

VALOX™ 865 resin

Polybutylene Terephthalate + PET

SABIC Innovative Plastics

Message:

VALOX 865 is a 30% glass fibre reinforced, non blooming flame retardant PBT+PET blend with an excellent surface appearance. Applications: External housings, steam irons, appliance housings and lighting parts.

General Information			
UL YellowCard	E45329-236635		
Filler / Reinforcement	Glass fiber reinforced material, 30% filler by weight		
Features	No frost		
	Excellent appearance		
	Flame retardancy		
Uses	Home appliance components		
	Shell		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.65	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (266°C/5.0 kg)	70	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/5.0 kg	23.0	cm ³ /10min	ISO 1133
265°C/1.2 kg	7.00	cm ³ /10min	ISO 1133
265°C/2.16 kg	15.0	cm ³ /10min	ISO 1133
265°C/5.0 kg	50.0	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			Internal method
Flow	0.40 - 0.80	%	Internal method
Transverse flow	0.60 - 1.0	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.32	%	ISO 62
Equilibrium, 23°C, 50% RH	0.030	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	120		ISO 2039-2
Ball Indentation Hardness (H 358/30)	115	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	11000	MPa	ASTM D638
--	11000	MPa	ISO 527-2/1

Tensile Strength			
Yield ³	135	MPa	ASTM D638
Yield	130	MPa	ISO 527-2/5
Fracture ⁴	135	MPa	ASTM D638
Fracture	130	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	2.0	%	ASTM D638
Yield	2.0	%	ISO 527-2/5
Fracture ⁶	2.0	%	ASTM D638
Fracture	2.0	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁷	9000	MPa	ASTM D790
-- ⁸	9200	MPa	ISO 178
Flexural Stress			
--	195	MPa	ISO 178
Yield, 50.0mm span ⁹	185	MPa	ASTM D790
Fracture, 50.0mm span ¹⁰	185	MPa	ASTM D790
Flexural Strain at Break ¹¹	3.0	%	ISO 178
Filler Content	30	%	ASTM D229
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹²			ISO 179/1eA, ISO 179/2C
-30°C	8.0	kJ/m ²	ISO 179/1eA, ISO 179/2C
23°C	8.0	kJ/m ²	ISO 179/1eA, ISO 179/2C
Charpy Unnotched Impact Strength			
-30°C ¹³	No Break		ISO 179/1eU
-30°C	50	kJ/m ²	ISO 179/2U
23°C ¹⁴	50	kJ/m ²	ISO 179/1eU
23°C	55	kJ/m ²	ISO 179/2U
Notched Izod Impact			
-30°C	75	J/m	ASTM D256
0°C	75	J/m	ASTM D256
23°C	75	J/m	ASTM D256
-30°C ¹⁵	7.0	kJ/m ²	ISO 180/1A
0°C ¹⁶	8.0	kJ/m ²	ISO 180/1A
23°C ¹⁷	8.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	720	J/m	ASTM D4812
23°C	730	J/m	ASTM D4812
-30°C ¹⁸	45	kJ/m ²	ISO 180/1U
23°C ¹⁹	50	kJ/m ²	ISO 180/1U
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 ²⁰	215	°C	ISO 75-2/Be
0.45 MPa, unannealed, 64.0mm span ²¹	215	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	195	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ²²	195	°C	ISO 75-2/Ae
1.8 MPa, unannealed, 64.0mm span ²³	195	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	200	°C	ASTM D1525, ISO 306/B50, ISO 306/B120 ²⁴
--	220	°C	ASTM D1525, ISO 306/A50 15 ²⁵
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: -40 to 40°C	2.0E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 80°C	3.5E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 150°C	1.7E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	6.1E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	1.0E-4	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	1.5E-4	cm/cm/°C	ISO 11359-2
RTI Elec	110	°C	UL 746
RTI Imp	110	°C	UL 746
RTI	110	°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	25	kV/mm	ASTM D149
1.60 mm, in Oil	19	kV/mm	ASTM D149
3.20 mm, in Oil	15	kV/mm	ASTM D149
0.800mm, in oil	25	kV/mm	IEC 60243-1
1.60mm, in oil	19	kV/mm	IEC 60243-1
3.20mm, in oil	15	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.40		IEC 60250
60 Hz	3.40		IEC 60250
1 MHz	3.30		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3		IEC 60250
60 Hz	1.0E-3		IEC 60250
1 MHz	0.012		IEC 60250
Arc Resistance ²⁶	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index			IEC 60112

--	225	V	IEC 60112
Solution B	150	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 3		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 4		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
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
Oxygen Index	31	%	ISO 4589-2
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	145	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.	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.	1.3 mm/min		
11.	2 mm/min		
12.	80*10*4 sp=62mm		
13.	80*10*4 sp=62mm		
14.	80*10*4 sp=62mm		
15.	80*10*4		
16.	80*10*4		
17.	80*10*4		

18.	80*10*4
19.	80*10*4
20.	120*10*4 mm
21.	80*10*4 mm
22.	120*10*4 mm
23.	80*10*4 mm
24.	标准 B (120°C/h), 载荷2 (50N)
25.	速率 A (50°C/h), 载荷2 (50N)
26.	Tungsten electrode

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