

SABIC Innovative Plastics Lexan® SLX1431T PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Medium viscosity PC copolymer blend with enhanced UV stabilization and added release agent. Available in transparent and tinted colors. 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-SLX1431T-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 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	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 3.80 kg, Temperature 200 °C	10 g/10 min @Load 8.38 lb, Temperature 392 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	70.0 MPa	10200 psi	50 mm/min; ISO 527
	73.0 MPa	10600 psi	Type I, 50 mm/min; ASTM D 638
Tensile Strength, Yield	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D 638
	65.0 MPa	9430 psi	50 mm/min; ISO 527
Elongation at Break	>= 100 %	>= 100 %	Type I, 50 mm/min; ASTM D 638
	>= 100 %	>= 100 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.4 %	6.4 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric 2.40 GPa	English 348 ksi	Comments 5 mm/min; ASTM D 638
Flexural Yield Strength	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D 790
	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Modulus	2.45 GPa	355 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.45 GPa	355 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.00 J/cm	1.87 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	8.20 J/cm	15.4 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 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 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	
Charpy Impact, Notched	1.50 J/cm ²	7.14 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	6.50 J/cm ²	30.9 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	80.0 J	59.0 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

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, Transverse to Flow	@Temperature -40.0 - 40.0 $^\circ\text{C}$	@Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	70.0 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	131 $^\circ\text{C}$	268 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	134 $^\circ\text{C}$	273 $^\circ\text{F}$	unannealed; ASTM D 648
Vicat Softening Point	@Thickness 3.20 mm	@Thickness 0.126 in	
	137 $^\circ\text{C}$	279 $^\circ\text{F}$	Rate B/50; ISO 306
	139 $^\circ\text{C}$	282 $^\circ\text{F}$	Rate B/120; ISO 306
	149 $^\circ\text{C}$	300 $^\circ\text{F}$	Rate B/50; ASTM D 1525

Optical Properties	Metric	English	Comments
Haze	0.20 %	0.20 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	89 %	89 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

Descriptive Properties	Value	Comments
Ball Pressure Test, 125 $^\circ\text{C}$ +/- 2 $^\circ\text{C}$	passes	IEC 60695-10-2

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