

VALOX™ 855 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

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

General Information			
UL YellowCard	E45329-236634		
Filler / Reinforcement	Glass fiber reinforced material, 15% filler by weight		
Features	Excellent appearance		
Uses	Home appliance components		
	Shell		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.50	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (266°C/5.0 kg)	79	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/5.0 kg	32.0	cm³/10min	ISO 1133
265°C/1.2 kg	11.0	cm³/10min	ISO 1133
265°C/5.0 kg	60.0	cm³/10min	ISO 1133
Molding Shrinkage			Internal method
Flow ¹	0.40 - 0.80	%	Internal method
Flow: 3.20mm	0.60	%	Internal method
Transverse flow ²	0.60 - 1.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.45	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ISO 2039-2
Ball Indentation Hardness (H 358/30)	126	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ³	6500	MPa	ASTM D638
--	6500	MPa	ISO 527-2/1
Tensile Strength			
Yield ⁴	100	MPa	ASTM D638
Yield	100	MPa	ISO 527-2/5

Fracture ⁵	100	MPa	ASTM D638
Fracture	100	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁶	2.0	%	ASTM D638
Yield	2.0	%	ISO 527-2/5
Fracture ⁷	3.0	%	ASTM D638
Fracture	3.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁸	5200	MPa	ASTM D790
-- ⁹	5400	MPa	ISO 178
Flexural Stress			
--	150	MPa	ISO 178
Yield, 50.0mm span ¹⁰	148	MPa	ASTM D790
Fracture, 50.0mm span ¹¹	148	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	17.0	mg	Internal method
Flexural Strain at Break ¹²	3.0	%	ISO 178
Filler Content	15	%	ASTM D229
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ¹³	4.0	kJ/m ²	ISO 179/1eA
-30°C	6.0	kJ/m ²	ISO 179/2C
23°C ¹⁴	8.0	kJ/m ²	ISO 179/1eA
23°C	6.0	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength			
-30°C ¹⁵	15	kJ/m ²	ISO 179/1eU
-30°C	25	kJ/m ²	ISO 179/2U
23°C ¹⁶	20	kJ/m ²	ISO 179/1eU
23°C	25	kJ/m ²	ISO 179/2U
Notched Izod Impact			
-30°C	55	J/m	ASTM D256
0°C	55	J/m	ASTM D256
23°C	55	J/m	ASTM D256
-30°C ¹⁷	6.0	kJ/m ²	ISO 180/1A
0°C ¹⁸	6.0	kJ/m ²	ISO 180/1A
23°C ¹⁹	6.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	400	J/m	ASTM D4812
23°C	400	J/m	ASTM D4812
-30°C ²⁰	23	kJ/m ²	ISO 180/1U
23°C ²¹	25	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)	6.00	J	ASTM D3763

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	215	°C	ASTM D648
0.45 MPa, unannealed, 100 mm span ²²	210	°C	ISO 75-2/Be
	215		
0.45 MPa, unannealed, 64.0mm span ²³	215	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	187	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ²⁴	175	°C	ISO 75-2/Ae
1.8 MPa, unannealed, 64.0mm span ²⁵	185	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	196	°C	ASTM D1525, ISO 306/B50, ISO 306/B120 ²⁶
--	217	°C	ASTM D1525, ISO 306/A50 15 ²⁷
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	3.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Flow: -20 to 150°C	2.7E-5	cm/cm/°C	ASTM E831
Flow: 23 to 150°C	2.7E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.4E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -20 to 150°C	1.7E-4	cm/cm/°C	ASTM E831
Horizontal: 23 to 150°C	1.7E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.19	W/m/K	ISO 8302
RTI Elec	125	°C	UL 746
RTI Imp	110	°C	UL 746
RTI	125	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257, IEC 60093
Dielectric Strength			
0.800 mm, in Oil	33	kV/mm	ASTM D149
1.60 mm, in Oil	25	kV/mm	ASTM D149
3.20 mm, in Oil	18	kV/mm	ASTM D149
0.800mm, in oil	33	kV/mm	IEC 60243-1
1.00 mm ²⁸	21	kV/mm	IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	18	kV/mm	IEC 60243-1
Dielectric Constant			
100 Hz	3.50		ASTM D150, IEC 60250
1 MHz	3.30		ASTM D150, IEC 60250

50 Hz	3.30		IEC 60250
60 Hz	3.30		IEC 60250
Dissipation Factor			
100 Hz	1.0E-3		ASTM D150
1 MHz	0.015		ASTM D150
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
100 Hz	1.5E-3		IEC 60250
1 MHz	0.010		IEC 60250
Arc Resistance ²⁹	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index			IEC 60112
--	225	V	IEC 60112
Solution B	175	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-0		UL 94
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Oxygen Index	27	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	135	Pa · s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	110 - 120	°C	
Drying Time	4.0 - 6.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	40.0 - 60.0	°C	
Rear Temperature	240 - 260	°C	
Middle Temperature	255 - 280	°C	
Front Temperature	260 - 280	°C	
Nozzle Temperature	265 - 275	°C	
Processing (Melt) Temp	260 - 285	°C	
Mold Temperature	60.0 - 110	°C	
NOTE			
1.	Tensile Bar		
2.	Tensile Bar		
3.	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.	Type 1, 5.0 mm/min		

8.	1.3 mm/min
9.	2.0 mm/min
10.	1.3 mm/min
11.	1.3 mm/min
12.	2 mm/min
13.	80*10*4 sp=62mm
14.	80*10*4 sp=62mm
15.	80*10*4 sp=62mm
16.	80*10*4 sp=62mm
17.	80*10*4
18.	80*10*4
19.	80*10*4
20.	80*10*4
21.	80*10*4
22.	120*10*4 mm
23.	80*10*4 mm
24.	120*10*4 mm
25.	80*10*4 mm
26.	标准 B (120°C/h), 载荷2 (50N)
27.	速率 A (50°C/h), 载荷2 (50N)
28.	Short-Time
29.	Tungsten electrode

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