C77000

ES17 – CuNi18Zn27

SUNDWIGER Messingwerk

Material Designation	
DIN-EN Symbol	CuNi18Zn27
DIN-EN	CW410J
UNS	C77000
JIS	C7701

Major changes start at the beginning:
Sundwiger ECO-SILVER 17 is the green starting point for the protection of our environment.

Carbon FoodPrint:
With the Recycling Inpute Rate of 97% the Primary Energy
Consumption can be reduced by more than 40%. Concurrently, the Global Warming Potential is
shortened by more than 50%
(= net savings of more than 2.0 CO2-Emission equivalents per kg)

Nominal Composition (mass content in %)	
Cu	Balance
Ni	18
Zn	27
Fe	< 0,2
Mn	< 0,25
Sn	< 0,03
Pb	< 0,005
Cd	< 0,002
Other	< 0,08

Typical Applications

- Coins, caps for quartz crystals
- Electromagnetic shieldings
- Deep drawing parts
- Tableware, security keys, cutlery
- Contact springs, connector, leaf springs for relays, electric contacts

About The Alloy

Sundwiger ECO-SILVER 17 has been developed in response to the demand of numerous customers for an environmentally sound alternative alloy to C7001.

Having a significant positive impact on the environment by reducing the carbon foot-print, this material has also a guaranteed and certified RIR potential of at least 97%. The RIR (Recycling Input Rate) is measured according to the environmental standard, which excludes primary metals and home scrap.
Sundwiger ECO-SILVER 17 has good cold-forming properties, is tarnish resistant and has particularly good spring properties. Like all copper alloys the copper-nickel-zinc alloys are not susceptible to embrittlement at lower temperature. The corrosion resistance of nickel silver is considerably better than that of binary copper-zinc alloys. Sundwiger ECO-SILVER 17 is insensitive to stress corrosion cracking.

Physical Properties		
Electrical conductivity soft	3	MS/m
Thermal conductivity	27	W/(m·K)
Thermal expansion coefficient **	17	10-6/K
Density	8,8	g/cm³
Modulus of elasticity	135	GPa = kN/mm²

* Reference values at room temperature
** Between 20 and 300 °C

Mechanical Properties *)					
Temper condition		H01 **R 480** H 120	H02 **R 540** H 150	H04 **R 630** H 180	H06 **R 700** H 210
Tensile strength in N/mm²		480 - 600	540 - 655	630 - 735	700 - 820
0.2% yield strength in N/mm²		280	450	500	560
Elongation A_{L50} %		> 25	> 8	> 4	> 2
Vickers hardness HV		120 - 160	150 - 210	180 - 240	210 - 260
Electrical conductivity in % IACS		4	4	4	4
Minimum radius of the bending mandrel for 90° bend and strip thickness s					
0.10 ≤ s ≤ 0.25 mm	transverse	0 x s	0 x	0 x s	0 x s
	parallel	0 x s	0 x s	0 x s	1 x s
0.25 < s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	2 x s
	parallel	0 x s	0 x s	1 x s	5 x s

*) Reference values

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Processing Instructions	
Cold forming properties	very good
Machinability	satisfactory
Electroplating properties	very good
Hot-dip tinning properties	good
Soldering	good
Resistance welding	very good
Gas shielded arc welding	good
Laser welding	good

Available Versions
Coils with standard outer diameters of 1200 mm
Strips in reel form with coil weight of up to 1500 kg
Multipancake up to 2.5 t
Hot-dip tinned strips
Profiled strips
Electroplated strips (tin, nickel)

Available Dimensions
Bright pre-rolled strips 1 to 2.5 mm
Precision strip thickness from 0.05 to 1.2 mm
Strip width from 3.0 to 600 mm, but at least 10 times of the strip thickness
Other widths available on request

Your Local Contact Person	
Europe	Asia

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