

LEXAN™ ML104R resin

Polycarbonate

SABIC Innovative Plastics Europe

Message:

LEXAN ML104R is a high viscosity multi purpose grade. FDA food contact compliant in limited colors. Effective January 15th, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HP6REU.

General Information			
Features	Food Contact Acceptable		
	High Viscosity		
Agency Ratings	FDA Food Contact, Unspecified Rating		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.20	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	6.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow ¹	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.35	%	
Equilibrium, 23°C, 50% RH	0.15	%	
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	95.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	2350	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	63.0	MPa	
Break	70.0	MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0	%	
Break	120	%	
Flexural Modulus ²	2300	MPa	ISO 178
Flexural Stress	90.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ³	15	kJ/m²	ISO 179/1eA
23°C ⁴	75	kJ/m²	ISO 179/1eA

23°C	35	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ⁵			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁶			ISO 180/1A
-30°C	12	kJ/m ²	
23°C	70	kJ/m ²	
Unnotched Izod Impact Strength ⁷			ISO 180/1U
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁸			
0.45 MPa, Unannealed, 100 mm Span	138	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 100 mm Span	127	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	144	°C	ISO 306/B50
--	145	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
125°C	Pass		
140°C ⁹	Pass		
CLTE - Flow (23 to 80°C)	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp	125	°C	UL 746
RTI Str	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Electric Strength (3.20 mm, in Oil)	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.70		
60 Hz	2.70		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		
60 Hz	1.0E-3		
1 MHz	0.010		
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (1.00 mm)	850	°C	IEC 60695-2-12

Oxygen Index	25	%	ISO 4589-2
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ISO 489
Transmittance (2540 μm)	88.0 to 90.0	%	ASTM D1003
Haze (2540 μm)	< 0.80	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	270 to 300	°C	
Middle Temperature	280 to 310	°C	
Front Temperature	290 to 320	°C	
Nozzle Temperature	280 to 310	°C	
Processing (Melt) Temp	290 to 320	°C	
Mold Temperature	80.0 to 120	°C	

NOTE

1. Tensile Bar
2. 2.0 mm/min
3. 80*10*3 sp=62mm
4. 80*10*3 sp=62mm
5. 80*10*4 sp=62mm
6. 80*10*3
7. 80*10*3
8. 120*10*4 mm
9. Approximate maximum

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