

LEXAN™ 945 resin

Polycarbonate
SABIC Innovative Plastics

Message:

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 Information			
UL YellowCard	E121562-220906	E121562-100305095	
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	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)		
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 ¹	2280	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	62.1	MPa	
Break	65.5	MPa	
Tensile Elongation ³			ASTM D638

Yield	6.0	%	
Break	130	%	
Flexural Modulus ⁴ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁵ (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
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 3.20 mm	138	°C	
1.8 MPa, Unannealed, 3.20 mm	127	°C	
Vicat Softening Temperature	143	°C	ASTM D1525 ⁶
CLTE			ASTM E831
Flow : -40 to 40°C	6.7E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.7E-5	cm/cm/°C	
RTI Elec	130	°C	UL 746
RTI Imp	120	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Arc Resistance ⁷	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 3		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			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
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

NOTE

1. 50 mm/min
2. Type I, 50 mm/min
3. Type I, 50 mm/min
4. 1.3 mm/min
5. 1.3 mm/min
6. Rate B (120°C/h), Loading 2 (50 N)
7. Tungsten Electrode

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