SABIC Innovative Plastics Lexan® FXE1810T PC Copolymer (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan* FXE1810T polycarbonate (PC) siloxane copolymer resin is a transparent injection moldable grade. This specialty PC offers excellent processability, very high flow and improved ductility characteristics over standard PC.Lexan FXE1810T resin may be an excellent candidate for a wide variety of applications.This product is available in the Visual fX* Piano Black, Raven Black & Illuminate color range only.This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-FXE1810T-PC-Copolymer-Europe-Africa-Middle-East.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/in³	ISO 1183
Moisture Absorption at Equilibrium	0.090 %	0.090 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.24 % @Temperature 23.0 °C	0.24 % @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	33 g/10 min @Load 1.20 kg, Temperature 300 °C	33 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm^3/10 min] Melt Volume Rate; ISO 1133
	35 g/10 min @Load 1.20 kg, Temperature 300 °C	35 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	56.0 MPa	8120 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	59.0 MPa	8560 psi	Type I, 50 mm/min; ASTM D 638
	59.0 MPa	8560 psi	50 mm/min; ISO 527
Elongation at Break	118.6 %	118.6 %	50 mm/min; ISO 527
	118.9 %	118.9 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Elongation at Yield	5.4 %	5.4 %	50 mm/min; ISO 527
	5.7 %	5.7 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.36 GPa	342 ksi	50 mm/min; ASTM D 638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	92.0 MPa	13300 psi	2 mm/min; ISO 178
	99.0 MPa	14400 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.25 GPa	326 ksi	2 mm/min; ISO 178
	2.35 GPa	341 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	2.20 J/cm @Temperature -30.0 °C	4.12 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	7.02 J/cm @Temperature 23.0 °C	13.2 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	30.0 kJ/m² @Temperature -30.0 °C	14.3 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	60.0 kJ/m² @Temperature 23.0 °C	28.6 ft-lb/in² @Temperature 73.4 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*3; ISO 180/1U
Charpy Impact Unnotched	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	4.00 J/cm² @Temperature -30.0 °C	19.0 ft-lb/in² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	6.50 J/cm² @Temperature 23.0 °C	30.9 ft-lb/in² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	79.0 J	58.3 ft-lb	Instrumented Impact Total Energy; ASTM D 3763

Mechanical Properties	Metric	English	Comments
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Thermal Properties	**Metric**	**English**	**Comments**
CTE, linear, Parallel to Flow	65.0 µm/m-°C @Temperature 23.0 - 80.0 °C	36.1 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
	65.0 µm/m-°C @Temperature -40.0 - 95.0 °C	36.1 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831
CTE, linear, Transverse to Flow	74.0 µm/m-°C @Temperature 23.0 - 80.0 °C	41.1 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
	74.0 µm/m-°C @Temperature -40.0 - 95.0 °C	41.1 µin/in-°F @Temperature -40.0 - 203 °F	ASTM E 831
Deflection Temperature at 1.8 MPa (264 psi)	117 °C	243 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	120 °C @Thickness 3.20 mm	248 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	137 °C	279 °F	Rate B/50; ISO 306
	138 °C	280 °F	Rate A/50; ASTM D 1525
	140 °C	284 °F	Rate B/120; ISO 306

Optical Properties	Metric	English	Comments
Transmission, Visible	90 %	90 %	transparent; thickness not quantified

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