SABIC Innovative Plastics Lexan® EXL4419 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan* EXL4419 polycarbonate (PC) siloxane copolymer resin is a 9% Glass Fiber (GF) reinforced opaque injection molding (IM) grade. This medium flow resin offers much higher ductility, improved release characteristics and excellent processability with opportunities for shorter IM cycle times when compared to GF reinforced standard PC resins. Lexan EXL4419 resin is available in opaque colors only and is an excellent candidate for a broad range of applications that require a combination of stiffness and ductility.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL4419-PC-Copolymer.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.25 g/cc	1.25 g/cc	ASTM D792
Density	1.25 g/cc	0.0452 lb/in³	ISO 1183
Moisture Absorption	0.460 %	0.460 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.12 %	0.12 %	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
Melt Flow	11 g/10 min @Load 1.20 kg, Temperature 300 °C	11 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	10 g/10 min @Load 1.20 kg, Temperature 300 °C	10 g/10 min @Load 2.65 lb, Temperature 572 °F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	43.0 MPa	6240 psi	5 mm/min; ISO 527
	44.0 MPa	6380 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	53.0 MPa	7690 psi	Type I, 5 mm/min; ASTM D638
	55.0 MPa	7980 psi	5 mm/min; ISO 527
Elongation at Break	12.5 %	12.5 %	5 mm/min; ISO 527
	20 %	20 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	4.5 %	4.5 %	Type I, 5 mm/min; ASTM D638
	4.5 %	4.5 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	3.30 GPa	479 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	95.0 MPa	13800 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.20 GPa	464 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.30 GPa	479 ksi	2 mm/min; ISO 178
Izod Impact, Notched	2.80 J/cm	5.25 ft-lb/in	ASTM D256
	1.10 J/cm @Temperature -30.0 °C	2.06 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	25.0 kJ/m²	11.9 ft-lb/in²	80*10*3; ISO 180/1A
	10.0 kJ/m² @Temperature -30.0 °C	4.76 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	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	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	2.50 J/cm²	11.9 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.50 J/cm² @Temperature -30.0 °C	7.14 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	40.0 J @Temperature 23.0 °C	29.5 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.7 µm/m-°C @Temperature -40.0 - 40.0 °C	22.6 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	40.7 µm/m-°C	22.6 µin/in-°F	

Thermal Properties	Metric	English	Comments
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	69.4 µm/m-°C @Temperature -40.0 - 40.0 °C	38.6 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	69.4 µm/m-°C @Temperature -40.0 - 40.0 °C	38.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	134 °C	273 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	135 °C @Thickness 3.20 mm	275 °F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	144 °C	291 °F	Rate B/50; ISO 306
	145 °C	293 °F	Rate B/50; ASTM D1525
	146 °C	295 °F	Rate B/120; ISO 306

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.78e+17 ohm-cm	1.78e+17 ohm-cm	ASTM D257
Surface Resistance	2.86e+17 ohm	2.86e+17 ohm	ASTM D257
Dielectric Constant	3.04 @Frequency 1.00e+6 Hz	3.04 @Frequency 1.00e+6 Hz	ASTM D150
Dielectric Strength	31.5 kV/mm @Thickness 1.60 mm	800 kV/in @Thickness 0.0630 in	in oil; ASTM D149
Dissipation Factor	0.0086 @Frequency 1.00e+6 Hz	0.0086 @Frequency 1.00e+6 Hz	ASTM D150

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

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