

SABIC Innovative Plastics Lexan® EXL4016 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

6% GF reinforced opaque polycarbonate-siloxane copolymer, for increased stiffness with good impact strength. Improved release properties. Available in limited colors only. 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-EXL4016-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.22 g/cc	1.22 g/cc	ASTM D 792
Density	1.22 g/cc	0.0441 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.46 %	0.46 %	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	0.0020 - 0.0060 cm/cm @Thickness 3.20 mm	0.0020 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0020 - 0.0060 cm/cm @Thickness 3.20 mm	0.0020 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	5.0 g/10 min @Load 1.20 kg, Temperature 300 °C	5.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 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	Type I, 5 mm/min; ASTM D 638
	47.0 MPa	6820 psi	5 mm/min; ISO 527
Tensile Strength, Yield	53.0 MPa	7690 psi	5 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 5 mm/min; ASTM D 638
Elongation at Break	14 %	14 %	5 mm/min; ISO 527
	20 %	20 %	Type I, 5 mm/min; ASTM D 638
Elongation at Yield	4.4 %	4.4 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
			5 mm/min; ISO 527
Tensile Modulus	3.30 GPa	479 ksi	5 mm/min; ASTM D 638
	3.30 GPa	479 ksi	1 mm/min; ISO 527
Flexural Yield Strength	91.0 MPa	13200 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.83 GPa	410 ksi	2 mm/min; ISO 178
	3.00 GPa	435 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	1.88 J/cm @Temperature -30.0 °C	3.52 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	4.93 J/cm @Temperature 23.0 °C	9.24 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	15.0 kJ/m ² @Temperature -30.0 °C	7.14 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	45.0 kJ/m ² @Temperature 23.0 °C	21.4 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °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	1.50 J/cm ² @Temperature -30.0 °C	7.14 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	5.00 J/cm ² @Temperature 23.0 °C	23.8 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	40.0 J @Temperature 23.0 °C	29.5 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	48.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	26.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	48.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	26.7 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
CTE, linear, Transverse to Flow	71.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	39.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	71.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	39.4 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
Deflection Temperature at 1.8 MPa (264 psi)	134 $^{\circ}\text{C}$	273 $^{\circ}\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Af
	137 $^{\circ}\text{C}$	279 $^{\circ}\text{F}$	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	146 $^{\circ}\text{C}$	295 $^{\circ}\text{F}$	Rate A/50; ASTM D 1525
	147 $^{\circ}\text{C}$	297 $^{\circ}\text{F}$	Rate B/50; ISO 306
	147 $^{\circ}\text{C}$	297 $^{\circ}\text{F}$	Rate B/120; ISO 306

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

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