

SABIC Innovative Plastics Valox[®] K3501 PBT

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

Material Notes:

Unfilled PBT, Hydrolytically Stable, Heat Stabilized, Impact Modified. A hydrolytically stable grade designed for improved performance under heat/humidity environments. Targeted at automotive underhood applications requiring USCAR-2 Class III humidity/heat performance.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-K3501-PBT.php

Physical Properties	Metric	English	Comments
Density	1.28 g/cc	0.0462 lb/in ³	ISO 1183
Moisture Absorption	0.0800 %	0.0800 %	23 [°] C / 50% RH; ISO 62
Water Absorption at Saturation	0.34 %	0.34 %	ISO 62
Linear Mold Shrinkage, Flow	0.017 - 0.026 cm/cm @Thickness 3.20 mm	0.017 - 0.026 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.017 - 0.026 cm/cm @Thickness 3.20 mm	0.017 - 0.026 in/in @Thickness 0.126 in	SABIC Method
Melt Index of Compound	26 g/10 min @Load 2.16 kg, Temperature 250 [°] C	26 g/10 min @Load 4.76 lb, Temperature 482 [°] F	MVR [cm ³ /10 min]; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	24.0 MPa	3480 psi	Type I, 50 mm/min; ASTM D638
	37.0 MPa	5370 psi	Type I, 50 mm/min; ASTM D638
	73.0 MPa	10600 psi	50 mm/min; ISO 527
Tensile Strength, Yield	49.0 MPa	7110 psi	Type I, 50 mm/min; ASTM D638
	50.0 MPa	7250 psi	50 mm/min; ISO 527
	54.0 MPa	7830 psi	Type I, 50 mm/min; ASTM D638
Elongation at Break	12 %	12 %	Type I, 50 mm/min; ASTM D638
	25 %	25 %	Type I, 50 mm/min; ASTM D638
	37 %	37 %	50 mm/min; ISO 527
	51 %	51 %	Type I, 50 mm/min; ASTM D638

Mechanical Properties	Metric	English	Comments
	3.5 %	3.5 %	Type I, 50 mm/min; ASTM D638
	4.0 %	4.0 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.02 GPa	293 ksi	1 mm/min; ISO 527
	2.43 GPa	352 ksi	50 mm/min; ASTM D638
Flexural Yield Strength	71.0 MPa	10300 psi	1.3 mm/min, 50 mm span; ASTM D790
	73.0 MPa	10600 psi	2 mm/min; ISO 178
Flexural Modulus	2.02 GPa	293 ksi	2 mm/min; ISO 178
	2.08 GPa	302 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.33 GPa	338 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.35 GPa	341 ksi	1.3 mm/min, 50 mm span; ASTM D790
Izod Impact, Notched	0.890 J/cm	1.67 ft-lb/in	ASTM D256
	0.730 J/cm	1.37 ft-lb/in	ASTM D256
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	0.830 J/cm	1.55 ft-lb/in	ASTM D256
	@Temperature 0.000 °C	@Temperature 32.0 °F	
Izod Impact, Unnotched	NB	NB	ASTM D4812
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	8.00 kJ/m ²	3.81 ft-lb/in ²	80*10*4; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
Dart Drop, Total Energy	58.0 J	42.8 ft-lb	ASTM D3763
	61.0 J	45.0 ft-lb	ASTM D3763
	48.0 J	35.4 ft-lb	ASTM D3763
	@Temperature 23.0	@Temperature 73.4 °F	

Mechanical Properties	°C Metric	English	Comments
	60.0 J	44.3 ft-lb	
	@Temperature -40.0 °C	@Temperature -40.0 °F	ASTM D3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	91.0 µm/m-°C @Temperature -40.0 - 40.0 °C	50.6 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	97.0 µm/m-°C @Temperature -40.0 - 40.0 °C	53.9 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Deflection Temperature at 0.46 MPa (66 psi)	127 °C @Thickness 3.20 mm	261 °F @Thickness 0.126 in	unannealed; ASTM D648
Deflection Temperature at 1.8 MPa (264 psi)	46.0 °C @Thickness 3.20 mm	115 °F @Thickness 0.126 in	Flatw 80*10*4 sp=64mm; ISO 75/Af unannealed; ASTM D648
Vicat Softening Point	170 °C	338 °F	Rate B/50; ISO 306
	170 °C	338 °F	Rate B/120; ISO 306

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