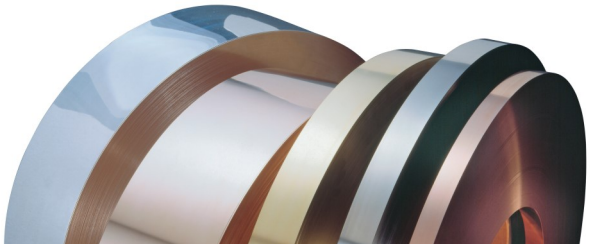
SUNDWIGER Messingwerk

Bronze (Copper-Tin)
BB60 Plus Ecobronze



Material Designation	
DIN-EN Symbol	(CuSn6+)
DIN-EN	CW452K
UNS	C51900
JIS	C5191
The Miller Company	C519 Plus

Physical Properties		
Electrical conductivity soft	8.1	MS/m
Thermal conductivity	66	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	6
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 BB60 Plus is a modified 6 % tin bronze which is distinguished by a very fine structure with considerably higher strength and elongation and a high electrical conductivity. It is used for miniaturized connectors and current-carrying springs in contacts.

Among the 4 to 8 % tin bronzes BB60 Plus exhibits an intermediate electrical conductivity. Regarding the strength it reaches the level of a standard 8 % bronze.

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 190S	H06S **R 650S** H 200S
Tensile strength in N/mm²		590 - 690	650 - 750
0.2 % yield Strength in N/mm²		> 540	620
Elongation A_{L50} %		> 12	> 8
Vickers hardness HV		190 - 220	200 - 230
Electrical conductivity in % IACS		13	13
Minimum radius of the bending mandrel for 90° bend and strip thickness s with a thickness/width ratio of < 10			
0.10 ≤ s ≤ 0.25 mm	transverse parallel	0 x s 0 x s	0.5 x s 1.5 x s

*) Reference values

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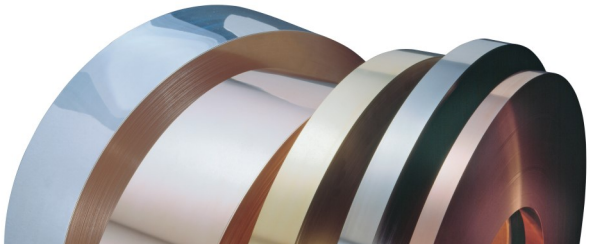

Processing Instructions	
Cold forming properties	very good
Machinability	sufficient
Electroplating properties	very good
Hot-dip tinning properties	very good
Soldering	very good
Resistance welding	good
Gas shielded arc welding	good
Laser welding	very good

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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