

SABIC Innovative Plastics Valox® 451E PBT

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

Material Notes:

20% GR. Easy flow version of VALOX 451.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-451E-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.53 g/cc	1.53 g/cc	ASTM D792
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0080 - 0.011 cm/cm	0.0080 - 0.011 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	96.0 MPa	13900 psi	Type I, 5 mm/min; ASTM D638
Flexural Strength	151 MPa	21900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	5.51 GPa	799 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.480 J/cm	0.899 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	212 Â°C	414 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	196 Â°C	385 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	120 Â°C	248 Â°F	UL 746B

Thermal Properties with Impact	Metric	English	Comments
UL RTI, Mechanical without Impact	140 Â°C	284 Â°F	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.710 mm	@Thickness 0.0280 in	
	5VA	5VA	UL 94
	@Thickness 2.99 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Arc Resistance	0.00 - 60 sec	0.00 - 60 sec	Tungsten; ASTM D495
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	15 - 30 sec	15 - 30 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Specific Volume	0.65cm ³ /g	ASTM D792

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