

SABIC Innovative Plastics Lexan® FXD951A PC

Category : Polymer , Thermoplastic , Polycarbonate (PC)

Material Notes:

Visual effects diffusion, flame retardant PC with low/medium flow good for extrusion/injection molding applications. Ideal for light management platforms that require hiding power and transmission. 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-FXD951A-PC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.21 g/cc	1.21 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
Melt Flow	6.0 g/10 min @Load 5.00 kg, Temperature 220 °C	6.0 g/10 min @Load 11.0 lb, Temperature 428 °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
Tensile Strength at Break	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D 638
	65.0 MPa	9430 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	90 %	90 %	Type I, 50 mm/min; ASTM D 638
	110 %	110 %	50 mm/min; ISO 527
Elongation at Yield	6.0 %	6.0 %	50 mm/min; ISO 527
	7.0 %	7.0 %	Type I, 50 mm/min; ASTM D 638
Tensile Modulus	2.35 GPa	341 ksi	1 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	91.0 MPa	13200 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.24 GPa	325 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	6.40 J/cm	12.0 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D 4812
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	12.0 kJ/m ²	5.71 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	70.0 kJ/m ²	33.3 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*3; ISO 180/1U
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	80*10*3; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.40 J/cm ²	6.66 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	7.50 J/cm ²	35.7 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

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

Thermal Properties	Metric @Temperature 23.0 - 30.0 °C	English @Temperature 73.4 - 86.0 °F	Comments
Deflection Temperature at 1.8 MPa (264 psi)	130 °C	266 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	132 °C @Thickness 6.40 mm	270 °F @Thickness 0.252 in	unannealed; ASTM D 648
Vicat Softening Point	144 °C	291 °F	Rate B/50; ISO 306
	148 °C	298 °F	Rate B/120; ISO 306
	151 °C	304 °F	Rate B/50; ASTM D 1525
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	120 °C	248 °F	UL 746B
UL RTI, Mechanical without Impact	130 °C	266 °F	UL 746B
Flammability, UL94	V-2 @Thickness 1.47 mm	V-2 @Thickness 0.0579 in	UL 94
	V-0 @Thickness 2.99 mm	V-0 @Thickness 0.118 in	UL 94

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+17 ohm-cm	>= 1.00e+17 ohm-cm	ASTM D 257
Dielectric Constant	2.96 @Frequency 1.00e+6 Hz	2.96 @Frequency 1.00e+6 Hz	ASTM D 150
	3.01 @Frequency 50.0 - 60.0 Hz	3.01 @Frequency 50.0 - 60.0 Hz	ASTM D 150
Dissipation Factor	0.00090 @Frequency 50.0 - 60.0 Hz	0.00090 @Frequency 50.0 - 60.0 Hz	ASTM D 150
	0.010 @Frequency 1.00e+6 Hz	0.010 @Frequency 1.00e+6 Hz	ASTM D 150
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	Tungsten, PLC code 7; ASTM D 495
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC code 2; UL 746A
Hot Wire Ignition, HWI	30 - 60 sec	30 - 60 sec	PLC code 2; UL 746A

Electrical Properties High Amp Arc Ignition, HAI	Metric 10 - 50 arcs	English 10 - 50 arcs	Comments 501406, PLC code 3; UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	PLC code 3; UL 746A

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