

SABIC LEXAN™ 141R

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

Physical Properties	Metric	English	Comments
Specific Gravity	1.20 g/cc	1.20 g/cc	ASTM D792
	1.20 g/cc	1.20 g/cc	ASTM D792
Density	1.19 g/cc	0.0430 lb/in ³	ASTM D792
Water Absorption	0.15 %	0.15 %	24 hours; ASTM D570
Moisture Absorption at Equilibrium	0.35 %	0.35 %	ASTM D570
Linear Mold Shrinkage, Flow	0.58 % @Temperature 100 °C	0.58 % @Temperature 212 °F	ASTM D570
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC method
Melt Flow	10.5 g/10 min @Load 1.20 kg, Temperature 300 °C	10.5 g/10 min @Load 2.65 lb, Temperature 572 °F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	70	70	ASTM D785
Hardness, Rockwell R	118	118	ASTM D785
Tensile Strength at Break	68.0 MPa	9860 psi	50 mm/min; ASTM D638
Tensile Strength, Yield	62.0 MPa	8990 psi	50 mm/min; ASTM D638
Elongation at Break	130 %	130 %	50 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	50 mm/min; ASTM D638
Flexural Yield Strength	96.0 MPa	13900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.34 GPa	339 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.01 J/cm	15.0 ft-lb/in	ASTM D256
Izod Impact, Unnotched	32.04 J/cm	60.02 ft-lb/in	ASTM D4812
Tensile Impact Strength	577 kJ/m ²	275 ft-lb/in ²	ASTM D1822
Dart Drop, Total Energy	63.0 J	46.5 ft-lb	ASTM D3763
Falling Dart Impact	169 J	125 ft-lb	ASTM D3029
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; ASTM D1044

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00e+17$ ohm-cm	$\geq 1.00e+17$ ohm-cm	ASTM D257
Dielectric Constant	2.96	2.96	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	3.17	3.17	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dissipation Factor	14.9 kV/mm	378 kV/in	in air; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
Comparative Tracking Index	0.00090	0.00090	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Hot Wire Ignition, HWI	0.010	0.010	ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
High Amp Arc Ignition, HAI	250 - 400 V	250 - 400 V	UL 746A
High Voltage Arc-Tracking Rate, HVTR	30 - 60 sec	30 - 60 sec	UL 746A
	60 - 120 arcs	60 - 120 arcs	UL 746A
	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	68.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	38.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	ASTM E831
	@Temperature -40.0 - 95.0 $^\circ\text{C}$	@Temperature -40.0 - 203 $^\circ\text{F}$	
Specific Heat Capacity	1.25 J/g $^\circ\text{C}$	0.299 BTU/lb $^\circ\text{F}$	ASTM C 351
Thermal Conductivity	0.270 W/m-K	1.87 BTU-in/hr-ft $^2\cdot^\circ\text{F}$	ASTM C177
Deflection Temperature at 0.46 MPa (66 psi)	137 $^\circ\text{C}$	279 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	132 $^\circ\text{C}$	270 $^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Vicat Softening Point	154 $^\circ\text{C}$	309 $^\circ\text{F}$	Rate B/50; ASTM D1525
UL RTI, Electrical	130 $^\circ\text{C}$	266 $^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	130 $^\circ\text{C}$	266 $^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	130 $^\circ\text{C}$	266 $^\circ\text{F}$	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.710 mm	@Thickness 0.0280 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.586	1.586	ASTM D542

Haze	1.0 % @Thickness 2.54 mm	1.0 % @Thickness 0.100 in	ASTM D1003
Transmission, Visible	88 % @Thickness 2.54 mm	88 % @Thickness 0.100 in	ASTM D1003

Processing Properties	Metric	English	Comments
Nozzle Temperature	290 - 310 °C	554 - 590 °F	Injection Molding
Zone 1	270 - 295 °C	518 - 563 °F	
Zone 2	280 - 305 °C	536 - 581 °F	
Zone 3	295 - 315 °C	563 - 599 °F	
Melt Temperature	295 - 315 °C	563 - 599 °F	
Mold Temperature	70.0 - 95.0 °C	158 - 203 °F	
Drying Temperature	120 °C	248 °F	Injection Molding
Dry Time	3.00 - 4.00 hour	3.00 - 4.00 hour	Injection Molding
	48.0 hour	48.0 hour	Cumulative; Injection Molding
Moisture Content	0.020 %	0.020 %	
Back Pressure	0.300 - 0.700 MPa	43.5 - 102 psi	
Shot Size	40 - 60 %	40 - 60 %	
Vent Depth	0.00250 - 0.00760 cm	0.000984 - 0.00299 in	
Screw Speed	40 - 70 rpm	40 - 70 rpm	

Descriptive Properties

Radiant Panel Listing	True	UL Tested
UV-light, water exposure/immersion	F2	UL 746C