

SABIC VALOX™ PBT 830物性表

属性	典型值	UNITS	测试手段
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	140	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	10500	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	205	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	205	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	7000	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	30	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	140	MPa	ISO 527
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	10500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	215	MPa	ISO 178
Flexural Stress, break, 2 mm/min	200	MPa	ISO 178
Flexural Strain, break, 2 mm/min	3	%	ISO 178
Flexural Modulus, 2 mm/min	8800	MPa	ISO 178
Ball Indentation Hardness, H358/30	174	MPa	ISO 2039-1
Hardness, Rockwell R	123	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	60	kJ/m ²	ISO 179/2C
Charpy Impact, unnotched, -30°C	55	kJ/m ²	ISO 179/2C
Izod Impact, unnotched, 23°C	800	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	800	J/m	ASTM D4812
Izod Impact, notched, 23°C	85	J/m	ASTM D256

Izod Impact, notched, 0°C	90	J/m	ASTM D256
Izod Impact, notched, -30°C	90	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	3	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	50	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	10	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	9	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	9	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
Charpy Impact, notched, 23°C	10	kJ/m ²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
Charpy Impact, notched, -30°C	10	kJ/m ²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	60	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	220	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	208	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	220	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	200	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	208	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.7E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.8E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, flow	1.97E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.59E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.1E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	1.51E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.42E-04	1/°C	ISO 11359-2

Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/50	208	°C	ISO 306
Vicat Softening Temp, Rate B/120	208	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	220	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	202	°C	ISO 75/Ae
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	220	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	200	°C	ISO 75/Af
Relative Temp Index, Elec	120	°C	UL 746B
Relative Temp Index, Mech w/impact	110	°C	UL 746B
Relative Temp Index, Mech w/o impact	120	°C	UL 746B
PHYSICAL			
Specific Gravity	1.54	-	ASTM D792
Filler Content	30	%	ASTM D229
Mold Shrinkage on Tensile Bar, flow	0.4-0.8	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.2-1	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.6-1	%	SABIC method
Melt Flow Rate, 265°C/2.16kgf	16	g/10 min	ASTM D1238
Melt Flow Rate, 265°C/5.0 kgf	45	g/10 min	ASTM D1238
Density	1.55	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.15	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	23	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/2.16 kg	14	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	35	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	208	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257

Dielectric Strength, in oil, 0.8 mm	27	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	23	kV/mm	ASTM D149
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	ASTM D149
Relative Permittivity, 1 MHz	3.2	-	ASTM D150
Dissipation Factor, 1 MHz	0.013	-	ASTM D150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	27	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	23	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	15	kV/mm	IEC 60243-1
Relative Permittivity, 100 Hz	3.6	-	IEC 60250
Relative Permittivity, 1 MHz	3.5	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0008	-	IEC 60250
Dissipation Factor, 100 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.013	-	IEC 60250
Comparative Tracking Index	325	V	IEC 60112
Comparative Tracking Index, M	150	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.3	-	IEC 60250
FLAME CHARACTERISTICS			
UL Yellow Card Link	E45329-236633	-	-
UL Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value	3	mm	UL 94
Glow Wire Flammability Index 750°C, passes at	1	mm	IEC 60695-2-12
Injection Molding			
Drying Temperature	110-120	°C	
Drying Time	4-6	Hrs	
Maximum Moisture Content	0.02	%	

Melt Temperature	260-285	°C
Nozzle Temperature	265-275	°C
Front - Zone 3 Temperature	260-280	°C
Middle - Zone 2 Temperature	255-280	°C
Rear - Zone 1 Temperature	240-260	°C
Hopper Temperature	40-60	°C
Mold Temperature	60-110	°C

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