

SABIC Innovative Plastics Valox® 830 PBT

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

Material Notes:

30% GR PBTP, excellent surface finish. Typical applications are hot air gun housing assemblies, industrial glue guns, appliance housings and handles.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-830-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.54 g/cc	1.54 g/cc	ASTM D792
Water Absorption	0.060 %	0.060 %	ASTM D570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0030 - 0.0050 cm/cm	0.0030 - 0.0050 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0050 - 0.0080 cm/cm	0.0050 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	
Linear Mold Shrinkage, Transverse	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	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	119	119	ASTM D785
Tensile Strength at Break	106 MPa	15400 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	103 MPa	14900 psi	Type I, 5 mm/min; ASTM D638
Flexural Strength	172 MPa	24900 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	6.89 GPa	999 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	6.40 J/cm	12.0 ft-lb/in	ASTM D4812

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	25.2 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	14.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	25.2 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	14.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature 60.0 - 138 $\text{Å}^\circ\text{C}$	@Temperature 140 - 280 $\text{Å}^\circ\text{F}$	
Deflection Temperature at 0.46 MPa (66 psi)	221 $\text{Å}^\circ\text{C}$	430 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	193 $\text{Å}^\circ\text{C}$	379 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	120 $\text{Å}^\circ\text{C}$	248 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	120 $\text{Å}^\circ\text{C}$	248 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.47 mm	@Thickness 0.0579 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.00e+16 ohm-cm	4.00e+16 ohm-cm	ASTM D257
Dielectric Constant	3.5	3.5	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.6	3.6	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	20.8 kV/mm	528 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	
	0.020	0.020	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten; ASTM D495

Electrical Properties	Metric	English	Comments
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80.0 mm/min	1.00 - 3.15 in/min	UL 746A

Descriptive Properties	Value	Comments
Specific Volume	0.67cm ³ /g	ASTM D792

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