

LEXAN™ LUX2180T_resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

Global grade. LEXAN LUX2180T is an injection moulding grade especially designed for manufacturing optical parts requiring easy flow properties combined with very high transmission and color stability. UV stabilized

General Information			
UL YellowCard	E45329-101319848		
Additive	UV Stabilizer		
Features	Good Color Stability		
	Good Flow		
	Opticals		
Uses	Optical Applications		
RoHS Compliance	RoHS Compliant		
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)	18.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.15	%	
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	62.0	MPa	
Break	69.0	MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	100	%	
Flexural Modulus ²	2300	MPa	ISO 178
Flexural Stress	90.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ³			ISO 179/1eA

-30°C	12	kJ/m ²	
23°C	65	kJ/m ²	
Charpy Unnotched Impact Strength ⁴			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁵			ISO 180/1A
-30°C	15	kJ/m ²	
23°C	65	kJ/m ²	
Unnotched Izod Impact Strength ⁶			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁷			
0.45 MPa, Unannealed, 100 mm Span	133	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	122	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	140	°C	ISO 306/B50
--	141	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (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	125	°C	UL 746
RTI Str	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
Electric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
60 Hz	1.0E-3		
1 MHz	0.010		
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm, Testing by SABIC)	V-2		UL 94
Glow Wire Flammability Index (1.00 mm)	850	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.00 mm)	> 875	°C	IEC 60695-2-13
Oxygen Index	25	%	ISO 4589-2

Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance			
2540 μm	> 90.0	%	ASTM D1003
2540 μm, 420 nm	> 88.0	%	Internal Method
5000 μm	> 89.0	%	Internal Method
Haze (2540 μm)	< 0.50	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	260 to 280	°C	
Middle Temperature	270 to 290	°C	
Front Temperature	280 to 300	°C	
Nozzle Temperature	270 to 290	°C	
Processing (Melt) Temp	280 to 300	°C	
Mold Temperature	80.0 to 100	°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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