bedra
intelligent wires

NiBz12Mn5Pb (C79860)

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 ①	8.3	g/cm^3
Electrical onductivity ①	5	%IACS
Thermal conductivity ①	30.1	W/(m·K)
Coefficient of thermal expansion ②	18.3	10^{-6} / 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 < Φ ⩽ 12	H02	550	5	140
0.5 < Φ ⩽ 12	H04	650	--	170

Tolerance and Delivery Form

Diameter	Tolerance③	Standard coil weights	Coil ID
mm	mm	kg	mm
1.0 < Φ ⩽ 1.6	0.03	18-30	260-300
1.6 < Φ ⩽ 2.5	0.03	25-40	320-350
2.5 < Φ ⩽ 4.0	0.04	30-45	370-400
2.8 < Φ ⩽ 6.5	0.04	100-250	400-650
4.0 < Φ ⩽ 6.5	0.05	45-60	370-400
6.5 < Φ ⩽ 10.0	0.05	200-400	1000-1200
8.0 < Φ ⩽ 12.0	0.06	200-400	1200-1400

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	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