

# LEXANT™ COPOLYMER ML6413

REGION ASIA

## DESCRIPTION

LEXAN ML6413 is based on Polycarbonate (PC) copolymer resin. It is an impact modified, flame retardant polycarbonate grade with Br- & Cl-free FR systems. It features improved light shielding capability with good flow, impact and thermal properties targeted for various applications.

## TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL <sup>(1)</sup></b>			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D638
Tensile Modulus, 5 mm/min	2500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	85	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2250	MPa	ASTM D790
Tensile Stress, yield, 50 mm/min	62	MPa	ISO 527
Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	100	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2350	MPa	ISO 178
<b>IMPACT <sup>(1)</sup></b>			
Izod Impact, notched, 23°C	790	J/m	ASTM D256
Izod Impact, notched, -30°C	150	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	72	J	ASTM D3763
Izod Impact, notched 80*10*3 +23°C	60	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	15	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL <sup>(1)</sup></b>			
Vicat Softening Temp, Rate B/50	134	°C	ASTM D1525
HDT, 1.82 MPa, 6.4 mm, unannealed	118	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.90E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.70E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	7.0E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.0E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	134	°C	ISO 306
Vicat Softening Temp, Rate B/120	135	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	125	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	115	°C	ISO 75/Ae
Relative Temp Index, Elec <sup>(2)</sup>	100	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(2)</sup>	100	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(2)</sup>	100	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL <sup>(1)</sup></b>			
Specific Gravity	1.2	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm <sup>(3)</sup>	0.4 – 0.8	%	SABIC method
Melt Flow Rate, 260°C/5.0 kgf	24	g/10 min	ASTM D1238
Density	1.2	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	0.3	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	20	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL <sup>(1)</sup></b>			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 3	≥1.6	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.6	mm	UL 746A
<b>FLAME CHARACTERISTICS <sup>(2)</sup></b>			
UL Yellow Card Link	<a href="#">E207780-555323</a>	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥1.7	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.6	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.5 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.7 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.6 mm	800	°C	IEC 60695-2-13
Glow Wire Flammability Index, 3.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.5 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.7 mm	960	°C	IEC 60695-2-12
Glow Wire Flammability Index, 1.6 mm	960	°C	IEC 60695-2-12
<b>INJECTION MOLDING <sup>(4)</sup></b>			
Drying Temperature	90 – 100	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	270 – 300	°C	
Nozzle Temperature	250 – 290	°C	
Front - Zone 3 Temperature	260 – 300	°C	
Middle - Zone 2 Temperature	250 – 290	°C	
Rear - Zone 1 Temperature	230 – 260	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 90	°C	

- (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.

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