

SABIC LEXAN™ PC VR2220物性表

属性	典型值	UNITS	测试手段
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	63	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	110	%	ASTM D638
Tensile Modulus, 5 mm/min	2350	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D790
Hardness, Rockwell M	70	-	ASTM D785
Hardness, Rockwell R	120	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	70	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	110	%	ISO 527
Tensile Modulus, 1 mm/min	2350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2300	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	3204	J/m	ASTM D4812
Izod Impact, notched, 23°C	800	J/m	ASTM D256
Izod Impact, notched, -30°C	N/A	J/m	ASTM D256
Tensile Impact Strength, Type S	546	kJ/m ²	ASTM D1822
Falling Dart Impact (D 3029), 23°C	169	J	ASTM D3029
Instrumented Dart Impact Total Energy, 23°C	64	J	ASTM D3763
Izod Impact, notched 80*10*4 +23°C	12	kJ/m ²	ISO 180/1A

Izod Impact, notched 80*10*4 - 30°C	10	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	35	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	154	°C	ASTM D1525
HDT, 1.82 MPa, 3.2mm, unannealed	127	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	138	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	132	°C	ASTM D648
CTE, -40°C to 95°C, flow	6.84E-05	1/°C	ASTM E831
CTE, -40°C to 95°C, xflow	6.84E-05	1/°C	ASTM E831
Specific Heat	1.26	J/g-°C	ASTM C351
Thermal Conductivity	0.19	W/m-°C	ASTM C177
CTE, 23°C to 80°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	142	°C	ISO 306
Vicat Softening Temp, Rate B/120	142	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	136	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	125	°C	ISO 75/Ae
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B
PHYSICAL			
Specific Gravity	1.2	-	ASTM D792
Specific Volume	0.83	cm ³ /g	ASTM D792
Density	1.19	g/cm ³	ASTM D792
Water Absorption, (23°C/24hrs)	0.15	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.35	%	ASTM D570
Water Absorption, equilibrium, 100°C	0.58	%	ASTM D570

Mold Shrinkage on Tensile Bar, flow	0.5-0.7	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5-0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5-0.7	%	SABIC method
Melt Flow Rate, 300°C/1.2 kgf	12	g/10 min	ASTM D1238
Density	1.2	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.35	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Volume Rate, MVR at 300°C/1.2 kg	11	cm ³ /10 min	ISO 1133
OPTICAL			
Light Transmission, 2.54 mm	88	%	ASTM D1003
Haze, 2.54 mm	1	%	ASTM D1003
Refractive Index	1.586	-	ASTM D542
ELECTRICAL			
Volume Resistivity	>1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	15	kV/mm	ASTM D149
Relative Permittivity, 50/60 Hz	3.17	-	ASTM D150
Relative Permittivity, 1 MHz	2.96	-	ASTM D150
Dissipation Factor, 50/60 Hz	0.0009	-	ASTM D150
Dissipation Factor, 1 MHz	0.01	-	ASTM D150
Hot Wire Ignition {PLC}	4	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-221022	-	-
UL Recognized, 94HB Flame Class Rating	0.76	mm	UL 94
Oxygen Index (LOI)	25	%	ASTM D2863
UV-light, water exposure/immersion	F1	-	UL 746C
Injection Molding			
Drying Temperature	120	°C	

Drying Time	3-4	Hrs
Drying Time (Cumulative)	48	Hrs
Maximum Moisture Content	0.02	%
Melt Temperature	295-315	°C
Nozzle Temperature	290-310	°C
Front - Zone 3 Temperature	295-315	°C
Middle - Zone 2 Temperature	280-305	°C
Rear - Zone 1 Temperature	270-295	°C
Mold Temperature	70-95	°C
Back Pressure	0.3-0.7	MPa
Screw Speed	40-70	rpm
Shot to Cylinder Size	40-60	%
Vent Depth	0.025-0.076	mm

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