

## SABIC Innovative Plastics Valox<sup>®</sup> 771 PBT (Europe-Africa-Middle East)

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

### Material Notes:

VALOX 771 is a 15% glass and 20% mineral filled, flame retarded injection moulding PBT resin.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-771-PBT-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-771-PBT-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.70 g/cc	1.70 g/cc	ASTM D792
Density	1.70 g/cc	0.0614 lb/in <sup>3</sup>	ISO 1183
Filler Content	35 %	35 %	ASTM D229
Moisture Absorption	0.0900 %	0.0900 %	23 <sup>°</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.94 %	0.94 %	ISO 62
Viscosity	140000 cP	140000 cP	Melt Viscosity, 260 <sup>°</sup> C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0030 - 0.0060 cm/cm	0.0030 - 0.0060 in/in	on Tensile Bar; SABIC Method
Linear Mold Shrinkage, Transverse	0.0040 - 0.010 cm/cm	0.0040 - 0.010 in/in	on Tensile Bar; SABIC Method
Melt Flow	20 g/10 min @Load 5.00 kg, Temperature 266 <sup>°</sup> C	20 g/10 min @Load 11.0 lb, Temperature 511 <sup>°</sup> F	ASTM D1238
Melt Index of Compound	8.0 g/10 min @Load 5.00 kg, Temperature 250 <sup>°</sup> C	8.0 g/10 min @Load 11.0 lb, Temperature 482 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	16 g/10 min @Load 5.00 kg, Temperature 265 <sup>°</sup> C	16 g/10 min @Load 11.0 lb, Temperature 509 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	111	111	ISO 2039-2
Hardness, H358/30	120 MPa	17400 psi	ISO 2039-1
Tensile Strength at Break	85.0 MPa	12300 psi	Type I, 5 mm/min; ASTM D638
	85.0 MPa	12300 psi	5 mm/min; ISO 527
Tensile Strength, Yield	85.0 MPa	12300 psi	Type I, 5 mm/min; ASTM D638

Mechanical Properties	85.0 MPa Metric	12300 psi English	5 mm/min; ISO 527 Comments
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
	2.0 %	2.0 %	Flexural Strain, break, 2 mm/min; ISO 178
Elongation at Yield	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
Tensile Modulus	9.50 GPa	1380 ksi	5 mm/min; ASTM D638
	9.70 GPa	1410 ksi	1 mm/min; ISO 527
Flexural Strength	110 MPa	16000 psi	1.3 mm/min, 50 mm span; ASTM D790
	120 MPa	17400 psi	2 mm/min; ISO 178
Flexural Yield Strength	110 MPa	16000 psi	1.3 mm/min, 50 mm span; ASTM D790
	120 MPa	17400 psi	2 mm/min; ISO 178
Flexural Modulus	7.90 GPa	1150 ksi	1.3 mm/min, 50 mm span; ASTM D790
	8.40 GPa	1220 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.520 J/cm	0.974 ft-lb/in	ASTM D256
	0.510 J/cm	0.955 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.520 J/cm	0.974 ft-lb/in	ASTM D256
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Izod Impact, Unnotched	3.90 J/cm	7.31 ft-lb/in	ASTM D4812
	3.90 J/cm	7.31 ft-lb/in	ASTM D4812
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1A
	@Temperature 0.000 °C	@Temperature 32.0 °F	
	5.00 kJ/m <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	

Mechanical Properties	Metric	English	80*10*4-ISO 180/1A Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	25.0 kJ/m <sup>2</sup>	11.9 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
	25.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	11.9 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	2.90 J/cm <sup>2</sup>	13.8 ft-lb/in <sup>2</sup>	ISO 179/2C
	4.50 J/cm <sup>2</sup>	21.4 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.00 J/cm <sup>2</sup> @Temperature -30.0 °C	9.52 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	2.90 J/cm <sup>2</sup> @Temperature -30.0 °C	13.8 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/2C
Charpy Impact, Notched	0.400 J/cm <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cm <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	ISO 179/2C
	0.400 J/cm <sup>2</sup> @Temperature -30.0 °C	1.90 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cm <sup>2</sup> @Temperature -30.0 °C	2.86 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/2C
Taber Abrasion, mg/1000 Cycles	55	55	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	22.5 Åµm/m-Å°C	12.5 Åµin/in-Å°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
	30.0 Åµm/m-Å°C	16.7 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 80.0 Å°C	@Temperature 73.4 - 176 Å°F	
	30.1 Åµm/m-Å°C	16.7 Åµin/in-Å°F	ISO 11359-2
	@Temperature 23.0 - 150 Å°C	@Temperature 73.4 - 302 Å°F	
	59.0 Åµm/m-Å°C	32.8 Åµin/in-Å°F	

CTE, linear, Transverse to Flow Thermal Properties	Metric @ Temperature -40.0 - 40.0 A °C	English @ Temperature -40.0 - 104 A °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	3.1 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	IEC 60250
	3.3 @Frequency 50.0 - 60.0 Hz	3.3 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	20.0 kV/mm @Thickness 3.20 mm	508 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	23.0 kV/mm @Thickness 1.60 mm	584 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
Dissipation Factor	0.0095 @Frequency 50.0 - 60.0 Hz	0.0095 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.0128 @Frequency 1.00e+6 Hz	0.0128 @Frequency 1.00e+6 Hz	IEC 60250
Arc Resistance	180 - 240 sec	180 - 240 sec	Tungsten; ASTM D495
Comparative Tracking Index	>= 175 V	>= 175 V	IEC 60112
	600 V	600 V	IEC 60112
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	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	UL 746A

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