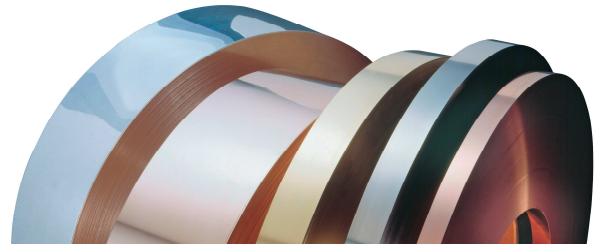


Bronze (Copper-Tin) BB40 Plus Ecobronze



Material Designation	
DIN-EN Symbol	(CuSn4+)
DIN-EN	CW450K
UNS	C51100
JIS	C5111

Physical Properties		
Electrical conductivity soft	12	MS/m
Thermal conductivity	86	W/(m·K)
Thermal expansion coefficient **	17	10 ⁻⁶ /K
Density	8.9	g/cm ³
Modulus of elasticity	120	GPa = kN/mm ²

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

Nominal Composition (mass content in %)	
Cu	Balance
Sn	4
Zn	< 0.2
Ni	< 0.2
Fe	< 0.1
Pb	< 0.005
P	0.03 - 0.35
Other	< 0.1

Typical Applications
<ul style="list-style-type: none"> • 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 BB40 Plus is a modified 4 % 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.

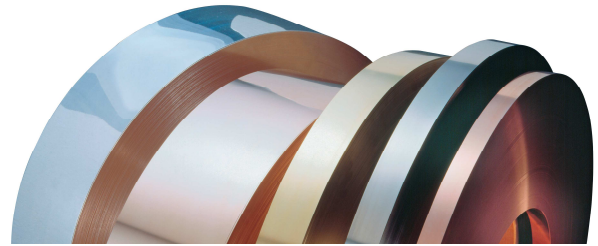
Among the 4 to 8 % tin bronzes BB40 Plus exhibits the highest electrical conductivity. Regarding the strength it reaches the level of a standard 6 % bronze.

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 *)					
	H06S R 600S H 190S	H08S R 660S H 200S	H10S R 700S H 210S	H12S R 750S H 220S	
Temper condition					
Tensile strength in N/mm ²	600 - 680	660 - 720	700 - 800	750 - 840	
0.2 % yield strength in N/mm ²	560	625	660	720	
Elongation A _{LS0} %	> 13	> 7	> 5	> 2	
Vickers hardness HV	190 - 220	200 - 230	210 - 240	220 - 245	
Electrical conductivity in % IACS	20	20	20	20	
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	0 x s	0 x s	0.5 x s	1 x s
	parallel	1 x s	2 x s	3 x s	4 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 strip 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
Strip in reel form with coil weight of up to 1500 kg
Multipancake up to 2.5 t
Hot-dip tinned strip
Profiled strip
Electroplated strip (tin, nickel)

Your Local Contact Person	
Europe	Asia
<p>SUNDWIGER Messingwerk</p> <p>Sundwiger Messingwerk GmbH</p> <p>Hönnetalstraße 110 58675 Hemer Deutschland Tel. +49 2372 661-100 Fax +49 2372 661-48100 E-Mail: sales-sundwig@sundwiger-mw.com www.sundwiger-mw.com</p>	<p>SUNDWIGER Messingwerk</p> <p>Diehl Metall (Shenzhen) Co. Ltd.</p> <p>5F, Block 25, Shatoujiao Free Trade Zone 518081 Shenzhen P.R. of China Tel. +86 755 2235 7466 Fax +86 755 25260974 E-Mail: sales@sundwiger-mw.com.cn www.sundwiger-mw.com</p>

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