

SABIC Innovative Plastics Valox® FXV310SK PBT

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

Material Notes:

VALOX FXV310SK is an unreinforced PBT injection moulding Visualfx* resin with high flow characteristics and containing a metal sparkle.

Applications: automotive bezels and appliances.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Valox-FXV310SK-PBT.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.31 g/cc	1.31 g/cc	ASTM D792
Density	1.31 g/cc	0.0473 lb/in ³	ISO 1183
Moisture Absorption	0.0800 %	0.0800 %	23Â°C / 50% RH; ISO 62
Water Absorption at Saturation	0.34 %	0.34 %	ISO 62
Linear Mold Shrinkage, Flow	0.019 - 0.024 cm/cm @Thickness 3.20 mm	0.019 - 0.024 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	27.5 g/10 min @Load 2.16 kg, Temperature 250 Â°C	27.5 g/10 min @Load 4.76 lb, Temperature 482 Â°F	ASTM D1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	117	117	ISO 2039-2
Hardness, H358/30	85.0 MPa	12300 psi	ISO 2039-1
Tensile Strength at Break	17.0 MPa	2470 psi	Type I, 50 mm/min; ASTM D638
	58.0 MPa	8410 psi	50 mm/min; ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	Type I, 50 mm/min; ASTM D638
	60.0 MPa	8700 psi	50 mm/min; ISO 527
Elongation at Break	15 %	15 %	50 mm/min; ISO 527
	100 %	100 %	Type I, 50 mm/min; ASTM D638
Elongation at Yield	7.0 %	7.0 %	50 mm/min; ISO 527
	20 %	20 %	Type I, 50 mm/min; ASTM D638
Tensile Modulus	2.70 GPa	392 ksi	5 mm/min; ASTM D638
			1 mm/min; ISO 527

Mechanical Properties	2.75 GPa Metric	399 ksi English	Comments
Flexural Yield Strength	89.0 MPa	12900 psi	1.3 mm/min, 50 mm span; ASTM D790
	90.0 MPa	13100 psi	2 mm/min; ISO 178
Flexural Modulus	2.41 GPa	350 ksi	1.3 mm/min, 50 mm span; ASTM D790
	2.75 GPa	399 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.420 J/cm	0.787 ft-lb/in	ASTM D256
	0.580 J/cm	1.09 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	5.00 kJ/m ²	2.38 ft-lb/in ²	80*10*4; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB	NB	80*10*4; ISO 180/1U
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.300 J/cm ²	1.43 ft-lb/in ²	ISO 179/2C
	0.600 J/cm ²	2.86 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	0.300 J/cm ²	1.43 ft-lb/in ²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	56.0 J	41.3 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	9.0	9.0	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
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Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	@Temperature 0.000 - 100 Å°C	@Temperature 32.0 - 212 Å°F	ASTM E 831
CTE, linear, Transverse to Flow	130 Åµm/m-Å°C @Temperature -20.0 - 150 Å°C	72.2 Åµin/in-Å°F @Temperature -4.00 - 302 Å°F	ASTM E 831
Thermal Conductivity	0.160 W/m-K	1.11 BTU-in/hr-ftÅ²-Å°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	160 Å°C	320 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	55.0 Å°C	131 Å°F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	55.0 Å°C @Thickness 3.20 mm	131 Å°F @Thickness 0.126 in	unannealed; ASTM D648
Vicat Softening Point	185 Å°C	365 Å°F	Rate B/50; ASTM D1525
	185 Å°C	365 Å°F	Rate B/50; ISO 306
	187 Å°C	369 Å°F	Rate B/120; ISO 306
Flammability, UL94	HB @Thickness 1.47 mm	HB @Thickness 0.0579 in	UL 94 by SABIC-IP
	HB @Thickness 3.12 mm	HB @Thickness 0.123 in	UL 94 by SABIC-IP
Oxygen Index	20 %	20 %	ISO 4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 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 @Frequency 1.00e+6 Hz	3.1 @Frequency 1.00e+6 Hz	IEC 60250
	3.3 @Frequency 50.0 - 60.0 Hz	3.3 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	18.0 kV/mm @Thickness 3.20 mm	457 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	0.0020	0.0020	

Electrical Properties	Metric	English	Comments
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.020	0.020	
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	600 V	600 V	IEC 60112

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

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