

## SABIC Innovative Plastics Valox<sup>®</sup> DR48 PBT (Europe-Africa-Middle East)

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

### Material Notes:

VALOX DR48 is a 17% glass reinforced, flame retardant injection moulding PBT resin. Applications: lamp sockets, connectors, switches, electrical housings and bases, bobbins, trimmers and electromotor housings.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Valox-DR48-PBT-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-DR48-PBT-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.51 g/cc	1.51 g/cc	ASTM D792
Density	1.51 g/cc	0.0546 lb/in <sup>3</sup>	ISO 1183
Filler Content	17 %	17 %	ASTM D229
Moisture Absorption	0.0700 %	0.0700 %	23 <sup>°</sup> C / 50% RH; ISO 62
Water Absorption at Saturation	0.17 %	0.17 %	ISO 62
Viscosity	105000 cP	105000 cP	Melt Viscosity, 260 <sup>°</sup> C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0050 - 0.0080 cm/cm	0.0050 - 0.0080 in/in	on Tensile Bar; SABIC Method
Linear Mold Shrinkage, Transverse	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	on Tensile Bar; SABIC Method
Melt Flow	90 g/10 min @Load 5.00 kg, Temperature 266 <sup>°</sup> C	90 g/10 min @Load 11.0 lb, Temperature 511 <sup>°</sup> F	ASTM D1238
Melt Index of Compound	14 g/10 min @Load 2.16 kg, Temperature 250 <sup>°</sup> C	14 g/10 min @Load 4.76 lb, Temperature 482 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	40 g/10 min @Load 5.00 kg, Temperature 250 <sup>°</sup> C	40 g/10 min @Load 11.0 lb, Temperature 482 <sup>°</sup> F	MVR [cm <sup>3</sup> /10 min]; ISO 1133
	70 g/10 min @Load 5.00 kg, Temperature 265 <sup>°</sup> C	70 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	120	120	ISO 2039-2
Hardness, H358/30	218 MPa	31600 psi	ISO 2039-1

Tensile Strength at Break Mechanical Properties	100 MPa Metric	14500 psi English	Type I, 5 mm/min; ASTM D638 Comments
	104 MPa	15100 psi	5 mm/min; ISO 527
Tensile Strength, Yield	100 MPa	14500 psi	Type I, 5 mm/min; ASTM D638
	104 MPa	15100 psi	5 mm/min; ISO 527
Elongation at Break	2.0 %	2.0 %	Type I, 5 mm/min; ASTM D638
	2.0 %	2.0 %	5 mm/min; ISO 527
	3.0 %	3.0 %	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	7.00 GPa	1020 ksi	1 mm/min; ISO 527
	7.10 GPa	1030 ksi	5 mm/min; ASTM D638
Flexural Strength	130 MPa	18900 psi	1.3 mm/min, 50 mm span; ASTM D790
	155 MPa	22500 psi	2 mm/min; ISO 178
Flexural Yield Strength	130 MPa	18900 psi	1.3 mm/min, 50 mm span; ASTM D790
	155 MPa	22500 psi	2 mm/min; ISO 178
Flexural Modulus	5.40 GPa	783 ksi	1.3 mm/min, 50 mm span; ASTM D790
	6.10 GPa	885 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.450 J/cm	0.843 ft-lb/in	ASTM D256
	0.450 J/cm	0.843 ft-lb/in	ASTM D256
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
	0.450 J/cm	0.843 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched	2.80 J/cm	5.25 ft-lb/in	ASTM D4812
	2.75 J/cm	5.15 ft-lb/in	ASTM D4812
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	80*10*4; ISO 180/1A

Mechanical Properties	Metric	English	Comments
	5.00 kJ/m <sup>2</sup> @Temperature 0.000 °C	2.38 ft-lb/in <sup>2</sup> @Temperature 32.0 °F	80*10*4; ISO 180/1A
	5.00 kJ/m <sup>2</sup> @Temperature -30.0 °C	2.38 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	20.0 kJ/m <sup>2</sup>	9.52 ft-lb/in <sup>2</sup>	80*10*4; ISO 180/1U
	20.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	9.52 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	2.40 J/cm <sup>2</sup>	11.4 ft-lb/in <sup>2</sup>	ISO 179/2C
	2.50 J/cm <sup>2</sup>	11.9 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
	2.40 J/cm <sup>2</sup> @Temperature -30.0 °C	11.4 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/2C
Charpy Impact, Notched	0.500 J/cm <sup>2</sup>	2.38 ft-lb/in <sup>2</sup>	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.500 J/cm <sup>2</sup>	2.38 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
	0.500 J/cm <sup>2</sup> @Temperature -30.0 °C	2.38 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179/2C
Taber Abrasion, mg/1000 Cycles	16	16	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
	3.1	3.1	

Dielectric Constant Electrical Properties	@Frequency 1.00e+6 Metric Hz	@Frequency 1.00e+6 English Hz	ASTM D150 Comments
	3.1	3.1	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	3.2	3.2	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	16.0 kV/mm	406 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; ASTM D149
	16.0 kV/mm	406 kV/in	
	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
	19.0 kV/mm	483 kV/in	
	@Thickness 1.00 mm	@Thickness 0.0394 in	short time; IEC 60243-1
	23.0 kV/mm	584 kV/in	
	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; ASTM D149
	23.0 kV/mm	584 kV/in	
	@Thickness 1.60 mm	@Thickness 0.0630 in	in oil; IEC 60243-1
	29.0 kV/mm	737 kV/in	
	@Thickness 0.800 mm	@Thickness 0.0315 in	in oil; IEC 60243-1
	29.0 kV/mm	737 kV/in	
	@Thickness 0.800 mm	@Thickness 0.0315 in	in oil; ASTM D149
Dissipation Factor	0.0010	0.0010	
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	0.012	0.012	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	0.012	0.012	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	ASTM D150
Arc Resistance	60 - 120 sec	60 - 120 sec	
			Tungsten; ASTM D495
Comparative Tracking Index	>= 150 V	>= 150 V	
	175 V	175 V	IEC 60112

Electrical Properties

175-250 V  
Metric

175-250 V  
English

№ 745A  
Comments

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