

LEXAN* 945 Resin

General Information

Product Description

Lexan* 945 Polycarbonate (PC) resin is a non-filled, injection moldable grade. This non-chlorinated, non-brominated flame retardant PC has an UL-94 V0 rating and is available in various opaque color options. Lexan 945 is a general purpose resin designed to meet the needs of various applications.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Flame Retardant
Features	• Bromine Free • Flame Retardant • Chlorine Free • General Purpose
Uses	• General Purpose
Appearance	• Colors Available • Opaque
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Flexural DMA (ASTM D4065) • Pressure-Volume-Temperature (PVT - Zoller Method) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530) • Viscosity vs. Shear Rate (ASTM D3835)

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.60 to 0.80	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	2280	MPa	ASTM D638
Tensile Strength ³ (Yield)	62.1	MPa	ASTM D638
Tensile Strength ³ (Break)	65.5	MPa	ASTM D638
Tensile Elongation ³ (Yield)	6.0	%	ASTM D638
Tensile Elongation ³ (Break)	130	%	ASTM D638
Flexural Modulus ⁴ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	101	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	800	J/m	ASTM D256
Instrumented Dart Impact (23°C, Total Energy)	73.4	J	ASTM D3763

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	138	°C	
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed, 3.20 mm	127	°C	
Vicat Softening Temperature	143	°C	ASTM D1525 ⁵
CLTE - Flow (-40 to 40°C)	0.000067	cm/cm/°C	ASTM E831
CLTE - Transverse (-40 to 40°C)	0.000067	cm/cm/°C	ASTM E831
Electrical	Nominal Value	Unit	Test Method
Arc Resistance (PLC) ⁶	PLC 7		ASTM D495
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			UL 94
0.800 mm	V-2		
1.14 mm	V-0		
3.05 mm	5VA		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	875	°C	IEC 60695-2-13
Oxygen Index	35	%	ISO 4589-2
UL	Nominal Value	Unit	Test Method
RTI Str	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Elec	130	°C	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 4		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 2		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 3		UL 746

Processing Information			
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	271 to 293	°C	
Middle Temperature	282 to 304	°C	
Front Temperature	293 to 316	°C	
Nozzle Temperature	288 to 310	°C	
Processing (Melt) Temp	293 to 316	°C	
Mold Temperature	71.1 to 93.3	°C	
Back Pressure	0.345 to 0.689	MPa	
Screw Speed	40 to 70	rpm	
Vent Depth	0.025 to 0.076	mm	

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Notes

¹ Typical properties: these are not to be construed as specifications.
² 50 mm/min
³ Type I, 50 mm/min
⁴ 1.3 mm/min
⁵ Rate B (120°C/h), Loading 2 (50 N)
⁶ Tungsten Electrode