

Copper and Copper Alloy Bare Wire

Alloy: ERCuAl-A2  
Class: ERCuAl-A2

Conforms to Certification: AWS – A5.7  
ASME SFA A5.7

Aluminum Bronze A2

Alloy ERCuAl-A2

Weld Process: Gas Metal Arc (Mig) – Gas Tungsten Arc (Tig)

AWS Chemical Composition Requirements

Cu + Ag = Remainder      Si = 0.10 max  
Zn = 0.02 max              Al = 8.5 – 11.0  
Fe = 0.5 – 1.5              Pb = 0.02 max  
Other = 0.50 max

(Nominal) All Weld Metal Properties Requirements

Yield Strength                      35,000psi  
Tensile Strength                    79,000psi  
Elongation                            28%

Deposited Chemical Composition % (Typical)

Dependent on weld process

Application

ERCuAl-A2 can be used where welds on brass are required to have high tensile strength and must be corrosion resistance. It is an excellent alloy for joining Manganese Bronze castings and other Aluminum Bronze materials, malleable iron, steel and dissimilar metals.

Recommended Welding Parameters

<u>Process</u>	<u>Diameter of Wire</u>	<u>Voltage (V)</u>	<u>Amperage (A)</u>	<u>Gas</u>	
Tig - GTAW (DCEN)	1/16 inches x 36	--- 0 ---	70 - 120	100% Helium or 100% Argon	40 - 55 CFH
	3/32 inches x 36	--- 0 ---	120 - 160	100% Helium or 100% Argon	40 - 55 CFH
	1/8 inches x 36	--- 0 ---	170 - 230	100% Helium or 100% Argon	40 - 55 CFH
MIG - GMAW (DCEP)	.035 inches	20 – 26	100 – 200	100% Argon or 75% Argon, 25% Helium	45 - 55 CFH
	.045 inches	22 – 28	100 – 200	100% Argon or 75% Argon, 25% Helium	45 - 55 CFH
	1/16 inches	29 – 32	250 – 400	100% Argon or 75% Argon, 25% Helium	45 - 55 CFH
	3/32 inches	32 – 34	350 – 500	100% Argon or 75% Argon, 25% Helium	45 - 55 CFH

Preheat / Interpass Recommendations

Preheating copper – base alloys is frequently unnecessary provided section thicknesses are not unusually heavy. Preheat and Interpass temperatures will vary depending on section thickness, selected weld process and other variables.

