

SABIC Innovative Plastics Lexan® 124R PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

UL rated HB. 200 series recommended when V-2 rating required. 17.5 MFR, for small, intricate parts. FDA food contact compliant in limited colors. Effective January 15th, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HP2.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Lexan-124R-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ASTM D792
Water Absorption	0.15 %	0.15 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Moisture Absorption at Equilibrium	0.35 %	0.35 %	ASTM D570
	0.58 %	0.58 %	ASTM D570
	@Temperature 100 °C	@Temperature 212 °F	
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Melt Flow	17.5 g/10 min	17.5 g/10 min	ASTM D1238
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
Melt Index of Compound	16 g/10 min	16 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	65.0 MPa	9430 psi	50 mm/min; ISO 527
	68.0 MPa	9860 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D638
	63.0 MPa	9140 psi	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	125 %	125 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527
	2.37 GPa	344 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	6.94 J/cm	13.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	12.0 kJ/m ²	5.71 ft-lb/in ²	80*10*4; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	3.50 J/cm ²	16.7 ft-lb/in ²	ISO 179/2C
Tensile Impact Strength	546 kJ/m ²	260 ft-lb/in ²	Type S; ASTM D1822
Dart Drop, Total Energy	62.0 J	45.7 ft-lb	Instrumented Impact Energy @ peak; ASTM D3763
	169 J	125 ft-lb	ASTM D3029
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; ASTM D1044

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 µm/m-°C	38.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 95.0 °C	@Temperature -40.0 - 203 °F	
	70.0 µm/m-°C	38.9 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
Specific Heat Capacity	1.25 J/g-°C	0.299 BTU/lb-°F	ASTM C351

Thermal Properties	0.190 W/m-K Metric	1.32 BTU-in/hr-ft ² -°F English	ASTM C177 Comments
	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	133 °C	271 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
	137 °C	279 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	122 °C	252 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	129 °C	264 °F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	140 °C	284 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306
	154 °C	309 °F	Rate B/50; ASTM D1525
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	130 °C	266 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	
Oxygen Index	25 %	25 %	ISO 4589

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542
Haze	1.0 %	1.0 %	ASTM D1003
	@Thickness 2.54 mm	@Thickness 0.100 in	
Transmission, Visible	88 %	88 %	2.54 mm; ASTM D1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	ASTM D257
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
	2.7	2.7	
Dielectric Constant			IEC 60250

Electrical Properties	@Frequency 1.00e+6 Metric Hz	@Frequency 1.00e+6 English Hz	Comments
	2.7	2.7	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	2.96	2.96	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.17	3.17	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	ASTM D150
Dielectric Strength	14.9 kV/mm	378 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in air; ASTM D149
	17.0 kV/mm	432 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
Dissipation Factor	0.00090	0.00090	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	ASTM D150
	0.0010	0.0010	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	0.010	0.010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	0.010	0.010	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	UL 746A
High Amp Arc Ignition, HAI	60 - 120 arcs	60 - 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2
Specific Volume	0.83cm ³ /g	ASTM D792

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