxial Impact; ISO 6603

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C	44.4 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$ Metric	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$ English	Comments ISO 11359-2
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
CTE, linear, Transverse to Flow	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	
	80.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	44.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	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)	125 $^\circ\text{C}$	257 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	115 $^\circ\text{C}$	239 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	115 $^\circ\text{C}$	239 $^\circ\text{F}$	
Vicat Softening Point	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
	130 $^\circ\text{C}$	266 $^\circ\text{F}$	
	131 $^\circ\text{C}$	268 $^\circ\text{F}$	Rate B/120; ISO 306
	136 $^\circ\text{C}$	277 $^\circ\text{F}$	Rate B/50; ASTM D1525
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.750 mm	@Thickness 0.0295 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.582	1.582	ASTM D542
Haze	$\leq 1.0\%$	$\leq 1.0\%$	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 $^\circ\text{C}$ +/- 2 $^\circ\text{C}$	PASS	IEC 60695-10-2

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