

Material Designation			Nominal Composition (mass content in %)		About The Alloy
DIN-EN Symbol	CuSn8		Cu	Balance	BB80 is an 8 % tin bronze alloy which is distinguished by a very good combination of strength and electrical conductivity. It is used for connectors and current-carrying springs in contacts.
DIN-EN	CW453K		Sn	8	
UNS	C52100		Zn	< 0,2	
JIS	C5212		Ni	< 0,2	
			Fe	< 0,1	
Physical Properties			Pb	< 0,005	Among the 4 to 8 % tin bronze alloy BB80 exhibits the lowest electrical conductivity; the highest reachable strength is significantly higher than for BB40, BB50 and BB60. By means of an additional tempering after the cold forming process the bendability can be further improved.
Electrical conductivity soft	7,5	MS/m	P	0,03 - 0,35	
Thermal conductivity	54	W/(m·K)	Other	< 0,1	
Thermal expansion coefficient **	18	10-6/K	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		
Density	8,8	g/cm³			
Modulus of elasticity	115	GPa = kN/mm²			
* Reference values at room temperature					
** Between 20 and 300 °C					

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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		O R 370 H 90	H02 R 450 H 140	H03 R 540 H 170	H04 R 600 H 190	H06 R 660 H 210	H08 R 735 H 230
Tensile strength in N/mm ²		370 - 450	450 - 550	540 - 630	600 - 690	660 - 750	735 - 830
0.2 % yield Strength in N/mm ²		< 300	380	470	540	620	700
Elongation A _{L50} %		> 50	> 22	> 15	> 8	> 6	> 2
Vickers hardness HV		90 - 120	140 - 175	170 - 200	190 - 220	210 - 240	230 - 260
Electrical conductivity in % IACS		13	12	12	12	12	12
Minimum radius of the bending mandrel for 90° bend and strip thickness s, tempered quality							
0.10 ≤ s ≤ 0.25 mm	transverse	0 x s	0 x s	0 x s	0 x s	0.5 x s	1 x s
	parallel	0 x s	0 x s	0 x s	1 x s	1.5 x s	4 x s
0.25 < s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	1 x s	1 x s	-
	parallel	0 x s	0 x s	0.5 x s	2 x s	3 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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