

## EMH-Nickel Silver Tubes in CuNi12Zn24

CuNi12Zn24 is silver-coloured and provides a good resistance to tarnishing. It is a single-phase alloy and therefore has excellent cold working properties. A high level of strength can be achieved. One characteristic of nickel silver is that it is temperature-resistant. This is important as far as welding and soldering are concerned. This alloy is used in the music industry, the optical industry among others.

Chemical Composit	ion *
Cu	65.5 %
Ni	12 %
Zn	balance

<sup>\*</sup> Standard values in % by weight

**Processing Properties** 

Material Description		
EN	CuNi12Zn24, CW403J	
UNS	C75700	
DIN*	CuNi12Zn24, 2.0730	
BS*	NS104	
NF*	CuNi12Zn24	

<sup>\*</sup> former national standards

Electrical conductivity		
MS/m	4.4	
% IACS	7	
Thermal conductivity		
W/(m*K)	42	
Thermal expansion coeffic	cient	
(0 – 300 °C) 10 <sup>-6</sup> /K	18	
Density		
g/cm <sup>3</sup>	8.67	
Modulus of elasticity		
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Forming	
Machinability (CuZn39Pb3 = 100%)	25 %
Cold forming	excellent
Hot forming	fair
Joining	
Resistance welding	excellent
Inert gas shielded arc welding	excellent
Hard soldering	excellent
Soft soldering	excellent
Surface Treatment	
Polishing	
mechanical	excellent
electrolytical	excellent
Electroplating	excellent

Heat Treatment	
Melting point	1,020 – 1,065 °C
Hot forming	820 – 950 °C
Soft annealing	600 – 750 °C, 1-3 h
Thermal stress-relieving	300 – 400 °C, 1-3 h

## Corrosion Resistance

Nickel silver generally has a good resistance to corrosion as far as atmospheric influences, organic substances (perspiration, environmental influences) as well as alkaline and neutral saline solutions are concerned.

Mechanical Properties (attainable values, depending on the dimension and form)				
Standard	values	from (soft)	to (hard)	
R <sub>m</sub>	[MPa]	400	910	
R <sub>p 0,2</sub>	[MPa]	180	740	
A <sub>5</sub>	[%]	45	2	
НВ		90	160	



1 GPa = 1 kN/mm<sup>2</sup> 1 MS/m =1 m/Ω • mm