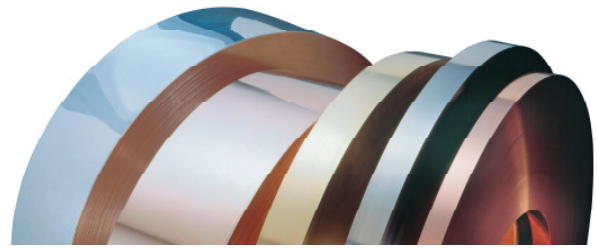


# High-Performance Alloys

## SB92



Material Designation	
DIN-EN Symbol	CuNi9Sn2
DIN-EN	CW351H
UNS	C72500
JIS	C7250
The Miller Company	C725

Nominal Composition (mass content in %)	
Cu	Balance
Ni	9.5
Sn	2.3
Fe	< 0.3
Mn	< 0.2
Zn	< 0.1
Pb	< 0.005
Other	< 0.1

### About The Alloy

SB92 is a cupro-nickel 10 material to which approx. 2 % tin is added. It is mainly used for spring-action parts.

SB92 is distinguished by a very good stress relaxation behaviour in spring hard condition, a good tarnish resistance as well as a high softening temperature.

By means of an additional tempering after the cold forming process the bendability can be considerably improved.

The alloy is registered with the U.S. EPA as Antimicrobial and with respect to Pb and Cd meets the OEKO-TEX Standard 100.

Physical Properties		
Electrical conductivity soft	6	MS/m
Thermal conductivity	120	W/(m·K)
Thermal expansion coefficient **	17.2	10 <sup>-6</sup> /K
Density	8.9	g/cm <sup>3</sup>
Modulus of elasticity	140	GPa = kN/mm <sup>2</sup>

### Typical Applications

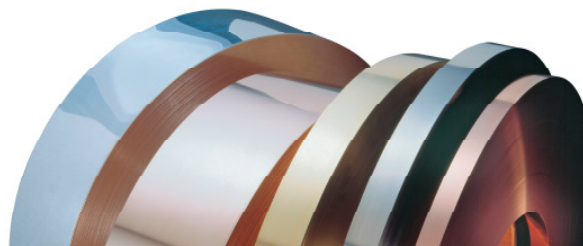
- Age-hardenable alloys for connectors and power transistor carriers and semiconductor devices
- Leaf springs for relays
- Stamped-bent parts
- Transistor carriers
- Connector pins
- Carriers
- Car electrics

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

Mechanical Properties *)							
Temper condition		O R 340 H 80	H01 R 380 H 110	H02 R 450 H 140	H04 R 500 H 160	H06 R 560 H 180	H08 R 610 H 190
Tensile strength in N/mm <sup>2</sup>		340 - 410	380 - 480	450 - 540	500 - 580	560 - 650	610 - 700
0.2 % yield Strength in N/mm <sup>2</sup>		< 250	300	370	450	520	580
Elongation A <sub>L50</sub> %		> 30	> 10	> 6	> 3	> 2	-
Vickers hardness HV		80 - 110	110 - 150	140 - 170	160 - 190	180 - 210	190 - 220
Electrical conductivity in % IACS		10	10	10	10	10	10
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	0 x s	1 x s	3 x s
	parallel	0 x s	0 x s	0 x s	0 x s	3 x s	7 x s
0.25 < s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	0.5 x s	2 x s	-
	parallel	0 x s	0 x s	0.5 x s	1 x s	5 x s	-

\*) Reference values

## High-Performance Alloys SB92



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

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.

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)

Your Local Contact Person		
Europe	USA	Asia

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Metal Applications



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Metal Applications

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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.