

Lexan* Resin 923A

Asia Pacific: COMMERCIAL

Low viscosity, flame retardant with exceptional surface. Clear, tints and opaque colors. UV-stabilized.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	90	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	91	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2240	MPa	ASTM D 790
Hardness, Rockwell M	70	-	ASTM D 785
Hardness, Rockwell R	118	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D 4812
Izod Impact, notched, 23°C	640	J/m	ASTM D 256
Tensile Impact, Type "S"	525	kJ/m ²	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	169	J	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	151	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	137	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D 648
CTE, -40°C to 95°C, flow	6.84E-05	1/°C	ASTM E 831
Thermal Conductivity	0.19	W/m-°C	ASTM C 177
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. Not to be used for part or tool design.

3) This rating is not intended to reflect hazards presented this or any other material under actual fire conditions.

4) Own measurement according to UL.

Source, GMD, Last Update:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
PHYSICAL			
Specific Gravity	1.21	-	ASTM D 792
Specific Volume	0.83	cm ³ /g	ASTM D 792
Density	1.217	g/cm ³	ASTM D 792
Water Absorption, 24 hours	0.15	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.35	%	ASTM D 570
Water Absorption, equilibrium, 100°C	0.58	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	14.5	g/10 min	ASTM D 1238
OPTICAL			
Light Transmission	85	%	ASTM D 1003
Haze	1	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D 542
ELECTRICAL			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	16.7	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.01	-	ASTM D 150
Relative Permittivity, 1 MHz	2.96	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D 150
Dissipation Factor, 1 MHz	0.01	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	2	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-2 Flame Class Rating (3)	1.47	mm	UL 94

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	2.99	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	290 - 310	°C
Nozzle Temperature	280 - 305	°C
Front - Zone 3 Temperature	290 - 310	°C
Middle - Zone 2 Temperature	275 - 300	°C
Rear - Zone 1 Temperature	265 - 290	°C
Mold Temperature	70 - 95	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

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