

SABIC Innovative Plastics Valox® 412 PBT (Europe-Africa-Middle East)

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

Material Notes:

VALOX 412 is 20% glass reinforced PBT injection moulding resin. Applications: Spotlights, appliance housings and handles.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-412-PBT-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.45 g/cc	1.45 g/cc	ASTM D792
Density	1.45 g/cc	0.0524 lb/in ³	ISO 1183
Filler Content	20 %	20 %	ASTM D229
Moisture Absorption	0.0600 %	0.0600 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.28 %	0.28 %	ISO 62
Viscosity	165000 cP	165000 cP	Melt Viscosity, 260 [°] C, 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0040 - 0.0080 cm/cm	0.0040 - 0.0080 in/in	on Tensile Bar; SABIC Method
	0.0040 - 0.0080 cm/cm @Thickness 3.20 mm	0.0040 - 0.0080 in/in @Thickness 0.126 in	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	12 g/10 min	12 g/10 min	ASTM D1238
	@Load 3.80 kg, Temperature 200 [°] C	@Load 8.38 lb, Temperature 392 [°] F	
	40 g/10 min	40 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 266 [°] C	@Load 11.0 lb, Temperature 511 [°] F	
Melt Index of Compound	12 g/10 min	12 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 2.16 kg, Temperature 250 [°] C	@Load 4.76 lb, Temperature 482 [°] F	
	23 g/10 min	23 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 250 [°] C	@Load 11.0 lb, Temperature 482 [°] F	
	35 g/10 min	35 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 265 [°] C	@Load 11.0 lb, Temperature 509 [°] F	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	120	120	ISO 2039-2
Hardness, H358/30	132 MPa	19100 psi	ISO 2039-1
Tensile Strength at Break	110 MPa	16000 psi	Type I, 5 mm/min; ASTM D638
	115 MPa	16700 psi	5 mm/min; ISO 527
Tensile Strength, Yield	115 MPa	16700 psi	Type I, 5 mm/min; ASTM D638
	120 MPa	17400 psi	5 mm/min; ISO 527
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	7.20 GPa	1040 ksi	5 mm/min; ASTM D638
	7.20 GPa	1040 ksi	1 mm/min; ISO 527
Flexural Strength	165 MPa	23900 psi	1.3 mm/min, 50 mm span; ASTM D790
	170 MPa	24700 psi	2 mm/min; ISO 178
Flexural Yield Strength	165 MPa	23900 psi	1.3 mm/min, 50 mm span; ASTM D790
	170 MPa	24700 psi	2 mm/min; ISO 178
Flexural Modulus	5.80 GPa	841 ksi	1.3 mm/min, 50 mm span; ASTM D790
	5.90 GPa	856 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	0.750 J/cm	1.41 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
	0.800 J/cm	1.50 ft-lb/in	ASTM D256
	@Temperature 0.000 Â°C	@Temperature 32.0 Â°F	
Izod Impact, Unnotched	7.30 J/cm	13.7 ft-lb/in	ASTM D4812

Mechanical Properties	6.50 J/cm Metric	12.2 ft-lb/in English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ASTM D4812
Izod Impact, Notched (ISO)	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature 0.000 °C	@Temperature 32.0 °F	
	7.00 kJ/mÂ²	3.33 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	40.0 kJ/mÂ²	19.0 ft-lb/inÂ²	80*10*4; ISO 180/1U
	30.0 kJ/mÂ²	14.3 ft-lb/inÂ²	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	4.00 J/cmÂ²	19.0 ft-lb/inÂ²	ISO 179/2C
	5.00 J/cmÂ²	23.8 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	3.50 J/cmÂ²	16.7 ft-lb/inÂ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.00 J/cmÂ²	23.8 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.500 J/cmÂ²	2.38 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.800 J/cmÂ²	3.81 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 °C	@Temperature -22.0 °F	
	0.800 J/cmÂ²	3.81 ft-lb/inÂ²	ISO 179/2C
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	55.0 J	40.6 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
	$\geq 1.00 \times 10^{15} \text{ ohm-cm}$	$\geq 1.00 \times 10^{15} \text{ ohm-cm}$	IEC 60093
Surface Resistance	$\geq 1.00 \times 10^{15} \text{ ohm}$	$\geq 1.00 \times 10^{15} \text{ ohm}$	ROA; IEC 60093
Dielectric Constant	3.1	3.1	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.3	3.3	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
Dielectric Strength	16.0 kV/mm	406 kV/in	in oil; ASTM D149
	@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	
	24.0 kV/mm	610 kV/in	in oil; ASTM D149
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	24.0 kV/mm	610 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
	26.0 kV/mm	660 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	
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten; ASTM D495
Comparative Tracking Index	300 V	300 V	IEC 60112
	250 - 400 V	250 - 400 V	UL 746A

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