

OVERVIEW

MEI-120 (Cu-DLP) is phosphorus-deoxidised copper with low residual phosphorus offering good electrical conductivity (90% IACS) and excellent welding and soldering properties. Not susceptible to hydrogen embrittlement. Excellent cold and hot forming characteristics.

CHEMICAL COMPOSITION (wt. %)		ALLOY DESIGNATIONS		COIL / SHEET SPECIFICATIONS	
Element	Composition (%)	Standard	Designation	Specification	Range
Cu	≥99.90	IS	IS 191	Thickness (mm)	0.04 – 3.0
P	0.005 – 0.013	JIS	C1201	Width (mm)	6.00 – 406
		ISO	Cu-DLP	Inner Dia. (mm)	100/150/200/300/400/500
		ASTM	C12000	Coil Wt. (kg/mm)	1.0 – 4.0
		BS	—	Sheet Length (m)	0.50 – 4.00

MECHANICAL PROPERTIES — typical values at 20°C

Temper	HV	Tensile MPa	Elong. T<0.1	Elong. T>0.1
Annealed	40–60	200–250	≥20	≥35
1/4 Hard	60–75	220–260	≥10	≥15
1/2 Hard	70–90	240–290	≥5	≥10
Hard	90–110	290–360	≥2	≥4
Extra Hard	≥110	≥360	—	—

PHYSICAL PROPERTIES — annealed temper at 20°C

Density (g/cm³)	Elec. Conductivity (% IACS)	Thermal Conductivity (W/m·K)	Modulus of Elasticity (GPa)	Specific Heat (J/kg·K)
8.92	90	350	132	386

FABRICATION PROPERTIES

Fabrication Property	Rating	Fabrication Property	Rating
Capacity for Cold Working	Excellent	Soft Soldering	Excellent
Machinability	Less suitable	Resistance Welding	Less suitable
Electroplating	Excellent	Gas Shielded Arc Welding	Excellent
Hot Dip Tinning	Excellent	Laser Welding	Good

CORROSION RESISTANCE

MEI-120 is resistant to atmospheric corrosion and provides good resistance to natural and industrial atmospheres. Not resistant to oxidizing acids, hydrous ammonia and halogenated gases, halogen sulfide or seawater at high flow rates.

TYPICAL APPLICATIONS

• Conductors and bus bars	• Resistance welding equipment
• Industrial tubing and pipework	• Apparatus industry components