SABIC Innovative Plastics™

Valox* Resin FXV310SK

Americas: COMMERCIAL

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

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	55	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	17	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	20	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	100	%	ASTM D 638
Tensile Modulus, 5 mm/min	2700	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2410	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	9	mg/1000cy	SABIC Method
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	58	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	7	%	ISO 527
Tensile Strain, break, 50 mm/min	15	%	ISO 527
Tensile Modulus, 1 mm/min	2750	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	90	MPa	ISO 178
Flexural Modulus, 2 mm/min	2750	MPa	ISO 178
Hardness, H358/30	85	MPa	ISO 2039-1
Hardness, Rockwell R	117	-	ISO 2039-2
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	42	J/m	ASTM D 256
Izod Impact, notched, -30°C	58	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	56	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	3	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	3	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	185	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	55	°C	ASTM D 648
CTE, -20°C to 150°C, xflow	1.3E-04	1/°C	ASTM E 831
CTE, 0°C to 100°C, flow	1.3E-04	1/°C	ASTM E 831
Thermal Conductivity	0.16	W/m-°C	ISO 8302
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	185	°C	ISO 306

Vicat Softening Temp, Rate B/120	187	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	160	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	55	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.31	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	1.9 - 2.4	%	SABIC Method
Melt Flow Rate, 250°C/2.16 kgf	27.5	g/10 min	ASTM D 1238
Density	1.31	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.34	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
ELECTRICAL	Value	Unit	Standard
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	3.3	-	IEC 60250
Relative Permittivity, 1 MHz	3.1	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.02	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Compliant, 94HB Flame Class Rating (3)(4)	1.47	mm	UL 94 by GE
UL Compliant, 94HB Flame Class Rating 2nd value (3)(4)	3.12	mm	UL 94 by GE
Oxygen Index (LOI)	20	%	ISO 4589

Source GMD, last updated:11/02/2006

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	110 - 120	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 270	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	245 - 265	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 245	°C
Hopper Temperature	40 - 60	°C
Mold Temperature	40 - 100	°C

Source GMD, last updated:11/02/2006

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR (LOCAL SALES OFFICE) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.
(2) Only typical data for selection purposes. Not to be used for part or tool design.
(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.
(4) Internal measurements according to UL standards.

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