

## Brass

# bedra 28500

### Material Designation\*

UNS	C28500
EN	CuZn42 (CW 510 L)
JIS	/
GB	H59

### Chemical Composition

Cu	57.0-59.0	%
Pb	≤0.1	%
Sn	≤0.3	%
Al	≤0.05	%
Fe	≤0.3	%
Ni	≤0.3	%
Others	≤0.2	%
Zn	Balance	%

### Characteristics

It has high strength, excellent hot working performance and good cold working performance. And it has good pressure machining and cutting performance, good brazability and weldability and good corrosion resistance.

### Physical Properties

Density <sup>①</sup>	8.4	g/cm <sup>3</sup>
Electrical conductivity <sup>①</sup>	≥20	%IACS
Thermal conductivity <sup>①</sup>	113	W/(m·K)
Coefficient of thermal expansion <sup>②</sup>	20.5	10 <sup>-6</sup> / K
Modulus of elasticity	105	GPa

Note①: Temperature for testing is 20°C.

Note②: Temperature range for testing is 20-300°C.



### Typical Applications

It can be applied for all deep drawing and bending manufacturing stressed parts, such as pin, rivet, washer, nut, conduit, barometer spring, screen, radiator parts, etc.

### Fabrication Properties

Cold workability	Fair
Hot workability	Excellent
Brazing	Excellent
Resistance welding	Good
Hot forging compared with C37700	100%
Machinability compared with C36000	60%

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## Mechanical Properties

Diameter	Temper	Tensile Strength		Yield Strength			Elongation		
		mm	MPa min.	MPa min.	A <sub>100</sub> % min.	A <sub>11.3</sub> % min.	A % min.		
6 ≤ Φ < 80	R360		360	320(max)	--	15	20		
2 ≤ Φ < 40	R430		430	220	6	8	10		
2 ≤ Φ < 14	R500		500	350	--	3	5		

## Tolerance and Delivery Form

### Straight Bar

Diameter	Tolerance <sup>③</sup>	Ovality	Length		Straightness
			mm max.	ft max.	
2 ≤ Φ < 3	0.03	0.0075	2500	8.2	1.0
3 ≤ Φ < 6	0.04	0.01	2500	8.2	0.5
6 ≤ Φ < 10	0.06	0.015	4000	13.1	0.5
10 ≤ Φ < 18	0.08	0.02	4000	13.1	0.5
18 ≤ Φ < 25	0.12	0.03	4000	13.1	0.5
25 ≤ Φ < 40	0.20	0.05	4000	13.1	0.5
40 ≤ Φ < 60	0.30	0.075	4000	13.1	0.5
60 ≤ Φ < 80	0.60	0.15	3000	9.8	3.0
80 ≤ Φ < 100	1.60	0.40	2000	6.6	5.0
100 ≤ Φ ≤ 120	2.00	0.50	1500	4.9	6.0

Note③: The tolerances listed in the table are specified as all plus or all minus. When tolerances are specified as plus and minus (±), half the values given.

\*Composition BS EN 12164-2016, (Pb, for reference only.)  
 Conductivity For reference only  
 Mechanical Properties BS EN 12164-2016  
 Fabrication Properties CDA  
 Other Physical Properties CDA, Elastic modulus for reference only.

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