LEXAN™ COPOLYMER EXL1613T

REGION ASIA

DESCRIPTION

LEXAN EXL1613T polycarbonate (PC) siloxane copolymer resin is a transparent injection molding grade. This resin offers extreme low temperature ductility in combination with medium flow characteristics and excellent processability with opportunities for shorter IM cycle times compared to standard PC. LEXAN EXL1613T resin is a general purpose product available in transparent and opaque colors and is an excellent candidate for a broad range of applications.

TYPICAL PROPERTY VALUES

Revision 20260203

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yld, Type I, 50 mm/min	57	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	49	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5.9	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	58	%	ASTM D638
Tensile Modulus, 50 mm/min	2100	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	87	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2012	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	57	MPa	ISO 527
Tensile Stress, break, 50 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.7	%	ISO 527
Tensile Strain, break, 50 mm/min	67	%	ISO 527
Tensile Modulus, 1 mm/min	2100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	85	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
IMPACT [1]			
Izod Impact, notched, 23°C	900	J/m	ASTM D256
Izod Impact, notched, -30°C	690	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	75	J	ASTM D3763
Instrumented Dart Impact Total Energy, -30°C	73	J	ASTM D3763
Izod Impact, unnotched 80*10*3 +23°C	130	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	130	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	62	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	20	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	95	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	95	kJ/m²	ISO 179/1eU
THERMAL [1]			
Vicat Softening Temp, Rate A/50	150	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	122	°C	ASTM D648
CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	7.61E-05	1/°C	ASTM E831

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, flow	7.71E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.26E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASS	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	142	°C	ISO 306
Vicat Softening Temp, Rate B/120	143	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Af
Relative Temp Index, Elec [2]	80	°C	UL 746B
Relative Temp Index, Mech w/impact [2]	80	°C	UL 746B
Relative Temp Index, Mech w/o impact [2]	80	°C	UL 746B
PHYSICAL [1]			
Specific Gravity	1.18	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm [3]	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm [3]	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	8	g/10 min	ASTM D1238
Density	1.18	g/cm³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	7.5	cm³/10 min	ISO 1133
OPTICAL [1]			
Light Transmission, 2.54 mm	87	%	ASTM D1003
Haze, 2.54 mm	1.3	%	ASTM D1003
ELECTRICAL [1]			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Surface Resistivity	>1.E+15	Ω	ASTM D257
FLAME CHARACTERISTICS [2]			
UL Yellow Card Link	E207780-103932491	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	48	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	300 – 330	°C	
Nozzle Temperature	300 – 320	°C	
Front - Zone 3 Temperature	305 – 330	°C	
Middle - Zone 2 Temperature	295 – 315	°C	
Rear - Zone 1 Temperature	285 – 305	°C	
Mold Temperature	80 – 115	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

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(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(2) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
(3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.,The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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