

LEXAN™ EXL1330 resin

Polycarbonate
SABIC Innovative Plastics

Message:

LEXAN EXL1330 polycarbonate (PC) siloxane copolymer resin is a UV stabilized opaque injection molding (IM) and sheet extrusion grade. This resin offers extreme low temperature (-60 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1330 resin is a general purpose product available in a wide range of opaque colors and is an excellent candidate for a broad range of applications.

General Information			
Additive	UV stabilizer		
Features	Copolymer		
	Workability, good		
	Fast molding cycle		
	Medium liquidity		
	General ductility		
Uses	General		
Appearance	Opacity		
	Available colors		
Processing Method	Sheet extrusion molding		
	Injection molding		
Multi-Point Data	Compressive Stress vs. Strain (ASTM D695)		
	Flexural DMA (ASTM D4065)		
	Pressure-Volume-Temperature (PVT - Zoller Method)		
	Specific Heat vs. Temperature (ASTM D3417)		
	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	1.18	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	9.00	cm³/10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.40 - 0.80	%	Internal method
Transverse flow: 3.20mm	0.40 - 0.80	%	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)	90.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2100	MPa	ASTM D638
--	2100	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	58.6	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/50
Fracture ³	61.4	MPa	ASTM D638
Fracture	56.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Fracture ⁵	130	%	ASTM D638
Fracture	> 100	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2070	MPa	ASTM D790
-- ⁷	2100	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0mm span ⁸	88.9	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	60	kJ/m ²	ISO 179/1eA
23°C	75	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-50°C	590	J/m	ASTM D256
-30°C	680	J/m	ASTM D256
23°C	800	J/m	ASTM D256
23°C, 6.40 mm	640	J/m	ASTM D256
-30°C ¹¹	55	kJ/m ²	ISO 180/1A
23°C ¹²	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C ¹³	1100	J/m	Internal method
-30°C ¹⁴	No Break		ISO 180/1U

23°C ¹⁵	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	52.9	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	134	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ¹⁶	136	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	121	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	124	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁷	125	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	143	°C	ASTM D1525, ISO 306/B50 12 ¹⁸
--	145	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	6.7E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	6.7E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2
RTI Elec	125	°C	UL 746
RTI Imp	115	°C	UL 746
RTI	120	°C	UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.800 mm)	HB		UL 94
Glow Wire Flammability Index			IEC 60695-2-12
0.800 mm	850	°C	IEC 60695-2-12
1.00 mm	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	875	°C	IEC 60695-2-13
3.00 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 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	217 - 293	°C	
Middle Temperature	282 - 304	°C	
Front Temperature	293 - 316	°C	
Nozzle Temperature	288 - 310	°C	
Processing (Melt) Temp	293 - 316	°C	

Mold Temperature	71.0 - 93.0	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm
Extrusion	Nominal Value	Unit
Drying Temperature	110 - 121	°C
Drying Time	3.0 - 4.0	hr
Suggested Max Moisture	0.020	%
Cylinder Zone 1 Temp.	249 - 288	°C
Cylinder Zone 2 Temp.	243 - 271	°C
Cylinder Zone 3 Temp.	227 - 254	°C
Adapter Temperature	227 - 254	°C
Melt Temperature	243 - 260	°C
Die Temperature	238 - 260	°C

Extrusion instructions

Drying Time (Cumulative): 48 hrsRoll Stack Temp - Bottom: 121 - 143 °CRoll Stack Temp - Middle: 82 - 127 °CRoll Stack Temp - Top: 77 - 116 °C

NOTE

- 50 mm/min
- Type 1, 50mm/min
- Type 1, 50mm/min
- Type 1, 50mm/min
- Type 1, 50mm/min
- 1.3 mm/min
- 2.0 mm/min
- 1.3 mm/min
- 80*10*3 sp=62mm
- 80*10*3 sp=62mm
- 80*10*3
- 80*10*3
- Double-Gated
- 80*10*3
- 80*10*3
- 120*10*4 mm
- 120*10*4 mm
- 标准 B (120°C/h), 载荷2 (50N)

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

