

## Lead Brass

# bedra 38500

### Material Designation\*

UNS	C38500
EN	CuZn39Pb3 (CW614N)
JIS	C3604
GB	HPb58-3

### Chemical Composition

Cu	57.0-61.0	%
Pb	1.8-3.7	%
Fe	≤0.5	%
Fe+Sn	≤1.0	%
Zn	Balance	%



### Characteristics

It has high strength, corrosion resistance and abrasion resistance, good hot machining properties and weldability, but poor cold machining properties.

### Typical Applications

It is used for parts and components requiring precision machining, such as screws, nuts and rotations, shafts, gears, pneumatic tools/connectors, valves, lighters, camera components and watch components.

### Physical Properties

Density <sup>①</sup>	8.47	g/cm <sup>3</sup>
Electrical conductivity <sup>①</sup>	25	%IACS
Thermal conductivity <sup>①</sup>	120	W/( m·K)
Coefficient of thermal expansion <sup>②</sup>	20.1	10 <sup>-6</sup> /K
Modulus of elasticity	96.5	GPa

Note<sup>①</sup>: Temperature for testing is 20°C.

Note<sup>②</sup>: Temperature range for testing is 20-300°C.

### Fabrication Properties

Cold workability	Poor
Hot workability	Excellent
Brazing	Good
Resistance welding	Not recommended
Machinability compared with C36000	80%

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## Mechanical Properties

Diameter	Temper	Tensile Strength	Hardness
mm		MPa min.	HV min.
$1 \leq \Phi \leq 110$	F	335	80

## Tolerance and Delivery Form

Diameter	Tolerance <sup>③</sup>	Ovality	Straight Bar		Straightness
			Length		
mm	mm	mm	mm max.	ft max.	mm/m max.
$2 \leq \Phi < 3$	0.015	0.0075	2500	8.2	1.0
$3 \leq \Phi < 6$	0.02	0.01	2500	8.2	0.5
$6 \leq \Phi < 10$	0.03	0.015	4000	13.1	0.5
$10 \leq \Phi < 18$	0.04	0.02	4000	13.1	0.5
$18 \leq \Phi < 25$	0.06	0.03	4000	13.1	0.5
$25 \leq \Phi < 40$	0.10	0.05	4000	13.1	0.5
$40 \leq \Phi < 60$	0.15	0.075	4000	13.1	0.5
$60 \leq \Phi < 80$	0.30	0.15	3000	9.8	3.0
$80 \leq \Phi < 100$	0.16	0.40	2000	6.6	5.0
$100 \leq \Phi \leq 120$	2.00	0.50	1500	4.9	6.0

Note<sup>③</sup>: The tolerances listed in the table are specified as all plus or all minus. When tolerances are specified as plus and minus ( $\pm$ ), half the values given.

\*Composition JIS H3250-2015  
 Conductivity For reference only  
 Mechanical Properties JIS H3250-2015  
 Fabrication Properties For reference only  
 Other Physical Properties For reference only

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