

Copper and Copper Alloy Bare Wire

Alloy: ERCU
Class: ERCU

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

Copper

Alloy ERCU

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

AWS Chemical Composition Requirements

Cu + Ag = 98.0 min P = 0.15 max
Sn = 1.0 max Al = 0.01 max
Mn = 0.50 max Pb = 0.02 max
Si = 0.50 max Other = 0.50 max

(Nominal) All Weld Metal Properties

Yield Strength 29,000psi
Tensile Strength 8,000psi
Elongation 29%
Reduction of Area 45%

Deposited Chemical Composition % (Typical)

Dependent on weld process

Application

This weld material is used to fabricate deoxidized copper and repair weld copper castings. Both the gas metal arc and gas tungsten arc weld processes can be used. Can also be used to weld galvanized steel and deoxidized copper to weld steel where high strength joints are not required.

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.

