



Admiralty brass is composed of zinc, copper and tin. Copper provides the increased heat transfer which zinc provides the corrosion resistance. In applications such as condensers and heat exchangers cooled with fresh, salt, or brackish water, these tubes are very useful. You will find them in oil refineries, power plants, and other industrial applications.

Pump Barrels or Sucker Rod Pumps, used in oil drilling also use admiralty brass due its corrosion resistance. Even though the pumps typically last between 6 months and 1 year, admiralty brass is a preferred material for improved longevity over carbon steel and below the price of materials such as monel. experorum

## CHEMICAL COMPOSITION

	Cu	Fe	Pb	As	Sn <sup>(1)</sup>	Zn
MIN / MAX	70.0-73.0	.06	.07	.02-.06	.8-1.2	Rem
NOMINAL	71.0	-	-	.04	1.0	28.0

<sup>(1)</sup> For tubular products, the minimum Sn content may be .9% Note: Cu + Sum of Named Elements, 99.6% min.

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## APPLICABLE SPECIFICATIONS

Plate Condenser Tube	Tube	Tube Condenser	Tube Finned	Tube U-Bend	Tube, Welded
ASME SB171 ASTM B171	ASTM B135	ASME SB111 ASTM B111	ASME SB359 ASTM B359	ASME SB395 ASTM B395	ASME SB543 ASTM B543

## FABRICATION PROPERTIES

Soldering	Brazing	Oxyacetylene Welding	Gas Shielded Arc Welding	Coated Metal Arc Welding	Spot Weld	Seam Weld	Butt Weld	Capacity for being Cold Worked	Capacity for being Hot- Formed	Machinability Rating
Excellent	Excellent	Good	Fair	Not Recommended	Good	Not Recommended	Good	Excellent	Fair	30

## PHYSICAL PROPERTIES

Melting Point - Liquidus	Melting Point - Solidus	Density	Specific Gravity	Electrical Resistivity	Electrical Conductivity	Thermal Conductivity	Coefficient of Thermal Expansion	Specific Heat Capacity	Modulus of Elasticity in Tension	Modulus of Rigidity
1720 F	1650 F	0.308 lb/in <sup>3</sup> @ 68 F	8.53	41.5 ohms-cmil/ft @ 68 F	25 %IACS @ 68 F	64.0 Btu · ft/(hr · ft <sup>2</sup> · °F) @ 68 F	11.2 · 10 <sup>-6</sup> per °F (68-572 F)	0.09 Btu/lb · °F @ 68 F	16000 ksi	6000 ksi
938 C	899 C	8.53 gm/cm <sup>3</sup> @ 20 C	8.53	6.9 microhm-cm @ 20 C	0.146 MegaSiemens/cm @ 20 C	110.8 W/m · °K @ 20 C	20.2 · 10 <sup>-6</sup> per °C (20-300C)	377.1 J/kg · °K at 293 K	110000 MPa	41370 MPa

### MAXIMUM PRESSURE WORK

P = Maximum work pressure (psi)  
S = Minimum tensile strength of material for a  
specific temper (It is the value of the tensile strength  
in psi in Mechanical properties table)  
D = Exterior diameter of tube  
T = Wall thickness of tube  
$$P = \frac{2TS}{5D}$$

### NON DESTRUCTIVE TESTS

Eddy Current Testing  
Hydrostatic Testing  
Air Underwater Testing  
Ultrasonic Testing  
(PMI) Positive Material Identification

### DESTRUCTIVE TESTS

Microstructure Test  
Tensile Test  
Flattening Test  
Expansion Test  
Optical Test  
Ammonia Vapor Test  
Spectrometry Test