

Crown ALB-10-1

Gas Tungsten Arc Welding
(GTAW) TIG Alloy

Copper Based Alloy



"The Royal Line"

CROWN ALLOYS COMPANY

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Aluminum Bronze TIG Alloy

Typical Applications

Crown ALB-10-1 is an iron free, aluminum bronze TIG alloy used to overlay bearing and wear resistant surfaces exposed to corrosive environments such as salt or brackish water and commonly used acids. It is also good for metal to metal wear and it exhibits good color match with naval bronze which makes it a good choice to repair boat propellers. **Crown ALB-10-1** is commonly used in steel mills, refineries and pulp mills to overlay tube sheets and valve seats. **This alloy is not recommended for joining because of its tendency to hot short.** Use **Crown ALB-10-2** if metals need to be joined.

Specifications

AWS A5.7/A5.7M
ER CuAl-A1

- Tensile Strength up to 68,000 psi
- Yield Strength up to 28,000 psi
- Elongation in 2" 47%
- Hardness 125 Brinell approx.

Chemical Composition

- Copper* balance
- Aluminum 6.0 – 8.50
- Manganese 0.50 max
- Silicon 0.10 max
- Zinc 0.20 max
- Others 0.50 max

*Includes Silver

Procedure

Clean base metal thoroughly. Direct current electrode negative (dcen) is preferred although alternating current high frequency (achf) can be used on thin material only. Pure helium is recommended although 100% argon is appropriate on thin sections. Gas flow should be set at 40-55 cfh (helium) or 20-25 cfh (argon). A sharp, pointed 2% thoriated tungsten electrode should be used. Add **ALB-10-1** to the leading edge of the weld pool. Do not allow the arc to come in contact with the end of the filler rod. The tungsten should extend $\frac{1}{4}$ " to $\frac{3}{8}$ " beyond the cup of the welding torch. Maintain an arc length of $\frac{1}{16}$ " to $\frac{3}{16}$ ".

Metal to be welded	Preheat and Interpass Temperatures
Carbon Steels between 0.29% to 0.60% carbon	300°F to 600°F preheat depending on the carbon content
Cast Iron	300°F to 400°F preheat (slow cool)
Aluminum Bronze up to 10% aluminum	no preheat - 300°F interpass temperature
Aluminum Bronze exceeding 10% aluminum	300°F preheat - 600°F interpass temperature
Manganese Bronze	300°F preheat
Copper	1000°F preheat

Sizes, Volts, Amps and Part Numbers

Diameter	Amperage*		Part Numbers	
	(dcen)	(achf)	1 lb package	5 lb package
1/16 x 36"	70 – 120	70 – 150	CTALB1/TL-BP	CTALB1/TL
3/32 x 36"	120 – 160	140 – 230	CTALB1/TN-BP	CTALB1/TN
1/8 x 36"	170 – 260	225 – 320	CTALB1/TO-BP	CTALB1/TO

*Use low side of range for iron or nickel based alloys; middle of range for bronze alloys; high side for copper



!!!! WARNING !!!!



WELDING FUMES AND GASES CAN BE DANGEROUS TO YOUR HEALTH.

BEFORE USING THIS PRODUCT THE WELDER (END-USER) MUST READ AND UNDERSTAND THE COMPLETE PRODUCT WARNING LABEL AND THE NEW 16 SECTION SAFETY DATA SHEET (SDS).

THE SAFETY DATA SHEET (SDS) WHICH OUTLINES THE POTENTIAL HEALTH HAZARDS AND SAFETY INFORMATION RELATED TO THIS PRODUCT CAN BE DOWNLOADED FROM THE SDS PORTION OF THIS WEBSITE. IT IS ALSO AVAILABLE FROM YOUR EMPLOYER AND WELDING SUPPLY DISTRIBUTOR.

DO NOT PROCEED WITH USE OF THIS PRODUCT UNTIL YOU READ AND UNDERSTAND THE SAFETY DATA SHEET (SDS) AND PRODUCT WARNING STATEMENT.

BE SURE TO CONSULT THE LATEST VERSION OF THE SDS.

SEE THE PRODUCT WARNING LABEL AND SDS FOR COMPLETE WARNING INFORMATION.

