

SABIC Innovative Plastics Valox[®] VIC4311 PBT

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

Material Notes:

VALOX VIC4311 is a 30% glass filled, impact modified PBT with excellent epoxy adhesion. Automotive underhood applications such as ignition coil housings.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-VIC4311-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.42 g/cc	1.42 g/cc	ASTM D792
Density	1.42 g/cc	0.0513 lb/in ³	ISO 1183
Moisture Absorption	0.0700 %	0.0700 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.090 %	0.090 %	ISO 62
Linear Mold Shrinkage, Flow	0.0020 - 0.0040 cm/cm	0.0020 - 0.0040 in/in	SABIC Method
	@Thickness 3.20 mm	@Thickness 0.126 in	
Linear Mold Shrinkage, Transverse	0.0060 - 0.0080 cm/cm	0.0060 - 0.0080 in/in	SABIC Method
	@Thickness 6.40 mm	@Thickness 0.252 in	
Melt Flow	19 g/10 min	19 g/10 min	ASTM D1238
	@Load 5.00 kg, Temperature 250 [°] C	@Load 11.0 lb, Temperature 482 [°] F	
Melt Index of Compound	15 g/10 min	15 g/10 min	MVR [cm ³ /10 min]; ISO 1133
	@Load 5.00 kg, Temperature 250 [°] C	@Load 11.0 lb, Temperature 482 [°] F	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	84.0 MPa	12200 psi	Type I, 5 mm/min; ASTM D638
	84.0 MPa	12200 psi	5 mm/min; ISO 527
Tensile Strength, Yield	83.0 MPa	12000 psi	Type I, 5 mm/min; ASTM D638
	86.0 MPa	12500 psi	5 mm/min; ISO 527
Elongation at Break	4.0 %	4.0 %	Type I, 5 mm/min; ASTM D638
	4.0 %	4.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
	3.0 %	3.0 %	5 mm/min; ISO 527
Tensile Modulus	7.37 GPa	1070 ksi	1 mm/min; ISO 527
	8.36 GPa	1210 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	129 MPa	18700 psi	1.3 mm/min, 50 mm span; ASTM D790
	139 MPa	20200 psi	2 mm/min; ISO 178
Flexural Modulus	6.08 GPa	882 ksi	1.3 mm/min, 50 mm span; ASTM D790
	6.18 GPa	896 ksi	2 mm/min; ISO 178
Izod Impact, Notched	1.37 J/cm	2.57 ft-lb/in	ASTM D256
	0.970 J/cm	1.82 ft-lb/in	ASTM D256
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Izod Impact, Notched (ISO)	12.0 kJ/mÂ²	5.71 ft-lb/inÂ²	80*10*4; ISO 180/1A
	9.00 kJ/mÂ²	4.28 ft-lb/inÂ²	80*10*4; ISO 180/1A
	@Temperature -30.0 Â°C	@Temperature -22.0 Â°F	
Charpy Impact, Notched	1.60 J/cmÂ²	7.61 ft-lb/inÂ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	13.0 J	9.59 ft-lb	ASTM D3763
	@Temperature 23.0 Â°C	@Temperature 73.4 Â°F	

Thermal Properties	Metric	English	Comments
CTE, linear	30.0 Âµm/m-Â°C	16.7 Âµin/in-Â°F	TMA
	@Temperature -30.0 - 30.0 Â°C	@Temperature -22.0 - 86.0 Â°F	
CTE, linear, Parallel to Flow	23.0 Âµm/m-Â°C	12.8 Âµin/in-Â°F	ASTM E 831
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
	23.0 Âµm/m-Â°C	12.8 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
CTE, linear, Transverse to Flow	114 Âµm/m-Â°C	63.3 Âµin/in-Â°F	ASTM E 831

Thermal Properties	Metric @Temperature -40.0 - 40.0 Â°C	English @Temperature -40.0 - 104 Â°F	Comments
	114 Âµm/m-Â°C	63.3 Âµin/in-Â°F	ISO 11359-2
	@Temperature -40.0 - 40.0 Â°C	@Temperature -40.0 - 104 Â°F	
Deflection Temperature at 0.46 MPa (66 psi)	220 Â°C	428 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Deflection Temperature at 1.8 MPa (264 psi)	175 Â°C	347 Â°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	205 Â°C	401 Â°F	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	170 Â°C	338 Â°F	Rate B/120; ISO 306
	175 Â°C	347 Â°F	Rate B/50; ISO 306
	180 Â°C	356 Â°F	Rate B/50; ASTM D1525

Electrical Properties	Metric	English	Comments
Surface Resistance	1.00e+16 ohm	1.00e+16 ohm	ASTM D257
Dielectric Constant	3.0	3.0	ASTM D150
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	

Descriptive Properties	Value	Comments
Ball Pressure Test, 75Â°C +/- 2Â°C	PASSES	IEC 60695-10-2

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