

LEXAN™ EXL1443T resin

Polycarbonate
SABIC Innovative Plastics

Message:

LEXAN EXL1443T polycarbonate (PC) siloxane copolymer resin is an injection molding grade with FDA and EU food contact compliance. This resin offers excellent low temperature (-30 C) ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1443T resin is available in transparent and opaque colors and is an excellent candidate for a broad range of food contact applications.

General Information			
Features	Copolymer		
	Ductile		
	Fast Molding Cycle		
	Food Contact Acceptable		
	Good Processability		
	Medium Flow		
Uses	Non-specific Food Applications		
Agency Ratings	EU Food Contact, Unspecified Rating		
	FDA Food Contact, Unspecified Rating		
Appearance	Clear/Transparent		
	Opaque		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.19	g/cm ³	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)	9.50	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow : 3.20 mm	0.40 to 0.80	%	
Across Flow : 3.20 mm	0.40 to 0.80	%	
Water Absorption			ISO 62
Saturation, 23°C	0.12	%	
Equilibrium, 23°C, 50% RH	0.093	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (L-Scale)	90		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2220	MPa	

--	2350	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	58.0	MPa	ASTM D638
Yield	57.9	MPa	ISO 527-2/50
Break ³	64.1	MPa	ASTM D638
Break	61.5	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.8	%	ASTM D638
Yield	5.5	%	ISO 527-2/50
Break ⁵	130	%	ASTM D638
Break	120	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2220	MPa	ASTM D790
-- ⁷	2150	MPa	ISO 178
Flexural Stress			
--	90.2	MPa	ISO 178
Yield, 50.0 mm Span ⁸	94.3	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	50	kJ/m ²	
23°C	70	kJ/m ²	
Charpy Unnotched Impact Strength ¹⁰			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
-30°C	800	J/m	ASTM D256
23°C	890	J/m	ASTM D256
-30°C ¹¹	45	kJ/m ²	ISO 180/1A
23°C ¹²	65	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹³			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	85.0	J	
23°C, Total Energy	82.4	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	124	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁴	119	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	141	°C	ASTM D1525, ISO 306/B50 11 ¹⁵

--	142	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 95°C	7.2E-5	cm/cm/°C	ASTM E831
Flow : 23 to 80°C	7.2E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 95°C	7.9E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 80°C	7.9E-5	cm/cm/°C	ISO 11359-2
RTI Elec	130	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	ASTM D257
Volume Resistivity	> 1.0E+15	ohms·cm	ASTM D257
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
2.50 mm	V-2		
3.00 mm, Testing by SABIC	V-2		
Glow Wire Flammability Index (3.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
0.800 mm	825	°C	
3.00 mm	825	°C	
Optical	Nominal Value	Unit	Test Method
Transmittance (2540 µm)	82.0	%	ASTM D1003
Haze (2540 µm)	3.0	%	ASTM D1003
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	217 to 293	°C	
Middle Temperature	282 to 304	°C	
Front Temperature	293 to 316	°C	
Nozzle Temperature	288 to 310	°C	
Processing (Melt) Temp	293 to 316	°C	
Mold Temperature	71.0 to 93.0	°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.	50 mm/min		
2.	Type I, 50 mm/min		
3.	Type I, 50 mm/min		

4.	Type I, 50 mm/min
5.	Type I, 50 mm/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*4 mm
15.	Rate A (50°C/h), Loading 2 (50 N)

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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

