

LEXAN* 143R Resin**Polycarbonate**SABIC Innovative Plastics [Web](#) | [Portal](#)

Prospector

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		
Literature ¹	<ul style="list-style-type: none"> ● Technical Datasheet ● Processing - Extrusion Blow Molding (English) ● Processing - Lexan (English) ● Processing - Injection Molding (English) ● Processing - Thermoforming (English) 		
Availability	● North America		
Additive	● Mold Release	● UV Stabilizer	
Features	● Halogen Free		
Forms	● Pellets		
Processing Method	● Injection Molding		
Multi-Point Data	<ul style="list-style-type: none"> ● Coefficient of Thermal Expansion vs. Temperature (ASTM E831) ● Flexural DMA (ASTM D4065) ● Pressure-Volume-Temperature (PVT - Zoller Method) ● Shear DMA (ASTM D4065) ● Tensile Fatigue ● Tensile Stress vs. Strain (ASTM D638) ● Thermal Conductivity vs. Temperature (ASTM E1530) ● Viscosity vs. Shear Rate (ASTM D3835) 		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.20		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	ASTM D955
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium, 73°F	0.35	%	
Equilibrium, 212°F	0.58	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ²			ASTM D638
Yield	9000	psi	
Break	9500	psi	
Tensile Elongation ²			ASTM D638
Yield	7.0	%	
Break	110	%	
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 (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method

Notched Izod Impact (73°F)	15.0 ft·lb/in	ASTM D256
Unnotched Izod Impact (73°F)	60.0 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
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
66 psi, Unannealed, 0.252 in	280 °F	
264 psi, Unannealed, 0.252 in	270 °F	
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	
1E+6 Hz	2.96	
Dissipation Factor		ASTM D150
50 Hz	0.00090	
60 Hz	0.00090	
1E+6 Hz	0.010	
Flammability	Nominal Value Unit	Test Method
Flame Rating - UL (0.0300 in)	HB	UL 94
Oxygen Index	25 %	ASTM D2863
UL 746	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	88.0 %	ASTM D1003
Haze	1.0 %	ASTM D1003
Additional Information	Nominal Value Unit	Test Method
Specific Volume	0.830 cm ³ /g	ASTM D792
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	
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 These links provide you with access to supplier literature. We work hard to keep them up to date, however you may find the most current literature from the supplier.

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)



Copyright © 2009 [IDES - The Plastics Web®](#).

The information presented on this datasheet was acquired by IDES from the producer of the material. IDES makes substantial efforts to assure the accuracy of this data. However, IDES assumes no responsibility for the data values and strongly encourages that upon final material selection, data points are validated with the material supplier.

Revision History

Added to Prospector: November, 1995

Last Updated: 4/8/2008

Buy and Sell Plastics

Regrind, Repro, Wide-Spec, Prime . . .
www.ides.com/marketplace

Don't have a Prospector account?

Get one today at www.ides.com/pse!

Component - Plastics

E121562

SABIC INNOVATIVE PLASTICS US L L C

AMERICAS - RESIN, 1 PLASTICS AVE, PITTSFIELD MA 01201

103(f1), 103R(f1), 143(f1), 143R(f1), ML6622(f1), FXD143(f1), FXD143R(f1), FXD103(f1), FXD103R(f1)

Polycarbonate (PC), "Lexan", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.75	HB	-	-	120	120	120
	1.5	HB	4	2	130	125	125
	3.0	HB	4	1	130	130	130

Comparative Tracking Index (CTI): **2** Dimensional Stability (%): **0**

High-Voltage Arc Tracking Rate (HVTR): **2** High Volt, Low Current Arc Resis (D495): **-**

Dielectric Strength (kV/mm): **-** Volume Resistivity (10^x ohm-cm) : **-**

(f1) - Suitable for outdoor use with respect to exposure to Ultraviolet Light, Water Exposure and Immersion in accordance with UL 746C.

NOTE - Material designation may be followed by a color nomenclature consisting of either an alpha/numeric or numeric/alpha combination.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date:1995-09-29
Last Revised:2003-10-24

Underwriters Laboratories Inc®



IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	HB75 (ALL)
			1.5	HB75 (ALL)
			3.0	HB40 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m ²	-	-
ISO Izod Impact	ISO 180	kJ/m ²	-	-
ISO Charpy Impact	ISO 179-2	kJ/m ²	-	-

Underwriters Laboratories Inc®