

# LEXAN™ VISUALFX™ RESIN FXD921A

## DESCRIPTION

LEXAN FXD921A compound is based on Polycarbonate (PC) resin for light diffusion special effects. Color package may affect performance. Added features of this grade include: . Transparent/translucent, Brominated Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Aesthetics/Visual effects, Transparent/Translucent
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Home Appliances, Commercial Appliance
Electrical and Electronics	Mobile Phone - Computer - Tablets, Lighting
Hygiene and Healthcare	Patient Testing
Industrial	Electrical

## TYPICAL PROPERTY VALUES

Revision 20240117

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Modulus, 50 mm/min	2400	MPa	ASTM D638
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	66	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	6	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	125	%	ASTM D638
Flexural Strength, 1.3 mm/min, 50 mm span	94	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2280	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	60	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	85	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
Ball Indentation Hardness, H358/30	95	MPa	ISO 2039-1
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	760	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	76	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m <sup>2</sup>	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m <sup>2</sup>	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*3 -30°C	12	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	73	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	14	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m <sup>2</sup>	ISO 179/1eU
<b>THERMAL <sup>(1)</sup></b>			
HDT, 1.82 MPa, 3.2mm, unannealed	123	°C	ASTM D648
Vicat Softening Temp, Rate B/50	141	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	124	°C	ISO 75/Ae
CTE, -30°C to 30°C, flow	7.5E-05	1/°C	ASTM E831
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Relative Temp Index, Elec <sup>(2)</sup>	130	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	120	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	130	°C	UL 746B
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.2	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.15	%	ISO 62-1
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.5 – 0.7	%	SABIC method
Mold Shrinkage on Tensile Bar, flow <sup>(3)</sup>	0.5 – 0.7	%	SABIC method
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Melt Flow Rate, 300°C/1.2 kgf	14.8	g/10 min	ASTM D1238
Melt Volume Rate, MVR at 300°C/1.2 kg	12	cm <sup>3</sup> /10 min	ISO 1133
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
<b>ELECTRICAL <sup>(1)</sup></b>			
Surface Resistivity	1.0E+16	Ω	ASTM D257
Relative Permittivity, 50/60 Hz	3	-	ASTM D150
Comparative Tracking Index (UL) {PLC} <sup>(2)</sup>	2	PLC Code	UL 746A
High Amp Arc Ignition (HAI), PLC 1 <sup>(2)</sup>	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3 <sup>(2)</sup>	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2 <sup>(2)</sup>	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3 <sup>(2)</sup>	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC} <sup>(2)</sup>	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC} <sup>(2)</sup>	7	PLC Code	ASTM D495
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E45329-541345</a>	-	-
UL Yellow Card Link 2	<a href="#">E207780-228424</a>	-	-
UL Yellow Card Link 3	<a href="#">E121562-220936</a>	-	-
UL Recognized, 94V-0 Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94V-2 Flame Class Rating	≥1.5	mm	UL 94
<b>INJECTION MOLDING <sup>(4)</sup></b>			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 300	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 100	°C	
Screw Speed	40 – 70	rpm	
Back Pressure	0.3 – 0.7	MPa	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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