



EMH-Brass Tubes in CuZn10

CuZn10 has excellent cold working properties due to its very high copper content.

This alloy is particularly suitable for stamping, riveting, crimping, flanging, cold extrusion or other cold working operations.

Chemical Composition *

Cu	90 %
Zn	balance

* Standard values in % by weight

Material Description

EN	CuZn10, CW501L
UNS	C22000
DIN*	CuZn10, 2.0230
BS*	CZ101
NF*	CuZn10

* former national standards

Physical Properties *

Electrical conductivity

MS/m	24.7
% IACS	42

Thermal conductivity

W/(m*K)	184
---------	-----

Thermal expansion coefficient

(0 – 300 °C) 10 ⁻⁶ /K	18.2
----------------------------------	------

Density

g/cm ³	8.8
-------------------	-----

Modulus of elasticity

GPa	124
-----	-----

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

Processing Properties

Forming

Machinability (CuZn39Pb3 = 100%)	20 %
Cold forming	excellent
Hot forming	fair

Joining

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

Surface Treatment

Polishing

mechanical	excellent
electrolytical	excellent

Electroplating

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

Heat Treatment

Melting point	1,025 – 1,045 °C
Hot forming	750 – 900 °C
Soft annealing	450 – 600 °C, 1-3 h
Thermal stress-relieving	200 – 300 °C, 1-3 h

Corrosion Resistance

Brasses with a high copper content are generally resistant to organic substances and neutral or alkaline compounds. They are virtually unsusceptible to stress corrosion cracking.

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

Standard values	from (soft)	to (hard)
R _m [MPa]	230	460
R _{p 0.2} [MPa]	60	420
A ₅ [%]	60	15
HB	75	130

