

SABIC Innovative Plastics Valox[®] VX5011 PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX VX5011 is a 10% glass fibre reinforced PBT+PC blend with low warpage characteristics.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-VX5011-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Filler Content	10 %	10 %	ASTM D229
Moisture Absorption	0.100 %	0.100 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.15 %	0.15 %	ISO 62
Viscosity	145000 cP	145000 cP	Melt Viscosity, 260 [°] C, 1500 sec ⁻¹ ; ISO 11443
Linear Mold Shrinkage, Flow	0.0030 - 0.0080 cm/cm	0.0030 - 0.0080 in/in	on Tensile Bar; SABIC Method
	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0090 cm/cm	0.0050 - 0.0090 in/in	on Tensile Bar; SABIC Method
Melt Flow	18 g/10 min @Load 3.80 kg, Temperature 200 [°] C	18 g/10 min @Load 8.38 lb, Temperature 392 [°] F	ASTM D1238
	85 g/10 min @Load 5.00 kg, Temperature 265 [°] C	85 g/10 min @Load 11.0 lb, Temperature 509 [°] F	ASTM D1238
	85 g/10 min @Load 5.00 kg, Temperature 266 [°] C	85 g/10 min @Load 11.0 lb, Temperature 511 [°] F	ASTM D1238
Melt Index of Compound	18 g/10 min @Load 2.16 kg, Temperature 250 [°] C	18 g/10 min @Load 4.76 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	50 g/10 min @Load 5.00 kg, Temperature 250 [°] C	50 g/10 min @Load 11.0 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133
	75 g/10 min	75 g/10 min	

Physical Properties	Metric @Load 5.00 kg, Temperature 265 Å°C	English @Load 11.0 lb, Temperature 509 Å°F	Comments @Speed 10/10 min; ISO 1133
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Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122	122	ISO 2039-2
Hardness, H358/30	165 MPa	23900 psi	ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D638
	95.0 MPa	13800 psi	5 mm/min; ISO 527
Tensile Strength, Yield	90.0 MPa	13100 psi	Type I, 5 mm/min; ASTM D638
	95.0 MPa	13800 psi	5 mm/min; ISO 527
Elongation at Break	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	3.0 %	3.0 %	5 mm/min; ISO 527
	5.0 %	5.0 %	Flexural Strain, break, 2 mm/min; ISO 178
Elongation at Yield	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	3.0 %	3.0 %	5 mm/min; ISO 527
Tensile Modulus	4.60 GPa	667 ksi	5 mm/min; ASTM D638
	4.70 GPa	682 ksi	1 mm/min; ISO 527
Flexural Strength	130 MPa	18900 psi	2 mm/min; ISO 178
Flexural Yield Strength	126 MPa	18300 psi	1.3 mm/min, 50 mm span; ASTM D790
	140 MPa	20300 psi	2 mm/min; ISO 178
Flexural Modulus	3.60 GPa	522 ksi	1.3 mm/min, 50 mm span; ASTM D790
	4.00 GPa	580 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.470 J/cm	0.881 ft-lb/in	ASTM D256
	0.470 J/cm	0.881 ft-lb/in	ASTM D256
	@Temperature 0.000 Å°C	@Temperature 32.0 Å°F	
	0.470 J/cm	0.881 ft-lb/in	ASTM D256
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Izod Impact, Unnotched	4.75 J/cm	8.90 ft-lb/in	ASTM D4812

Mechanical Properties	Metric kJ/cm	English ft-lb/in	Comments
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	ASTM D4812
Izod Impact, Notched (ISO)	6.00 kJ/mÅ²	2.86 ft-lb/inÅ²	80*10*4; ISO 180/1A
	5.00 kJ/mÅ² @Temperature 0.000 Å°C	2.38 ft-lb/inÅ² @Temperature 32.0 Å°F	80*10*4; ISO 180/1A
	5.00 kJ/mÅ² @Temperature -30.0 Å°C	2.38 ft-lb/inÅ² @Temperature -22.0 Å°F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	40.0 kJ/mÅ²	19.0 ft-lb/inÅ²	80*10*4; ISO 180/1U
	30.0 kJ/mÅ² @Temperature -30.0 Å°C	14.3 ft-lb/inÅ² @Temperature -22.0 Å°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	4.00 J/cmÅ²	19.0 ft-lb/inÅ²	ISO 179/2C
	4.00 J/cmÅ²	19.0 ft-lb/inÅ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.00 J/cmÅ² @Temperature -30.0 Å°C	14.3 ft-lb/inÅ² @Temperature -22.0 Å°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	4.00 J/cmÅ² @Temperature -30.0 Å°C	19.0 ft-lb/inÅ² @Temperature -22.0 Å°F	ISO 179/2C
Charpy Impact, Notched	0.400 J/cmÅ²	1.90 ft-lb/inÅ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cmÅ²	2.86 ft-lb/inÅ²	ISO 179/2C
	0.400 J/cmÅ² @Temperature -30.0 Å°C	1.90 ft-lb/inÅ² @Temperature -22.0 Å°F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cmÅ² @Temperature -30.0 Å°C	2.86 ft-lb/inÅ² @Temperature -22.0 Å°F	ISO 179/2C
Dart Drop, Total Energy	37.0 J @Temperature 23.0 Å°C	27.3 ft-lb @Temperature 73.4 Å°F	ASTM D3763
Taber Abrasion, mg/1000 Cycles	54	54	CS-17, 1 kg; SABIC Method

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	3.0	3.0	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	3.1	3.1	ASTM D150
Dielectric Strength	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	3.1	3.1	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
Dielectric Strength	3.2	3.2	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	IEC 60250
	18.0 kV/mm	457 kV/in	in oil; ASTM D149
Dielectric Strength	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
	18.0 kV/mm	457 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
Dielectric Strength	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; IEC 60243-1
	25.0 kV/mm	635 kV/in	in oil; ASTM D149
Dielectric Strength	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; ASTM D149
	29.0 kV/mm	737 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	in oil; IEC 60243-1
Dielectric Strength	29.0 kV/mm	737 kV/in	in oil; ASTM D149
	@Thickness 0.800 mm	@Thickness 0.0315 in	in oil; ASTM D149
	0.0090	0.0090	IEC 60250
Dissipation Factor	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	0.014	0.014	ASTM D150
Dissipation Factor	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	0.014	0.014	ASTM D150

Electrical Properties	0.014 Metric	0.014 English	Comments IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.016	0.016	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Comparative Tracking Index	>= 100 V	>= 100 V	IEC 60112

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