

Lexan* Resin 3412R

Americas: COMMERCIAL

20% GR, provides improved mechanical properties and UL94 V-1 rated at 0.058". Internal mold release added.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, brk, Type I, 5 mm/min	110	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	5	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	131	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	5510	MPa	ASTM D 790
Hardness, Rockwell M	91	-	ASTM D 785
Hardness, Rockwell R	122	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	17	mg/1000cy	ASTM D 1044
IMPACT	Value	Unit	Standard
Izod Impact, unnotched, 23°C	1014	J/m	ASTM D 4812
Izod Impact, notched, 23°C	106	J/m	ASTM D 256
Tensile Impact, Type "S"	63	kJ/m ²	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	5	J	ASTM D 3029
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	165	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	148	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	146	°C	ASTM D 648
CTE, -40°C to 95°C, flow	2.7E-05	1/°C	ASTM E 831
Specific Heat	1.17	J/g-°C	ASTM C 351
Thermal Conductivity	0.21	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	Value	Unit	Standard
Specific Gravity	1.35	-	ASTM D 792
Specific Volume	0.74	cm ³ /g	ASTM D 792
Density	1.356	g/cm ³	ASTM D 792
Water Absorption, 24 hours	0.16	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.29	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.1 - 0.3	%	SABIC Method
Melt Flow Rate, 300°C/1.2 kgf	4.3	g/10 min	ASTM D 1238
ELECTRICAL	Value	Unit	Standard
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	19.2	kV/mm	ASTM D 149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D 150
Relative Permittivity, 1 MHz	3.13	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0073	-	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}	5	PLC Code	UL 746A
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-1 Flame Class Rating (3)	1.47	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	2.99	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2.99	mm	UL 94

Source GMD, last updated:06/27/2002

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	48	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	315 - 340	°C
Nozzle Temperature	310 - 330	°C
Front - Zone 3 Temperature	315 - 340	°C
Middle - Zone 2 Temperature	305 - 325	°C
Rear - Zone 1 Temperature	295 - 315	°C
Mold Temperature	80 - 115	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

Source GMD, last updated:06/27/2002

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

- (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°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.

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