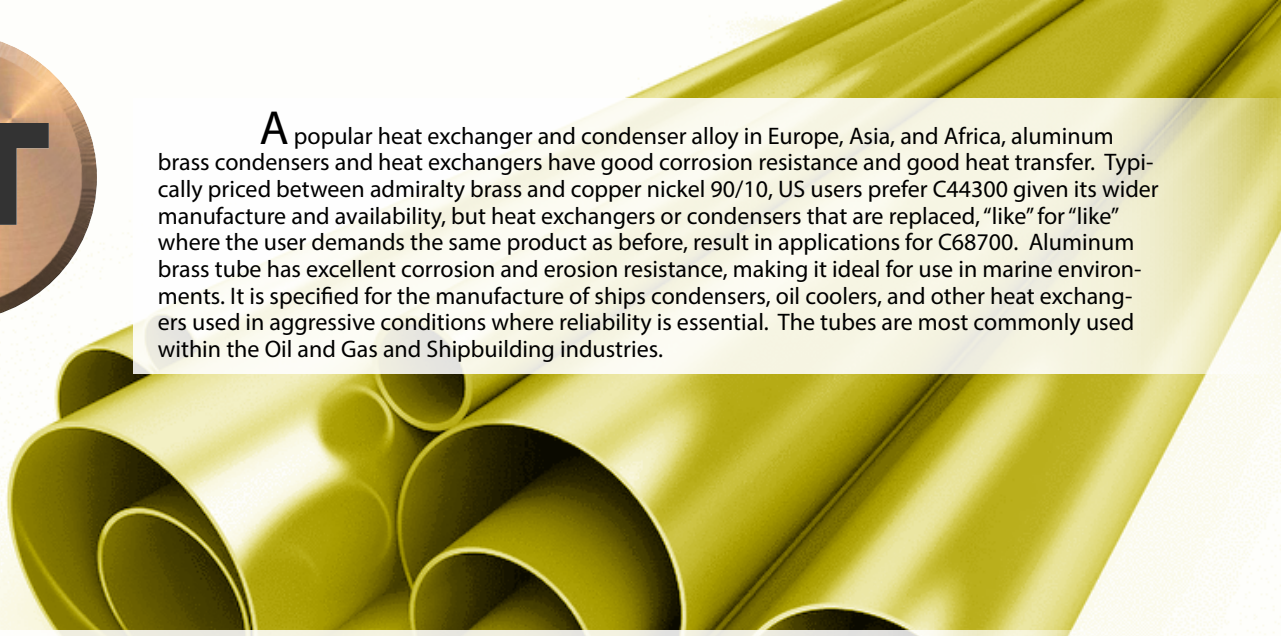
C68700 Aluminum Brass

AMERITUBE

A popular heat exchanger and condenser alloy in Europe, Asia, and Africa, aluminum brass condensers and heat exchangers have good corrosion resistance and good heat transfer. Typically priced between admiralty brass and copper nickel 90/10, US users prefer C44300 given its wider manufacture and availability, but heat exchangers or condensers that are replaced, "like" for "like" where the user demands the same product as before, result in applications for C68700. Aluminum brass tube has excellent corrosion and erosion resistance, making it ideal for use in marine environments. It is specified for the manufacture of ships condensers, oil coolers, and other heat exchangers used in aggressive conditions where reliability is essential. The tubes are most commonly used within the Oil and Gas and Shipbuilding industries.



CHEMICAL COMPOSITION

	Cu	Fe	Pb	As	Al	Zn
MIN/MAX	76.0-79.0	.06	.07	.02-.10	1.8-2.5	Rem
NOMINAL	77.5	-	-	.04	2.0	20.5

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APPLICABLE SPECIFICATIONS

Tube, Condenser	ASME SB111, ASTM B111	Tube, Welded	ASME SB543, ASTM B543/B543M	Tube, Finned	ASME SB359, ASTM B359/B359M	Tube, U-bend	ASME SB395, ASTM B395/B395M

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	Machinabilty Rating
Fair	Good	Fair	Fair	Not Recommended	Good	Fair	Good	Excellent	Fair	30

PHYSICAL PROPERTIES

Melting Point - Liquidus	Density	Specific Gravity	Electrical Resistivity	Electrical Conductivity	Thermal Conductivity	Coefficient of Thermal Expansion	Specific Heat Capacity	Modulas of Elasticity in Tension	Modulus of Rigidity
1780 F	0.301lb/in^3 @ 68 F	8.33	45.1 ohms-cmil/ft @68 F	23 %IACS @ 68 F	58.0 Btu · ft/(hr ·ft2·^oF) @ 68F	10.3 ·10^{-6} per ^oF (68-392 F)	0.09 Btu/lb/^oF @ 68 F	16000 ksi	6000 ksi
971 C	8.33 gm/cm^3 @ 20 C	8.33	7.5 microhm-cm @ 20 C	0.135 MegaSiemens/cm @ 20 C	100.4 W/m · ^oK @ 20 C	18.5 ·10^{-6} per ^oC (20-200C)	377.1 J/kg · ^oK at 293 K	110000 MPa	41370 MPa

MAXIUM PRESSURE WORK

P = Maxium work pressure(psi)
S = Minimum tensile strength of material for a specific temper(It is the value of the tensile strength in psi in Mechanica properties table)
D = Exterior diameter of tube
T = Wall thickness of tube

$$P = \frac{2T \times S}{5D}$$

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 Spectrometry Test
Ammonia Vapor Test

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