

LEXAN™ 943X resin

Polycarbonate
SABIC Innovative Plastics

Message:

LEXAN 943X is a UV stabilized medium flow impact modified injection molding (IM) grade. This resin offers UL94 V0 @ 1.5mm flame retardancy based on non-bromine, non-chlorine FR systems, low temperature ductility characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN 943X resin is a product available in a wide range of opaque colors and may be an excellent candidate for a wide range of applications.

General Information			
Additive	Impact modifier		
	UV stabilizer		
Features	Chlorine Free		
	Impact modification		
	Workability, good		
	Fast molding cycle		
	Medium liquidity		
	Bromine-free		
	ductility		
	Flame retardancy		
Uses	General		
Appearance	Opacity		
	Available colors		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm ³	ASTM D792
--	1.19	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.40 - 0.80	%	Internal method
Transverse flow: 3.20mm	0.40 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method

Tensile Modulus			
-- ¹	2100	MPa	ASTM D638
--	2100	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	58.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/50
Fracture ³	60.0	MPa	ASTM D638
Fracture	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Fracture ⁵	130	%	ASTM D638
Fracture	130	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2060	MPa	ASTM D790
-- ⁷	2200	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0mm span ⁸	89.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	60	kJ/m ²	ISO 179/1eA
23°C	75	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	650	J/m	ASTM D256
23°C	800	J/m	ASTM D256
-30°C ¹¹	50	kJ/m ²	ISO 180/1A
23°C ¹²	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	50.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 3.20mm	135	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	120	°C	ASTM D648
Vicat Softening Temperature	140	°C	ISO 306/B120, ASTM D1525 ¹⁴
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2

Linear thermal expansion coefficient			
Flow: -40 to 40°C	6.5E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	6.5E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.7E-5	cm/cm/°C	ISO 11359-2
RTI Elec	125	°C	UL 746
RTI Imp	115	°C	UL 746
RTI	120	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength			
3.20 mm, in Oil	17	kV/mm	ASTM D149
3.20mm, in oil	16	kV/mm	IEC 60243-1
Dielectric Constant			ASTM D150
50 Hz	2.95		ASTM D150
60 Hz	2.95		ASTM D150
1 MHz	2.90		ASTM D150
Dissipation Factor			ASTM D150
50 Hz	2.4E-3		ASTM D150
60 Hz	2.4E-3		ASTM D150
1 MHz	8.5E-3		ASTM D150
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index	225	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
3.00 mm	5VA		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	825	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	217 - 293	°C	
Middle Temperature	282 - 304	°C	
Front Temperature	293 - 316	°C	
Nozzle Temperature	288 - 310	°C	
Processing (Melt) Temp	293 - 316	°C	
Mold Temperature	71.0 - 93.0	°C	

Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm

NOTE		
1.	50 mm/min	
2.	Type 1, 50mm/min	
3.	Type 1, 50mm/min	
4.	Type 1, 50mm/min	
5.	Type 1, 50mm/min	
6.	1.3 mm/min	
7.	2.0 mm/min	
8.	1.3 mm/min	
9.	80*10*3 sp=62mm	
10.	80*10*3 sp=62mm	
11.	80*10*3	
12.	80*10*3	
13.	80*10*3	
14.	标准 B (120°C/h), 载荷2 (50N)	

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