



Valox* Resin 420SE0
Americas: COMMERCIAL

30% GR, UL94V-0/5V rated. Numerous applications; edge trimmers, food mixer motor stator and commutator, cooling fan, connectors, bobbins, switches etc

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	1190	kgf/cm ²	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	1890	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	77300	kgf/cm ²	ASTM D 790
Hardness, Rockwell R	119	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	65	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	7	cm-kgf/cm	ASTM D 256
THERMAL			
HDT, 0.45 MPa, 3.2 mm, unannealed	212	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	190	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	215	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	204	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.52E-05	1/°C	ASTM E 831
CTE, 60°C to 138°C, flow	2.52E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.58	-	ASTM D 792
Specific Volume	0.62	cm ³ /g	ASTM D 792
Water Absorption, 24 hours	0.06	%	ASTM D 570
Mold Shrinkage, flow, 1.5-3.2 mm	0.3 - 0.5	%	GE Method
Mold Shrinkage, flow, 3.2-4.6 mm	0.5 - 0.8	%	GE Method
Mold Shrinkage, xflow, 1.5-3.2 mm	0.4 - 0.6	%	GE Method
Mold Shrinkage, xflow, 3.2-4.6 mm	0.6 - 0.9	%	GE Method

1) Typical values only. Variations within normal tolerances are possible for variose colours. All values are measured at least after 48 hours storage at 230C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. 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) Own measurement according to UL.

Source, GMD, Last Update:04/14/2003

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
PHYSICAL			
Mold Shrinkage, xflow, 3.2-4.6 mm	0.6 - 0.9	%	GE Method
ELECTRICAL			
Volume Resistivity	>3.4E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	19.2	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	24	kV/mm	ASTM D 149
Relative Permittivity, 100 Hz	3.8	-	ASTM D 150
Relative Permittivity, 1 MHz	3.7	-	ASTM D 150
Dissipation Factor, 100 Hz	0.002	-	ASTM D 150
Dissipation Factor, 1 MHz	0.02	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.73	mm	UL 94
UL Recognized, 94-5VA Rating (3)	2	mm	UL 94
CSA (See File for complete listing)	LS88480	File No.	CSA LISTED
Oxygen Index (LOI)	32	%	ASTM D 2863
UV-light, water exposure/immersion	F2	-	UL 746C

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	255 - 275	°C
Nozzle Temperature	250 - 270	°C
Front - Zone 3 Temperature	255 - 275	°C
Middle - Zone 2 Temperature	250 - 270	°C
Rear - Zone 1 Temperature	245 - 265	°C
Mold Temperature	65 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	50 - 80	rpm
Shot to Cylinder Size	40 - 80	%
Vent Depth	0.025 - 0.038	mm

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