

BB40 Plus – CuSn4

Material Designation			Nominal Composition (mass content in %)		About The Alloy
DIN-EN Symbol	(CuSn4+)		Cu	Balance	<p>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.</p> <p>It is used for miniaturized connectors and current-carrying springs in contacts.</p>
DIN-EN	CW450K		Sn	4	
UNS	C51100		Zn	< 0,2	
JIS	C5111		Ni	< 0,2	
			Fe	< 0,1	
			Pb	< 0,005	<p>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.</p>
			P	0,03 - 0,35	
			Other	< 0,1	
			Typical Applications		<p>The alloy is registered with the U.S. EPA as Antimicrobial and with respect to Pb and Cd meets the OEKO-TEX Standard 100.</p>
			<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		
Electrical conductivity soft	12	MS/m			
Thermal conductivity	86	W/(m·K)			
Thermal expansion coefficient **	17	10-6/K			
Density	8,9	g/cm³			
Modulus of elasticity	120	GPa = kN/mm²			
* Reference values at room temperature					
** Between 20 and 300 °C					

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 _{L50} %		> 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 parallel	0 x s 1 x s	0 x s 2 x s	0.5 x s 3 x s	1 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 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



Sundwiger Messingwerk GmbH

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

Sundwiger Metal (Shenzhen) Co. Ltd.

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

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