

## SABIC Innovative Plastics Valox® 310SE0 PBT (Europe-Africa-Middle East)

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

### Material Notes:

VALOX 310SE0 is an unreinforced, flame retardant PBT injection moulding resin. Applications: electrical industry, bobbins, keyboard, switches and switch components and appliance housings.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-310SE0-PBT-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-310SE0-PBT-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.40 g/cc	1.40 g/cc	ASTM D792
Density	1.40 g/cc	0.0506 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption	0.0800 %	0.0800 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.36 %	0.36 %	ISO 62
Viscosity	260000 cP	260000 cP	Melt Viscosity, 260Â°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.011 - 0.018 cm/cm	0.011 - 0.018 in/in	on Tensile Bar; SABIC Method
	0.0090 - 0.016 cm/cm	0.0090 - 0.016 in/in	SABIC Method
	@Thickness 0.750 - 2.30 mm	@Thickness 0.0295 - 0.0906 in	
Linear Mold Shrinkage, Flow	0.015 - 0.023 cm/cm	0.015 - 0.023 in/in	SABIC Method
	@Thickness 2.30 - 4.60 mm	@Thickness 0.0906 - 0.181 in	
Linear Mold Shrinkage, Flow	0.015 - 0.023 cm/cm	0.015 - 0.023 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Transverse	0.0090 - 0.019 cm/cm	0.0090 - 0.019 in/in	on Tensile Bar; SABIC Method
	0.010 - 0.017 cm/cm	0.010 - 0.017 in/in	SABIC Method
	@Thickness 0.750 - 2.30 mm	@Thickness 0.0295 - 0.0906 in	
Linear Mold Shrinkage, Transverse	0.016 - 0.024 cm/cm	0.016 - 0.024 in/in	SABIC Method
	@Thickness 2.30 - 4.60 mm	@Thickness 0.0906 - 0.181 in	
Melt Flow	8.6 g/10 min	8.6 g/10 min	ASTM D1238
	@Load 2.16 kg, Temperature 250 Â°C	@Load 4.76 lb, Temperature 482 Â°F	
Melt Flow	33 g/10 min	33 g/10 min	

Physical Properties	Metric	English	ASTM D1238 Comments
	@Load 5.00 kg, Temperature 265 Å°C	@Load 11.0 lb, Temperature 509 Å°F	
	33 g/10 min	33 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 266 Å°C	@Load 11.0 lb, Temperature 511 Å°F	
Melt Index of Compound	8.0 g/10 min	8.0 g/10 min	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	@Load 2.16 kg, Temperature 250 Å°C	@Load 4.76 lb, Temperature 482 Å°F	
	15 g/10 min	15 g/10 min	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 250 Å°C	@Load 11.0 lb, Temperature 482 Å°F	
	30 g/10 min	30 g/10 min	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 265 Å°C	@Load 11.0 lb, Temperature 509 Å°F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Hardness, H358/30	150 MPa	21800 psi	ISO 2039-1
Tensile Strength at Break	40.0 MPa	5800 psi	Type I, 50 mm/min; ASTM D638
	40.0 MPa	5800 psi	50 mm/min; ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	Type I, 50 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Elongation at Break	15 %	15 %	Type I, 50 mm/min; ASTM D638
	15 %	15 %	50 mm/min; ISO 527
Elongation at Yield	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D638
	5.0 %	5.0 %	50 mm/min; ISO 527
Tensile Modulus	2.70 GPa	392 ksi	5 mm/min; ASTM D638
	2.70 GPa	392 ksi	1 mm/min; ISO 527
Flexural Yield Strength	90.0 MPa	13100 psi	2 mm/min; ISO 178
	101 MPa	14600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.50 GPa	363 ksi	2 mm/min; ISO 178
			1.3 mm/min, 50 mm span; ASTM

Mechanical Properties	2.62 GPa Metric	380 ksi English	D790 Comments
Izod Impact, Notched	0.450 J/cm	0.843 ft-lb/in	ASTM D256
	0.400 J/cm	0.749 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	0.450 J/cm	0.843 ft-lb/in	ASTM D256
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	NB	NB	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>	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB	NB	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB	NB	ISO 179/2C
	NB	NB	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.600 J/cm <sup>2</sup>	2.86 ft-lb/in <sup>2</sup>	ISO 179/2C
	0.800 J/cm <sup>2</sup>	3.81 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.400 J/cm <sup>2</sup>	1.90 ft-lb/in <sup>2</sup>	

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/10A
	0.500 J/cm <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/2C
Dart Drop, Total Energy	200 J	148 ft-lb	
	@Temperature 23.0 °C	@Temperature 73.4 °F	ASTM D3763
Taber Abrasion, mg/1000 Cycles	19	19	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	2.9	2.9	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	3.0	3.0	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
	3.0	3.0	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	3.1	3.1	
	@Frequency 100 Hz	@Frequency 100 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm	457 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; ASTM D149
	18.0 kV/mm	457 kV/in	
	@Thickness 1.00 mm	@Thickness 0.0394 in	short time; IEC 60243-1
	18.0 kV/mm	457 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
	18.4 kV/mm	467 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in air; ASTM D149
	26.0 kV/mm	660 kV/in	
			in oil; ASTM D149

Electrical Properties	@Thickness 1.60 mm Metric	@Thickness 0.0630 in English	Comments
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	39.0 kV/mm	991 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.0010	0.0010	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0020	0.0020	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	

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