SUNDWIGER Messingwerk

High-Performance Alloys **BB01**



Material Designation	
DIN-EN Symbol	CuSn0,15
DIN-EN	CW117C
UNS	C14415
JIS	C1441

48	MS/m
360	W/(m·K)
17	10-6/K
8.9	g/cm³
128	GPa = kN/mm ²
	360 17 8.9

^{*} Reference values at room temperature

Nominal Composition (mass content in %)		
Cu	Balance	
Sn	0.12	
Fe	< 0.02	
Ni	< 0.02	
Zn	< 0.1	
Pb	< 0.005	
Р	< 0.015	

Typical Applications

- Age-hardenable alloys for connectors and power transistor carriers and semiconductor devices
- · Leaf springs for relays
- Stamped-bent parts
- Transistor carriers
- Connector pins
- Carriers
- Car electrics

About The Alloy

Low-alloyed copper alloys are distinguished by a high electrical conductivity. They do not reach the spring force of the bronzes, however, in comparison with pure copper, they are significantly harder. Therefore, they are predominantly used for lead frames for semiconductors, as well as for cable connectors and for the central fuse, relay and terminal box of automobiles.

BB01 is a copper alloy with a low Sn content for power semiconductors, which are used in the case of high heat development (e. g. TO 220). BB01 differs from SB02 (UNS C19400) by the higher thermal conductivity and the higher electrical conductivity. In comparison with pure copper BB01 has a higher strength while the electrical conductivity is a little lower. BB01 has excellent soldering and welding properties.

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 250 H 60	H02 R 300 H 85	H04 R 360 H 105	H06 R 420 H 120	H08 R 460 H 135
Tensile strength in N/mm ²		250 - 320	300 - 370	360 - 430	420 - 490	> 460
0.2 % yield Strength in N/n	nm²	200	250	320	400	410
Elongation A _{L50} %		> 15	> 4	> 3	> 2	> 2
Vickers hardness HV		60 - 90	85 - 110	105 - 130	120 - 140	> 135
Electrical conductivity in % IACS		83	83	82	82	82
Minimum radius of the bending mandrel for 90° bend and strip thickness s, tempered quality						
0.10 ≤ s ≤ 0.25 mm	transverse parallel	0 x s 0 x s	0 x s 0 x s	0 x s 0 x s	1 x s 1 x s	1.5 x s 1.5 x s
0.25 < s ≤ 0.5 mm	transverse parallel	0 x s 0 x s	0 x s 0 x s	0.5 x s 0.5 x s	1 x s 1.5 x s	- -
*) Reference values						

^{**} Between 20 and 300 °C



High-Performance Alloys



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	good

Ava	ны	NA.	Dim	anc	ions

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

Asia

SUNDWIGER

Messingwerk

SUNDWIGER

Messingwerk

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

Diehl Metall (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

The information given in this material data sheet, which in any case provides no guarantee of particular characteristics, has been compiled to the best of our knowledge but is given without any obligation on our part. Our liability is determined solely by the individual contract terms, in particular by our general conditions of sale.

We reserve the right to make alterations especially where necessitated by technical developments or changes in availability. Please ask for the latest edition of this material data sheet.