

SABIC Innovative Plastics Valox® 457 PBT

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

Material Notes:

6.5% GR PBT, UL94 V-0/5V.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-457-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.44 g/cc	1.44 g/cc	ASTM D792
Water Absorption	0.060 %	0.060 %	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 - 4.60 mm	@Thickness 0.126 - 0.181 in	
Linear Mold Shrinkage, Transverse	0.0070 - 0.0090 cm/cm	0.0070 - 0.0090 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0090 - 0.012 cm/cm	0.0090 - 0.012 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	121	121	ASTM D785
Tensile Strength at Break	79.0 MPa	11500 psi	Type I, 5 mm/min; ASTM D638
Flexural Strength	124 MPa	18000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.51 GPa	509 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.320 J/cm	0.599 ft-lb/in	ASTM D256
Izod Impact, Unnotched	2.67 J/cm	5.00 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
	66.6 µm/m-Â°C	37.0 µin/in-Â°F	

Thermal Properties	Metric	English	Comments
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	66.6 Âµm/m-Â°C	37.0 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)	204 Â°C	399 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	151 Â°C	304 Â°F	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	120 Â°C	248 Â°F	UL 746B
UL RTI, Mechanical with Impact	120 Â°C	248 Â°F	UL 746B
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	
Oxygen Index	31.5 %	31.5 %	ASTM D2863
Glow Wire Test	725 Â°C	1340 Â°F	IEC 60695-2-13
	750 Â°C	1380 Â°F	IEC 60695-2-13
	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 1.00 mm	@Thickness 0.0394 in	
	960 Â°C	1760 Â°F	IEC 60695-2-12
	@Thickness 3.00 mm	@Thickness 0.118 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 5.50e+16 ohm-cm	>= 5.50e+16 ohm-cm	ASTM D257
Dielectric Constant	3.4	3.4	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.5	3.5	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
	17.7 kV/mm	450 kV/in	

Dielectric Strength Electrical Properties	Metric @ Thickness 3.20 mm	English @ Thickness 0.126 in	in air; ASTM D149 Comments
	23.6 kV/mm	599 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	
	0.020	0.020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
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	15 - 30 arcs	15 - 30 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	>= 150 mm/min	>= 5.91 in/min	UL 746A

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Å°C +/- 2Å°C	PASSES	IEC 60695-10-2
Specific Volume	0.69cm ³ /g	ASTM D792

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