

LEXAN™ 500R resin

Polycarbonate
SABIC Innovative Plastics

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

General Information			
UL YellowCard	E121562-220886		
Filler / Reinforcement	Glass Fiber,10% Filler by Weight		
Additive	Mold Release		
Features	Flame Retardant		
	Good Impact Resistance		
	High Stiffness		
Processing Method	Injection Molding		
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)		
	Flexural DMA (ASTM D4065)		
	Pressure-Volume-Temperature (PVT - Zoller Method)		
	Shear DMA (ASTM D4065)		
	Specific Heat vs. Temperature (ASTM D3417)		
	Tensile Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			ASTM D792
--	1.27	g/cm³	
--	1.25	g/cm³	
Specific Volume	0.802	cm³/g	ASTM D792
Radiant Panel Listing (UL)	YES		
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.5	g/10 min	ASTM D1238
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	f2		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	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)	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 3		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746

High Voltage Arc Tracking Rate (HVTR)	PLC 4	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		
3.05 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	82.2 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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