



Valox* Resin DR48V

Europe-Africa-Middle East: COMMERCIAL

VALOX DR48V is a 17% glass reinforced, flame retardant injection moulding PBT resin. Applications: lamp sockets, connectors, switches, electrical housings and bases, bobbins, trimmers and electromotor housings.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	16	mg/1000cy	GE Method
Tensile Stress, break, 5 mm/min	110	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	6500	MPa	ISO 527
Flexural Stress, break, 2 mm/min	160	MPa	ISO 178
Flexural Modulus, 2 mm/min	5500	MPa	ISO 178
Hardness, Rockwell R	118	-	ISO 2039-2
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	50	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	55	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m ²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.19	W/m-°C	ISO 8302
CTE, 23°C to 80°C, flow	3.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	9.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	185	°C	ISO 306
Vicat Softening Temp, Rate B/120	185	°C	ISO 306



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	215	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	185	°C	ISO 75/Ae
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2)	0.5 - 0.8	%	GE Method
Mold Shrinkage on Tensile Bar, xflow (2)	0.6 - 0.9	%	GE Method
Density	1.51	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.17	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/2.16 kg	12	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1.E+13	Ohm-cm	IEC 60093
Surface Resistivity, ROA	1.8E+14	Ohm	IEC 60093
Dielectric Strength, shorttime, 1.0mm	19	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	19	kV/mm	IEC 60243-1
Relative Permittivity, 50/60 Hz	3.6	-	IEC 60250
Relative Permittivity, 1 MHz	3.4	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.02	-	IEC 60250
Comparative Tracking Index	175	V	IEC 60112
Comparative Tracking Index, M	150	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.89	mm	UL 94
UL Recognized, 94-5VA Rating (3)	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	31	%	ISO 4589



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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
Injection Molding		
Drying Temperature	110 - 120	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 270	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	245 - 265	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 245	°C
Hopper Temperature	40 - 60	°C
Mold Temperature	40 - 100	°C