VALOX™ 735 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

VALOX 735 is 40% glass/mineral filled PBT injection moulding resin with excellent thermal performance and low shrinkage. Applications: motorized heating appliances, adapter rings, oven grills.

General Information			
UL YellowCard	E45329-236611		
Filler / Reinforcement	Glass \mineral, 40% filler by weight		
Features	Low shrinkage		
Uses	Home appliance components		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.62	g/cm³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (266°C/5.0 kg)	20	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/5.0 kg	1.00	cm³/10min	ISO 1133
265°C/1.2 kg	3.00	cm³/10min	ISO 1133
265°C/5.0 kg	15.0	cm³/10min	ISO 1133
Molding Shrinkage [1]			Internal method
Flow	0.30 - 0.60	%	Internal method
Transverse flow	0.50 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.96	%	ISO 62
Equilibrium, 23°C, 50% RH	0.070	%	ISO 62
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (R-Scale)	124		ISO 2039-2
Ball Indentation Hardness (H 358/30)	144	MPa	ISO 2039-1
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [2]	10400	MPa	ASTM D638
--	10000	MPa	ISO 527-2/1
Tensile Strength			
Yield [3]	95.0	MPa	ASTM D638
Yield	90.0	MPa	ISO 527-2/5
Fracture [4]	95.0	MPa	ASTM D638
Fracture	90.0	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]	8300	MPa	ASTM D790
-- [8]	8300	MPa	ISO 178
Flexural Stress			
--	130	MPa	ISO 178
Yield, 50.0mm span [9]	120	MPa	ASTM D790
Fracture, 50.0mm span [10]	120	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	64.0	mg	Internal method
Flexural Strain at Break [11]	2.0	%	ISO 178
Filler Content	40	%	ASTM D229
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength			
-30°C [12]	4.0	kJ/m²	ISO 179/1eA
-30°C	7.0	kJ/m²	ISO 179/2C
23°C [13]	4.0	kJ/m²	ISO 179/1eA
23°C	7.0	kJ/m²	ISO 179/2C
Charpy Unnotched Impact Strength			
-30°C [14]	30	kJ/m²	ISO 179/1eU, ISO 179/2U
23°C [15]	35	kJ/m²	ISO 179/1eU
23°C	40	kJ/m²	ISO 179/2U
Notched Izod Impact			
-30°C	50	J/m	ASTM D256
0°C	55	J/m	ASTM D256
23°C	60	J/m	ASTM D256
-30°C [16]	5.0	kJ/m²	ISO 180/1A
0°C [17]	5.0	kJ/m²	ISO 180/1A
23°C [18]	5.0	kJ/m²	ISO 180/1A
Unnotched Izod Impact			
-30°C	520	J/m	ASTM D4812
23°C	560	J/m	ASTM D4812
-30°C [19]	25	kJ/m²	ISO 180/1U
23°C [20]	35	kJ/m²	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, 64.0mm span [21]	215	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	190	°C	ASTM D648

1.8 MPa, unannealed, 64.0mm span [22]	190	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	185	°C	ASTM D1525 [23]
--	220	°C	ASTM D1525, ISO 306/A50 14 [24]
--	180	°C	ISO 306/B50, ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: -40 to 40°C	2.3E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 80°C	2.5E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 150°C	2.2E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	6.5E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	1.4E-4	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.36	W/m/K	ISO 8302
RTI Elec	140	°C	UL 746
RTI Imp	140	°C	UL 746
RTI	140	°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	45	kV/mm	ASTM D149
1.60 mm, in Oil	22	kV/mm	ASTM D149
3.20 mm, in Oil	18	kV/mm	ASTM D149
0.800mm, in oil	45	kV/mm	IEC 60243-1
1.60mm, in oil	22	kV/mm	IEC 60243-1
3.20mm, in oil	18	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.50		IEC 60250
60 Hz	3.50		IEC 60250
1 MHz	3.30		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	8.0E-3		IEC 60250
60 Hz	8.0E-3		IEC 60250
1 MHz	0.017		IEC 60250
Arc Resistance [25]	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746
High Amp Arc Ignition (HAI)	PLC 3		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	**Nominal Value**	**Unit**	**Test Method**

Flame Rating			UL 94
0.810 mm	HB		UL 94
3.00 mm	HB		UL 94
Glow Wire Flammability Index (1.00 mm)	750	°C	IEC 60695-2-12
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec^-1)	160	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 sp=62mm
16.	80*10*4
17.	80*10*4
18.	80*10*4
19.	80*10*4
20.	80*10*4
21.	80*10*4 mm
22.	80*10*4 mm
23.	标准 B (120°C/h), 载荷2 (50N)
24.	速率 A (50°C/h), 载荷2 (50N)

25.	Tungsten electrode

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China