LEXAN™ 505R resin

Polycarbonate

SABIC Innovative Plastics

Message:

LEXAN 505R Polycarbonate (PC) resin is a 10% glass fiber filled, injection moldable grade. LEXAN 505R contains non-chlorinated, non-brominated flame retardant systems with UL-94 V0 rating at 1.5mm. It is available in various opaque color options for high stiffness applications.

General Information			
UL YellowCard	E207780-228398		
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Additive	Flame retardancy		
Features	Chlorine Free Rigidity, high Bromine-free Flame retardancy		
Appearance	Opacity Available colors		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity			
--	1.26	g/cm³	ASTM D792
--	1.25	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	7.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/1.2 kg)	7.00	cm³/10min	ISO 1133
Molding Shrinkage - Flow			Internal method
-- [1]	0.20 - 0.60	%	Internal method
3.20 mm	0.50 - 0.70	%	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)	115	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [2]	3930	MPa	ASTM D638
--	3300	MPa	ISO 527-2/1
Tensile Strength			
Yield [3]	63.0	MPa	ASTM D638

Yield	60.0	MPa	ISO 527-2/5
Fracture [4]	48.0	MPa	ASTM D638
Fracture	45.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield [5]	3.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/5
Fracture [6]	12	%	ASTM D638
Fracture	7.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span [7]	3530	MPa	ASTM D790
-- [8]	3400	MPa	ISO 178
Flexural Stress			
--	95.0	MPa	ISO 178
Fracture, 50.0mm span [9]	108	MPa	ASTM D790
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 [10]	9.0	kJ/m²	ISO 179/1eA
23°C [11]	10	kJ/m²	ISO 179/1eA
23°C [12]	9.0	kJ/m²	ISO 179/1eA
23°C	15	kJ/m²	ISO 179/2C
Charpy Unnotched Impact Strength [13]			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU
Notched Izod Impact			
-30°C	80	J/m	ASTM D256
23°C	110	J/m	ASTM D256
-30°C [14]	8.0	kJ/m²	ISO 180/1A
23°C [15]	8.0	kJ/m²	ISO 180/1A
23°C [16]	10	kJ/m²	ISO 180/1A
Unnotched Izod Impact			
23°C	1600	J/m	ASTM D4812
-30°C [17]	130	kJ/m²	ISO 180/1U
-30°C [18]	No Break		ISO 180/1U
23°C [19]	No Break		ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	61.0	J	ASTM D3763
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	143	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span [20]	144	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	138	°C	ASTM D648

1.8 MPa, unannealed, 100 mm span [21]	136	°C	ISO 75-2/Ae
1.8 MPa, annealed [22]	136	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	149	°C	ASTM D1525 [23]
--	141	°C	ISO 306/B50
--	143	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	4.7E-5	cm/cm/°C	ASTM E831
Flow: 23 to 80°C	4.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	8.5E-5	cm/cm/°C	ASTM E831
Lateral: 23 to 80°C	7.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.21	W/m/K	ISO 8302
RTI Elec	130	°C	UL 746
RTI Imp	130	°C	UL 746
RTI	130	°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
0.800mm, in oil	33	kV/mm	IEC 60243-1
1.60mm, in oil	25	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	150	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
Glow Wire Ignition Temperature (1.00 mm)	825	°C	IEC 60695-2-13
Oxygen Index	37	%	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.	5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	Type 1, 5.0 mm/min
6.	Type 1, 5.0 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*3 sp=62mm
11.	80*10*3 sp=62mm
12.	80*10*4 sp=62mm
13.	80*10*4 sp=62mm
14.	80*10*3
15.	80*10*4
16.	80*10*3
17.	80*10*3
18.	80*10*4
19.	80*10*4
20.	120*10*4 mm
21.	120*10*4 mm
22.	2 hr, 120°C
23.	标准 B (120°C/h), 载荷2 (50N)

Recommended distributors for this material

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