

SABIC Innovative Plastics Valox[®] 735 PBT

Category : Polymer , Thermoplastic , Polyester, TP , Polybutylene Terephthalate (PBT) , Polybutylene Terephthalate (PBT), Glass + Mineral Filled

Material Notes:

40% glass/mineral, excellent thermal performance/low shrink. Motorized heating appliances, adaptor rings, oven grills, etc. Black/natural only. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-735-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.62 g/cc	1.62 g/cc	ASTM D 792
Water Absorption	0.070 %	0.070 %	ASTM D 570
	@Time 86400 sec	@Time 24.0 hour	
Linear Mold Shrinkage, Flow	0.0030 - 0.0040 cm/cm	0.0030 - 0.0040 in/in	SABIC Method
	@Thickness 1.50 - 3.20 mm	@Thickness 0.0591 - 0.126 in	
	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 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 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 3.20 - 4.60 mm	@Thickness 0.126 - 0.181 in	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	109	109	ASTM D 785
Tensile Strength at Break	75.0 MPa	10900 psi	Type I, 5 mm/min; ASTM D 638
Flexural Strength	124 MPa	18000 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	8.27 GPa	1200 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	0.740 J/cm	1.39 ft-lb/in	ASTM D 256
	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	4.27 J/cm	8.00 ft-lb/in	

Impact, Unnotched Mechanical Properties	@Temperature 23.0 Metric °C	English @Temperature 73.4 °F	ASTM D 4812 Comments
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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)	215 $\text{Å}^\circ\text{C}$	419 $\text{Å}^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
Deflection Temperature at 1.8 MPa (264 psi)	198 $\text{Å}^\circ\text{C}$	388 $\text{Å}^\circ\text{F}$	unannealed; ASTM D 648
	@Thickness 6.40 mm	@Thickness 0.252 in	
UL RTI, Electrical	140 $\text{Å}^\circ\text{C}$	284 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical with Impact	140 $\text{Å}^\circ\text{C}$	284 $\text{Å}^\circ\text{F}$	UL 746B
UL RTI, Mechanical without Impact	140 $\text{Å}^\circ\text{C}$	284 $\text{Å}^\circ\text{F}$	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 0.810 mm	@Thickness 0.0319 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.30e+15 ohm-cm	1.30e+15 ohm-cm	ASTM D 257
Dielectric Constant	4.0	4.0	ASTM D 150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	4.3	4.3	ASTM D 150
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	23.6 kV/mm	599 kV/in	in air; ASTM D 149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	29.5 kV/mm	749 kV/in	in oil; ASTM D 149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0010	0.0010	ASTM D 150
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.020	0.020	

Electrical Properties	Metric @ Frequency 1.00e+6 Hz	English @ Frequency 1.00e+6 Hz	Comments ASTM D 150
Arc Resistance	60 - 120 sec	60 - 120 sec	Tungsten, PLC code 6; ASTM D 495
Comparative Tracking Index	250 - 400 V	250 - 400 V	PLC code 2; UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	PLC code 0; UL 746A
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	surface, PLC code 3; UL 746A
High Voltage Arc-Tracking Rate, HVTR	10.0 - 25.4 mm/min	0.394 - 1.00 in/min	PLC code 1; UL 746A

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