



LEXAN* 101 Resin

Thursday, February 07, 2013

General Information

Product Description

UL rated HB as of 10/97. 200 series recommended when V-2 rating required. Nonhalogenated, 7.0 MFR, for thicker sections without sinks.

General

Material Status	<ul style="list-style-type: none"> Commercial: Active
Availability	<ul style="list-style-type: none"> North America
Features	<ul style="list-style-type: none"> Halogen Free
Processing Method	<ul style="list-style-type: none"> Injection Molding
Multi-Point Data	<ul style="list-style-type: none"> Coefficient of Thermal Expansion vs. Temperature (ASTM E831) Elastic Modulus vs Temperature (ASTM D4065) Flexural DMA (ASTM D4065) Instrumented Impact (Energy) (ASTM D3763) Instrumented Impact (Load) (ASTM D3763) Specific Heat vs. Temperature (ASTM D3417) Tensile Creep (ASTM D2990) Tensile Fatigue Tensile Stress vs. Strain (ASTM D638) Thermal Conductivity vs. Temperature (ASTM E1530) Viscosity vs. Shear Rate (ASTM D3835)

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20		ASTM D792
Specific Volume	23.1	in ³ /lb	ASTM D792
Density	1.19	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in)	0.0050 to 0.0070	in/in	Internal Method
Water Absorption (24 hr)	0.15	%	ASTM D570
Water Absorption			ASTM D570
Equilibrium, 73°F	0.35	%	
Equilibrium, 212°F	0.58	%	
Outdoor Suitability	f2		UL 746C
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	9000	psi	ASTM D638
Tensile Strength ² (Break)	10000	psi	ASTM D638
Tensile Elongation ² (Yield)	7.0	%	ASTM D638
Tensile Elongation ² (Break)	140	%	ASTM D638
Flexural Modulus ³ (1.97 in Span)	340000	psi	ASTM D790

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SABIC Innovative Plastics - Polycarbonate

Mechanical	Nominal Value	Unit	Test Method
Flexural Strength ³ (Yield, 1.97 in Span)	14200	psi	ASTM D790
Taber Abrasion Resistance 1000 Cycles, 1000 g, CS-17 Wheel	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	17	ft-lb/in	ASTM D256
Unnotched Izod Impact (73°F)	60	ft-lb/in	ASTM D4812
Instrumented Dart Impact (73°F, Energy at Peak Load)	575	in-lb	ASTM D3763
Gardner Impact (73°F)	1500	in-lb	ASTM D3029
Tensile Impact Strength ⁴	300	ft-lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness M-Scale	70		ASTM D785
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 66 psi, Unannealed, 0.252 in	280	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed, 0.252 in	270	°F	ASTM D648
Vicat Softening Temperature	310	°F	ASTM D1525 ⁵
CLTE - Flow (-40 to 203°F)	0.000038	in/in/°F	ASTM E831
Specific Heat	0.300	Btu/lb/°F	ASTM C351
Thermal Conductivity	2.0	Btu-in/hr/ft ² /°F	ASTM C177
RTI Elec	266	°F	UL 746
RTI Imp	266	°F	UL 746
RTI Str	266	°F	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	> 1.0E+17	ohm-cm	ASTM D257
Dielectric Strength (0.126 in, in Air)	380	V/mil	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor			ASTM D150
50 Hz	0.00090		
60 Hz	0.00090		
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 (0.0280 in)	HB		UL 94

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Flammability	Nominal Value	Unit	Test Method
Radiant Panel Listing (UL)	YES		

Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Transmittance (100 mil)	88.0	%	ASTM D1003
Haze (100 mil)	1.0	%	ASTM D1003

Processing Information

Injection	Nominal Value	Unit
Drying Temperature	250	°F
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	550 to 590	°F
Middle Temperature	570 to 610	°F
Front Temperature	590 to 630	°F
Nozzle Temperature	580 to 620	°F
Processing (Melt) Temp	590 to 630	°F
Mold Temperature	180 to 240	°F
Back Pressure	50.0 to 100	psi
Screw Speed	40 to 70	rpm
Vent Depth	0.0010 to 0.0030	in

Notes

¹ Typical properties: these are not to be construed as specifications.

² Type I, 2.0 in/min

³ 0.051 in/min

⁴ Type S

⁵ Rate B (120°C/h), Loading 2 (50 N)

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