

SABIC Innovative Plastics Valox[®] 4512 PBT+PC (Europe-Africa-Middle East)

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

Material Notes:

10% GF FR PBT/PC Blend

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-4512-PBTPC-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Filler Content	10 %	10 %	ASTM D229
Moisture Absorption	0.0700 %	0.0700 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	ISO 62
Viscosity	100000 cP	100000 cP	Melt Viscosity, 260 [°] C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	on Tensile Bar; SABIC Method
Linear Mold Shrinkage, Transverse	0.0070 - 0.010 cm/cm	0.0070 - 0.010 in/in	on Tensile Bar; SABIC Method
Melt Flow	60 g/10 min @Load 5.00 kg, Temperature 266 [°] C	60 g/10 min @Load 11.0 lb, Temperature 511 [°] F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 2.16 kg, Temperature 250 [°] C	8.0 g/10 min @Load 4.76 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	30 g/10 min @Load 5.00 kg, Temperature 250 [°] C	30 g/10 min @Load 11.0 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	45 g/10 min @Load 5.00 kg, Temperature 265 [°] C	45 g/10 min @Load 11.0 lb, Temperature 509 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	104	104	ISO 2039-2
Hardness, H358/30	114 MPa	16500 psi	ISO 2039-1
Tensile Strength at Break	70.0 MPa	10200 psi	Type I, 5 mm/min; ASTM D638

Mechanical Properties	Metric Pa	English psi	Comments
Tensile Strength, Yield	70.0 MPa	10200 psi	Type I, 5 mm/min; ASTM D638
	70.0 MPa	10200 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	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	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	4.40 GPa	638 ksi	5 mm/min; ASTM D638
	4.60 GPa	667 ksi	1 mm/min; ISO 527
Flexural Strength	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Yield Strength	100 MPa	14500 psi	1.3 mm/min, 50 mm span; ASTM D790
	100 MPa	14500 psi	2 mm/min; ISO 178
Flexural Modulus	3.40 GPa	493 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.50 GPa	508 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.350 J/cm	0.656 ft-lb/in	ASTM D256
	0.300 J/cm	0.562 ft-lb/in	ASTM D256
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
Izod Impact, Notched	0.300 J/cm	0.562 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched	4.30 J/cm	8.06 ft-lb/in	ASTM D4812
	3.20 J/cm	5.99 ft-lb/in	ASTM D4812
Izod Impact, Notched (ISO)	4.00 kJ/mÂ²	1.90 ft-lb/inÂ²	80*10*4; ISO 180/1A
	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*3; ISO 180/1A

Mechanical Properties	Metric kJ/m^2	English lb/in^2	Comments
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	80*10*4; ISO 180/1A
	4.00 kJ/m^2	1.90 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	80*10*3; ISO 180/1A
	4.00 kJ/m^2	1.90 ft-lb/in^2	
	@Temperature 0.000 $\text{Å}^\circ\text{C}$	@Temperature 32.0 $\text{Å}^\circ\text{F}$	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	35.0 kJ/m^2	16.7 ft-lb/in^2	80*10*4; ISO 180/1U
	20.0 kJ/m^2	9.52 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.30 J/cm^2	15.7 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
	2.20 J/cm^2	10.5 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	ISO 179/2C
	3.50 J/cm^2	16.7 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.400 J/cm^2	1.90 ft-lb/in^2	ISO 179/2C
	0.700 J/cm^2	3.33 ft-lb/in^2	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.400 J/cm^2	1.90 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	ISO 179/2C
	0.500 J/cm^2	2.38 ft-lb/in^2	
	@Temperature -30.0 $\text{Å}^\circ\text{C}$	@Temperature -22.0 $\text{Å}^\circ\text{F}$	Edgew 80*10*4 sp=62mm; ISO 179/1eA

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	49.1 $\text{Å}\mu\text{m/m-Å}^\circ\text{C}$	27.3 $\text{Å}\mu\text{in/in-Å}^\circ\text{F}$	
	@Temperature -40.0 - 40.0 $\text{Å}^\circ\text{C}$	@Temperature -40.0 - 104 $\text{Å}^\circ\text{F}$	ISO 11359-2
	57.3 $\text{Å}\mu\text{m/m-Å}^\circ\text{C}$	31.8 $\text{Å}\mu\text{in/in-Å}^\circ\text{F}$	

Thermal Properties	Metric @ Temperature 23.0 - 150 Å°C	English @ Temperature 73.4 - 302 Å°F	ISO 11359-2 Comments
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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	3.3	3.3	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.3	3.3	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	15.0 kV/mm	381 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	20.0 kV/mm	508 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.010	0.010	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	175 V	175 V	IEC 60112
	175 - 250 V	175 - 250 V	UL 746A
Hot Wire Ignition, HWI	>= 120 sec	>= 120 sec	UL 746A
High Amp Arc Ignition, HAI	>= 120 arcs	>= 120 arcs	UL 746A
High Voltage Arc-Tracking Rate, HVTR	80.0 - 150 mm/min	3.15 - 5.91 in/min	UL 746A

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