

**VALOX® DR51M***Americas: COMMERCIAL*

15% GR; exc. mechanical/thermal/electrical performance; nonflame retardant. For spotlights, appliance housings, handles. Easy flow/int. mold release.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	93	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	5	%	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	145	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4830	MPa	ASTM D 790
Hardness, Rockwell R	118	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	534	J/m	ASTM D 4812
Izod Impact, notched, 23°C	53	J/m	ASTM D 256
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	191	°C	ASTM D 648
CTE, -40°C to 95°C, flow	2.16E-05	1/°C	ASTM E 831
CTE, 60°C to 138°C, flow	2.16E-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	1.41	-	ASTM D 792
Specific Volume	0.71	cm ³ /g	ASTM D 792
Water Absorption, 24 hours	0.07	%	ASTM D 570
Mold Shrinkage, flow, 1.5-3.2 mm	0.4 - 0.6	%	GE Method
Mold Shrinkage, flow, 3.2-4.6 mm	0.6 - 0.9	%	GE Method
Mold Shrinkage, xflow, 1.5-3.2 mm	0.5 - 0.8	%	GE Method
Mold Shrinkage, xflow, 3.2-4.6 mm	0.8 - 1.1	%	GE Method
ELECTRICAL			
Volume Resistivity	3.3E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 3.2 mm	19.7	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	23.2	kV/mm	ASTM D 149
Relative Permittivity, 100 Hz	3.6	-	ASTM D 150
Relative Permittivity, 1 MHz	3.4	-	ASTM D 150



VALOX® DR51M

Americas: *COMMERCIAL*

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
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}	2	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	0.7	mm	UL 94



VALOX® DR51M
Americas: *COMMERCIAL*

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	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