

VALOX™ 745 resin

Polybutylene Terephthalate

SABIC Innovative Plastics

Message:

VALOX 745 is 30% mineral filled PBT injection moulding resin with improved toughness and low warpage. Applications: telephone ringer frames, card racks.

General Information			
UL YellowCard	E45329-236612		
Filler / Reinforcement	Mineral filler, 30% filler by weight		
Features	Low warpage		
	Good toughness		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.46	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (250°C/2.16 kg)	5.00	cm ³ /10min	ISO 1133
Molding Shrinkage ¹			Internal method
Flow	1.2 - 1.7	%	Internal method
Transverse flow	1.2 - 1.7	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.90	%	ISO 62
Equilibrium, 23°C, 50% RH	0.090	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	112		ISO 2039-2
Ball Indentation Hardness (H 358/30)	124	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3700	MPa	ISO 527-2/1
Tensile Stress (Break)	50.0	MPa	ISO 527-2/5
Tensile Strain (Break)	10	%	ISO 527-2/5
Flexural Modulus ²	3400	MPa	ISO 178
Flexural Stress	75.0	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	26.0	mg	Internal method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength (23°C)	7.0	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ³			ISO 179/1eU
-30°C	No Break		ISO 179/1eU
23°C	No Break		ISO 179/1eU

Unnotched Izod Impact Strength ⁴			ISO 180/1U
-30°C	50	kJ/m ²	ISO 180/1U
23°C	50	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁵			
0.45 MPa, unannealed, 100 mm span	120	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	65.0	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	138	°C	ISO 306/B50
--	143	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 80°C	7.5E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 80°C	8.0E-5	cm/cm/°C	ISO 11359-2
RTI Elec	105	°C	UL 746
RTI Imp	105	°C	UL 746
RTI	105	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms·cm	IEC 60093
Dielectric Strength			IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	23	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.30		IEC 60250
60 Hz	3.30		IEC 60250
100 Hz	3.30		IEC 60250
1 MHz	3.20		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	2.0E-3		IEC 60250
60 Hz	2.0E-3		IEC 60250
100 Hz	2.0E-3		IEC 60250
1 MHz	0.014		IEC 60250
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	HB		UL 94
3.00 mm	HB		UL 94
Glow Wire Flammability Index (3.20 mm)	650	°C	IEC 60695-2-12
Oxygen Index	22	%	ISO 4589-2
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.	2.0 mm/min	
3.	80*10*4 sp=62mm	
4.	80*10*4	
5.	120*10*4 mm	

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