

SABIC Innovative Plastics Valox® VX4920 PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX VX4920 is a 20% glass reinforced nucleated PBT/ASA blend with excellent mechanical properties, high dimensional stability and low density. Applications: connectors and automotive industry.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-VX4920-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.38 g/cc	1.38 g/cc	ASTM D792
Density	1.38 g/cc	0.0499 lb/in ³	ISO 1183
Filler Content	20 %	20 %	ASTM D229
Moisture Absorption	0.270 %	0.270 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.76 %	0.76 %	ISO 62
Viscosity	175000 cP	175000 cP	Melt Viscosity, 260°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm	0.0020 - 0.0040 in/in	on Tensile Bar; SABIC Method
	0.0030 - 0.0060 cm/cm @Thickness 3.20 mm	0.0030 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	on Tensile Bar; SABIC Method
Melt Flow	17 g/10 min	17 g/10 min	ASTM D1238
	@Load 3.80 kg, Temperature 200 °C	@Load 8.38 lb, Temperature 392 °F	
	35 g/10 min	35 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 265 °C	@Load 11.0 lb, Temperature 509 °F	
Melt Index of Compound	17 g/10 min	17 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 250 °C	@Load 11.0 lb, Temperature 482 °F	
	30 g/10 min	30 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 265 °C	@Load 11.0 lb, Temperature 509 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	118	118	ISO 2039-2

Mechanical Properties Hardness, H35N 30	Metric 130 MPa	English 18800 psi	Comments ISO 2039-1
Tensile Strength at Break	105 MPa	15200 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	105 MPa	15200 psi	5 mm/min; ISO 527
	105 MPa	15200 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	3.0 %	3.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	4.0 %	4.0 %	Flexural Strain, break, 2 mm/min; ISO 178
Elongation at Yield	3.0 %	3.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	7.20 GPa	1040 ksi	1 mm/min; ISO 527
	7.20 GPa	1040 ksi	5 mm/min; ASTM D638
Flexural Strength	155 MPa	22500 psi	2 mm/min; ISO 178
	160 MPa	23200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Yield Strength	155 MPa	22500 psi	2 mm/min; ISO 178
	160 MPa	23200 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	5.50 GPa	798 ksi	1.3 mm/min, 50 mm span; ASTM D790
	5.70 GPa	827 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.700 J/cm	1.31 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.750 J/cm	1.41 ft-lb/in	ASTM D256
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Izod Impact, Unnotched	6.80 J/cm	12.7 ft-lb/in	ASTM D4812
	6.05 J/cm	11.3 ft-lb/in	ASTM D4812
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m²	3.33 ft-lb/in²	80*10*4; ISO 180/1A

Mechanical Properties	Metric J/m^2	English lb/in^2	Comments
	@Temperature 0.000 °C	@Temperature 32.0 °F	80*10*4, ISO 180/1A
	7.00 kJ/m ²	3.33 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	45.0 kJ/m ²	21.4 ft-lb/in ²	80*10*4; ISO 180/1U
	40.0 kJ/m ²	19.0 ft-lb/in ²	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	4.50 J/cm ²	21.4 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.50 J/cm ²	26.2 ft-lb/in ²	ISO 179/2C
	4.00 J/cm ²	19.0 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	ISO 179/2C
	0.500 J/cm ²	2.38 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.800 J/cm ²	3.81 ft-lb/in ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	50.0 J	36.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	80	80	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	23.8 $\mu\text{m/m-}^\circ\text{C}$	13.2 $\mu\text{in/in-}^\circ\text{F}$	ISO 11359-2
	@Temperature 23.0 - 150 °C	@Temperature 73.4 - 302 °F	
	28.6 $\mu\text{m/m-}^\circ\text{C}$	15.9 $\mu\text{in/in-}^\circ\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	30.0 $\mu\text{m/m-}^\circ\text{C}$	16.7 $\mu\text{in/in-}^\circ\text{F}$	

Thermal Properties	Metric @ Temperature 23.0 - 60.0 °C	English @ Temperature 73.4 - 140 °F	ISO 11359-2 Comments

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	ASTM D257
	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	3.4 @Frequency 1.00e+6 Hz	3.4 @Frequency 1.00e+6 Hz	ASTM D150
	3.4 @Frequency 1.00e+6 Hz	3.4 @Frequency 1.00e+6 Hz	IEC 60250
	3.4 @Frequency 50.0 - 60.0 Hz	3.4 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	24.0 kV/mm @Thickness 3.20 mm	610 kV/in @Thickness 0.126 in	in oil; ASTM D149
	24.0 kV/mm @Thickness 3.20 mm	610 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	28.0 kV/mm @Thickness 1.60 mm	711 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	28.0 kV/mm @Thickness 1.60 mm	711 kV/in @Thickness 0.0630 in	in oil; ASTM D149
Dissipation Factor	0.0024 @Frequency 50.0 - 60.0 Hz	0.0024 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.020 @Frequency 1.00e+6 Hz	0.020 @Frequency 1.00e+6 Hz	IEC 60250
	0.020 @Frequency 1.00e+6 Hz	0.020 @Frequency 1.00e+6 Hz	ASTM D150
Comparative Tracking Index	400 - 600 V	400 - 600 V	UL 746A

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