

VALOX™ RESIN 745

REGION AMERICAS

DESCRIPTION

30% mineral reinforced polyester improved toughness and low warpage. Typical applications are telephone ringer frames and card racks.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	48	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	46	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	89	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3440	MPa	ASTM D790
Hardness, Rockwell R	112	-	ASTM D785
IMPACT			
Izod Impact, unnotched, 23°C	1602	J/m	ASTM D4812
Izod Impact, notched, 23°C	80	J/m	ASTM D256
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	160	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	87	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.56E-05	1/°C	ASTM E831
CTE, 60°C to 138°C, flow	1.39E-04	1/°C	ASTM E831
Relative Temp Index, Elec	105	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B
Relative Temp Index, Mech w/o impact	105	°C	UL 746B
PHYSICAL			
Specific Gravity	1.46	-	ASTM D792
Specific Volume	0.69	cm ³ /g	ASTM D792
Water Absorption, (23°C/24hrs)	0.09	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.8 – 1	%	SABIC method
Mold Shrinkage, flow, 1.5-3.2 mm	0.6 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.8 – 1	%	SABIC method
Mold Shrinkage, xflow, 1.5-3.2 mm	0.6 – 0.8	%	SABIC method
ELECTRICAL			
Volume Resistivity	6.9E+16	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	23.2	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	24.8	kV/mm	ASTM D149
Relative Permittivity, 100 Hz	3.3	-	ASTM D150
Relative Permittivity, 1 MHz	3.2	-	ASTM D150
Dissipation Factor, 100 Hz	0.002	-	ASTM D150
Dissipation Factor, 1 MHz	0.014	-	ASTM D150
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	2	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	<u>E121562-220807</u>	-	-
UL Recognized, 94HB Flame Class Rating	1.47	mm	UL 94
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	255 – 270	°C	
Front - Zone 3 Temperature	255 – 265	°C	
Middle - Zone 2 Temperature	250 – 260	°C	
Rear - Zone 1 Temperature	245 – 255	°C	
Mold Temperature	65 – 95	°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	