



ALUMINUM BRONZE A-1 ALLOY NO. 610



DESCRIPTION: Weldcote Metals 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.

SPECIFICATIONS: ANSI/AWS A5.7 & ASME SFA 5.7 ERCuAl-A1

NOMINAL COMPOSITION:

Silicon	.10 % max.	Aluminum	6.0-8.5 %
Lead	.02 % max.	Zinc	.10 % max
Copper	Balance	Iron	1.5 % max
Others	.50 % max.	Manganese	.50% max

PHYSICAL PROPERTIES:

Melting Point	1945 °f (1046 °C)	Reduction of area	53 %
Yield Strength	28,000 psi	Tensile Strength	68,000 psi
Elongation	47 %	Brinell Hardness	125 HB

RECOMMENDED WELDING PARAMETERS:

***GMAW(MIG) Parameters** (DC Reverse Polarity) Electrode Positive Spray transfer

<u>Wire Diameter</u>	<u>Amps</u>	<u>Volts</u>	<u>Argon (cfh)</u>	<u>Wire Feed ipm</u>
.030	80-140	25-26	25	340-450
.035	130-200	26-27	30	280-400
.045	185-245	27-28	30	200-300
1/16	250-400	28-30	40	150-210

***GTAW(Tig) Parameters** (DCSP) ² Electrode negative or ACHF

<u>Material</u>	<u>2%Thoriated</u> ²	<u>Filler Wire Size</u>	<u>Amps (DC)</u>	<u>Amps (AC)</u>	<u>Gas Cup</u>	<u>Argon(cfh)</u>
1/16"	1/16"	1/16"	80-120	80-120	3/8-1/2	15
3/32"-1/8"	3/32"	3/32"	145-205	145-195	7/16-1/2	15
3/16"	1/8"	3/32"-1/8"	300-350	255-300	7/16-1/2	20
1/2"	3/16"	1/8"	515-640	340-485	1/2	25

***All parameters are suggested as basic guidelines and will vary depending on joint design, number of passes and other factors.**

Weldcote Metals believes this data to be accurate and to reflect qualified expert opinion regarding current research. However, Weldcote Metals can not make any expressed or implied warranty as to this information.