SABIC Innovative Plastics Lexan® FXG1413T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

PC-siloxane copolymer in special "Diamond Sparkle" colors. Medium flow. Improved toughness compared to medium flow standard PC in same color. Color package may affect performance.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-FXG1413T-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.18 g/cc	1.18 g/cc	ASTM D 792
Density	1.18 g/cc	0.0426 lb/in³	ISO 1183
Moisture Absorption at Equilibrium	0.090 %	0.090 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.12 % @Temperature 23.0 °C	0.12 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	on tensile bar; SABIC Method
	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	46.0 MPa	6670 psi	50 mm/min; ISO 527
	47.0 MPa	6820 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	38 %	38 %	50 mm/min; ISO 527
	69 %	69 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.27 GPa	329 ksi	50 mm/min; ASTM D 638
	2.33 GPa	338 ksi	1 mm/min; ISO 527
Flexural Yield Strength	85.0 MPa	12300 psi	1.3 mm/min, 50 mm span; ASTM D 790
	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.19 GPa	318 ksi	2 mm/min; ISO 178
	2.27 GPa	329 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	3.76 J/cm @Temperature -30.0 °C	7.04 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	5.70 J/cm @Temperature 23.0 °C	10.7 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	16.0 kJ/m² @Temperature -30.0 °C	7.61 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	36.0 kJ/m² @Temperature 23.0 °C	17.1 ft-lb/in² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Charpy Impact, Notched	1.90 J/cm² @Temperature 23.0 °C	9.04 ft-lb/in² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	54.0 J @Temperature 23.0 °C	39.8 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	71.5 µm/m-°C @Temperature -40.0 - 95.0 °C	39.7 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831
	71.5 µm/m-°C @Temperature 23.0 - 80.0 °C	39.7 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	79.3 µm/m-°C @Temperature -40.0 - 95.0 °C	44.1 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831

Thermal Properties	Metric	English	Comments
	79.3 µm/m-°C @Temperature 23.0 - 80.0 °C	44.1 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	119 °C	246 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	123 °C @Thickness 3.20 mm	253 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/50; ASTM D 1525
	143 °C	289 °F	Rate B/120; ISO 306

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	PASS	IEC 60695-10-2

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