

# 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 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
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	189	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
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	801	J/m	ASTM D 4812
Izod Impact, notched, 23°C	85	J/m	ASTM D 256
<b>THERMAL</b>			
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
<b>PHYSICAL</b>			
Specific Gravity	1.53	-	ASTM D 792
Specific Volume	0.65	cm <sup>3</sup> /g	ASTM D 792
Water Absorption, 24 hours	0.06	%	ASTM D 570
Mold Shrinkage, flow, 1.5-3.2 mm (5)	0.3 – 0.5	%	SABIC method
Mold Shrinkage, flow, 3.2-4.6 mm (5)	0.5 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 1.5-3.2 mm (5)	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2-4.6 mm (5)	0.6 – 0.9	%	SABIC method
<b>ELECTRICAL</b>			
Volume Resistivity	>3.2E+16	Ohm-cm	ASTM D 257

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dielectric Strength, in air, 3.2 mm	18.7	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	24.8	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
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	0.83	mm	UL 94
Oxygen Index (LOI)	19	%	ASTM D 2863
<b>INJECTION MOLDING</b>			
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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