

SABIC Innovative Plastics Valox® 4012G PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX 4012G is a 10% glass fibre reinforced PBT injection moulding resin with excellent mechanical properties. Applications: connectors.

This grade is a 4012 with improved cycle time and ductility.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-4012G-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 g/cc	1.35 g/cc	ASTM D792
Density	1.35 g/cc	0.0488 lb/in ³	ISO 1183
Filler Content	10 %	10 %	ASTM D229
Moisture Absorption	0.0700 %	0.0700 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 %	0.20 %	ISO 62
Viscosity	110000 cP	110000 cP	Melt Viscosity, 260Â°C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0060 - 0.0090 cm/cm	0.0060 - 0.0090 in/in	on Tensile Bar; SABIC Method
	0.0060 - 0.016 cm/cm @Thickness 3.20 mm	0.0060 - 0.016 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0070 - 0.010 cm/cm	0.0070 - 0.010 in/in	on Tensile Bar; SABIC Method
Melt Flow	10 g/10 min @Load 1.20 kg, Temperature 250 Â°C	10 g/10 min @Load 2.65 lb, Temperature 482 Â°F	ASTM D1238
	90 g/10 min @Load 5.00 kg, Temperature 266 Â°C	90 g/10 min @Load 11.0 lb, Temperature 511 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Hardness, H358/30	110 MPa	16000 psi	ISO 2039-1
Tensile Strength at Break	80.0 MPa	11600 psi	Type I, 5 mm/min; ASTM D638
	80.0 MPa	11600 psi	5 mm/min; ISO 527
Tensile Strength, Yield	80.0 MPa	11600 psi	Type I, 5 mm/min; ASTM D638

Mechanical Properties	80.0 MPa Metric	11500 psi English	5 mm/min; ISO 527 Comments
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	4.40 GPa	638 ksi	5 mm/min; ASTM D638
	4.50 GPa	653 ksi	1 mm/min; ISO 527
Flexural Strength	120 MPa	17400 psi	1.3 mm/min, 50 mm span; ASTM D790
	120 MPa	17400 psi	2 mm/min; ISO 178
Flexural Yield Strength	120 MPa	17400 psi	1.3 mm/min, 50 mm span; ASTM D790
	125 MPa	18100 psi	2 mm/min; ISO 178
Flexural Modulus	3.80 GPa	551 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.80 GPa	551 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.500 J/cm	0.937 ft-lb/in	ASTM D256
	0.500 J/cm	0.937 ft-lb/in	ASTM D256
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
	0.500 J/cm	0.937 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Unnotched	3.80 J/cm	7.12 ft-lb/in	ASTM D4812
	3.80 J/cm	7.12 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
	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
	5.00 kJ/mÂ²	2.38 ft-lb/inÂ²	

Mechanical Properties	Metric @Temperature -30.0 °C	English @Temperature -22.0 °F	80*10*4; ISO 180/1A Comments
Izod Impact, Unnotched (ISO)	35.0 kJ/m ²	16.7 ft-lb/in ²	80*10*4; ISO 180/1U
	30.0 kJ/m ² @Temperature -30.0 °C	14.3 ft-lb/in ² @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	3.30 J/cm ²	15.7 ft-lb/in ²	ISO 179/2C
	4.50 J/cm ²	21.4 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.30 J/cm ² @Temperature -30.0 °C	15.7 ft-lb/in ² @Temperature -22.0 °F	ISO 179/2C
	4.50 J/cm ² @Temperature -30.0 °C	21.4 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	0.600 J/cm ²	2.86 ft-lb/in ²	ISO 179/2C
	0.700 J/cm ²	3.33 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.600 J/cm ² @Temperature -30.0 °C	2.86 ft-lb/in ² @Temperature -22.0 °F	ISO 179/2C
Dart Drop, Total Energy	4.00 J @Temperature 23.0 °C	2.95 ft-lb @Temperature 73.4 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	46.3 µm/m-°C @Temperature -40.0 - 40.0 °C	25.7 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
	47.9 µm/m-°C @Temperature 23.0 - 150 °C	26.6 µin/in-°F @Temperature 73.4 - 302 °F	ISO 11359-2
	60.0 µm/m-°C @Temperature -40.0 -	33.3 µin/in-°F @Temperature -40.0 -	ASTM E 831

Thermal Properties	40.0 Å°C Metric	104 Å°F English	Comments
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	
	3.4	3.4	ASTM D150
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.4	3.4	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	18.0 kV/mm	457 kV/in	in oil; ASTM D149
	@Thickness 3.20 mm	@Thickness 0.126 in	
	18.0 kV/mm	457 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	23.0 kV/mm	584 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	23.0 kV/mm	584 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	30.0 kV/mm	762 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	30.0 kV/mm	762 kV/in	in oil; ASTM D149
	@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	
	0.015	0.015	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	0.015	0.015	

Electrical Properties	Metric @ Frequency 1.00e+6 Hz	English @ Frequency 1.00e+6 Hz	ASTM D150 Comments
Comparative Tracking Index	>= 150 V	>= 150 V	IEC 60112
	325 V	325 V	IEC 60112

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