

LEXAN™ LS1 resin

Polycarbonate
SABIC Innovative Plastics

Message:
UL rated HB as of 10/97. 200 series recommended when V-2 rating required. Automotive lens applications. Low viscosity. UV-stabilized. Transparent colors only.

General Information			
UL YellowCard	E121562-220970		
Additive	UV Stabilizer		
Features	Low Viscosity		
Uses	Automotive Applications		
	Lenses		
Appearance	Clear/Transparent		
	Colors Available		
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 Creep (ASTM D2990)		
	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	1.20	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption (24 hr)	0.15	%	ASTM D570
Outdoor Suitability	f1		UL 746C
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (Yield)	62.1	MPa	ASTM D638
Tensile Elongation ² (Break)	130	%	ASTM D638
Flexural Modulus ³ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	96.5	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	690	J/m	ASTM D256
Instrumented Dart Impact (23°C, Energy at Peak Load)	62.1	J	ASTM D3763
Gardner Impact (23°C)	169	J	Internal Method
Tensile Impact Strength ⁵	473	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm)	129	°C	ASTM D648
RTI Elec	130	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value		Test Method
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 4		UL 746
Flammability	Nominal Value		Test Method
Flame Rating (1.47 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Transmittance (2540 µm)	88.0	%	ASTM D1003
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	260 to 282	°C	
Middle Temperature	271 to 293	°C	
Front Temperature	282 to 304	°C	
Nozzle Temperature	277 to 299	°C	
Processing (Melt) Temp	282 to 304	°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.	Type I, 50 mm/min		
2.	Type I, 50 mm/min		
3.	1.3 mm/min		
4.	1.3 mm/min		
5.	Type S		

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