

# CuNi10Zn27

CuNi10Zn27 | C74500

It is an ideal alloy for cold forming. It is a material with high corrosion resistance and is suitable for soldering.

## Comparable Standards

EN	UNS
CW401J	C74500

## Chemical Composition %

Cu	Zn	Ni	Fe	Pb	Mn
61-64	rem	9-11	0.3 max	0.05 max	0.5 max

## Physical Properties

Melting Point	1000-1035	[°C]
Density	8.60	(g/cm³)
Cp @ 20°C	0.380	[kJ/kgK]
Thermal Conductivity	46	(W/mK)
Electrical Conductivity	≥8.5	%IACS
Modulus of Elasticity	125	[GPa]
α @ 20°C	16.4	[10-6/K]

Note: The specified conductivity applies to the soft condition only.

Cp specific heat

α thermal expansion coefficient

## Fabrication Properties

Machinability	less suitable
Gas shield arc welding	fair
Cold Formability	good
Hot Formability	less suitable
Resistance welding	excellent
Brazing	excellent
Soldering	excellent
Brazing	excellent

## Electrical Conductivity

Electrical conductivity depends on chemical composition, level of cold deformation, and grain size. High levels of deformation and small grain size reduce conductivity.

### Typcial Uses

It is used in the production of connectors, pins and terminals, cutlery sets, zippers, and similar items.

### Corrosion Resistance

Nickel silver materials are resistant to atmospheric conditions, organic compounds, and neutral and alkaline saline solutions.

Nickel silver materials are not resistant to oxidizing acids and aqueous ammonia.

## Mechanical Properties

	Tensile Strength [MPa]	Yield Strength [MPa]	Elongation A50 [%]	Hardness HV [-]	Bend ratio 90° [r]	
					GW	BW
R360	360-430	≤ 230	≥ 35	80-110	0	0
R430	430-510	≥ 230	≥ 8	110-150	0	0
R490	490-580	≥ 400	≥ 5	150-180	0	0
R550	550-640	≥ 480	-	170-200	0	0.5
R620	620-710	≥ 580	-	190-220	2	4



Other tempers are available upon request.

$r = x * t$  (thickness  $t \leq 0.5\text{mm}$ )

GW bend axis transverse to rolling direction. BW bend axis parallel to rolling direction.

## Dimensional Specifications

Thickness (mm)	Width (mm)
0.10-0.20	10-340
0.21-1.00	5-340
1.01-4.00	15-340
4.01-5.00	25-340