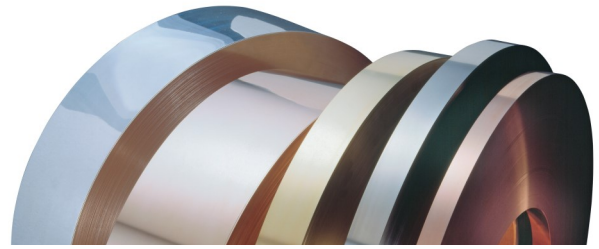


## Bronze (Copper-Tin) BB60



Material Designation	
DIN-EN Symbol	CuSn6
DIN-EN	CW452K
UNS	C51900
JIS	C5191
The Miller Company	C519

Physical Properties		
Electrical conductivity soft	8.1	MS/m
Thermal conductivity	66	W/(m·K)
Thermal expansion coefficient **	18	10 <sup>-6</sup> /K
Density	8.8	g/cm <sup>3</sup>
Modulus of elasticity	115	GPa = kN/mm <sup>2</sup>

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

Nominal Composition (mass content in %)	
Cu	Balance
Sn	6
Zn	< 0.2
Ni	< 0.2
Fe	< 0.1
Pb	< 0.005
p	0.03 - 0.35
Other	< 0.1

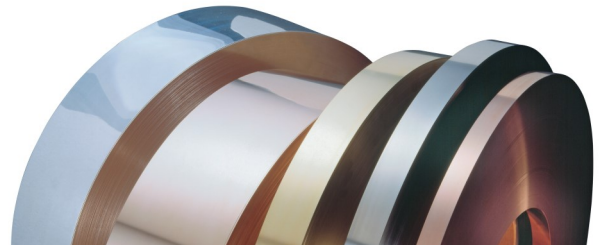
Typical Applications
<ul style="list-style-type: none"> <li>• Connectors for electrical engineering, electronics and automotive technology</li> <li>• Stamped-bent parts</li> <li>• Contact springs</li> <li>• Leaf springs for relays</li> <li>• Slide bearings</li> <li>• Slide bars</li> </ul>

About The Alloy
<p>BB60 is a 6 % tin bronze which is distinguished by a very good combination of strength and electrical conductivity. It is used for connectors and current-carrying springs in contacts.</p> <p>Among the 4 to 8 % tin bronzes BB60 exhibits a high electrical conductivity; the highest reachable strength is significantly higher than for BB40 and BB50. By means of an additional tempering after the cold forming process the bendability can be further improved.</p> <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>

Mechanical Properties *)							
Temper condition		O R 350 H 80	H02 R 420 H 125	H03 R 500 H 160	H04 R 580 H 180	H06 R 640 H 200	H08 R 720 H 220
Tensile strength in N/mm <sup>2</sup>		350 - 420	420 - 520	500 - 590	580 - 660	640 - 730	720 - 800
0.2 % yield Strength in N/mm <sup>2</sup>		< 300	370	450	530	600	690
Elongation A <sub>L50</sub> %		> 50	> 20	> 12	> 7	> 4	> 2
Vickers hardness HV		80 - 110	125 - 165	160 - 190	180 - 210	200 - 230	220 - 250
Electrical conductivity in % IACS		14	13	13	13	13	13
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 x s	0 x s
	parallel	0 x s	0 x s	0 x s	1 x s	2 x s	2 x s
0.25 ≤ s ≤ 1.0 mm	transverse	0 x s	0 x s	0 x s	0 x s	1 x s	-
	parallel	0 x s	0 x s	1 x s	2 x s	3 x s	-

\*) Reference values

## Bronze (Copper-Tin) BB60



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 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	USA	Asia

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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.