

LEXAN™ VISUALFX™ RESIN FXD953A

DESCRIPTION

LEXAN FXD953A is based on Polycarbonate (PC) copolymer. It is a high viscosity brominated flame retardant, UV-stabilized, light diffusing grade and is targeted for electrical and lighting applications.

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL ⁽¹⁾			
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	SABIC method
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	65	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	110	%	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
Hardness, Rockwell R	118	-	ISO 2039-2
IMPACT ⁽¹⁾			
Izod Impact, unnotched 80*10*3 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	70	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	12	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	75	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	14	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy Impact, notched, 23°C	35	kJ/m ²	ISO 179/2C
THERMAL ⁽¹⁾			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
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
Vicat Softening Temp, Rate B/50	144	°C	ISO 306
Vicat Softening Temp, Rate B/120	148	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	141	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	130	°C	ISO 75/Ae
PHYSICAL ⁽¹⁾			
Mold Shrinkage on Tensile Bar, flow ⁽²⁾	0.5 – 0.7	%	SABIC method
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/ 1.2 kg	6	cm ³ /10 min	ISO 1133
OPTICAL ⁽¹⁾			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Light Transmission, 2.54 mm	88	%	ASTM D1003
ELECTRICAL ⁽¹⁾			
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.001	-	IEC 60250
Dissipation Factor, 1 MHz	0.01	-	IEC 60250
Relative Permittivity, 50/60 Hz	2.7	-	IEC 60250
FLAME CHARACTERISTICS			
Oxygen Index (LOI)	35	%	ISO 4589
INJECTION MOLDING ⁽³⁾			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 310	°C	
Nozzle Temperature	270 – 290	°C	
Front - Zone 3 Temperature	280 – 310	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	260 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 110	°C	

- (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) 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. 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.
- (3) 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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