LEXAN™ Resin 104
Americas: COMMERCIAL

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.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 2.0 in/min	8900	psi	ASTM D 638
Tensile Stress, brk, Type I, 2.0 in/min	9800	psi	ASTM D 638
Tensile Strain, yld, Type I, 2.0 in/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 2.0 in/min	135	%	ASTM D 638
Tensile Modulus, 0.2 in/min	335000	psi	ASTM D 638
Flexural Stress, yld, 0.05 in/min, 2 in span	14000	psi	ASTM D 790
Flexural Modulus, 0.05 in/min, 2 in span	339000	psi	ASTM D 790
Hardness, Rockwell M	70	-	ASTM D 785
Hardness, Rockwell R	118	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D 1044
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	75	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	140	%	ISO 527
Tensile Modulus, 1 mm/min	2300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 73°F	60	ft-lb/in	ASTM D 4812
Izod Impact, notched, 73°F	16.9	ft-lb/in	ASTM D 256
Izod Impact, notched, -22°F	2.6	ft-lb/in	ASTM D 256
Tensile Impact, Type S	299	ft-lb/in²	ASTM D 1822

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(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
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(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
IMPACT			
Falling Dart Impact (D 3029), 73°F	124	ft-lb	ASTM D 3029
Instrumented Impact Energy @ peak, 73°F	566	in-lb	ASTM D 3763
Instrumented Impact Total Energy, 73°F	575	in-lb	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	70	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	95	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	309	°F	ASTM D 1525
HDT, 66 psi, 0.125 in, unannealed	275	°F	ASTM D 648
HDT, 264 psi, 0.125 in, unannealed	255	°F	ASTM D 648
HDT, 66 psi, 0.250 in, unannealed	278	°F	ASTM D 648
HDT, 264 psi, 0.250 in, unannealed	269	°F	ASTM D 648
CTE, flow, -40°F to 100°F	3.44E-05	1/°F	ASTM E 831
CTE, xflow, -40°F to 100°F	3.16E-05	1/°F	ASTM E 831
CTE, flow, -40°F to 200°F	3.8E-05	1/°F	ASTM E 831
Specific Heat	0.29	BTU/lb-°F	ASTM C 351
Thermal Conductivity	0.19	W/m-°C	ASTM C 177
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	143	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	124	°C	ISO 75/Af
Relative Temp Index, Elec	130	°C	UL 746B

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.2	-	ASTM D 792
Specific Volume	22.97	in³/lb	ASTM D 792
Density	0.042	lb/in³	ASTM D 792
Water Absorption, 24 hours @ 73°F	0.15	%	ASTM D 570
Water Absorption, equilibrium, 73F	0.35	%	ASTM D 570
Water Absorption, equilibrium, 212°F	0.58	%	ASTM D 570
Mold Shrinkage, flow (2) (5)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, flow, 0.125" (5)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 0.125" (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	7	g/10 min	ASTM D 1238
Melt Flow Rate, 300°C/5.0 kgf	112.2	g/10 min	ASTM D 1238
Density	0.04	lb/in³	ISO 1183
Water Absorption, equilibrium, 73°F	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	7	cm³/10 min	ISO 1133
OPTICAL			
Light Transmission, 0.1 in	88	%	ASTM D 1003
Haze, 0.1 in	1	%	ASTM D 1003
Refractive Index	1.586	-	ASTM D 542
ELECTRICAL			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 125 mils	378.4	V/mil	ASTM D 149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D 150
Relative Permittivity, 1 MHz	2.96	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D 150
Dissipation Factor, 1 MHz	0.01	-	ASTM D 150

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.057	in	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	250	°F
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	590 - 630	°F
Nozzle Temperature	580 - 620	°F
Front - Zone 3 Temperature	590 - 630	°F
Middle - Zone 2 Temperature	570 - 610	°F
Rear - Zone 1 Temperature	550 - 590	°F
Mold Temperature	180 - 240	°F
Back Pressure	50 - 100	psi
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.001 - 0.003	in

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