

## SABIC Innovative Plastics Valox<sup>®</sup> VX5022 PBT (Europe-Africa-Middle East)

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

### Material Notes:

VALOX VX5022 is a 20% glass fibre reinforced PBT+PC blend with low warpage characteristics. This grade is 5021 with reduced warpage.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-VX5022-PBT-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-VX5022-PBT-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.39 g/cc	1.39 g/cc	ASTM D792
Density	1.39 g/cc	0.0502 lb/in <sup>3</sup>	ISO 1183
Filler Content	20 %	20 %	ASTM D229
Moisture Absorption	0.0600 %	0.0600 %	23 <sup>°</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.10 %	0.10 %	ISO 62
Viscosity	215000 cP	215000 cP	Melt Viscosity, 260 <sup>°</sup> 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
	0.0030 - 0.0050 cm/cm @Thickness 3.20 mm	0.0030 - 0.0050 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	16 g/10 min @Load 2.16 kg, Temperature 250 <sup>°</sup> C	16 g/10 min @Load 4.76 lb, Temperature 482 <sup>°</sup> F	ASTM D1238
	50 g/10 min @Load 5.00 kg, Temperature 265 <sup>°</sup> C	50 g/10 min @Load 11.0 lb, Temperature 509 <sup>°</sup> F	ASTM D1238
	50 g/10 min @Load 5.00 kg, Temperature 266 <sup>°</sup> C	50 g/10 min @Load 11.0 lb, Temperature 511 <sup>°</sup> F	ASTM D1238
Melt Index of Compound	13 g/10 min @Load 2.16 kg, Temperature 250 <sup>°</sup> C	13 g/10 min @Load 4.76 lb, Temperature 482 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	28 g/10 min @Load 5.00 kg, Temperature 250 <sup>°</sup> C	28 g/10 min @Load 11.0 lb, Temperature 482 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	40 g/10 min	40 g/10 min	

Physical Properties	Metric	English	Comments
	@Load 5.00 kg, Temperature 265 Å°C	@Load 11.0 lb, Temperature 509 Å°F	ASTM D1270 (10 min); ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	122	122	ISO 2039-2
Hardness, H358/30	205 MPa	29700 psi	ISO 2039-1
Tensile Strength at Break	110 MPa	16000 psi	5 mm/min; ISO 527
	125 MPa	18100 psi	Type I, 5 mm/min; ASTM D638
Tensile Strength, Yield	110 MPa	16000 psi	5 mm/min; ISO 527
	125 MPa	18100 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	3.0 %	3.0 %	Type I, 5 mm/min; ASTM D638
	3.0 %	3.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	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	7.10 GPa	1030 ksi	1 mm/min; ISO 527
	7.30 GPa	1060 ksi	5 mm/min; ASTM D638
Flexural Strength	150 MPa	21800 psi	2 mm/min; ISO 178
Flexural Yield Strength	145 MPa	21000 psi	1.3 mm/min, 50 mm span; ASTM D790
	150 MPa	21800 psi	2 mm/min; ISO 178
Flexural Modulus	5.80 GPa	841 ksi	1.3 mm/min, 50 mm span; ASTM D790
	6.30 GPa	914 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	@Temperature 0.000 Å°C	@Temperature 32.0 Å°F	
	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	@Temperature -30.0 Å°C	@Temperature -22.0 Å°F	
Izod Impact, Unnotched	6.50 J/cm	12.2 ft-lb/in	ASTM D4812

Mechanical Properties	Metric 0.43 J/cm	English 12.1 ft-lb/in	Comments
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	ASTM D4812
Izod Impact, Notched (ISO)	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	6.00 kJ/mÂ²	2.86 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	80*10*4; ISO 180/1A
	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature 0.000 Â°C	@Temperature 32.0 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
	35.0 kJ/mÂ²	16.7 ft-lb/inÂ²	80*10*4; ISO 180/1U
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	4.00 J/cmÂ²	19.0 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.50 J/cmÂ²	26.2 ft-lb/inÂ²	ISO 179/2C
	4.00 J/cmÂ²	19.0 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	5.00 J/cmÂ²	23.8 ft-lb/inÂ²	ISO 179/2C
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	ISO 179/2C
Charpy Impact, Notched	0.600 J/cmÂ²	2.86 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.900 J/cmÂ²	4.28 ft-lb/inÂ²	ISO 179/2C
	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.900 J/cmÂ²	4.28 ft-lb/inÂ²	ISO 179/2C
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	ISO 179/2C
Dart Drop, Total Energy	65.0 J	47.9 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	ASTM D3763

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	3.1	3.1	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	3.3	3.3	ASTM D150
Dielectric Strength	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	3.3	3.3	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	3.3	3.3	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	16.0 kV/mm	406 kV/in	in oil; ASTM D149
Dielectric Strength	@Thickness 3.20 mm	@Thickness 0.126 in	
	16.0 kV/mm	406 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
Dielectric Strength	28.0 kV/mm	711 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	28.0 kV/mm	711 kV/in	in oil; IEC 60243-1
Dielectric Strength	@Thickness 1.60 mm	@Thickness 0.0630 in	
	31.0 kV/mm	787 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dielectric Strength	31.0 kV/mm	787 kV/in	in oil; ASTM D149
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	0.0010	0.0010	IEC 60250
Dissipation Factor	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0010	0.0010	IEC 60250
Dissipation Factor	@Frequency 100 Hz	@Frequency 100 Hz	
	0.014	0.014	

Electrical Properties	Metric	English	Comments
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.014	0.014	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	>= 100 V	>= 100 V	IEC 60112

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