

## Silicon Bronze

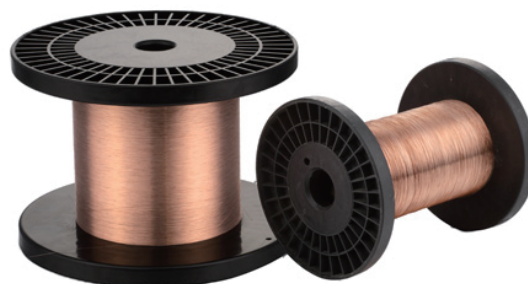
# SiBz3Mn (C65500)

### Material Designation\*

UNS	C65500
EN	CuSi3Mn1 (CW 116 C)
JIS	/
GB	QSi3-1

### Chemical Composition

Cu	Balance	%
Si	2.8-3.8	%
Mn	0.5-1.3	%



### Characteristics

It has high strength, good elasticity and good plasticity, with no reduction at low temperature condition. It also has good abrasion, good corrosion resistance to air, fresh water and sea water.

### Typical Applications

It's widely used in various elastic components and parts applied in corrosive conditions as well as wear resistant parts, such as turbine, worm, gear, bushing, brake pin and rod.

### Physical Properties

Density <sup>①</sup>	8.53	g/cm <sup>3</sup>
Electrical conductivity <sup>①</sup>	7	%IACS
Thermal conductivity <sup>①</sup>	36.3	W/(m·K)
Coefficient of thermal expansion <sup>②</sup>	17.3	10 <sup>-6</sup> /K
Modulus of elasticity	103.4	GPa

Note①: Temperature for testing is 20°C.

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

### Fabrication Properties

Cold workability	Excellent
Hot workability	Excellent
Brazing	Excellent
Machinability compared with C36000	30%

### Mechanical Properties

Diameter	Temper	Tensile Strength	Yield Strength	Elongation
mm		MPa	MPa	%
Φ0.1-12	O61	260-380	--	≥40
Φ0.1-12	H00	345-450	--	≥20
Φ0.1-12	H01	415-515	--	≥15
Φ0.1-12	H02	515-655	--	≥10
Φ0.1-12	H04	620-760	--	≥8
Φ0.1-6	H08	>690	--	≥6

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## Tolerance and Delivery Form

Diameter	Tolerance <sup>③</sup>	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

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 (±), 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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