



TF00 CW101C Beryllium Solid Copper Round Stock Rod 3mm

Our Product Introduction

Basic Information

- Place of Origin: china
- Brand Name: jinshunlai
- Certification: IOS
- Model Number: 0.1mm-900mm
- Minimum Order Quantity: 1kg
- Price: Contact Us
- Delivery Time: 5days
- Payment Terms: L/C, T/T , Western Union,D/P
- Supply Ability: 90000ton



Product Specification

- Color: Red Yellow
- Highlight: CW101C solid copper round stock ,
3mm solid copper round stock ,
CW101C 3mm copper rod



Product Description

CW101C Beryllium Copper Alloy Bright Bars With Good Thermal Conductivity

Product Normal Description:

Product Name: Beryllium Copper Alloy Bright Bars

Grade: CW101C

Standard: ASTM B196,251,463; SAE J461,463; AMS 4533,4534,4535; AMS 4650,4651; RWMA Class 4

Product Diameter: 5mm-100mm

State: A(TB00), 1/2H (TD02), H(TD04), AT(TF00), HT(TH04)

Typical Application: For electrical industry

Product Brand: jinshunlai

CW101C Beryllium Copper Alloy Information:

Specification	Chemical Composition	Density	Density before age hardening	Elastic Modulus	Thermal Expansion Coefficient	Thermal Conductivity	Melting Range
ASTM B196,251,463; SAE J461,463; AMS 4533,4534,4535; AMS 4650,4651; RWMA Class 4	Beryllium(Be): 1.80-2.00% Cobalt(Co) + Nickel(Ni): 0.20% Min Cobalt(Co) + Nickel(Ni) + Iron(Fe): 0.60% Max Lead: 0.02% Max Copper(Cu): Balance Note: Copper plus additions equal 99.5% Minimum.	8.36 (g/cm3)	8.25 (g/cm3)	13.4 (kg/mm2 (103))	17 x 10-6 (20 °C to 200 °C m/m/°C)	0.25 (cal/(cm-s-°C))	870-980 (°C)

Mechanical and Electrical Properties of CW101C Beryllium Copper Alloy Bright Bars:

Temper(°)	Diameter	Heat Treatment	Tensile Strength ksi	Elongation Percent (Min)	Electrical Conductivity Percent IACS	Hardness Rockwell B or C Scale
A(TB00)	ALL SIZE	/	400~600	30	15~19	B45~85
1/2H(TB04)	5~40	/	550~700	10	15~19	B78
H(TD04)	5~10	/	660~900	5	15~19	B88
	10~25	/	620~860	5	15~19	
	25	/	590~830	5	15~19	
AT(TF00)	ALL SIZE	3 hr 320°C	1100~1380	2	22~28	C35~42
HT(TH04)	5~10	2 hr 320°C	1200~1550	1	22~28	C37~45
	10~25		1150~1520	1	22~28	C36~44
	25		1120~1480	1	22~28	C35~44

The most important Technology

A: Heat treatment

Heat treatment is the most important process for this alloy system. While all copper alloys are hardenable by cold working, beryllium copper is unique in being hardenable by a simple low temperature thermal treatment. It involves two basic steps. The first is called solution annealing and the second, precipitation or age hardening.

B: Solution Annealing

For the typical alloy CuBe1.9 (1.8- 2%) the alloy is heated between 720°C and 860°C. At this point the contained beryllium is essentially "dissolved" in the copper matrix (alpha phase). By rapidly quenching to room temperature this solid solution structure is retained. The material at this stage is very soft and ductile and can be readily cold worked by drawing, forming rolling, or cold heading. The solution annealing operation is part of the process at the mill and is not typically used by the customer. Temperature, time at temperature, quench rate, grain size, and hardness are all very critical parameters and are tightly controlled by ohmalloy.

C: Age Hardening

Age hardening significantly enhances the material's strength. This reaction is generally carried out at temperatures between 260°C and 540°C depending on alloy and desired characteristics. This cycle causes the dissolved beryllium to precipitate as a beryllium rich (gamma) phase in the matrix and at the grain boundaries. It is the formation of this precipitate which causes the large increase in material strength. The level of mechanical properties attained is determined by the temperature and time at temperature. It should be recognized that beryllium copper has no room temperature aging characteristics.





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