

SABIC Innovative Plastics Lexan® FXG173R PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FXG173R-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.20 g/cc	0.0434 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.35 % @Temperature 23.0 °C	0.35 % @Temperature 73.4 °F	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	25 g/10 min @Load 1.20 kg, Temperature 300 °C	25 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238
	26 g/10 min @Load 1.20 kg, Temperature 300 °C	26 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	47.0 MPa	6820 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	50 %	50 %	Type I, 50 mm/min; ASTM D 638
	50 %	50 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.2 %	6.2 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.30 GPa	334 ksi	50 mm/min; ASTM D 638

Mechanical Properties	2.35 GPa Metric	341 ksi English	1 mm/min; ISO 527 Comments
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	93.0 MPa	13500 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.820 J/cm @Temperature -30.0 °C	1.54 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	1.60 J/cm @Temperature 23.0 °C	3.00 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	12.0 kJ/m ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.20 J/cm ² @Temperature 23.0 °C	5.71 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	50.0 J @Temperature 23.0 °C	36.9 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.0 µm/m-°C @Temperature -40.0 - 40.0 °C	37.8 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 µm/m-°C @Temperature 23.0 - 80.0 °C	38.9 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
	74.0 µm/m-°C @Temperature -40.0 - 40.0 °C	41.1 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
Deflection Temperature at 1.8 MPa (264 psi)	122 °C	252 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af

Thermal Properties	126 °C Metric	259 °F English	Comments Unannealed, ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	139 °C	282 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306
	144 °C	291 °F	Rate B/50; ASTM D 1525

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