

LEXAN™ 503R resin

Polycarbonate

SABIC Innovative Plastics

Message:

10% GR PC. Optimum combination of high modulus plus excellent impact strength and flame retardance. UV-stabilized. Internal mold release.

General Information			
UL YellowCard	E207780-100726439		
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Additive	demoulding		
	UV stabilizer		
Features	Rigidity, high		
	Impact resistance, good		
	Flame retardancy		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.25	g/cm ³	ASTM D792
Specific Volume	0.802	cm ³ /g	ASTM D792
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.40	%	Internal method
Water Absorption			ASTM D570
24 hr	0.12	%	ASTM D570
Equilibrium, 23°C	0.31	%	ASTM D570
Outdoor Suitability	f1		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
Class m	85		ASTM D785
Class r	124		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	66.2	MPa	ASTM D638
Fracture	55.2	MPa	ASTM D638
Tensile Elongation ²			ASTM D638
Yield	8.0	%	ASTM D638
Fracture	15	%	ASTM D638
Flexural Modulus ³ (50.0 mm Span)	3450	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	103	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	11.0	mg	ASTM D1044

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	110	J/m	ASTM D256
Unnotched Izod Impact (23°C)	2100	J/m	ASTM D4812
Dart Drop Impact (23°C)	102	J	ASTM D3029
Tensile Impact Strength ⁵	158	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	146	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	142	°C	ASTM D648
Vicat Softening Temperature	154	°C	ASTM D1525 ⁶
CLTE - Flow (-40 to 95°C)	3.2E-5	cm/cm/°C	ASTM E831
Specific Heat	1210	J/kg/°C	ASTM C351
Thermal Conductivity	0.20	W/m/K	ASTM C177
RTI Elec	120	°C	UL 746
RTI Imp	110	°C	UL 746
RTI	125	°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)	18	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
50 Hz	3.10		ASTM D150
60 Hz	3.10		ASTM D150
1 MHz	3.05		ASTM D150
Dissipation Factor			ASTM D150
50 Hz	8.0E-4		ASTM D150
60 Hz	8.0E-4		ASTM D150
1 MHz	7.5E-3		ASTM D150
Arc Resistance ⁷	PLC 7		ASTM D495
Comparative Tracking Index (CTI)	PLC 4		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.52 mm	V-0		UL 94
3.00 mm	5VA		UL 94
Oxygen Index	36	%	ASTM D2863
Injection	Nominal Value	Unit	
Drying Temperature	121	°C	
Drying Time	3.0 - 4.0	hr	
Drying Time, Maximum	48	hr	
Suggested Max Moisture	0.020	%	

Suggested Shot Size	40 - 60	%
Rear Temperature	288 - 310	°C
Middle Temperature	299 - 321	°C
Front Temperature	310 - 332	°C
Nozzle Temperature	304 - 327	°C
Processing (Melt) Temp	310 - 332	°C
Mold Temperature	82.0 - 116	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	40 - 70	rpm
Vent Depth	0.025 - 0.076	mm

NOTE

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

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