SABIC Innovative Plastics Lexan® EXL1036 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Lexan* EXL1036 polycarbonate (PC) siloxane copolymer resin is a UV stabilized high viscosity grade designed for (co-)extrusion. This resin offers extreme low temperature (-60 C) ductility and good hiding power as caplayer in combination with excellent extrusion processing characteristics. Lexan EXL1036 resin is available in limited opaque colors only and is an excellent candidate for a broad range of (co-)extrusion/thermoforming applications.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-EXL1036-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/in³	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	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 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
	5.5 g/10 min @Load 1.20 kg, Temperature 300 °C	5.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	65.0 MPa	9430 psi	Type I, 50 mm/min; ASTM D 638
	66.0 MPa	9570 psi	50 mm/min; ISO 527
Tensile Strength, Yield	57.0 MPa	8270 psi	50 mm/min; ISO 527
	58.0 MPa	8410 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	120 %	120 %	50 mm/min; ISO 527
	130 %	130 %	Type I, 50 mm/min; ASTM D 638
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	2.07 GPa	300 ksi	1 mm/min; ISO 527
	2.12 GPa	307 ksi	50 mm/min; ASTM D 638
Flexural Yield Strength	80.0 MPa	11600 psi	2 mm/min; ISO 178
	88.0 MPa	12800 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	1.96 GPa	284 ksi	2 mm/min; ISO 178
	2.10 GPa	305 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	6.80 J/cm @Temperature -30.0 °C	12.7 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	8.20 J/cm @Temperature 23.0 °C	15.4 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	55.0 kJ/m² @Temperature -30.0 °C	26.2 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	70.0 kJ/m² @Temperature 23.0 °C	33.3 ft-lb/in² @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 23.0 °C	NB @Temperature 73.4 °F	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	6.00 J/cm² @Temperature -30.0 °C	28.6 ft-lb/in² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	7.50 J/cm² @Temperature 23.0 °C	35.7 ft-lb/in² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	52.0 J @Temperature 23.0 °C	38.4 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	66.6 µm/m-°C @Temperature -40.0 - 40.0 °C	37.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	72.0 µm/m-°C @Temperature 23.0 - 80.0 °C	40.0 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	66.6 µm/m-°C @Temperature -40.0 - 40.0 °C	37.0 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	72.0 µm/m-°C @Temperature 23.0 - 80.0 °C	40.0 µin/in-°F @Temperature 73.4 - 176 °F	ISO 11359-2
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 °C @Thickness 3.20 mm	250 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	141 °C	286 °F	Rate B/120; ISO 306
	143 °C	289 °F	Rate B/50; ASTM D 1525
	143 °C	289 °F	Rate B/50; ISO 306

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