

LEXANTM FR RESINS 3413R

REGION AMERICAS

DESCRIPTION

LEXAN 3412R Polycarbonate (PC) is an injection moldable flame retardant grade that is 30% glass fiber filled. It has a UL94 V1@2mm rating and is available in various opaque color options.

TYPICAL PROPERTY VALUES

Revision 20190527

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	99	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	153	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	6610	MPa	ASTM D 790
Hardness, Rockwell M	92	-	ASTM D 785
Hardness, Rockwell R	120	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	24	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 23°C	1121	J/m	ASTM D 4812
Izod Impact, notched, 23°C	106	J/m	ASTM D 256
Tensile Impact, Type S	67	kJ/m ²	ASTM D 1822
Falling Dart Impact (D 3029), 23°C	5	J	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	165	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	151	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	146	°C	ASTM D 648
CTE, -40°C to 95°C, flow	2.16E-05	1/°C	ASTM E 831
Specific Heat	1.13	J/g·°C	ASTM C 351
Thermal Conductivity	0.22	W/m·°C	ASTM C 177
Relative Temp Index, Elec	120	°C	UL 746B
Relative Temp Index, Mech w/impact	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.43	-	ASTM D 792
Specific Volume	0.69	cm ³ /g	ASTM D 792
Density	1.44	g/cm ³	ASTM D 792
Water Absorption, 24 hours	0.14	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.26	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.1 – 0.3	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	5	g/10 min	ASTM D 1238
Melt Flow Rate, 300°C/5.0 kgf	19	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	>1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	18.7	kV/mm	ASTM D 149

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Permittivity, 50/60 Hz	3.35	-	ASTM D 150
Relative Permittivity, 1 MHz	3.31	-	ASTM D 150
Dissipation Factor, 50/60 Hz	0.0011	-	ASTM D 150
Dissipation Factor, 1 MHz	0.007	-	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			
UL Recognized, 94HB Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94V-1 Flame Class Rating	1.47	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	2.99	mm	UL 94
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	

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