

SABIC VALOX 855 PBT (Europe-Africa-Middle East) (Unverified Data**)

Categories: [Polymer](#); [Thermoplastic](#); [Polyester, TP](#); [Polybutylene Terephthalate \(PBT\)](#)

Material Notes: VALOX 855 is 15% glass reinforced PBT+PET blend with improved surface appearance. Applications: external housings, steam irons, appliance housings and lighting parts.

Information provided by SABIC Innovative Plastics for Europe-Africa-Middle East.

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Specific Gravity	1.50 g/cc	1.50 g/cc	ASTM D 792
Density	1.50 g/cc	0.0542 lb/in ³	ISO 1183
Filler Content	15 %	15 %	ASTM D 229
Moisture Absorption	0.0600 % @Temperature 23.0 °C	0.0600 % @Temperature 73.4 °F	50% RH; ISO 62
Water Absorption at Saturation	0.45 % @Temperature 23.0 °C	0.45 % @Temperature 73.4 °F	ISO 62
Viscosity	135000 cP @Shear Rate 1500 1/s, Temperature 260 °C	135000 cP @Shear Rate 1500 1/s, Temperature 500 °F	Melt; ISO 11443
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	on Tensile Bar; SABIC Method
	0.0060 cm/cm @Thickness 3.20 mm	0.0060 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0060 - 0.010 cm/cm	0.0060 - 0.010 in/in	on Tensile Bar; SABIC Method
Melt Flow 	11 g/10 min @Load 1.20 kg, Temperature 265 °C	11 g/10 min @Load 2.65 lb, Temperature 509 °F	cm ³ /10 min Melt Volume Rate; ISO 1133
	32 g/10 min @Load 5.00 kg, Temperature 250 °C	32 g/10 min @Load 11.0 lb, Temperature 482 °F	cm ³ /10 min Melt Volume Rate; ISO 1133
	60 g/10 min @Load 5.00 kg, Temperature 265 °C	60 g/10 min @Load 11.0 lb, Temperature 509 °F	cm ³ /10 min Melt Volume Rate; ISO 1133
	79 g/10 min @Load 5.00 kg, Temperature 266 °C	79 g/10 min @Load 11.0 lb, Temperature 511 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Hardness, H358/30	126 MPa	18300 psi	ISO 2039-1
Tensile Strength at Break	100 MPa	14500 psi	Type I, 5 mm/min; ASTM D 638
	100 MPa	14500 psi	5 mm/min; ISO 527
Tensile Strength, Yield	100 MPa	14500 psi	Type I, 5 mm/min; ASTM D 638
	100 MPa	14500 psi	5 mm/min; ISO 527
Elongation at Break	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D 638
	3.0 %	3.0 %	5 mm/min; ISO 527
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D 638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	6.50 GPa	943 ksi	5 mm/min; ASTM D 638
	6.50 GPa	943 ksi	1 mm/min; ISO 527
Flexural Strength	148 MPa	21500 psi	1.3 mm/min, 50 mm span; ASTM D 790
	150 MPa	21800 psi	2 mm/min; ISO 178
Flexural Yield	148 MPa	21500 psi	1.3 mm/min, 50 mm span; ASTM D 790

Strength	150 MPa	21800 psi	2 mm/min; ISO 178
Flexural Modulus	5.20 GPa	754 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	5.40 GPa	783 ksi	2 mm/min; ISO 178
Flexural Strain at Break	3.0 % @Temperature 23.0 °C	3.0 % @Temperature 73.4 °F	2 mm/min; ISO 178
Izod Impact, Notched 	0.550 J/cm @Temperature -30.0 °C	1.03 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	0.550 J/cm @Temperature 0.000 °C	1.03 ft-lb/in @Temperature 32.0 °F	ASTM D 256
	0.550 J/cm @Temperature 23.0 °C	1.03 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Unnotched 	4.00 J/cm @Temperature -30.0 °C	7.49 ft-lb/in @Temperature -22.0 °F	ASTM D 4812
	4.00 J/cm @Temperature 23.0 °C	7.49 ft-lb/in @Temperature 73.4 °F	ASTM D 4812
Izod Impact, Notched (ISO) 	6.00 kJ/m² @Temperature -30.0 °C	2.86 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	6.00 kJ/m² @Temperature 0.000 °C	2.86 ft-lb/in² @Temperature 32.0 °F	80*10*4; ISO 180/1A
	6.00 kJ/m² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO) 	23.0 kJ/m² @Temperature -30.0 °C	10.9 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1U
	25.0 kJ/m² @Temperature 23.0 °C	11.9 ft-lb/in² @Temperature 73.4 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched 	1.50 J/cm² @Temperature -30.0 °C	7.14 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.00 J/cm² @Temperature 23.0 °C	9.52 ft-lb/in² @Temperature 73.4 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.50 J/cm² @Temperature -30.0 °C	11.9 ft-lb/in² @Temperature -22.0 °F	ISO 179/2C
	2.50 J/cm² @Temperature 23.0 °C	11.9 ft-lb/in² @Temperature 73.4 °F	ISO 179/2C
Charpy Impact, Notched 	0.400 J/cm² @Temperature -30.0 °C	1.90 ft-lb/in² @Temperature -22.0 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cm² @Temperature -30.0 °C	2.86 ft-lb/in² @Temperature -22.0 °F	ISO 179/2C
	0.600 J/cm² @Temperature 23.0 °C	2.86 ft-lb/in² @Temperature 73.4 °F	ISO 179/2C
	0.800 J/cm² @Temperature 23.0 °C	3.81 ft-lb/in² @Temperature 73.4 °F	V-notch Edgew 80*10*4 sp=62mm; ISO 179/1eA
Instrumented Impact Total Energy	6.00 J @Temperature 23.0 °C	4.43 ft-lb @Temperature 73.4 °F	ASTM D 3763
Taber Abrasion, mg/1000 Cycles	17 @Load 1.00 kg	17 @Load 2.20 lb	CS-17; SABIC Method

