

LEXAN™ 3412R resin

Polycarbonate
SABIC Innovative Plastics

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

General Information			
UL YellowCard	E121562-220878	E121562-101729324	
Filler / Reinforcement	Glass Fiber,20% Filler by Weight		
Additive	Mold Release		
Processing Method	Injection Molding		
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)		
	Flexural DMA (ASTM D4065)		
	Shear DMA (ASTM D4065)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.35	g/cm³	
--	1.36	g/cm³	
Specific Volume	0.741	cm³/g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	4.3	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.10 to 0.30	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.16	%	
Equilibrium, 23°C	0.29	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	91		
R-Scale	122		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹ (Break)	110	MPa	ASTM D638
Tensile Elongation ² (Break)	5.0	%	ASTM D638
Flexural Modulus ³ (50.0 mm Span)	5520	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	131	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	17.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1000	J/m	ASTM D4812

Gardner Impact (23°C)	5.42	J	ASTM D3029
Tensile Impact Strength ⁵	63.0	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	149	°C	
1.8 MPa, Unannealed, 6.40 mm	146	°C	
Vicat Softening Temperature	166	°C	ASTM D1525 ⁶
CLTE - Flow (-40 to 95°C)	2.7E-5	cm/cm/°C	ASTM E831
Specific Heat	1170	J/kg/°C	ASTM C351
Thermal Conductivity	0.21	W/m/K	ASTM C177
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI Str	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)	19	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.17		
60 Hz	3.17		
1 MHz	3.13		
Dissipation Factor			ASTM D150
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	7.3E-3		
Arc Resistance ⁷	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 5		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.47 mm	V-1		
	V-0		
3.00 mm	5VA		
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 to 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	

Rear Temperature	293 to 316	°C
Middle Temperature	304 to 327	°C
Front Temperature	316 to 338	°C
Nozzle Temperature	310 to 332	°C
Processing (Melt) Temp	316 to 338	°C
Mold Temperature	82.2 to 116	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

- | | |
|----|------------------------------------|
| 1. | Type I, 5.0 mm/min |
| 2. | Type I, 5.0 mm/min |
| 3. | 1.3 mm/min |
| 4. | 1.3 mm/min |
| 5. | Type S |
| 6. | Rate B (120°C/h), Loading 2 (50 N) |
| 7. | Tungsten Electrode |

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