

LEXANTM FR RESIN ML7682

REGION ASIA

DESCRIPTION

LEXAN ML7682 Polycarbonate (PC) is an injection moldable non-chlorinated/brominated, unfilled flame retardant grade with high flow and good heat and impact resistance. It is UV stabilized and has an MVR of 21 (300°C/ 1.2kg) and a UL94 V0@1.8mm, and is available in opaque color options.

TYPICAL PROPERTY VALUES

Revision 20190717

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	59	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	93	%	ASTM D 638
Tensile Modulus, 50 mm/min	2500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2400	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	57	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	5.3	%	ISO 527
Tensile Strain, break, 50 mm/min	91	%	ISO 527
Tensile Modulus, 1 mm/min	2460	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2430	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	2150	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	2100	J/m	ASTM D 4812
Izod Impact, notched, 23°C	760	J/m	ASTM D 256
Izod Impact, notched, -30°C	130	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	62	J	ASTM D 3763
Izod Impact, unnotched 80°10'3 +23°C	181	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80°10'3 -30°C	180	kJ/m ²	ISO 180/1U
Izod Impact, notched 80°10'3 +23°C	63	kJ/m ²	ISO 180/1A
Izod Impact, notched 80°10'3 -30°C	15	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10'3 sp=62mm	62	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80°10'3 sp=62mm	16	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80°10'3 sp=62mm	133	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80°10'3 sp=62mm	132	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	138	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	131	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	119	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.8E-05	1/°C	ASTM E 831

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 80°C, flow	6.7E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.4E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	138	°C	ISO 306
Vicat Softening Temp, Rate B/120	141	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	132	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	120	°C	ISO 75/Ae
Relative Temp Index, Elec ⁽¹⁾	125	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽¹⁾	110	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽¹⁾	120	°C	UL 746B
PHYSICAL			
Specific Gravity	1.22	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	22	g/10 min	ASTM D 1238
Density	1.21	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.36	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.17	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	21	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1000000000000000 – 10000000000000000	Ohm-cm	ASTM D 257
Surface Resistivity	1.E+15 – 1.E+16	Ohm	ASTM D 257
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 1	≥1.5	mm	UL 746A
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E207780-100108027	-	-
UL Recognized, 94-5VA Flame Class Rating	≥2.5	mm	UL 94
UL Recognized, 94-5VB Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Ignitability Temperature, 3.0 mm	850	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.5 mm	825	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	825	°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, 1.5 mm	960	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	48	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 310	°C	
Nozzle Temperature	280 – 305	°C	
Front - Zone 3 Temperature	290 – 310	°C	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Middle - Zone 2 Temperature	275 – 300	°C	
Rear - Zone 1 Temperature	265 – 290	°C	
Mold Temperature	70 – 95	°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.

DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.