

# Inweld Aluminum Bronze A-2

Alloy 618 UNS/CDA C61800  
 AWS A5.7 Class ERCuAl-A2  
 AWS A5.13 Class ERCuAl-A2  
 ASME SFAA5.7 ERCuAl-A2 QQ-R-571C  
 MIL-R-19631B Type MIL-RCuAl-A2  
 MIL-W-6712; MIL-E-23765/3 (MIL-CuAl-A2)



## Description and Applications:

Inweld Aluminum Bronze A-2 is an iron-bearing copper-aluminum MIG & TIG filler metal primarily designed for joining aluminum bronze, silicon bronze and manganese bronze, some high strength copper-zinc and copper-nickel alloys as well as many ferrous metals such as steel, cast iron and even galvanized iron. Inweld Aluminum Bronze A-2 is excellent for joining dissimilar metal combinations such as aluminum bronze to steel or copper to steel. Inweld Aluminum Bronze A-2 is excellent for overlays exposed to frictional wear or corrosive media such as salt water, alkalies and some acids. Weld deposits demonstrate high mechanical properties, tensile strength, yield strength and hardness. Many common applications include maintenance and repair of ship propellers, hydraulic pistons, impellers, tractor gear housings, brake drums, paper mill rolls, pickling hooks, valve seats, bushings, foundry flasks and mixer arms. Inweld Aluminum Bronze A-2 has many applications since it is the “all-purpose workhorse alloy” of the copper based filler metals. Weld deposits will work-harden under compressive loads.

## Chemical Composition of Aluminum Bronze A-2 ERCuAl-A2

Cu	Zn	Fe	Si	Al	Pb	Total Other(s)
Balance	0.02	1.5	0.10	8.5-11.0	0.02	0.50

Single values are maximum unless otherwise specified.

Approximate Melting Temperature: 1904 F (1040 C)  
 Average As-Welded Brinell Hardness: 130-150  
 Tensile Strength: 60,000 psi (450 MPA)



## Recommended Welding Parameters:

	Wire Diameter	Voltage*	Amperage*
GMAW (DCRP – Electrode +)	0.035 <sup>cc</sup>	20-26	100-200
100% Argon or a 75 – 25% Argon / Helium mixture	0.045 <sup>cc</sup>	22-28	100-250
.	1/16 <sup>cc</sup>	29-32	250-400
.	3/32 <sup>cc</sup>	32-34	350-500
GTAW (DCSP – Electrode -)	1/16 <sup>cc</sup>	70-120	70-150
ACHF using 100% Ar or He	3/32 <sup>cc</sup>	120-160	140-230
.	1/8 <sup>cc</sup>	170-160	140-230
.	5/32 <sup>cc</sup>	220-280	175-300
.	3/16 <sup>cc</sup>	280-330	200-320

\*Use low range for iron or nickel-based alloy's, middle range for bronze alloys and high range for copper.

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\* Inweld specs all these product to AWS standards.\*