

SABIC Innovative Plastics Valox® SHF4910 PBT (Europe-Africa-Middle East)

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

Material Notes:

6.5% glass reinforced, Super High Flow, flame retardant PBT.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-SHF4910-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.46 g/cc	1.46 g/cc	ASTM D792
Density	1.46 g/cc	0.0527 lb/in ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.26 %	0.26 %	ISO 62
Viscosity	110000 cP	110000 cP	Melt Viscosity, 250°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0070 - 0.013 cm/cm	0.0070 - 0.013 in/in	on Tensile Bar; SABIC Method
	0.0070 - 0.013 cm/cm @Thickness 3.20 mm	0.0070 - 0.013 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.011 - 0.017 cm/cm	0.011 - 0.017 in/in	on Tensile Bar; SABIC Method
Melt Flow	31 g/10 min	31 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	
	31 g/10 min	31 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	
Melt Index of Compound	25 g/10 min	25 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 2.16 kg, Temperature 250 °C	@Load 4.76 lb, Temperature 482 °F	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	66.0 MPa	9570 psi	Type I, 5 mm/min; ASTM D638
	73.0 MPa	10600 psi	5 mm/min; ISO 527
Tensile Strength, Yield	66.0 MPa	9570 psi	Type I, 5 mm/min; ASTM D638
	73.0 MPa	10600 psi	5 mm/min; ISO 527
Elongation at Break	3.1 %	3.1 %	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	3.3 %	3.3 %	5 mm/min; ISO 527
Elongation at Yield	3.1 %	3.1 %	Type I, 5 mm/min; ASTM D638
	3.5 %	3.5 %	5 mm/min; ISO 527
Tensile Modulus	4.21 GPa	611 ksi	5 mm/min; ASTM D638
	4.35 GPa	631 ksi	1 mm/min; ISO 527
Flexural Yield Strength	115 MPa	16700 psi	2 mm/min; ISO 178
	117 MPa	17000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.65 GPa	529 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.65 GPa	529 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.420 J/cm	0.787 ft-lb/in	ASTM D256
	0.360 J/cm	0.674 ft-lb/in	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ASTM D256
Izod Impact, Unnotched	4.90 J/cm	9.18 ft-lb/in	ASTM D4812
	3.20 J/cm	5.99 ft-lb/in	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	4.00 kJ/m ²	1.90 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	26.0 kJ/m ²	12.4 ft-lb/in ²	80*10*4; ISO 180/1U
	21.0 kJ/m ²	9.99 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.20 J/cm ²	15.2 ft-lb/in ²	ISO 179/2C
	2.70 J/cm ²	12.8 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/2C
Charpy Impact, Notched	0.500 J/cm ²	2.38 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.500 J/cm ²	2.38 ft-lb/in ²	

Mechanical Properties	Metric	English	ISO 179/2C Comments
	0.500 J/cm ²	2.38 ft-lb/in ²	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/2C
Dart Drop, Total Energy	48.0 J	35.4 ft-lb	
	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	55.0 µm/m-°C	30.6 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	63.0 µm/m-°C	35.0 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	95.0 µm/m-°C	52.8 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTM E 831
	104 µm/m-°C	57.8 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	200 °C	392 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	145 °C	293 °F	
	160 °C	320 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	191 °C	376 °F	Rate B/50; ASTM D1525
	192 °C	378 °F	Rate B/50; ISO 306
	195 °C	383 °F	Rate B/120; ISO 306
	216 °C	421 °F	Rate A/50; ASTM D1525
	217 °C	423 °F	Rate A/50; ISO 306
UL RTI, Electrical	130 °C	266 °F	UL 746B
UL RTI, Mechanical with Impact	120 °C	248 °F	UL 746B
UL RTI, Mechanical without Impact			UL 746B

Thermal Properties	130 Â°C Metric	266 Â°F English	Comments
Flammability, UL94	V-0 @Thickness 0.800 mm	V-0 @Thickness 0.0315 in	UL 94
Oxygen Index	27 %	27 %	ISO 4589
Glow Wire Test	960 Â°C @Thickness 1.00 mm	1760 Â°F @Thickness 0.0394 in	IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+13 ohm	>= 1.00e+13 ohm	ROA; IEC 60093
Dielectric Strength	18.0 kV/mm @Thickness 3.20 mm	457 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	30.7 kV/mm @Thickness 1.60 mm	780 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	50.0 kV/mm @Thickness 0.800 mm	1270 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor	0.0155 @Frequency 1.00e+6 Hz	0.0155 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	275 V	275 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Â°C +/- 2Â°C	Pass	IEC 60695-10-2

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