

Lexan* Resin 3414R

Americas: COMMERCIAL

40% GR, provides improved mechanical properties and UL94V-1 rated at 0.058". Internal mold release added.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 0.2 in/min	22900	psi	ASTM D 638
Tensile Strain, brk, Type I, 0.2 in/min	3	%	ASTM D 638
Flexural Stress, yld, 0.05 in/min, 2 in span	26900	psi	ASTM D 790
Flexural Modulus, 0.05 in/min, 2 in span	1399000	psi	ASTM D 790
Hardness, Rockwell M	93	-	ASTM D 785
Hardness, Rockwell R	119	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	32	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 73°F	24	ft-lb/in	ASTM D 4812
Izod Impact, notched, 73°F	2.5	ft-lb/in	ASTM D 256
Tensile Impact, Type S	32	ft-lb/in ²	ASTM D 1822
Falling Dart Impact (D 3029), 73°F	4	ft-lb	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	330	°F	ASTM D 1525
HDT, 66 psi, 0.250 in, unannealed	310	°F	ASTM D 648
HDT, 264 psi, 0.250 in, unannealed	295	°F	ASTM D 648
CTE, flow, -40°F to 200°F	9.E-06	1/°F	ASTM E 831
Specific Heat	0.25	BTU/lb-°F	ASTM C 351
Thermal Conductivity	0.22	W/m-°C	ASTM C 177
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.52	-	ASTM D 792

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23±176;C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
 (3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
 (4) Internal measurements according to UL standards.
 (5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
PHYSICAL			
Specific Volume	18.2	in ³ /lb	ASTM D 792
Density	0.055	lb/in ³	ASTM D 792
Water Absorption, 24 hours @ 73°F	0.12	%	ASTM D 570
Water Absorption, equilibrium, 73°F	0.23	%	ASTM D 570
Mold Shrinkage, flow, 0.125" (5)	0.1 - 0.2	%	SABIC Method
Melt Flow Rate, 300°C/5.0 kgf	12.6	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 125 mils	450	V/mil	ASTM D 149
Relative Permittivity, 50/60 Hz	3.53	-	ASTM D 150
Relative Permittivity, 1 MHz	3.48	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0013	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0067	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	0.044	in	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	0.118	in	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	250	°F
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	600 - 640	°F
Nozzle Temperature	590 - 630	°F
Front - Zone 3 Temperature	600 - 640	°F
Middle - Zone 2 Temperature	580 - 620	°F
Rear - Zone 1 Temperature	560 - 600	°F
Mold Temperature	180 - 240	°F
Back Pressure	50 - 100	psi
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.001 - 0.003	in

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