

OVERVIEW

MEI-58 (Leaded Muntz Metal) is a low-lead brass alloy widely used for machining and hot working. Excellent hot working properties make it the standard alloy for heat exchanger plates, air conditioning components and marine products. Cold forming only to a minor extent.

CHEMICAL COMPOSITION (wt. %)		ALLOY DESIGNATIONS		COIL / SHEET SPECIFICATIONS	
Element	Composition (%)	Standard	Designation	Specification	Range
Cu	58.00 – 61.00	IS	IS 12443	Thickness (mm)	6.00 – 40.00
Pb	0.25 – 0.70	JIS	C3650	Width (mm)	50 – 1250
Sn	≤0.25	ISO	CuZn40Pb	Length (mm)	2500 (Max)
Fe	≤0.15	ASTM	C36500	Form	Sheet / Plate
Zn	Rem.	BS	CZ119		

MECHANICAL PROPERTIES — typical values at 20°C

Temper	HV	Tensile MPa (min)	Elong. % (min)
Soft	60–80	≥280	30
1/4 Hard	90–110	≥350	25
1/2 Hard	110–140	≥420	10
Hard	140–165	≥490	5
Extra Hard	165–190	≥525	3

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)
8.41	28	117	102	377

FABRICATION PROPERTIES

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

CORROSION RESISTANCE

MEI-58 has good resistance to water, water vapor, different saline solutions, many organic liquids, land, sea and industrial atmosphere. Under certain circumstances dezincification can occur. This alloy also tends to stress corrosion cracking under stressed conditions with amine/ammonia salts; heat treatment can help avoid this.

TYPICAL APPLICATIONS

• Air conditioners and HVAC components	• Heat exchangers and condenser plates
• Military applications	• Marine products and hardware