

LEXAN™ 945A resin

Polycarbonate
SABIC Innovative Plastics

Message:

LEXAN 945A 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 transparent and tinted color options. LEXAN 945A is a general purpose resin designed to meet the needs of various applications.

General Information			
UL YellowCard	E45329-236664		
Additive	Flame retardancy		
Features	Chlorine Free		
	General		
	Bromine-free		
	Flame retardancy		
Uses	General		
RoHS Compliance	RoHS compliance		
Appearance	Available colors		
	Clear/transparent		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	10.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.35	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	63.0	MPa	ISO 527-2/50
Fracture	65.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	6.0	%	ISO 527-2/50
Fracture	100	%	ISO 527-2/50
Flexural Modulus ²	2300	MPa	ISO 178
Flexural Stress	90.0	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA
-30°C	14	kJ/m ²	ISO 179/1eA
23°C	73	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact ⁵			ISO 180/1A
-30°C	12	kJ/m ²	ISO 180/1A
23°C	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, unannealed, 100 mm span	136	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	125	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	141	°C	ISO 306/B50
--	142	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		IEC 60250
60 Hz	2.70		IEC 60250
1 MHz	2.70		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
1 MHz	0.010		IEC 60250
Comparative Tracking Index (CTI)	PLC 2		UL 746
Comparative Tracking Index	225	V	IEC 60112

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-2		UL 94
3.00 mm	V-0		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	850	°C	IEC 60695-2-13
Oxygen Index	35	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 μm)	88.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	260 - 280	°C	
Middle Temperature	270 - 290	°C	
Front Temperature	280 - 310	°C	
Nozzle Temperature	270 - 290	°C	
Processing (Melt) Temp	280 - 310	°C	
Mold Temperature	80.0 - 110	°C	
NOTE			
1.	Tensile Bar		
2.	2.0 mm/min		
3.	80*10*3 sp=62mm		
4.	80*10*3 sp=62mm		
5.	80*10*3		
6.	80*10*3		
7.	120*10*4 mm		

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