

SABIC Innovative Plastics Lexan® HFD1413 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

11 MFR LEXAN High Flow Ductile Copolymer

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HFD1413-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	11 g/10 min @Load 1.20 kg, Temperature 300 °C	11 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 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
	68.0 MPa	9860 psi	50 mm/min; ISO 527
Tensile Strength, Yield	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
	61.0 MPa	8850 psi	50 mm/min; ISO 527
Elongation at Break	126 %	126 %	50 mm/min; ISO 527
	137 %	137 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D638
	6.0 %	6.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	2.24 GPa	325 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	98.0 MPa	14200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.09 GPa	303 ksi	2 mm/min; ISO 178
	2.23 GPa	323 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	9.03 J/cm	16.9 ft-lb/in	ASTM D256
	4.35 J/cm	8.15 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.59 J/cm	16.1 ft-lb/in	ASTM D256
	@Temperature -20.0 °C	@Temperature -4.00 °F	
Izod Impact, Notched (ISO)	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A
	32.0 kJ/m ²	15.2 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	8.00 J/cm ²	38.1 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	4.30 J/cm ²	20.5 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	77.0 J	56.8 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	120 J	88.5 ft-lb	Multiaxial Impact; ISO 6603

Thermal Properties	Metric	English	Comments
	80.0 µm/m-°C	44.4 µin/in-°F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 µm/m-°C @Temperature -40.0 - 40.0 °C	104 °F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	124 °C @Thickness 3.20 mm	255 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	115 °C	239 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	114 °C @Thickness 3.20 mm	237 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	130 °C	266 °F	Rate B/50; ISO 306
	131 °C	268 °F	Rate B/120; ISO 306
	136 °C	277 °F	Rate B/50; ASTM D1525
Flammability, UL94	HB @Thickness 0.750 mm	HB @Thickness 0.0295 in	UL 94

Optical Properties	Metric	English	Comments
Refractive Index	1.582	1.582	ASTM D542
Haze	<= 1.0 % @Thickness 2.54 mm	<= 1.0 % @Thickness 0.100 in	ASTM D1003
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

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

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