



Aluminum Bronze A3 (ERCuAl-A3)

Specifications

AWS A5.7 / ASME SFA 5.7 Class ERCuAl-A3

Description

Aluminum Bronze A3 has a higher strength aluminum bronze used to joining and repair welding of similar compositions. Aluminum Bronze A3 applications include, bearing overlays, hydraulic pistons, impellers, turbine runners, press rams, steel mill rolls, ceiling machine mandrels, breaker blocks, valve seats and parts, mill slippers, and cable sheaves.

Typical Chemical Composition

Copper *	Balance
Silicon	0.10 max.
Aluminum	10.0 – 11.50
Iron	2.0 – 4.50
Silicon	0.10 max.
Lead	0.02 max.
Others	0.50 max.

*includes Silver

Typical Mechanical Properties

Tensile Strength, ksi	90 (621 MPa)
Yield Strength, ksi	40 (276 MPa)
Elongation, in 2 in.	20%
Reduction of area	22%
BHN (3000 kg) ¼" deposit	166

Recommended Welding Parameters

Shielded Metal-arc (dcep)-Positive (If available)	Electrode Diameter	Amperes*	Gas Tungsten-arc	Filler Diameter	Amperes* (dcen)	Amperes* (achf)
	3/32"	50-110		1/16"	70-120	70-150
	1/8"	90-160		3/32"	120-160	140-230
	5/32"	130-180		1/8"	170-230	225-320
	3/16"	150-225		5/32"	220-280	175-300
				3/16"	280-330	200-320
Gas Metal-arc (dcep)-Positive	Wire Diameter	Voltage	Amperes*			
	.035"	20-26	100-200			
	.045"	22-28	100-250			
	1/16"	29-32	250-400			
	3/32"	32-34	350-500			

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

Gas Selection

GTAW	100% Helium	40-45 cfh	GMAW	100% Argon	45-55 cfh
	100% Argon	40-45 cfh		75/25 Ar/He	45-55 cfh

Notice: The results reported are based upon testing of the product under controlled laboratory conditions in accordance with American Welding Society Standards. Actual use of the product may produce different results due to varying conditions. An example of such conditions would be electrode size, plate chemistry, environment, weldment design, fabrication methods, welding procedure and service requirements. Thus the results are not guarantees for use in the field. The manufacturer disclaims any warranty of merchantability or fitness for any particular purpose with respect to its products.

Edmonton, AB Office
8804 51 Ave
Edmonton, AB T6E 5E8
Phone: 780-468-1777
Fax 780-468-1758

Chilliwack, BC Corporate
Unit A, 44636 Yale Rd West
Chilliwack, BC V2R 0G5
Phone: 604-701-6533
Fax 604-701-6559

Surrey, BC Office
Unit 11, 13085 115 Ave
Surrey, BC V3R 4S7
Phone: 1-877-233-1378
Fax: 604-701-6559

Saskatoon, SK Office
Unit#8, 401 Pakwa Place
Saskatoon, SK S7L 5Z9
Phone: 306-974-9750
Fax 306-974-9752

Prince George
1557 South Lyon St
Prince George, BC V2M 1T3
Phone: 250-562-8922
Fax: 250-562-8927