

SABIC Innovative Plastics Lexan® EXRL0627 PC Copolymer

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

EXRL0627 is a high flow, UV stabilized, high heat polycarbonate copolymer. It is available in a range of opaque and transparent 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-EXRL0627-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	0.30 %	0.30 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.30 % @Temperature 23.0 °C	0.30 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0060 - 0.0090 cm/cm @Thickness 3.20 mm	0.0060 - 0.0090 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	30 g/10 min @Load 2.16 kg, Temperature 330 °C	30 g/10 min @Load 4.76 lb, Temperature 626 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	33 g/10 min @Load 2.16 kg, Temperature 330 °C	33 g/10 min @Load 4.76 lb, Temperature 626 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Tensile Strength, Yield	70.0 MPa	10200 psi	Type I, 50 mm/min; ASTM D 638
	70.0 MPa	10200 psi	50 mm/min; ISO 527
Elongation at Break	70 %	70 %	Type I, 50 mm/min; ASTM D 638
	70 %	70 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	Type I, 50 mm/min; ASTM D 638
	6.0 %	6.0 %	50 mm/min; ISO 527
Tensile Modulus	2.50 GPa	363 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric 2.70 GPa	English 392 ksi	Comments 5 mm/min; ASTM D 638
Flexural Yield Strength	80.0 MPa	11600 psi	2 mm/min; ISO 178
	120 MPa	17400 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.50 GPa	363 ksi	2 mm/min; ISO 178
	2.60 GPa	377 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.550 J/cm @Temperature -30.0 °C	1.03 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	0.970 J/cm @Temperature 23.0 °C	1.82 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	5.00 kJ/m ² @Temperature -30.0 °C	2.38 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	9.00 kJ/m ² @Temperature 23.0 °C	4.28 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
	9.00 kJ/m ² @Temperature -30.0 °C	4.28 ft-lb/in ² @Temperature -22.0 °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	0.900 J/cm ² @Temperature -30.0 °C	4.28 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.10 J/cm ² @Temperature 23.0 °C	5.23 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA

Mechanical Properties	Metric	English	Comments
	1.70 J/cm ²	8.09 ft-lb/in ²	Notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	68.0 J	50.2 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	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	60.0 µm/m-°C	33.3 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Deflection Temperature at 0.46 MPa (66 psi)	164 °C	327 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	166 °C	331 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	152 °C	306 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	156 °C	313 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	168 °C	334 °F	Rate B/50; ISO 306
	170 °C	338 °F	Rate B/120; ISO 306
	170 °C	338 °F	Rate B/50; ASTM D 1525

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