

SABIC Innovative Plastics Lexan® EXL5689 PC Copolymer (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan® EXL5689 polycarbonate (PC) resin is a GF reinforced, UV stabilized, flame retardant injection molding copolymer blend. This medium flow resin features UL94 V0 @ 1.5mm flame retardancy based on non-chlorine, non-bromine FR agents with excellent processability and improved release performance. Lexan EXL5689 resin offers much improved impact strength and ductility over conventional GF reinforced PC resins. This product is an excellent candidate for a broad range of applications, including electrical and electronic enclosures amongst others.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-EXL5689-PC-Copolymer-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.26 g/cc	1.26 g/cc	ASTM D792
Density	1.26 g/cc	0.0455 lb/in ³	ISO 1183
Moisture Absorption	0.400 %	0.400 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.15 %	0.15 %	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	9.0 g/10 min @Load 1.20 kg, Temperature 300 °C	9.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 1.20 kg, Temperature 300 °C	8.0 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	44.0 MPa	6380 psi	Type I, 5 mm/min; ASTM D638
	46.0 MPa	6670 psi	5 mm/min; ISO 527
Tensile Strength, Yield	54.0 MPa	7830 psi	5 mm/min; ISO 527
	55.0 MPa	7980 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	13 %	13 %	5 mm/min; ISO 527
	15 %	15 %	Type I, 5 mm/min; ASTM D638
Elongation at Yield	4.4 %	4.4 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	3.50 GPa	508 ksi	5 mm/min; ASTM D638
	3.60 GPa	522 ksi	1 mm/min; ISO 527
Flexural Yield Strength	96.0 MPa	13900 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.15 GPa	457 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.40 GPa	493 ksi	2 mm/min; ISO 178
Izod Impact, Notched	3.40 J/cm	6.37 ft-lb/in	ASTM D256
	1.50 J/cm @Temperature -30.0 °C	2.81 ft-lb/in @Temperature -22.0 °F	ASTM D256
Izod Impact, Notched (ISO)	25.0 kJ/m ²	11.9 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @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	3.00 J/cm ²	14.3 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.50 J/cm ² @Temperature -30.0 °C	7.14 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	40.0 J	29.5 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	47.0 µm/m-°C	26.1 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	Metric	English	Comments
	47.0 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature -40.0 - 40.0 $^{\circ}\text{C}$	26.1 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature -40.0 - 104 $^{\circ}\text{F}$	ISO 11359-2
CTE, linear, Transverse to Flow	70.0 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature -40.0 - 40.0 $^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature -40.0 - 104 $^{\circ}\text{F}$	ASTM E 831
	70.0 $\mu\text{m}/\text{m}\cdot\text{C}$ @Temperature -40.0 - 40.0 $^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot\text{F}$ @Temperature -40.0 - 104 $^{\circ}\text{F}$	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	132 $^{\circ}\text{C}$	270 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	145 $^{\circ}\text{C}$	293 $^{\circ}\text{F}$	Rate B/50; ISO 306
	146 $^{\circ}\text{C}$	295 $^{\circ}\text{F}$	Rate B/120; ISO 306
	146 $^{\circ}\text{C}$	295 $^{\circ}\text{F}$	Rate B/50; ASTM D1525
Flammability, UL94	HB @Thickness 0.750 mm	HB @Thickness 0.0295 in	UL 94
	V-1 @Thickness 1.20 mm	V-1 @Thickness 0.0472 in	UL 94
	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94
Glow Wire Test	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	IEC 60695-2-13
	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	IEC 60695-2-13
	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	IEC 60695-2-13
	825 $^{\circ}\text{C}$	1520 $^{\circ}\text{F}$	IEC 60695-2-13
	960 $^{\circ}\text{C}$ @Thickness 1.10 mm	1760 $^{\circ}\text{F}$ @Thickness 0.0433 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Comparative Tracking Index	175 V	175 V	IEC 60112
	175 - 250 V	175 - 250 V	UL 746A

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

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