SABIC Innovative Plastics Lexan® HFD1212 PC Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

18 MFR LEXAN High Flow Ductile Copolymer

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-HFD1212-PC-Copolymer-Asia-Pacific.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/in³	ASTM D792
	1.20 g/cc	0.0434 lb/in³	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	18 g/10 min @Load 1.20 kg, Temperature 300 °C	18 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	17 g/10 min @Load 1.20 kg, Temperature 300 °C	17 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	63.0 MPa	9140 psi	Type I, 50 mm/min; ASTM D638
	66.0 MPa	9570 psi	50 mm/min; ISO 527
Tensile Strength, Yield	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D638
	62.0 MPa	8990 psi	50 mm/min; ISO 527
Elongation at Break	124 %	124 %	50 mm/min; ISO 527
	135 %	135 %	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
Tensile Modulus	2.15 GPa	312 ksi	1 mm/min; ISO 527
	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	2.12 GPa	307 ksi	2 mm/min; ISO 178
	2.22 GPa	322 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.87 J/cm	16.6 ft-lb/in	ASTM D256
	1.45 J/cm @Temperature -30.0 °C	2.72 ft-lb/in @Temperature -22.0 °F	ASTM D256
	8.38 J/cm @Temperature -10.0 °C	15.7 ft-lb/in @Temperature 14.0 °F	ASTM D256
Izod Impact, Notched (ISO)	67.0 kJ/m²	31.9 ft-lb/in²	80*10*3; ISO 180/1A
	22.0 kJ/m² @Temperature -30.0 °C	10.5 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	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	NB	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	7.90 J/cm²	37.6 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.40 J/cm² @Temperature -30.0 °C	6.66 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	76.0 J @Temperature 23.0 °C	56.1 ft-lb @Temperature 73.4 °F	ASTM D3763
Impact Test	116 J	85.6 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	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	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
	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)	123 °C @Thickness 3.20 mm	253 °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
	113 °C @Thickness 3.20 mm	235 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	129 °C	264 °F	Rate B/50; ISO 306
	130 °C	266 °F	Rate B/120; ISO 306
	136 °C	277 °F	Rate B/50; ASTM D1525

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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