

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	E121562-220888		
Filler / Reinforcement	Glass Fiber, 10% Filler by Weight		
Additive	Mold Release		
	UV Stabilizer		
Features	Flame Retardant		
	Good Impact Resistance		
	High Stiffness		
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 to 0.40	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.12	%	
Equilibrium, 23°C	0.31	%	
Outdoor Suitability	f1		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	85		
R-Scale	124		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ¹			ASTM D638
Yield	66.2	MPa	
Break	55.2	MPa	
Tensile Elongation ²			ASTM D638
Yield	8.0	%	
Break	15	%	
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
Gardner 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, 6.40 mm	146	°C	
1.8 MPa, Unannealed, 6.40 mm	142	°C	
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 Str	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		
60 Hz	3.10		
1 MHz	3.05		
Dissipation Factor			ASTM D150
50 Hz	8.0E-4		
60 Hz	8.0E-4		
1 MHz	7.5E-3		
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		
3.00 mm	5VA		
Oxygen Index	36	%	ASTM D2863
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	288 to 310	°C
Middle Temperature	299 to 321	°C
Front Temperature	310 to 332	°C
Nozzle Temperature	304 to 327	°C
Processing (Melt) Temp	310 to 332	°C
Mold Temperature	82.0 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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