VALOX™ RESIN 420

REGION ASIA

DESCRIPTION

30% GR, excellent strength, stiffness and dimensional stability. High heat resistance. Appliance handles, spotlights, electric motors, connectors.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	119	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	190	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	7580	MPa	ASTM D 790
Hardness, Rockwell R	118	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	801	J/m	ASTM D 4812
Izod Impact, notched, 23°C	85	J/m	ASTM D 256
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	215	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°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	140	°C	UL 746B
Relative Temp Index, Mech w/impact	140	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.53	-	ASTM D 792
Specific Volume	0.66	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	%	SABIC method
Mold Shrinkage, flow, 3.2-4.6 mm	0.5 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 1.5-3.2 mm	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2-4.6 mm	0.6 – 0.9	%	SABIC method
ELECTRICAL			
Volume Resistivity	>3.2E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	18.7	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}	5	PLC Code	ASTM D 495
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	E207780-100173314	-	-
UL Yellow Card Link 2	E45587-236813	-	-
UL Recognized, 94HB Flame Class Rating	0.83	mm	UL 94
Oxygen Index (LOI)	19	%	ASTM D 2863
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	hrs	
Drying Time (Cumulative)	12	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 265	°C	
Nozzle Temperature	245 – 260	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 260	°C	
Rear - Zone 1 Temperature	240 – 255	°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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