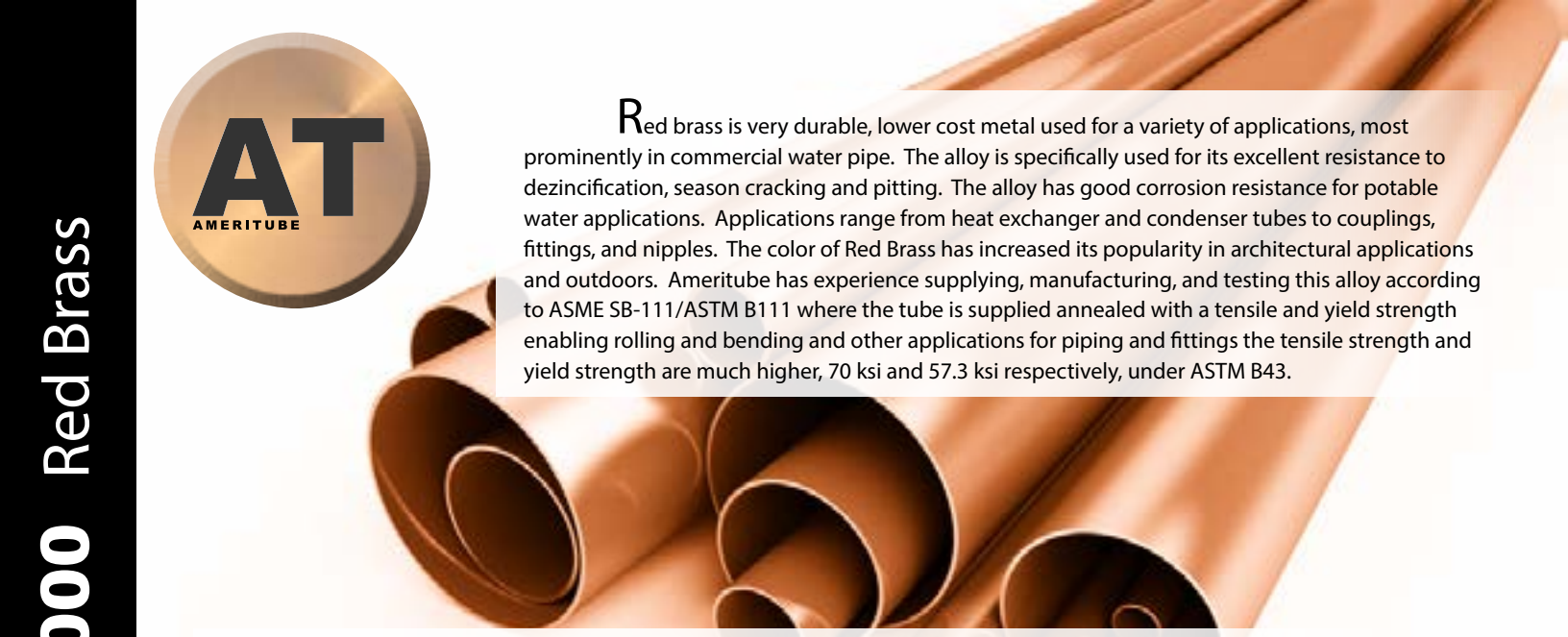
C23000 Red Brass



Red brass is very durable, lower cost metal used for a variety of applications, most prominently in commercial water pipe. The alloy is specifically used for its excellent resistance to dezincification, season cracking and pitting. The alloy has good corrosion resistance for potable water applications. Applications range from heat exchanger and condenser tubes to couplings, fittings, and nipples. The color of Red Brass has increased its popularity in architectural applications and outdoors. Ameritube has experience supplying, manufacturing, and testing this alloy according to ASME SB-111/ASTM B111 where the tube is supplied annealed with a tensile and yield strength enabling rolling and bending and other applications for piping and fittings the tensile strength and yield strength are much higher, 70 ksi and 57.3 ksi respectively, under ASTM B43.

CHEMICAL COMPOSITION

Cu	Fe	Pb	Other Named Elements
84.0 – 86.0	.05	.05	-

Request Quote

APPLICABLE SPECIFICATIONS

Bar	ASTM B36	Pipe	ASME SB43 ASTM B698, B43	Strip	ASTM B888, B36 SAE J463, J461	Tube, Finned	ASME SB359, ASTM B359	Tube, Welded	ASME SB543, ASTM B587, B543
Fittings	ASME B16.29, B16.22	Plate	ASTM B36	Tube	ASTM B569, B698	Tube, U-Bend	ASME SB395, ASTM B395	Wire	ASTM B134
Nipples	ASTM B687	Sheet	ASTM B36 SAE J461, J463	Tube, Condenser	ASME SB111, ASTM B111	Tube, Seamless	AMS 4553, ASME SB135, ASTM B135 FEDERAL WW-T-791, MILITARY MIL-T-20168, SAE J461, J463		

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
Excellent	Excellent	Good	Good	Not Recommended	Fair	Not Recommended	Good	Excellent	Good	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	Modulas of Elasticity in Tension	Modulus of Rigidity
1880 F	1810 F	0.316 lb/in^3 at 68 F	8.75	28.0 ohms-cmil/ft @ 68F	37 %IACS @ 68 F	92.0 Btu · ft/(hr · ft2·^{O}F)at 68F	10.4 ·10^{-6} per ^{O}F (68-572 F)	0.09 Btu/lb/^{O}F at 68 F	17000 ksi	6400 ksi
1027 C	988 C	8.75 gm/cm^3 @ 20 C	8.75	4.65 microhm-cm @ 20C	0.216 MegaSiemens/cm @ 20 C	159.2 W/m · ^{O}K @ 20 C	18.7 ·10^{-6} per ^{O}C (20-300C)	377.1 J/kg · ^{O}K at 293 K	117000 MPa	44130 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 Test
Spectrometry Test