

## BB80 Plus – CuSn8

Material Designation			Nominal Composition (mass content in %)		About The Alloy
DIN-EN Symbol	(CuSn8+)		Cu	Balance	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.
DIN-EN	CW453K		Sn	8	
UNS	C52100		Zn	< 0,2	
JIS	C5112		Ni	< 0,2	
Physical Properties			Fe	< 0,1	
			Pb	< 0,005	
			P	0,03 - 0,35	
			Other	< 0,1	
Electrical conductivity soft	7,5	MS/m	Typical Applications		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.
Thermal conductivity	54	W/(m·K)	<ul style="list-style-type: none"><li>• Connectors for electrical engineering, electronics and automotive technology</li><li>• Stamped-bent parts</li><li>• Contact springs</li><li>• Leaf springs for relays</li><li>• Slide bearings</li><li>• Slide bars</li></ul>		
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					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/mm <sup>2</sup>	590 - 705	685 - 785	735 - 835	785 - 885	835 - 1000
0.2 % yield Strength in N/mm <sup>2</sup>	> 540	635	700	750	800
Elongation A <sub>L50</sub> %	> 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	0 x s	0 x s	0 x s	1 x s
	parallel	0 x s	0.5 x s	2 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 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



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