

LEXANTM 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 20190806

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	57	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	49	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.9	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	58	%	ASTM D 638
Tensile Modulus, 50 mm/min	2100	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	90	MPa	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	87	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2012	MPa	ASTM D 790
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			
Izod Impact, notched, 23°C	900	J/m	ASTM D 256
Izod Impact, notched, -30°C	690	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	75	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	73	J	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	130	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*3 -30°C	130	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*3 +23°C	62	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	20	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	70	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	20	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	95	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*3 sp=62mm	95	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	150	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	122	°C	ASTM D 648
CTE, -40°C to 95°C, flow	7.15E-05	1/°C	ASTM E 831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, -40°C to 95°C, xflow	7.61E-05	1 / °C	ASTM E 831
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 ⁽¹⁾	80	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽¹⁾	80	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽¹⁾	80	°C	UL 746B
PHYSICAL			
Specific Gravity	1.18	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	8	g/10 min	ASTM D 1238
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			
Light Transmission, 2.54 mm	87	%	ASTM D 1003
Haze, 2.54 mm	1.3	%	ASTM D 1003
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Surface Resistivity	>1.E+15	Ohm	ASTM D 257
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E207780-103932491	-	-
UL Recognized, 94HB Flame Class Rating	≥0.4	mm	UL 94
INJECTION MOLDING			
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	

(1) 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.



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