

SABIC Innovative Plastics Valox[®] V3900WX PBT+PC (Asia Pacific)

Category : Polymer , Thermoplastic , Polycarbonate (PC) , Polycarbonate/Polybutylene Terephthalate (PBT) Blend, Unreinforced , Polyester, TP , Polybutylene Terephthalate (PBT)

Material Notes:

PBT/PC blend - Unreinforced - Flame Retardant. This is a UV-stabilized grade designed for outdoor enclosure applications requiring UL 746C F1 weatherability performance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-V3900WX-PBTPC-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Moisture Absorption	0.0300 %	0.0300 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.10 %	0.10 %	ISO 62
Linear Mold Shrinkage, Flow	0.0070 - 0.010 cm/cm @Thickness 3.20 mm	0.0070 - 0.010 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	35 g/10 min @Load 5.00 kg, Temperature 266 [°] C	35 g/10 min @Load 11.0 lb, Temperature 511 [°] F	ASTM D1238
Melt Index of Compound	11 g/10 min @Load 2.16 kg, Temperature 265 [°] C	11 g/10 min @Load 4.76 lb, Temperature 509 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	40.0 MPa	5800 psi	50 mm/min; ISO 527
	43.0 MPa	6240 psi	Type I, 50 mm/min; ASTM D638
Tensile Strength, Yield	48.0 MPa	6960 psi	SABIC - Japan Method
	51.0 MPa	7400 psi	50 mm/min; ISO 527
	53.0 MPa	7690 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	42 %	42 %	50 mm/min; ISO 527
	50 %	50 %	Type I, 50 mm/min; ASTM D638
	250 %	250 %	SABIC - Japan Method
Elongation at Yield	4.0 %	4.0 %	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.09 GPa	303 ksi	1 mm/min; ISO 527
	2.20 GPa	319 ksi	5 mm/min; ASTM D638
Flexural Yield Strength	73.0 MPa	10600 psi	2 mm/min; ISO 178
	80.0 MPa	11600 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	2.13 GPa	309 ksi	2 mm/min; ISO 178
	2.20 GPa	319 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	8.00 J/cm	15.0 ft-lb/in	ASTM D256
	1.10 J/cm	2.06 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	41.0 kJ/m ²	19.5 ft-lb/in ²	80*10*4; ISO 180/1A
	8.00 kJ/m ²	3.81 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	5.20 J/cm ²	24.7 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	50.0 J	36.9 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	50.0 J	36.9 ft-lb	ASTM D3763
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	88.4 µm/m-°C	49.1 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	88.4 µm/m-°C	49.1 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	89.7 µm/m-°C	49.8 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	89.7 Åum/m-Å°C Metric	49.8 Åuin/in-Å°F English	Comments ISO 11359-2
	@Temperature -40.0 - 40.0 Å°C	@Temperature -40.0 - 104 Å°F	
Deflection Temperature at 0.46 MPa (66 psi)	119 Å°C @Thickness 6.40 mm	246 Å°F @Thickness 0.252 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	77.0 Å°C	171 Å°F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	75.0 Å°C @Thickness 3.20 mm	167 Å°F @Thickness 0.126 in	unannealed; ASTM D648
	96.0 Å°C @Thickness 6.40 mm	205 Å°F @Thickness 0.252 in	unannealed; ASTM D648
Vicat Softening Point	105 Å°C	221 Å°F	Rate B/50; ASTM D1525
	121 Å°C	250 Å°F	Rate B/50; ISO 306
	123 Å°C	253 Å°F	Rate B/120; ISO 306
UL RTI, Electrical	120 Å°C	248 Å°F	UL 746B
UL RTI, Mechanical with Impact	120 Å°C	248 Å°F	UL 746B
UL RTI, Mechanical without Impact	120 Å°C	248 Å°F	UL 746B
Flammability, UL94	V-0 @Thickness 1.50 mm	V-0 @Thickness 0.0591 in	UL 94
	5VA @Thickness 3.00 mm	5VA @Thickness 0.118 in	UL 94
Glow Wire Test	725 Å°C	1340 Å°F	IEC 60695-2-13
	825 Å°C	1520 Å°F	IEC 60695-2-13
	960 Å°C @Thickness 1.00 mm	1760 Å°F @Thickness 0.0394 in	IEC 60695-2-12
	960 Å°C @Thickness 3.00 mm	1760 Å°F @Thickness 0.118 in	IEC 60695-2-12

Descriptive Properties	Value	Comments
Ball Pressure Test, 125Å°C +/- 2Å°C	PASSES	IEC 60695-10-2
Ball Pressure Test, 75Å°C +/- 2Å°C	pass	IEC 60695-10-2

UV-light, water exposure/immersion
Descriptive Properties

F1
Value

UL 746C
Comments

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