

UNS C44300 Admiralty Brass Tube

GNEE's main copper products include copper tubes, copper rods, copper plates, copper wires, copper strips, etc.

Website: chinacopperalloys.com

Email: sales@gneemetal.com

1. Product Overview

C44300 is a widely used arsenical Admiralty Brass (a copper-zinc-tin alloy). It offers excellent corrosion resistance, especially in marine and industrial environments, combined with good mechanical properties and formability. The small addition of Arsenic (As) effectively inhibits dezincification, a common failure mode for brass in certain water conditions.

Common Names: Admiralty Brass, Arsenical Brass, C443 Brass

Standard Designations: UNS C44300, ASTM B111, ASTM B171

Product Form: Seamless & Welded Tubes, Heat Exchanger Tubes, Condenser Tubes

2. Chemical Composition (Weight % Max, unless range is specified)

Element	Composition (%)	Remark
Copper (Cu)	70.0 - 73.0	Balance
Zinc (Zn)	Remainder	Primary alloying element
Tin (Sn)	0.80 - 1.2	Enhances corrosion and erosion resistance
Arsenic (As)	0.02 - 0.06	Critical for dezincification resistance
Iron (Fe)	0.06 max	
Lead (Pb)	0.07 max	
Other Impurities	0.15 max (total)	

3. Physical Properties

Property	Value	Condition
Density	8.53 g/cm ³	At 20°C
Melting Point	900 - 945 °C	Liquidus/Solidus
Thermal Conductivity	111 W/m·K	At 20°C
Electrical Conductivity	26 % IACS	At 20°C
Modulus of Elasticity	110 GPa	
Coefficient of Thermal Expansion	20.4 x 10 ⁻⁶ /°C	20 - 300°C

4. Mechanical Properties (Typical for Annealed Tempers)

Property	Value
Tensile Strength	≥ 325 MPa (47 ksi)
Yield Strength (0.5% Ext under Load)	≥ 125 MPa (18 ksi)
Elongation (in 2 inches)	≥ 65 %
Rockwell Hardness	B 45 (Typical)

Note: Properties can be enhanced through cold working (drawn temper) to higher strength levels.

5. Key Characteristics & Advantages

Excellent Corrosion Resistance: Superior performance in seawater, brackish water, and other challenging environments.

Superior Dezincification Resistance: The addition of Arsenic (As) makes it highly resistant to this selective leaching corrosion, a key advantage over plain brasses.

Good Biofouling Resistance: Resists the attachment of marine organisms better than many copper alloys.

Good Erosion-Corrosion Resistance: Suitable for high-velocity water applications, such as in condenser and heat exchanger tubes.

Excellent Fabricability: Can be easily cold worked, bent, formed, and brazed.

Good Thermal Conductivity: Efficient for heat transfer applications.

6. Applications

C44300 tubes are primarily used in applications where corrosion resistance is paramount:

Heat Exchangers & Condensers (especially for power plants and ships)

Marine & Offshore Systems (seawater piping, shipboard condensers)

Desalination Plants (evaporator and heat rejection tubes)

Chemical Processing Equipment

Power Generation Cooling Systems

Petrochemical Coolers

7. Standard Sizes & Tolerances

C44300 tubes are available in a wide range of standard and custom sizes to meet various application requirements.

Parameter	Standard Range	Available Forms
Outer Diameter	6.0 mm - 150.0 mm	Seamless & Welded
Wall Thickness	0.5 mm - 10.0 mm	
Length	Up to 10 meters (Custom lengths available)	Straight Lengths, Coils (Small OD)
Standard	ASTM B111, ASTM B171	

Tolerances are in accordance with ASTM specifications. Custom sizes and tolerances can be discussed upon request.

8. Pricing Guide & Notes

Pricing for C44300 tubes is highly dynamic and depends on several factors. The following serves as a general guide.

1. Primary Cost Drivers:

Raw Material Cost: The price is heavily influenced by the London Metal Exchange (LME) copper, zinc, and tin prices.

Order Quantity: Significant volume discounts apply for large wholesale orders.

Size and Tolerance: Complex sizes and tighter tolerances increase manufacturing costs.

Processing and Heat Treatment: Additional processes like annealing, hardening, or special straightening affect the final price.

2. Sample Price Ranges (For Reference Only):

Base Price Range: Approximately \$8 - \$15 per kilogram.

Small Diameter Tubes (e.g., 1/2" OD): ~ \$10 - \$20 per meter.

