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 Standarts

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
Modules 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 coefficent

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

Mechanical Properties

	Tensile Strength [MPa]	Yield Strangth [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 ≤ 0.5mm)

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

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