



EMH-Brass tubes in CuZn37

CuZn37 with its lower copper content is a one-phase alloy which still has excellent cold working properties. It is, therefore, highly suitable for stamping, riveting, crimping and flanging.

CuZn37 combines the benefits of low material costs and good cold working properties. For this reason it is the material which is most frequently used for cold working.

Chemical Composition *

Cu	63 %
Zn	balance

* Standard values in % by weight

Material Description

EN	CuZn37, CW508L
UNS	C27200, C27400
DIN*	CuZn37, 2.0321
BS*	CZ108
NF*	CuZn36

* former national standards

Physical Properties *

Electrical conductivity

MS/m	15.5
% IACS	26

Thermal conductivity

W/(m*K)	121
---------	-----

Thermal expansion coefficient

(0 – 300 °C) 10 ⁻⁶ /K	20.2
----------------------------------	------

Density

g/cm ³	8.44
-------------------	------

Modulus of elasticity

GPa	110
-----	-----

* Standard values at room temperature
1 GPa = 1 kN/mm²
1 MS/m = 1 m/Ω • mm

Processing Properties

Forming

Machinability (CuZn39Pb3 = 100%)	30 %
Cold forming	excellent
Hot forming	good

Joining

Resistance welding	good
Inert gas shielded arc welding	fair
Hard soldering	excellent
Soft soldering	excellent

Surface Treatment

Polishing

mechanical	excellent
electrolytical	fair

Electroplating

	excellent
--	-----------

Heat Treatment

Melting point	900 – 920 °C
Hot forming	750 – 850 °C
Soft annealing	450 – 650 °C, 1-3 h
Thermal stress-relieving	200 – 300 °C, 1-3 h

Corrosion Resistance *

Brass alloys with a medium copper content are generally quite resistant to organic substances and neutral or alkaline compounds. This alloy is virtually unsusceptible to stress corrosion cracking.

* Stress corrosion cracking can occur, especially in an ammoniacal atmosphere and whilst under mechanical stress.

Mechanical Properties (attainable values, depending on the dimension and form)

Standard values	from (soft)	to (hard)
R _m [MPa]	345	680
R _{p0.2} [MPa]	120	590
A ₅ [%]	60	10
HB	70	180

