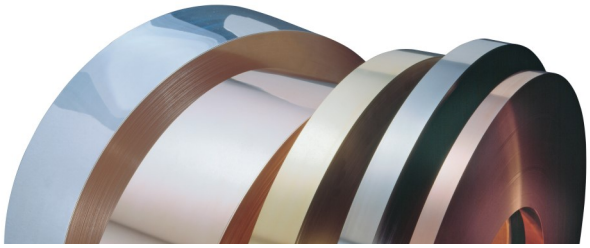
SUNDWIGER Messingwerk

Bronze (Copper-Tin)
BB80 Plus
Ecobronze



Material Designation	
DIN-EN Symbol	(CuSn8+)
DIN-EN	CW453K
UNS	C52100
JIS	C5212
The Miller Company	C521 Plus

Physical Properties		
Electrical conductivity soft	7.5	MS/m
Thermal conductivity	54	W/(m·K)
Thermal expansion coefficient **	18	10-6/K
Density	8.8	g/cm³
Modulus of elasticity	115	GPa = kN/mm²

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

Nominal Composition (mass content in %)	
Cu	Balance
Sn	8
Zn	< 0.2
Ni	< 0.2
Fe	< 0.1
Pb	< 0.005
P	0.03 - 0.35
Other	< 0.1

Typical Applications

- Connectors for electrical engineering, electronics and automotive technology
- Stamped-bent parts
- Contact springs
- Leaf springs for relays
- Slide bearings
- Slide bars

About The Alloy

The Ecobronze BB80 Plus is a modified 8 % tin bronze alloy which is distinguished by a very fine structure with considerably higher strength and at the same time improved elongation and bendability compared to an 8 % standard tin bronze alloy. It is used for miniaturized connectors and current-carrying springs in contacts.

Among the 4 to 8 % tin bronze alloys BB80 Plus exhibits the lowest electrical conductivity; the highest reachable strength is considerably higher than for BB40, BB50, BB60 and BB80 and reaches the level of CuBe alloys.

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

Mechanical Properties *)

Temper condition		H04S **R 590S** H 185S	H06S **R 685S** H 210S	H08S **R 735S** H 230S	H10S **R 785S** H 245S	H12S **R 835S** H 260S
Tensile strength in N/mm²		590 - 705	685 - 785	735 - 835	785 - 885	835 - 1000
0.2 % yield Strength in N/mm²		> 540	635	700	750	800
Elongation A_{L50} %		> 20	> 11	> 9	> 5	> 2
Vickers hardness HV		185 - 235	210 - 260	230 - 270	245 - 285	260 - 290
Electrical conductivity in % IACS		12	12	12	12	12
Minimum radius of the bending mandrel for 90° bend and strip thickness s with a thickness/width ratio of < 10						
s ≤ 0.25 mm	transverse parallel	0 x s 0 x s	0 x s 0.5 x s	0 x s 2 x s	1 x s 4 x s	2 x s 6 x s

*) Reference values

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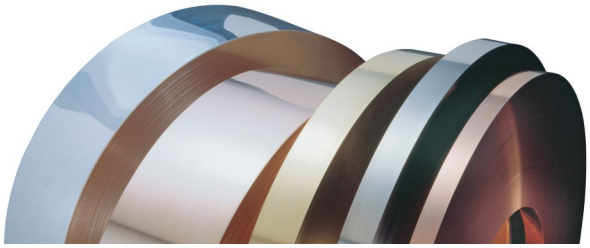

Processing Instructions	
Cold forming properties	very good
Machinability	sufficient
Electroplating properties	very good
Hot-dip tinning properties	very good
Soldering	very good
Resistance welding	good
Gas shielded arc welding	good
Laser welding	very good

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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