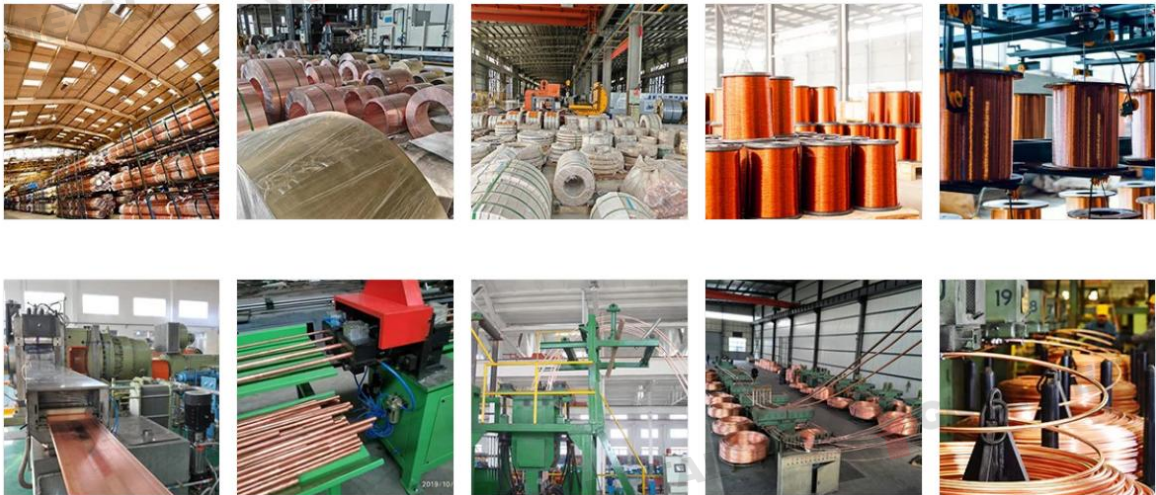
Large Diameter Tubes (e.g., 4" OD): ~ \$50 - \$150 per meter.

Disclaimer: The prices mentioned are for reference only and are subject to change without prior notice. They do not constitute a formal offer. Freight, tariffs, and processing fees are not included. A formal quotation will be provided based on your specific requirements and the prevailing market conditions.

About Us

Plant And Equipment

We rely on a full-process production line of melting, extrusion, drawing, heat treatment and finishing. Our core equipment includes medium-frequency induction furnaces, extruders, cold drawing machines and annealing furnaces, and are equipped with intelligent detection systems to ensure that the copper we produce is of first-class quality and stable performance.



Packaging And Shipping

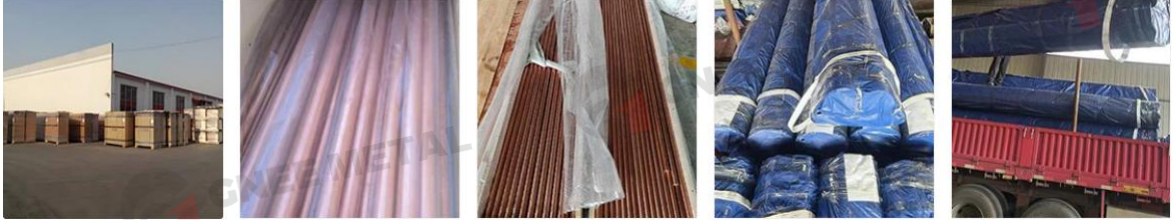
To ensure our products arrive in perfect condition, we use robust packaging:

Protective End Caps: Prevent damage to tube ends.

Waterproof Wrapping: Protects against moisture and corrosion during transit.

Secured Bundling: Tubes are bundled and strapped onto wooden crates or pallets.

Clear Labeling: Each bundle is clearly labeled with material grade, heat number, and dimensions.



Founded in 2008, GNEE has many years of experience in copper product export.

Headquartered in Henan Province, China, adjacent to the Beijing-Hong Kong-Macao Expressway, the company has over 200 dedicated employees, registered capital of RMB 10 million, and covers an area of over 350,000 square meters. GNEE is SGS-certified.

We provide high-quality copper products, excellent service, and highly competitive pricing. We specialize in the production and manufacturing of copper tubes, rods, sheets, coils, and wire.

Our products are exported to over 160 countries worldwide and are widely used in key sectors such as large-scale pipeline construction, petrochemicals, shipbuilding, the automotive industry, and large power plants.

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