



## EMH-Brass Tubes in CuZn38Pb1

**CuZn37Pb1** is a machining brass which combines the contrasting material properties of machining and cold working exceptionally well. This material is therefore well established for machining and cold working.

### Chemical Composition \*

Cu	60.5 %
Ni	balance
Zn	1.2 %

\* Standard values in % by weight

### Material Description

EN	CuZn38Pb1, CW607N
UNS	C37000
DIN*	CuZn38Pb1
BS*	CZ129
NF*	not standardized

\* former national standards

### Physical Properties \*

#### Electrical conductivity

MS/m	14
% IACS	24

#### Thermal conductivity

W/(m*K)	109
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#### Thermal expansion coefficient

(0 – 300 °C) 10 <sup>-6</sup> /K	20.4
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#### Density

g/cm <sup>3</sup>	8.44
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#### Modulus of elasticity

GPa	108
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\* Standard values at room temperature  
1 GPa = 1 kN/mm<sup>2</sup>  
1 MS/m = 1 m/Ω · mm

### Processing Properties

#### Forming

Machinability (CuZn39Pb3 = 100%)	85 %
Cold forming	fair
Hot forming	excellent

#### Joining

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

#### Surface Treatment

##### Polishing

mechanical	excellent
electrolytical	fair

##### Electroplating

	excellent
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### Heat Treatment

Melting point	895 – 900 °C
Hot forming	650 – 750 °C
Soft annealing	450 – 650 °C, 1-3 h
Thermal stress-relieving	200 – 300 °C, 1-3 h

### Corrosion Resistance \*

Machining brass is generally quite resistant against organic substances as well as neutral or alkaline compounds.

\* Stress corrosion cracking and dezincification in warm, acidic waters should be taken into account, especially in an ammonical atmosphere and whilst under mechanical stress.

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

Standard values	from (soft)	to (hard)
R <sub>m</sub> [MPa]	340	500
R <sub>p 0.2</sub> [MPa]	250	400
A <sub>5</sub> [%]	35	10
HB	75	150

