

# bedra 79860

## Material Designation\*

UNS	C79860
EN	CuNi12Mn5Pb2 (CW 407 J)
JIS	/
GB	BZn12-37-1.5

## Chemical Composition

Cu	42.3-43.7	%
Pb	1.3-1.8	%
Ni	11.8-12.7	%
Mn	5.6-6.4	%
Zn	Balance	%



## Characteristics

It has excellent cutting performance with machinability equivalent to 90% of C36000, good hot workability with hot forging property equivalent to 80% of C37700, high strength, high elasticity and high corrosion resistance.

## Typical Applications

It is widely used for pen tips, guide rods and screws in pen making industry.

## Physical Properties

Density <sup>①</sup>	8.3	g/cm <sup>3</sup>
Electrical conductivity <sup>①</sup>	5	%IACS
Thermal conductivity <sup>①</sup>	30.1	W/(m·K)
Coefficient of thermal expansion <sup>②</sup>	18.3	10 <sup>-6</sup> /K
Modulus of elasticity	115	GPa

Note①: Temperature for testing is 20°C.

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

## Fabrication Properties

Cold workability	Fair
Hot workability	Good
Brazing	Fair
Machinability Compared with C36000	90%

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## Mechanical Properties

Diameter	Temper	Tensile Strength	Elongation	Hardness
mm		MPa min.	% min.	HV
0.5 < $\Phi$ ≤ 12	H02	550	5	140
0.5 < $\Phi$ ≤ 12	H04	650	--	170

## Tolerance and Delivery Form

### Straight Bar

Diameter	Tolerance <sup>③</sup>	Ovality	Length	Straightness	
				ft max.	mm/m max.
mm	mm	mm	mm max.		
2 ≤ $\Phi$ < 3	0.03	0.0075	2500	8.2	1.0
3 ≤ $\Phi$ < 6	0.04	0.01	2500	8.2	0.5
6 ≤ $\Phi$ < 10	0.06	0.015	4000	13.1	0.5
10 ≤ $\Phi$ < 18	0.08	0.02	4000	13.1	0.5
18 ≤ $\Phi$ < 25	0.12	0.03	4000	13.1	0.5
25 ≤ $\Phi$ < 40	0.20	0.05	4000	13.1	0.5
40 ≤ $\Phi$ < 60	0.30	0.075	4000	13.1	0.5
60 ≤ $\Phi$ < 80	0.60	0.15	3000	9.8	3.0
80 ≤ $\Phi$ < 100	1.60	0.40	2000	6.6	5.0
100 ≤ $\Phi$ ≤ 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 ( $\pm$ ), half the values given.

\*Composition                    UNS  
 Conductivity                    UNS  
 Mechanical Properties        For reference only, measured at room temperature, 68°F(20°C).  
 Fabrication Properties        UNS, Machinability for reference only.  
 Other Physical Properties     For reference only

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