

LEXAN* 143R Resin

SABIC Innovative Plastics - Polycarbonate

Tuesday, September 20, 2011

General Information

Product Description

UL rated HB as of 10/97. 200 series recommended when V-2 rating required. Nonhalogenated. 10.5 MFR. UV-stabilized. Internal mold release.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Mold Release • UV Stabilizer
Features	• Halogen Free
Processing Method	• Injection Molding

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)	11	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	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ² (Yield)	9000	psi	ASTM D638
Tensile Strength ² (Break)	9500	psi	ASTM D638
Tensile Elongation ² (Yield)	7.0	%	ASTM D638
Tensile Elongation ² (Break)	110	%	ASTM D638
Flexural Modulus ³ (1.97 in Span)	340000	psi	ASTM D790
Flexural Strength ³ (Yield, 1.97 in Span)	13500	psi	ASTM D790
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	10.0	mg	
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F)	15	ft-lb/in	ASTM D256
Unnotched Izod Impact (73°F)	60	ft-lb/in	ASTM D4812
Gardner Impact (73°F)	1500	in-lb	ASTM D3029
Tensile Impact Strength ⁴	260	ft-lb/in ²	ASTM D1822
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		

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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	1.3	Btu-in/hr/ft ² /°F	ASTM C177
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		
Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL (0.0300 in)	HB		UL 94
Oxygen Index	25	%	ASTM D2863
UL	Nominal Value	Unit	Test Method
RTI Str	266	°F	UL 746
RTI Imp	266	°F	UL 746
RTI Elec	266	°F	UL 746
Comparative Tracking Index (CTI) (PLC)	PLC 2		UL 746
High Voltage Arc Tracking Rate (HVTR) (PLC)	PLC 2		UL 746
Hot-wire Ignition (HWI) (PLC)	PLC 4		UL 746
High Amp Arc Ignition (HAI) (PLC)	PLC 1		UL 746
Outdoor Suitability	f1		UL 746C
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	423 to 559	°F
Middle Temperature	540 to 579	°F
Front Temperature	559 to 601	°F
Nozzle Temperature	550 to 590	°F
Processing (Melt) Temp	559 to 601	°F

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Injection	Nominal Value	Unit
Mold Temperature	160 to 199	°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)