

LEXAN™ 104 resin

Polycarbonate

SABIC Innovative Plastics

Message:

UL rated HB. 200 series recommended when V-2 rating required. 7.0 MFR, for thicker sections without sinks. 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 HP6NR.

General Information			
UL YellowCard	E121562-220863		
Features	Food Contact Acceptable		
Agency Ratings	FDA Food Contact, Unspecified Rating		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.20	g/cm ³	ASTM D792, ISO 1183
--	1.19	g/cm ³	ASTM D792
Specific Volume	0.830	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
300°C/1.2 kg	7.0	g/10 min	
300°C/5.0 kg	110	g/10 min	
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.00	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal Method
Flow ¹	0.50 to 0.70	%	
Flow : 3.20 mm	0.50 to 0.70	%	
Across Flow : 3.20 mm	0.50 to 0.70	%	
Water Absorption			
24 hr	0.15	%	ASTM D570
Saturation, 23°C	0.35	%	ISO 62
Equilibrium, 23°C	0.35	%	ASTM D570
Equilibrium, 100°C	0.58	%	ASTM D570
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2310	MPa	ASTM D638
--	2300	MPa	ISO 527-2/1

Tensile Strength			
Yield ³	62.0	MPa	ASTM D638
Yield	60.0	MPa	ISO 527-2/50
Break ⁴	68.0	MPa	ASTM D638
Break	75.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁵	7.0	%	ASTM D638
Yield	6.0	%	ISO 527-2/50
Break ⁶	140	%	ASTM D638
Break	140	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2340	MPa	ASTM D790
-- ⁸	2250	MPa	ISO 178
Flexural Stress			
--	95.0	MPa	ISO 178
Yield, 50.0 mm Span ⁹	97.0	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰ (23°C)	95	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	140	J/m	ASTM D256
23°C	910	J/m	ASTM D256
-30°C ¹¹	12	kJ/m ²	ISO 180/1A
23°C ¹²	70	kJ/m ²	ISO 180/1A
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812
Instrumented Dart Impact			ASTM D3763
23°C, Energy at Peak Load	64.0	J	
23°C, Total Energy	65.0	J	
Gardner Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ¹³	630	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	135	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	137	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	124	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	132	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹⁴	124	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	154	°C	ASTM D1525 ¹⁵
--	143	°C	ISO 306/B50
--	140	°C	ISO 306/B120

Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	6.2E-5	cm/cm/°C	ASTM E831
Flow : -40 to 95°C	6.8E-5	cm/cm/°C	ASTM E831
Flow : -40 to 40°C	6.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	5.7E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	ISO 11359-2
Specific Heat	1250	J/kg/°C	ASTM C351
Thermal Conductivity	0.19	W/m/K	ASTM C177
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Str	130	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohms·cm	ASTM D257
Dielectric Strength (3.20 mm, in Air)	15	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	0.010		
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.47 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Transmittance (2540 µm)	88.0	%	ASTM D1003
Haze (2540 µm)	1.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	288 to 310	°C	
Middle Temperature	299 to 321	°C	
Front Temperature	310 to 332	°C	

Nozzle Temperature	304 to 327	°C
Processing (Melt) Temp	310 to 332	°C
Mold Temperature	82.2 to 116	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

1.	Tensile Bar
2.	5.0 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	Type I, 50 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*4 sp=62mm
11.	80*10*4
12.	80*10*4
13.	Type S
14.	80*10*4 mm
15.	Rate B (120°C/h), Loading 2 (50 N)

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