

OVERVIEW

MEI-80 (Low Brass) has excellent cold and hot forming properties with higher strength than pure copper. Good welding and brazing properties. Not sensitive to stress corrosion cracking or dezincification, making it ideal for deep drawn electrical and musical instrument parts.

CHEMICAL COMPOSITION (wt. %)		ALLOY DESIGNATIONS		COIL / SHEET SPECIFICATIONS	
Element	Composition (%)	Standard	Designation	Specification	Range
Cu	79.00 – 81.00	IS	—	Thickness (mm)	0.04 – 3.0
Fe	≤0.05	JIS	C2400	Width (mm)	6.00 – 406
Pb	≤0.03	ISO	CuZn20	Inner Dia. (mm)	100/150/200/300/400/500
Ni	≤0.10	ASTM	C24000	Coil Wt. (kg/mm)	1.0 – 4.0
Zn	Rem.	BS	CZ103	Sheet Length (m)	0.50 – 4.00

MECHANICAL PROPERTIES — typical values at 20°C

Temper	HV	Tensile MPa	Elong. %	Grain Size mm
Annealed	55–75	275–330	≥42	0.035–0.070
1/4 Hard	75–90	330–360	≥35	0.015–0.035
1/2 Hard	95–125	370–440	≥25	≤0.010
3/4 Hard	120–140	420–470	≥15	≤0.010
Hard	140–160	470–540	≥10	≤0.010
Extra Hard	155–175	530–600	≥4	≤0.005
Spring Hard	170–190	585–640	—	≤0.005

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)
8.67	32	142	119	380

FABRICATION PROPERTIES

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

CORROSION RESISTANCE

MEI-80 has good resistance to fresh water, neutral or alkaline saline solutions, organic compounds and land, sea and industrial atmosphere. Less sensitive to stress corrosion cracking and not sensitive to dezincification. Not resistant to oxidizing acids or hydrous sulphur compounds.

TYPICAL APPLICATIONS

• Battery caps, AC motors and electrical components	• Jewelry and metal goods
• Deep drawn parts	• Clock dials, plaques and musical instrument parts
• Pump lines, welding wires and flexible hose	