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ASTM D 257
	1.00e+15 ohm-cm	1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant 	3.3 @Frequency 1.00e+6 Hz	3.3 @Frequency 1.00e+6 Hz	ASTM D 150
	3.3 @Frequency 1.00e+6 Hz	3.3 @Frequency 1.00e+6 Hz	IEC 60250
	3.3 @Frequency 50.0 - 60.0 Hz	3.3 @Frequency 50.0 - 60.0 Hz	IEC 60250
	3.5 @Frequency 100 Hz	3.5 @Frequency 100 Hz	ASTM D 150
	3.5 @Frequency 100 Hz	3.5 @Frequency 100 Hz	IEC 60250
Dielectric Strength 	18.0 kV/mm @Thickness 3.20 mm	457 kV/in @Thickness 0.126 in	in oil; ASTM D 149

	18.0 kV/mm @Thickness 3.20 mm	457 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	21.0 kV/mm @Thickness 1.00 mm	533 kV/in @Thickness 0.0394 in	short time; IEC 60243-1
	25.0 kV/mm @Thickness 1.60 mm	635 kV/in @Thickness 0.0630 in	in oil; ASTM D 149
	25.0 kV/mm @Thickness 1.60 mm	635 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	33.0 kV/mm @Thickness 0.800 mm	838 kV/in @Thickness 0.0315 in	in oil; ASTM D 149
	33.0 kV/mm @Thickness 0.800 mm	838 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor 	0.0010 @Frequency 50.0 - 60.0 Hz	0.0010 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.0010 @Frequency 100 Hz	0.0010 @Frequency 100 Hz	ASTM D 150
	0.0015 @Frequency 100 Hz	0.0015 @Frequency 100 Hz	IEC 60250
	0.010 @Frequency 1.00e+6 Hz	0.010 @Frequency 1.00e+6 Hz	IEC 60250
	0.015 @Frequency 1.00e+6 Hz	0.015 @Frequency 1.00e+6 Hz	ASTM D 150
Arc Resistance	60 - 120 sec	60 - 120 sec	PLC 6; ASTM D 495
Comparative Tracking Index	175 V	175 V	IEC 60112
	175 - 250 V	175 - 250 V	PLC 3; UL 746A
	225 V	225 V	IEC 60112
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	PLC 0; UL 746A
High Amp Arc Ignition, HAI	0.00 - 15 arcs	0.00 - 15 arcs	PLC 4; UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	PLC 4; UL 746A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow 	27.0 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -20.0 - 150 $^\circ\text{C}$	15.0 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -4.00 - 302 $^\circ\text{F}$	ASTM E 831
	27.4 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature 23.0 - 150 $^\circ\text{C}$	15.2 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature 73.4 - 302 $^\circ\text{F}$	ISO 11359-2
	29.5 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -40.0 - 40.0 $^\circ\text{C}$	16.4 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -40.0 - 104 $^\circ\text{F}$	ISO 11359-2
	30.0 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -40.0 - 40.0 $^\circ\text{C}$	16.7 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
CTE, linear, Transverse to Flow 	74.0 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -40.0 - 40.0 $^\circ\text{C}$	41.1 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -40.0 - 104 $^\circ\text{F}$	ASTM E 831
	74.2 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -40.0 - 40.0 $^\circ\text{C}$	41.2 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -40.0 - 104 $^\circ\text{F}$	ISO 11359-2
	170 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature -20.0 - 150 $^\circ\text{C}$	94.4 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature -4.00 - 302 $^\circ\text{F}$	ASTM E 831
	174 $\mu\text{m/m}\cdot^\circ\text{C}$ @Temperature 23.0 - 150 $^\circ\text{C}$	96.7 $\mu\text{in/in}\cdot^\circ\text{F}$ @Temperature 73.4 - 302 $^\circ\text{F}$	ISO 11359-2
Thermal Conductivity	0.190 W/m-K	1.32 BTU-in/hr-ft ² - $^\circ\text{F}$	ISO 8302
Hot Ball Pressure Test	125 $^\circ\text{C}$	257 $^\circ\text{F}$	Pass; IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	210 $^\circ\text{C}$	410 $^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
	215 $^\circ\text{C}$	419 $^\circ\text{F}$	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	215 $^\circ\text{C}$ @Thickness 3.20 mm	419 $^\circ\text{F}$ @Thickness 0.126 in	unannealed; ASTM D 648
Deflection Temperature at 1.8 MPa (264 psi)	175 $^\circ\text{C}$	347 $^\circ\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae

	185 °C	365 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	187 °C	369 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	196 °C	385 °F	Rate B/50; ASTM D 1525
	196 °C	385 °F	Rate B/50; ISO 306
	196 °C	385 °F	Rate B/120; ISO 306
	217 °C	423 °F	Rate A/50; ASTM D 1525
	217 °C	423 °F	Rate A/50; ISO 306
UL RTI, Electrical	125 °C	257 °F	UL 746B
UL RTI, Mechanical with Impact	110 °C	230 °F	UL 746B
UL RTI, Mechanical without Impact	125 °C	257 °F	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	
Oxygen Index	27 %	27 %	ISO 4589
Glow Wire Flammability Index	960 °C	1760 °F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	

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