

LEXAN™ 144R resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN 144R is a medium viscosity multi purpose grade. FDA food contact compliant in limited colors. Effective January 15th, 2007 this grade is no longer supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Contact your GE representative for the alternative grade in the LEXAN HP series.

General Information			
UL YellowCard	E45587-236865		
Features	Compliance of Food Exposure		
	General		
	Medium viscosity		
Uses	General		
Agency Ratings	FDA Food Exposure, Not Rated		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.20	g/cm ³	ASTM D792
--	1.19	g/cm ³	ASTM D792
Specific Volume	0.835	cm ³ /g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	11	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.70	%	Internal method
Water Absorption			ASTM D570
24 hr	0.15	%	ASTM D570
Equilibrium, 23°C	0.35	%	ASTM D570
Equilibrium, 100°C	0.58	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
Class m	70		ASTM D785
Class r	118		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	62.1	MPa	ASTM D638
Fracture	68.9	MPa	ASTM D638
Tensile Elongation ²			ASTM D638
Yield	7.0	%	ASTM D638
Fracture	130	%	ASTM D638
Flexural Modulus ³ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	97.9	MPa	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 (23°C)	800	J/m	ASTM D256
Unnotched Izod Impact (23°C)	3200	J/m	ASTM D4812
Dart Drop Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ⁵	578	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	138	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	132	°C	ASTM D648
Vicat Softening Temperature	154	°C	ASTM D1525 ⁶
CLTE - Flow (-40 to 95°C)	6.8E-5	cm/cm/°C	ASTM E831
Specific Heat	1260	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	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		ASTM D150
60 Hz	3.17		ASTM D150
1 MHz	2.96		ASTM D150
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		ASTM D150
60 Hz	9.0E-4		ASTM D150
1 MHz	0.010		ASTM D150
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
Oxygen Index	25	%	ASTM D2863
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	Test Method
Drying Temperature	121	°C	

Drying Time	3.0 - 4.0	hr
Drying Time, Maximum	48	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	40 - 60	%
Rear Temperature	271 - 293	°C
Middle Temperature	282 - 304	°C
Front Temperature	293 - 316	°C
Nozzle Temperature	288 - 310	°C
Processing (Melt) Temp	293 - 316	°C
Mold Temperature	71.1 - 93.3	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm

NOTE

- | | |
|----|---------------------------|
| 1. | Type 1, 50mm/min |
| 2. | Type 1, 50mm/min |
| 3. | 1.3 mm/min |
| 4. | 1.3 mm/min |
| 5. | Type S |
| 6. | 标准 B (120°C/h), 载荷2 (50N) |

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