LEXAN™ 500R resin

Polycarbonate

SABIC Innovative Plastics

PROSPECTOR®

www.ulprospector.com

Technical Data

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

General			
Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet		
UL Yellow Card [2]	• E121562-220886		
Search for UL Yellow Card	• SABIC Innovative Plastics • LEXAN™		
Availability	• North America		
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 (English)	Nominal Value (SI)	Test Method
Specific Gravity			ASTM D792
--	1.27	1.27 g/cm³	
--	1.25 g/cm³	1.25 g/cm³	
Specific Volume	22.2 in³/lb	0.802 cm³/g	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.5 g/10 min	7.5 g/10 min	ASTM D1238
Molding Shrinkage - Flow (0.126 in (3.20 mm))	2.0E-3 to 4.0E-3 in/in	0.20 to 0.40 %	Internal Method
Water Absorption			ASTM D570
24 hr	0.12 %	0.12 %	
Equilibrium, 73°F (23°C)	0.31 %	0.31 %	
Outdoor Suitability	f2	f2	UL 746C

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength [4]			ASTM D638
Yield	9600 psi	66.2 MPa	
Break	8000 psi	55.2 MPa	
Tensile Elongation [4]			ASTM D638
Yield	8.0 %	8.0 %	
Break	15 %	15 %	
Flexural Modulus [5] (1.97 in (50.0 mm) Span)	500000 psi	3450 MPa	ASTM D790
Flexural Strength [5]			ASTM D790
Yield, 1.97 in (50.0 mm) Span	15000 psi	103 MPa	
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	11.0 mg	11.0 mg	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	2.0 ft·lb/in	110 J/m	ASTM D256
Unnotched Izod Impact (73°F (23°C))	40 ft·lb/in	2100 J/m	ASTM D4812
Gardner Impact (73°F (23°C))	900 in·lb	102 J	ASTM D3029
Tensile Impact Strength [6]	75.0 ft·lb/in²	158 kJ/m²	ASTM D1822

Form No. TDS-17633-en

Document Created: Wednesday, December 30, 2015
Added to Prospector: November, 2000
Last Updated: 3/19/2014

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ASTM D785
M-Scale	85	85	
R-Scale	124	124	
Thermal	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.252 in (6.40 mm)	295 °F	146 °C	
264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)	288 °F	142 °C	
Vicat Softening Temperature	310 °F	154 °C	ASTM D1525 [7]
CLTE - Flow (-40 to 203°F (-40 to 95°C))	1.8E-5 in/in/°F	3.2E-5 cm/cm/°C	ASTM E831
Specific Heat	0.290 Btu/lb/°F	1210 J/kg/°C	ASTM C351
Thermal Conductivity	1.4 Btu·in/hr/ft²/°F	0.20 W/m/K	ASTM C177
RTI Elec	266 °F	130 °C	UL 746
RTI Imp	266 °F	130 °C	UL 746
RTI Str	266 °F	130 °C	UL 746
Electrical	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Volume Resistivity	> 1.0E+17 ohms·cm	> 1.0E+17 ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.126 in (3.20 mm), in Air	450 V/mil	18 kV/mm	
Dielectric Constant			ASTM D150
50 Hz	3.10	3.10	
60 Hz	3.10	3.10	
1 MHz	3.05	3.05	
Dissipation Factor			ASTM D150
50 Hz	8.0E-4	8.0E-4	
60 Hz	8.0E-4	8.0E-4	
1 MHz	7.5E-3	7.5E-3	
Arc Resistance [8]	PLC 7	PLC 7	ASTM D495
Comparative Tracking Index (CTI)	PLC 3	PLC 3	UL 746
High Amp Arc Ignition (HAI)	PLC 4	PLC 4	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4	PLC 4	UL 746
Hot-wire Ignition (HWI)	PLC 1	PLC 1	UL 746
Flammability	**Nominal Value (English)**	**Nominal Value (SI)**	**Test Method**
Flame Rating			UL 94
0.0600 in (1.52 mm)	V-0	V-0	
0.120 in (3.05 mm)	5VA	5VA	
Oxygen Index	36 %	36 %	ASTM D2863
Radiant Panel Listing (UL)	YES	YES	

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	250 °F	121 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Drying Time, Maximum	48 hr	48 hr
Suggested Max Moisture	0.020 %	0.020 %
Suggested Shot Size	40 to 60 %	40 to 60 %
Rear Temperature	550 to 590 °F	288 to 310 °C
Middle Temperature	570 to 610 °F	299 to 321 °C
Front Temperature	590 to 630 °F	310 to 332 °C
Nozzle Temperature	580 to 620 °F	304 to 327 °C
Processing (Melt) Temp	590 to 630 °F	310 to 332 °C
Mold Temperature	180 to 240 °F	82.2 to 116 °C
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa

Form No. TDS-17633-en

Document Created: Wednesday, December 30, 2015
Added to Prospector: November, 2000
Last Updated: 3/19/2014

Injection	Nominal Value (English)	Nominal Value (SI)
Screw Speed	40 to 70 rpm	40 to 70 rpm
Vent Depth	1.0E-3 to 3.0E-3 in	0.025 to 0.076 mm

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] Type I, 0.20 in/min (5.0 mm/min)

[5] 0.051 in/min (1.3 mm/min)

[6] Type S

[7] Rate B (120°C/h), Loading 2 (50 N)

[8] Tungsten Electrode

Form No. TDS-17633-en

Document Created: Wednesday, December 30, 2015
Added to Prospector: November, 2000
Last Updated: 3/19/2014

Where to Buy

Supplier

SABIC Innovative Plastics
Pittsfield, MA USA
Telephone: 800-845-0600
Web: http://www.sabic-ip.com/

Distributor

Nexeo Solutions
Telephone: 888-594-6009
Web: http://www.nexeosolutions.com/
Availability: North America

Reseller

A Reseller is not a distributor authorized by the Supplier.

Guangzhou Huaxiu Plastics Co., Ltd.
Telephone: +86-20-82582555
Web: http://www.va-so.com
Availability: China

Form No. TDS-17633-en
Document Created: Wednesday, December 30, 2015
Added to Prospector: November, 2000
Last Updated: 3/19/2014