

LEXAN™ EXL6414 resin

Polycarbonate

SABIC Innovative Plastics

Message:

PC-Siloxane copolymer with excellent processability. Impact modified, medium flow, extreme low temp. ductility.

General Information			
UL YellowCard	E207780-228451		
Additive	Impact modifier		
Features	Impact modification		
	Copolymer		
	Workability, good		
	Medium liquidity ductility		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.19	g/cm³	ASTM D792
--	1.18	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	8.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.50	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
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	1720	MPa	ASTM D638
--	2280	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	55.2	MPa	ASTM D638
Yield	54.0	MPa	ISO 527-2/50
Fracture ³	60.0	MPa	ASTM D638
Fracture	58.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.5	%	ASTM D638

Yield	6.0	%	ISO 527-2/50
Fracture ⁵	100	%	ASTM D638
Fracture	88	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2000	MPa	ASTM D790
-- ⁷	2090	MPa	ISO 178
Flexural Stress			
--	85.0	MPa	ISO 178
Yield, 50.0mm span ⁸	79.3	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	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	690	J/m	ASTM D256
23°C	800	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			
23°C	3200	J/m	ASTM D4812
-30°C ¹³	No Break		ISO 180/1U
23°C ¹⁴	No Break		ISO 180/1U
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	61.0	J	ASTM D3763
23°C, Total Energy	62.1	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	136	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ¹⁵	136	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	122	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁶	122	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	141	°C	ASTM D1525, ISO 306/B50 ¹¹ ¹⁷
--	140	°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	6.9E-5	cm/cm/°C	ISO 11359-2

Lateral: -40 to 40°C	7.2E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.3E-5	cm/cm/°C	ISO 11359-2
RTI Elec	80.0	°C	UL 746
RTI Imp	80.0	°C	UL 746
RTI	80.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.1E+17	ohms	IEC 60093
Volume Resistivity	1.7E+17	ohms·cm	IEC 60093
Dielectric Strength (3.20 mm, in Oil)	18	kV/mm	IEC 60243-1
Relative Permittivity (1 MHz)	2.69		IEC 60250
Dissipation Factor (1 MHz)	9.4E-3		IEC 60250
Arc Resistance ¹⁸	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	HB		UL 94
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.	80*10*3
15.	120*10*4 mm
16.	120*10*4 mm
17.	标准 B (120°C/h), 载荷2 (50N)
18.	Tungsten electrode

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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

