

Phosphor Bronze (Copper-Tin)

**BD60 | BD61 |
BD64 | BD65**



Material Designation				
DMA Symbol	BD60	BD61	BD64	BD65
DIN-EN Symbol	CuSn6	CuSn6	CuSn6	CuSn6
DIN-EN	CW452K			
UNS	C51900			

About the Alloy

For the technically and industrially important tin bronze CuSn6 the standard DIN EN 12166 specifies a broadly tolerated composition.

However, since this material can be applied in various fields in terms of composition, tensile strength and electrical conductivity, Diehl Metal Applications (DMA) developed four wire alloys within the wide tolerance range of DIN-EN compositions that meet diverse customer requirements.

Physical Properties*				
DMA Symbol	BD60	BD61	BD64	BD65
Condition of tin content within DIN EN tolerance	low	low	high	high
Condition of phosphor content within DIN EN tolerance	low	high	low	high
Density in g/cm ³	8.8	8.8	8.8	8.8
Electrical conductivity in % IACS soft	14	13	13	12

* Reference values

Mechanical Properties*					
DMA Symbol		BD60	BD61	BD64	BD65
Tensile strength in N/mm ²	soft	360 - 440	360 - 440	360 - 440	360 - 440
	1/4 hard	430 - 550	430 - 550	430 - 550	430 - 550
	1/2 hard	530 - 630	530 - 630	530 - 630	530 - 630
	3/4 hard	630 - 740	630 - 740	630 - 740	630 - 740
	hard	740 - 900	740 - 900	740 - 900	740 - 900
	springhard	min 900	min 900	min 900	min 900

* Reference values

Phosphor Bronze
(Copper-Tin)
BD60 | BD61 |
BD64 | BD65



Reference to Standards	
DIN	EN 12166

Typical Applications
<ul style="list-style-type: none"> • Connectors • Spring wire • Screws • Rivets • Wire mesh • Spectacle frames • Reinforcement (construction)

Available Dimensions		
Rolled, modified square wire	5.1 mm 7.4 mm	max. 2000 kg
Round wire	1.2 - 6.2 mm in coils	max. 200 kg
	1.8 - 6.2 mm on stands	max. 1500 kg
	0.5 - 3 mm on reels	max. 1000 kg
	1.5 - 3 mm on acropaks	max. 400 kg
	On request: in drums	max. 400 kg
	On request: in bars, diameter 2 - 5 mm, sheared ends (length ≤ 3.5 m)	max. 500 kg

Your Contact Person	
Worldwide	
Sundwiger Messingwerk	A Diehl Metal Applications company Sundwiger Messingwerk GmbH & Co. KG Hönnetalstraße 110 58675 Hemer Germany Phone +49 2372 661-143 Fax +49 2372 661-48143 E-Mail: jens.mittendorff@diehl.com www.diehl.com/metall

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.