LEXAN™ Copolymer 923X

PC — Saudi Basic Industries Corporation (SABIC)

Product Texts

LEXAN 923X is based on Polycarbonate (PC) siloxane copolymer resin and is a UV stabilized high flow opaque injection molding (IM) grade. This non-chlorinated, non-brominated flame retardant grade has UL-94 V0 @ 1.5mm flame rating, extreme low temperature ductility (-40°C) characteristics and excellent processability, providing opportunities for shorter IM cycle times compared to standard PC. LEXAN 923X resin is available in a wide range of opaque colours and targeted for a wide range of applications.

UL Yellow Card Link E207780-101158295

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**15**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**1.2**	kg	-
ASTM Data			
Melt Flow Index, MFI	**16**	g/10min	ASTM D 1238
Temperature	**300**	°C	-
Load	**1.2**	kg	-
Mold Shrinkage, MD	**0.006**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**2000**	MPa	ISO 527
Yield stress	**56**	MPa	ISO 527
Yield strain	**6**	%	ISO 527
Stress at break	**57**	MPa	ISO 527
Strain at break	**108**	%	ISO 527
Flexural modulus, 23°C	**2100**	MPa	ISO 178
Flexural strength	**87**	MPa	ISO 178
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**70**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**35**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**N**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**65**	kJ/m²	ISO 180/1A
Izod notched impact strength	**30**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
ASTM Data			
Tensile Modulus	**2100**	MPa	ASTM D 638
Tensile Strength at Yield	**58**	MPa	ASTM D 638
Tensile Strength at Break	**60**	MPa	ASTM D 638
Elongation at Yield	**6**	%	ASTM D 638
Elongation at Break	**110**	%	ASTM D 638
Flexural Modulus	**2400**	MPa	ASTM D 790
Flexural Strength	**90**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**775**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**650**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**118**	°C	ISO 75-1/-2
Vicat softening temperature, B	**139**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**61**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**62**	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	**V-0**	class	IEC 60695-11-10
Thickness tested	**1.5**	mm	-
Yellow Card available	**yes**	-	-
Burning behav. 5V at thickness h	**5VA**	class	IEC 60695-11-20
Thickness tested	**3.0**	mm	-
Yellow Card available	**yes**	-	-

Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**1.5**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (2)	**3**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**1.5**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**3**	mm	-
ASTM Data			
Coefficient of Thermal Expansion, MD	**61**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**62**	E-6/K	ASTM D 696
DTUL @ 264 psi	**123**	°C	ASTM D 648
Vicat Temperature	**140**	°C	ASTM D 1525

Electrical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
Comparative tracking index	**150**	-	IEC 60112

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.4**	%	Sim. to ISO 62
Humidity absorption	**0.15**	%	Sim. to ISO 62
Density	**1190**	kg/m³	ISO 1183
Density	**1190**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**120**	°C	-
Pre-drying - Time	**3 - 4**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**295 - 315**	°C	-
Mold temperature	**70 - 95**	°C	-
Zone 1	**270 - 295**	°C	-
Zone 2	**280 - 305**	°C	-
Zone 3	**295 - 315**	°C	-
Nozzle temperature	**290 - 310**	°C	-
Screw speed	**40 - 70**	rpm	-
Back pressure	**0.3 - 0.7**	MPa	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Halogen-free, High impact or impact modified, U.V. stabilized or stable to weather, Heat stabilized or stable to heat, Opaque

Features
Ductile, Copolymer

Applications
Aircraft and Aerospace, Automotive, Building Construction, IT / Business Machine, Electrical and Electronical, Medical

Regional Availability
North America, Europe, Asia Pacific, South and Central America