

SABIC Innovative Plastics Valox® 553U PBT+PC

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Glass Filled , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

30% GR PBT+PC, UL94 V-0. Reduced warpage characteristics.Applications; appliance handles, spotlights, electric motors, pump housings, etc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-553U-PBTPC.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.58 g/cc	1.58 g/cc	ASTM D792
Water Absorption	0.070 %	0.070 %	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	118	118	ASTM D785
Tensile Strength at Break	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
Flexural Strength	179 MPa	26000 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	0.850 J/cm	1.59 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	21.6 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	12.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	
	21.6 $\mu\text{m}/\text{m}\cdot\text{Å}^\circ\text{C}$	12.0 $\mu\text{in}/\text{in}\cdot\text{Å}^\circ\text{F}$	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)	204 $\text{Å}^\circ\text{C}$	399 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	160 $\text{Å}^\circ\text{C}$	320 $\text{Å}^\circ\text{F}$	unannealed; ASTM D648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	125 $\text{Å}^\circ\text{C}$	257 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	110 $\text{Å}^\circ\text{C}$	230 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	125 $\text{Å}^\circ\text{C}$	257 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 0.860 mm	@Thickness 0.0339 in	
	5VA	5VA	UL 94
	@Thickness 2.31 mm	@Thickness 0.0909 in	
Oxygen Index	37.1 %	37.1 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	4.30e+16 ohm-cm	4.30e+16 ohm-cm	ASTM D257
Dielectric Constant	3.7	3.7	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.8	3.8	ASTM D150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	18.8 kV/mm	478 kV/in	in air; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	25.5 kV/mm	648 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0020	0.0020	ASTM D150

Electrical Properties	@Frequency 100 Hz Metric	@Frequency 100 Hz English	Comments
	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
Comparative Tracking Index	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 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	0.63cm ³ /g	ASTM D792
UV-light, water exposure/immersion	F1	UL 746C

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