

LEXAN™ LUX2114G resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

LEXAN LUX2114G (EXRL0943) is a diffusive, mid viscosity, uv stabilized, flame retardant polycarbonate with improved light transmission and providing good colorstability under heat exposure. Developed for injection molding LED applications

General Information			
UL YellowCard	E45329-101039864		
Additive	UV Stabilizer		
Features	Flame Retardant		
	Good Color Stability		
	Medium Viscosity		
Uses	LEDs		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.20	g/cm ³	
--	1.19	g/cm ³	
Specific Volume	0.830	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	18.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium, 23°C	0.35	%	
Equilibrium, 100°C	0.58	%	
Outdoor Suitability	f2		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2300	MPa	ISO 527-2/1
Tensile Strength			
Yield ¹	62.1	MPa	ASTM D638
Yield	63.0	MPa	ISO 527-2/50
Break ²	65.5	MPa	ASTM D638

Break	63.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ³	7.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁴	110	%	ASTM D638
Flexural Modulus			
50.0 mm Span ⁵	2340	MPa	ASTM D790
-- ⁶	2300	MPa	ISO 178
Flexural Stress			
--	94.0	MPa	ISO 178
Yield, 50.0 mm Span ⁷	93.1	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁸			ISO 179/1eA
-30°C	12	kJ/m ²	
23°C	65	kJ/m ²	
Charpy Unnotched Impact Strength ⁹			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
23°C	600	J/m	ASTM D256
-30°C ¹⁰	11	kJ/m ²	ISO 180/1A
23°C ¹¹	65	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	3200	J/m	ASTM D4812
-30°C ¹²	No Break		ISO 180/1U
23°C ¹³	No Break		ISO 180/1U
Gardner Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ¹⁴	546	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138	°C	
1.8 MPa, Unannealed, 6.40 mm	132	°C	
Vicat Softening Temperature			
--	154	°C	ASTM D1525 ¹⁵
--	145	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (-40 to 95°C)	6.8E-5	cm/cm/°C	ASTM E831
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	0.25	W/m/K	ASTM C177
RTI Elec	130	°C	UL 746

RTI Imp	125	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms·cm	ASTM D257
Dielectric Strength (3.20 mm, in Air)	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	0.010		
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.750 to 3.00 mm)	V-2		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
0.750 mm	750	°C	
1.50 mm	850	°C	
Glow Wire Ignition Temperature			IEC 60695-2-13
0.750 mm ¹⁶	875	°C	
1.50 mm	850	°C	
Optical	Nominal Value		Test Method
Refractive Index	1.586		ASTM D542
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.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	1.3 mm/min
6.	2.0 mm/min
7.	1.3 mm/min
8.	80*10*3 sp=62mm
9.	80*10*3 sp=62mm
10.	80*10*3
11.	80*10*3
12.	80*10*3
13.	80*10*3
14.	Type S
15.	Rate B (120°C/h), Loading 2 (50 N)
16.	by VDE

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