

SABIC Innovative Plastics Lexan® AD4820 PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

LEXAN AD4820 is a high viscosity grade exhibiting low dust attraction with a UV cut-off up to 400 nm and greater optical purity than standard resin. 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-AD4820-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
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 @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

Mechanical Properties	Metric	English	Comments
Hardness, H358/30	95.0 MPa	13800 psi	ISO 2039-1
Tensile Strength at Break	69.0 MPa	10000 psi	Type I, 50 mm/min; ASTM D 638
	70.0 MPa	10200 psi	50 mm/min; ISO 527
Tensile Strength, Yield	62.0 MPa	8990 psi	Type I, 50 mm/min; ASTM D 638
	63.0 MPa	9140 psi	50 mm/min; ISO 527
Elongation at Break	120 %	120 %	50 mm/min; ISO 527
	135 %	135 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.30 GPa	334 ksi	5 mm/min; ASTM D 638
	2.35 GPa	341 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	97.0 MPa	14100 psi	1.3 mm/min, 50 mm span; ASTM D 790
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 D 790
Izod Impact, Notched	1.25 J/cm @Temperature -30.0 °C	2.34 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	9.08 J/cm @Temperature 23.0 °C	17.0 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	12.0 kJ/m ² @Temperature -30.0 °C	5.71 ft-lb/in ² @Temperature -22.0 °F	80*10*3; 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
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	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
	65.0 J	47.9 ft-lb	Instrumented Impact Total Energy;

Mechanical Properties	Metric @ Temperature 23.0 °C	English @ Temperature 73.4 °F	ASTM D 3763 Comments
Taber Abrasion, mg/1000 Cycles	10 @Load 1.00 kg	10 @Load 2.20 lb	CS-17; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature -40.0 - 95.0 °C	37.8 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature -40.0 - 203 °F	ASTM E 831
	70.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 80.0 °C	38.9 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 176 °F	ISO 11359-2
CTE, linear, Transverse to Flow	68.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature -40.0 - 95.0 °C	37.8 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature -40.0 - 203 °F	ASTM E 831
	70.0 $\mu\text{m}/\text{m}\cdot\text{°C}$ @Temperature 23.0 - 80.0 °C	38.9 $\mu\text{in}/\text{in}\cdot\text{°F}$ @Temperature 73.4 - 176 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	136 °C	277 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	125 °C	257 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	132 °C @Thickness 3.20 mm	270 °F @Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	143 °C	289 °F	Rate B/50; ISO 306
	144 °C	291 °F	Rate B/120; ISO 306
	153 °C	307 °F	Rate B/50; ASTM D 1525

Optical Properties	Metric	English	Comments
Transmission, Visible	88 %	88 %	ASTM D 1003
	@Thickness 2.54 mm	@Thickness 0.100 in	

Electrical Properties	Metric	English	Comments
Surface Resistance	5.00e+13 ohm	5.00e+13 ohm	ASTM D 257

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2

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