

Material Designation		Nominal Composition (mass content in %)		About The Alloy
DIN-EN Symbol	CuNi18Zn20	Cu	Balance	<p>Sundwiger ECO-SILVER 18 has been developed in response to the demand of numerous customers for an environmentally sound alternative alloy to C7521. Having a significant positive impact on the environment by reducing the carbon footprint, this material has also a guaranteed and certified RIR potential of at least 97%.</p> <p>The RIR (Recycling Input Rate) is measured according to the environmental standard, which excludes primary metals and home scrap.</p> <p>Sundwiger ECO-SILVER 18 has good cold-forming properties, is tarnish resistant and has very 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 18 is insensitive to stress corrosion cracking.</p>
DIN-EN	CW409J	Ni	18	
UNS	≈ C 76400	Zn	20	
JIS	C7521	Fe	< 0,2	
Major changes start at the beginning: Sundwiger ECO-SILVER 18 is the green starting point for the protection of our environment.		Mn	< 0,25	
		Sn	< 0,03	
		Pb	< 0,005	
		Cd	< 0,002	
Carbon FoodPrint: With the Recycling Input 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 CO ₂ -Emission equivalents per kg)		Other	< 0,08	
		Typical Applications		
		<ul style="list-style-type: none"> • Coins, caps for quartz crystals • Electromagnetic shieldings • Deep drawing parts • Tableware, security keys, cutlery • Contact springs, connector, leaf springs for relays, electric contacts 		

Physical Properties			Mechanical Properties *)			
Electrical conductivity soft	3	MS/m	Temper condition	0 R 380 H 90	H02 R 450 H 115	H04 R 540 H 160
Thermal conductivity	27	W/(m·K)	Tensile strength in N/mm ² (for reference only)	380 - 480	450 - 550	540 - 640
Thermal expansion coefficient **	17	10 ⁻⁶ /K	0.2% yield strength in N/mm ² (for reference only)	< 290	250	450
Density	8,7	g/cm ³	Elongation A _{L50} % (for reference only)	> 30	> 25	> 15
Modulus of elasticity	135	GPa = kN/mm ²	Vickers hardness HV (for binding)	90 - 130	125 - 160	160 - 195
* Reference values at room temperature ** Between 20 and 300 °C			Electrical conductivity in % IACS	5	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 s	0 x s
			parallel	0 x s	0 x s	0 x s
0.25 < s ≤ 1.0 mm			transverse	0 x s	0 x s	0 x s
			parallel	0 x s	0 x s	0 x s
			*) Reference values			

The information given in this material data sheet, which in any case provides no guarantee of particular characteristics, has been compiled to the best of our knowledge but is given without any obligation on our part. Our liability is determined solely by the individual contract terms, in particular by our general conditions of sale. We reserve the right to make alterations especially where necessitated by technical developments or changes in availability. Please ask for the latest edition of this material data sheet.

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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