

LEXAN™ EXL1414H resin

Polycarbonate
SABIC Innovative Plastics

Message:
Opaque PC-Siloxan copolymer with excellent processability. Medium flow, extreme low temperature ductile. Enhanced hydrolytic stability. Only available in black color.

General Information			
Features	Copolymer		
	Workability, good		
	Medium liquidity		
	Hydrolysis stability		
	ductility		
Appearance	Opacity		
	Black		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.18	g/cm ³	ASTM D792
--	1.19	g/cm ³	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	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	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
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2020	MPa	ASTM D638
--	2150	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	56.0	MPa	ASTM D638
Yield	57.0	MPa	ISO 527-2/50
Fracture ³	50.0	MPa	ASTM D638
Fracture	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50

Fracture ⁵	98	%	ASTM D638
Fracture	120	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2230	MPa	ASTM D790
-- ⁷	2250	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0mm span ⁸	92.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	65	kJ/m ²	ISO 179/1eA
23°C	70	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			
-30°C	770	J/m	ASTM D256
23°C	870	J/m	ASTM D256
-30°C ¹¹	60	kJ/m ²	ISO 180/1A
23°C ¹²	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	77.0	J	ASTM D3763
23°C, Total Energy	70.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	139	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ¹⁴	140	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	124	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁵	128	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	145	°C	ASTM D1525, ISO 306/B50 10 ¹⁶
--	146	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	7.0E-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	7.0E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2

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	271 - 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	71.1 - 93.3	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm

NOTE

1. 50 mm/min
2. Type 1, 50mm/min
3. Type 1, 50mm/min
4. Type 1, 50mm/min
5. Type 1, 50mm/min
6. 1.3 mm/min
7. 2.0 mm/min
8. 1.3 mm/min
9. 80*10*3 sp=62mm
10. 80*10*3 sp=62mm
11. 80*10*3
12. 80*10*3
13. 80*10*3
14. 120*10*4 mm
15. 120*10*4 mm
16. 标准 B (120°C/h), 载荷2 (50N)

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