

SABIC Innovative Plastics Lexan® FXE1413T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Clear PC-siloxane copolymer with excellent processability, for Visual fX capability in "Energy" 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-FXE1413T-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.19 g/cc	1.19 g/cc	ASTM D 792
Density	1.19 g/cc	0.0430 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.35 %	0.35 %	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 @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	61.0 MPa	8850 psi	50 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	124.9 %	124.9 %	50 mm/min; ISO 527
	131.4 %	131.4 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	5.5 %	5.5 %	50 mm/min; ISO 527
	5.8 %	5.8 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric Pa	English	Comments, ASTM D 638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	94.0 MPa	13600 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.15 GPa	312 ksi	2 mm/min; ISO 178
	2.21 GPa	321 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	7.95 J/cm	14.9 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.90 J/cm	16.7 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	55.0 kJ/m ²	26.2 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	65.0 kJ/m ²	30.9 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	6.00 J/cm ²	28.6 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.00 J/cm ²	33.3 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	82.0 J	60.5 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	English $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	Comments
CTE, linear, Parallel to Flow	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	ASTM E 831
	71.5 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	39.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	ASTM E 831
	79.3 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	44.1 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	118 °C	244 °F	unannealed; ASTM D 648
Vicat Softening Point	124 °C	255 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	
	141 °C	286 °F	Rate A/50; ASTM D 1525
	141 °C	286 °F	Rate B/50; ISO 306
	142 °C	288 °F	Rate B/120; ISO 306

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

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