



# ALUMINUM BRONZE A1

## Welding Wire and Rod

U.S. ALLOY CO.  
 dba Washington Alloy  
 7010-G Reames Rd.  
 Charlotte, NC 28216  
[www.weldingwire.com](http://www.weldingwire.com)

Quality Management System  
 in accordance with  
**ISO 9001**  
 Cert # 05-R0925



### ALLOY DESCRIPTION AND APPLICATION;

Washington Alloy Aluminum Bronze A-1 is an iron-free aluminum bronze filler metal used for MIG and TIG overlay welding of bearing and wear resistant surfaces exposed to corrosive environments such as salt or brackish water and commonly used acids. Aluminum Bronze A-1 is not recommended for joining. Commonly used in steel and pulp mills to overlay tube sheets, valve seats and refineries.

### TYPICAL GMAW WELDING PROCEDURES; DCEP Spray transfer

Wire Diameter	Wire Speed (ipm)	Amps	Volts	Argon (cfh)
0.023	460-580	60-120	21-22	20-25
0.030	450-525	130-160	21-24	20-30
0.035	385-455	155-190	23-25	25-30
0.045	275-310	210-235	26-28	30-35
1/16	150-240	250-310	27-31	35-40

### TYPICAL GTAW WELDING PROCEDURES; DCEN with EWTh-2 truncated conical tip

Filler Wire Size	Tungsten	Amps	Volts	Gas Cup Size	Argon (cfh)	Base thickness
1/16"	1/16"	80-170	12	3/8-1/2"	20	1/16-1/8"
3/32"	3/32"	140-275	12	3/8-1/2"	20	1/8- 3/16"
1/8"	1/8"	200-375	12	1/2"	25	1/4-3/8"
1/8-5/32"	3/16"	260-475	12	1/2-3/4"	30	3/8-1/2"

Procedures may vary with change in position, base metals, filler metals, equipment and other changes. Copper base may need preheat and high side of range, Bronze base may need preheat and mid-high side of range, Steels preheat per carbon content

### CHEMICAL COMPOSITION REQUIREMENT (%) AND PHYSICAL PROPERTIES;

Zinc	0.20	Solidus	1890° F
Iron		Liquidus	1910°F
Silicon	0.10	Electrical Conductivity	13.8% (% of IACS)
Aluminum	6.0-8.5	Density (lbs/in <sup>3</sup> )	0.274
Lead	0.02	Thermal Conductivity	39.0 Btu
Copper	Remainder	Elongation	48
		Tensile Strength (psi)	60-68,000
Brinell Hardness	85-115	Yield Strength (psi)	25-29,000

All single values on composition are maximum percentages & Total others elements 0.50

**AVAILABLE SIZES:** TCU AB-1 = Spools of .035, .045, 1/16  
 TCU AB-1 Cut lengths of .035, .045, 1/16, 3/32, 1/8,  
 Other sizes available – please inquire

**SPECIFICATIONS;** ANSI/AWS A5.7 ERCuAl-A1  
 ASME SFA 5.7 ERCuAl-A1 : F-36, A-NA

**EAST COAST**  
 7010-G Reames Rd  
 Charlotte, NC 28216  
 Tel (888) 522-8296  
 Fax (704)598-6673

**GULF COAST**  
 4855 Alpine Drive #100  
 Stafford, TX 77477  
 Tel (877) 711-9274  
 Fax (281)313-6332

**WEST COAST**  
 8535 Utica Ave  
 Rancho Cucamonga, CA 91730  
 Tel(800)830-9033  
 Fax (909)291-4586



**WA. ALLOY CO.**

Warehouse Distribution Center – Dallas/Fort Worth, Portland, Oregon & Boston, Massachusetts Head Office – Puyallup, Washington

Washington Alloy Company believes that all information and data given is correct. Use this information to assist in making your own evaluations or decisions and this information should not be mistaken as an expressed or implied warranty. U.S. ALLOY CO. assumes no liability for results or damages incurred from the use of any information contained herein, in whole or in part.