

Lexan* Resin ML6412

Americas: COMMERCIAL

ML6412 is an impact modified PC resin with non-brominated, non-chlorinated flame retardant system.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	62	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Modulus, 50 mm/min	2500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	95	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2600	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	62	MPa	ISO 527
Tensile Stress, break, 50 mm/min	63	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5	%	ISO 527
Tensile Strain, break, 50 mm/min	110	%	ISO 527
Tensile Modulus, 1 mm/min	2330	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2400	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	950	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	75	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	55	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	42	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	15	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	50	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
HDT, 0.45 MPa, 6.4 mm, unannealed	128	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	119	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.7E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	5.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
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	127	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	115	°C	ISO 75/Ae
Relative Temp Index, Elec	100	°C	UL 746B
Relative Temp Index, Mech w/impact	100	°C	UL 746B
Relative Temp Index, Mech w/o impact	100	°C	UL 746B
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.19	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.4 - 0.8	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	5	g/10 min	ASTM D 1238
Density	1.2	g/cm ³	ISO 1183

Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	15	cm ³ /10 min	ISO 1133
ELECTRICAL	Value	Unit	Standard
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index	250	V	IEC 60112
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-1 Flame Class Rating (3)	1	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	800	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13

Source GMD, last updated:11/03/2004

Processing

Parameter	Value	Unit
Injection Molding		
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

Source GMD, last updated:11/03/2004

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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