

LEXAN™ 121R resin

Polycarbonate
SABIC Innovative Plastics

Message:
UL rated HB as of 10/97. 200 series recommended when V-2 rating required. Nonhalogenated. 17.5 MFR, for small, intricate parts. Internal mold release.

General Information	
UL YellowCard	E121562-220861
Additive	Mold Release
Features	Halogen Free
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 Creep (ASTM D2990)
	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
--	1.20	g/cm ³	
--	1.19	g/cm ³	
Specific Volume	0.835	cm ³ /g	ASTM D792
Radiant Panel Listing (UL)	YES		
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	18	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.15	%	
Equilibrium, 23°C	0.35	%	
Equilibrium, 100°C	0.58	%	
Outdoor Suitability	f2		UL 746C
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	70		
R-Scale	118		
Mechanical	Nominal Value	Unit	Test Method

Tensile Strength ¹			ASTM D638
Yield	62.1	MPa	
Break	68.9	MPa	
Tensile Elongation ²			ASTM D638
Yield	7.0	%	
Break	130	%	
Flexural Modulus ³ (50.0 mm Span)	2340	MPa	ASTM D790
Flexural Strength ⁴ (Yield, 50.0 mm Span)	96.5	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁵			ISO 179/1eA
-30°C	12	kJ/m ²	
23°C	65	kJ/m ²	
Charpy Unnotched Impact Strength ⁶			ISO 179/1eU
-30°C	No Break		
23°C	No Break		
Notched Izod Impact			
23°C	690	J/m	ASTM D256
-30°C ⁷	11	kJ/m ²	ISO 180/1A
23°C ⁸	65	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
23°C	3200	J/m	ASTM D4812
-30°C ⁹	No Break		ISO 180/1U
23°C ¹⁰	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Energy at Peak Load)	62.1	J	ASTM D3763
Gardner Impact (23°C)	169	J	ASTM D3029
Tensile Impact Strength ¹¹	546	kJ/m ²	ASTM D1822
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	138	°C	
1.8 MPa, Unannealed, 6.40 mm	129	°C	
Vicat Softening Temperature	154	°C	ASTM D1525 ¹²
CLTE - Flow (-40 to 95°C)	6.8E-5	cm/cm/°C	ASTM E831
Specific Heat	1260	J/kg/°C	ASTM C351
Thermal Conductivity	0.25	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)	15	kV/mm	ASTM D149

Dielectric Constant		ASTM D150	
50 Hz	3.17		
60 Hz	3.17		
1 MHz	2.96		
Dissipation Factor		ASTM D150	
50 Hz	9.0E-4		
60 Hz	9.0E-4		
1 MHz	0.010		
Comparative Tracking Index (CTI)	PLC 2	UL 746	
High Amp Arc Ignition (HAI)	PLC 1	UL 746	
High Voltage Arc Tracking Rate (HVTR)	PLC 2	UL 746	
Hot-wire Ignition (HWI)	PLC 2	UL 746	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.711 mm)	HB		UL 94
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.586		ASTM D542
Transmittance (2540 μm)	88.0	%	ASTM D1003
Haze (2540 μm)	1.0	%	ASTM D1003
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	260 to 282	°C	
Middle Temperature	271 to 293	°C	
Front Temperature	282 to 304	°C	
Nozzle Temperature	277 to 299	°C	
Processing (Melt) Temp	282 to 304	°C	
Mold Temperature	71.0 to 93.0	°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, 50 mm/min		
2.	Type I, 50 mm/min		
3.	1.3 mm/min		
4.	1.3 mm/min		
5.	80*10*3 sp=62mm		
6.	80*10*3 sp=62mm		
7.	80*10*3		
8.	80*10*3		

9.	80*10*3
10.	80*10*3
11.	Type S
12.	Rate B (120°C/h), Loading 2 (50 N)

The information and data on this page are provided by manufacturers and document providers. SHANGHAI SUSHENG assumes no legal liability. It is strongly recommended to verify all technical data with material suppliers before final material selection. All rights belong to the original authors. If any infringement occurs, please contact us immediately.

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

