

SABIC Innovative Plastics Lexan® EXRL0662 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate, Gamma Radiation Resistant

Material Notes:

Med/low flow polycarbonate. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI). EtO, steam e-beam and gamma sterilizable. Contains mold release. 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-EXRL0662-PC.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
Water Absorption	0.15 % @Time 86400 sec	0.15 % @Time 24.0 hour	ASTM D 570
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	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	6.0 g/10 min @Load 1.20 kg, Temperature 300 °C	6.0 g/10 min @Load 2.65 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	7.0 g/10 min @Load 1.20 kg, Temperature 300 °C	7.0 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D 1238
	112.2 g/10 min @Load 5.00 kg, Temperature 300 °C	112.2 g/10 min @Load 11.0 lb, Temperature 572 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ASTM D 785

Tensile Strength at Break Mechanical Properties	68.0 MPa Metric	9860 psi English	Type I, 50 mm/min; ASTM D 638 Comments
	75.0 MPa	10900 psi	50 mm/min; ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	50 mm/min; ISO 527
	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	135 %	135 %	Type I, 50 mm/min; ASTM D 638
	140 %	140 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	6.5 %	6.5 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.30 GPa	334 ksi	1 mm/min; ISO 527
	2.31 GPa	335 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	95.0 MPa	13800 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.25 GPa	326 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	1.39 J/cm @Temperature -30.0 °C	2.60 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	9.07 J/cm @Temperature 23.0 °C	17.0 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched	32.04 J/cm @Temperature 23.0 °C	60.02 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO)	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
	12.0 kJ/m ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	70.0 kJ/m ² @Temperature 23.0 °C	33.3 ft-lb/in ² @Temperature 73.4 °F	80*10*4; ISO 180/1A
	70.0 kJ/m ² @Temperature 23.0 °C	33.3 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
	NB	NB	

Izod Impact Unnotched (ISO) Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	80*10*3; ISO 180/1U Comments
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	80*10*4; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*4; 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
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	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
	7.50 J/cm ² @Temperature 23.0 °C	35.7 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	9.50 J/cm ² @Temperature 23.0 °C	45.2 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Impact Test	64.0 J @Temperature 23.0 °C	47.2 ft-lb @Temperature 73.4 °F	Instrumented Impact Energy @ peak; ASTM D 3763
	65.0 J @Temperature 23.0 °C	47.9 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	60.0 µm/m-°C @Temperature -40.0 - 40.0 °C	33.3 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2

Thermal Properties	Metric μm/m-°C	English μin/in-°F	Comments
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
CTE, linear, Transverse to Flow	57.0 μm/m-°C	31.7 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)	135 °C	275 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	135 °C	275 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	137 °C	279 °F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	124 °C	255 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	124 °C	255 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
	132 °C	270 °F	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	140 °C	284 °F	Rate B/120; ISO 306
	143 °C	289 °F	Rate B/50; ISO 306
	154 °C	309 °F	Rate B/50; ASTM D 1525

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

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