

LEXAN™ 503R resin

Polycarbonate
SABIC Innovative Plastics

Message:

LEXAN 503R is a medium viscosity, 10% glass reinforced, UV-stabilized, flame retardant grade, especially designed for applications requiring high rigidity together with high heat resistance and excellent impact performance.

General Information			
UL YellowCard	E45329-100369982		
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Additive	UV stabilizer		
	Flame retardancy		
Features	Rigidity, high		
	Impact resistance, good		
	Heat resistance, high		
	Medium viscosity		
	Flame retardancy		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.25	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	8.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.20 - 0.60	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.31	%	ISO 62
Equilibrium, 23°C, 50% RH	0.13	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	110	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3300	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/5
Yield	60.0	MPa	ISO 527-2/5
Fracture	45.0	MPa	ISO 527-2/5
Tensile Strain			ISO 527-2/5
Yield	5.0	%	ISO 527-2/5
Fracture	7.0	%	ISO 527-2/5
Flexural Modulus ²	3400	MPa	ISO 178
Flexural Stress	95.0	MPa	ISO 178

Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	11.0	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ³	9.0	kJ/m ²	ISO 179/1eA
23°C ⁴	10	kJ/m ²	ISO 179/1eA
23°C	15	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ⁵			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact ⁶			ISO 180/1A
-30°C	8.0	kJ/m ²	ISO 180/1A
23°C	10	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁷			ISO 180/1U
-30°C	130	kJ/m ²	ISO 180/1U
23°C	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 100 mm span ⁸	140	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span ⁹	132	°C	ISO 75-2/Ae
1.8 MPa, annealed ¹⁰	136	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	150	°C	ISO 306/A50
--	141	°C	ISO 306/B50
--	143	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE - Flow (23 to 80°C)	4.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.21	W/m/K	ISO 8302
RTI Elec	120	°C	UL 746
RTI Imp	110	°C	UL 746
RTI	120	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength			IEC 60243-1
1.00 mm ¹¹	18	kV/mm	IEC 60243-1
3.20mm, in oil	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.90		IEC 60250
60 Hz	2.90		IEC 60250
1 MHz	2.80		IEC 60250
Dissipation Factor			IEC 60250

50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
1 MHz	0.010		IEC 60250
Comparative Tracking Index			IEC 60112
--	175	V	IEC 60112
Solution B	100	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-0		UL 94
3.00 mm	5VA		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	36	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	270 - 300	°C	
Middle Temperature	280 - 310	°C	
Front Temperature	290 - 320	°C	
Nozzle Temperature	280 - 310	°C	
Processing (Melt) Temp	290 - 320	°C	
Mold Temperature	80.0 - 120	°C	
NOTE			
1.	Tensile Bar		
2.	2.0 mm/min		
3.	80*10*3 sp=62mm		
4.	80*10*3 sp=62mm		
5.	80*10*3 sp=62mm		
6.	80*10*3		
7.	80*10*3		
8.	120*10*4 mm		
9.	120*10*4 mm		
10.	2 hr, 120°C		
11.	Short-Time		

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