

SABIC Innovative Plastics Valox® 745 PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

30% mineral reinforced polyester improved toughness and low warpage. Typical applications are telephone ringer frames and card racks.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-745-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	ASTM D792
Water Absorption	0.090 %	0.090 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Transverse	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0080 - 0.010 cm/cm	0.0080 - 0.010 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	112	112	ASTM D785
Tensile Strength at Break	46.0 MPa	6670 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	48.0 MPa	6960 psi	Type I, 50 mm/min; ASTM D638
Flexural Yield Strength	89.0 MPa	12900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.44 GPa	499 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
Izod Impact, Unnotched	16.02 J/cm	30.01 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
	75.6 Åµm/m-Å°C	42.0 Åµin/in-Å°F	

Thermal Properties	Metric	English	Comments
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	139 Âµm/m-Â°C	77.2 Âµin/in-Â°F	ASTM E 831
	@Temperature 60.0 - 138 Â°C	@Temperature 140 - 280 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	160 Â°C	320 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	87.0 Â°C	189 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	105 Â°C	221 Â°F	UL 746B
UL RTI, Mechanical with Impact	105 Â°C	221 Â°F	UL 746B
UL RTI, Mechanical without Impact	105 Â°C	221 Â°F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	6.90e+16 ohm-cm	6.90e+16 ohm-cm	ASTM D257
Dielectric Constant	3.2	3.2	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.3	3.3	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	23.2 kV/mm	589 kV/in	in air; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	24.8 kV/mm	630 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0020	0.0020	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.014	0.014	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	250 - 400 V	250 - 400 V	UL 746A

Electrical Properties Hot Wire Ignition, HWI	Metric 30 - 60 sec	English 30 - 60 sec	Comments UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Specific Volume	0.69cm ³ /g	ASTM D792

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