SABIC Innovative Plastics ValoxÂ® SHF4960 PBT (Europe-Africa-Middle East)

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

Material Notes:

Valox Super high flow grade, 30% glass filled Flame retardant, High CTI, heat stabilized with mold release.

Order this product through the following link:
http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-SHF4960-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.69 g/cc	1.69 g/cc	ASTM D792
Density	1.69 g/cc	0.0611 lb/inÂ³	ISO 1183
Filler Content	30 %	30 %	ASTM D229
Moisture Absorption	0.0700 %	0.0700 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.25 %	0.25 %	ISO 62
Viscosity	68000 cP	68000 cP	Melt Viscosity, 260Â°C, 1500 sec-1; ISO 11443
	110000 cP	110000 cP	Melt Viscosity, 250Â°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0010 - 0.0030 cm/cm	0.0010 - 0.0030 in/in	on Tensile Bar; SABIC Method
	0.0010 - 0.0030 cm/cm @Thickness 3.20 mm	0.0010 - 0.0030 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0070 cm/cm	0.0040 - 0.0070 in/in	on Tensile Bar; SABIC Method
Melt Flow	8.0 g/10 min @Load 2.16 kg, Temperature 250 Â°C	8.0 g/10 min @Load 4.76 lb, Temperature 482 Â°F	ISO 1133
	9.0 g/10 min @Load 2.16 kg, Temperature 250 Â°C	9.0 g/10 min @Load 4.76 lb, Temperature 482 Â°F	ASTM D1238
Melt Index of Compound	6.0 g/10 min @Load 2.16 kg, Temperature 250 Â°C	6.0 g/10 min @Load 4.76 lb, Temperature 482 Â°F	MVR [cm^3/10 min]; ISO 1133
	50 g/10 min @Load 5.00 kg, Temperature 250 Â°C	50 g/10 min @Load 11.0 lb, Temperature 482 Â°F	MVR [cm^3/10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	115	115	ISO 2039-2
Hardness, H358/30	220 MPa	31900 psi	ISO 2039-1
Tensile Strength at Break	120 MPa	17400 psi	5 mm/min; ISO 527
	125 MPa	18100 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	120 MPa	17400 psi	5 mm/min; ISO 527
	125 MPa	18100 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
	2.0 %	2.0 %	Flexural Strain, break, 2 mm/min; ISO 178
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	11.0 GPa	1600 ksi	5 mm/min; ASTM D638
	11.0 GPa	1600 ksi	1 mm/min; ISO 527
Flexural Strength	185 MPa	26800 psi	2 mm/min; ISO 178
Flexural Yield Strength	177 MPa	25700 psi	1.3 mm/min, 50 mm span; ASTM D790
	185 MPa	26800 psi	2 mm/min; ISO 178
Flexural Modulus	9.45 GPa	1370 ksi	1.3 mm/min, 50 mm span; ASTM D790
	9.60 GPa	1390 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.800 J/cm @Temperature 0.000 Â°C	1.50 ft-lb/in @Temperature 32.0 Â°F	ASTM D256
	0.800 J/cm @Temperature -30.0 Â°C	1.50 ft-lb/in @Temperature -22.0 Â°F	ASTM D256
Izod Impact, Unnotched	5.90 J/cm	11.1 ft-lb/in	ASTM D4812
	5.80 J/cm @Temperature -30.0 Â°C	10.9 ft-lb/in @Temperature -22.0 Â°F	ASTM D4812

Mechanical Properties	Metric	English	Comments
Izod Impact, Notched (ISO)	9.00 kJ/mÂ²	4.28 ft-lb/inÂ²	80*10*4; ISO 180/1A
	9.00 kJ/mÂ² @Temperature 0.000 Â°C	4.28 ft-lb/inÂ² @Temperature 32.0 Â°F	80*10*4; ISO 180/1A
	9.00 kJ/mÂ² @Temperature -30.0 Â°C	4.28 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	40.0 kJ/mÂ²	19.0 ft-lb/inÂ²	80*10*4; ISO 180/1U
	40.0 kJ/mÂ² @Temperature -30.0 Â°C	19.0 ft-lb/inÂ² @Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	4.50 J/cmÂ²	21.4 ft-lb/inÂ²	ISO 179/2C
	4.00 J/cmÂ² @Temperature -30.0 Â°C	19.0 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179/2C
Charpy Impact, Notched	0.700 J/cmÂ²	3.33 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cmÂ²	4.76 ft-lb/inÂ²	ISO 179/2C
	1.00 J/cmÂ² @Temperature -30.0 Â°C	4.76 ft-lb/inÂ² @Temperature -22.0 Â°F	ISO 179/2C
Dart Drop, Total Energy	60.0 J @Temperature 23.0 Â°C	44.3 ft-lb @Temperature 73.4 Â°F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	24.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	13.3 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	25.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	13.9 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ISO 11359-2
CTE, linear, Transverse to Flow	83.0 Âµm/m-Â°C @Temperature -40.0 - 40.0 Â°C	46.1 Âµin/in-Â°F @Temperature -40.0 - 104 Â°F	ASTM E 831
	86.0 Âµm/m-Â°C @Temperature -40.0 -	47.8 Âµin/in-Â°F @Temperature -40.0 -	ISO 11359-2

Thermal Properties	Metric	English	Comments
	40.0 Â°C	104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	220 Â°C	428 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
	220 Â°C @Thickness 3.20 mm	428 Â°F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	210 Â°C	410 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+11 ohm-cm	1.00e+11 ohm-cm	ASTM D257
	1.00e+11 ohm-cm	1.00e+11 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+12 ohm	>= 1.00e+12 ohm	ROA; IEC 60093
Dielectric Strength	17.8 kV/mm @Thickness 3.20 mm	452 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	24.5 kV/mm @Thickness 1.50 mm	622 kV/in @Thickness 0.0591 in	in oil; IEC 60243-1
	24.5 kV/mm @Thickness 1.60 mm	622 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	35.0 kV/mm @Thickness 0.800 mm	889 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor	0.017 @Frequency 1.00e+6 Hz	0.017 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	275 V	275 V	IEC 60112
	250 - 400 V	250 - 400 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

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