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ERCuAl-A2 DATA SHEET

Pinnacle Alloys ERCuAl-A2

AWS CLASS ERCuAl-A2

CODE AND SPECIFICATION DATA:

AWS A5.7 ASME SFA 5.7

DESCRIPTION:

Pinnacle Alloys ERCuAl-A2 aluminum bronze is the most versatile welding electrode in this family of alloys. It is intended for deposition with electric arc welding processes. Pinnacle Alloys ERCuAl-A2 will weld and join many ferrous and nonferrous metals and combinations of dissimilar metals. These metals include the more weldable grades of cast iron, high and low carbon steels, copper, bronzes, and copper-nickel alloys. Applications for Pinnacle Alloys ERCuAl-A2 include building up bearing surfaces, joining and fabricating copper alloys, overlaying for resistance to corrosion and erosion, and general maintenance and repair welding. Pinnacle Alloys ERCuAl-A2 is typically used for cast iron, malleable iron, cast iron to steel, cast iron to bronze, steel to bronze, aluminum bronze, silicon bronze, manganese bronze, cupro-nickel, tool steel, copper to steel, bearings, bushings, pump housings, condenser boxes, hydraulic pistons, brake drums, tractor gear housings, idler pulleys, pickling hooks, paper mill rolls, motor bases, tin plate mill rolls, impellers, valve seats, gears, mixer arms, press rams, ship propellers, and lance heads.

DIAMETERS: .030", .035", .045", 1/16", 3/32", 1/8"

TYPICAL CHEMICAL COMPOSITION (Wt% filler metal):

Aluminum (Al)	8.50-11.0
Iron (Fe)	0.50-1.50
Silicon (Si)	0.10 max
Copper (Cu) + Silver (Ag)	Balance
Others	0.50 max

TYPICAL MECHANICAL PROPERTIES (nominal all-weld metal values):

Ultimate Tensile Strength (psi)	79,000 psi (545 MPa)
Yield Strength (psi)	35,000 psi (241 MPa)
Percent Elongation in 2"	28%
Reduction of Area	28%
1/4" Deposit	140



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TYPICAL GMAW (MIG) WELDING PARAMETERS (DC Reverse Polarity; Electrode Positive Spray Transfer):

Diameter	WFS (ipm)	Amperage	Volts	Argon (cfh)
.030"	340-450	80-140	25-26	25
.035"	280-400	130-200	26-27	30
.045"	200-300	185-245	27-28	30
1/16"	150-210	250-400	28-30	40

TYPICAL GTAW (TIG) WELDING PARAMETERS (DCSP):

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

* Electrode negative or ACHF.

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

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 the use in the field. The manufacturer disclaims any warranty of merchantability of fitness for any particular purpose with respect to its products.

CAUTION: Consumers should be thoroughly familiar with the safety precautions on the warning label posted in each shipment and in the American National Standards A49.1, "Safety in Welding and Cutting," published by the American Welding Society, 550 NW LeJune Road, Miami, FL 33126: OSHA Safety and Health Standards 29 CRF 1910 is available from the U.S. Department of Labor, Washington, D.C. 20210.

Pinnacle Alloys MSDS sheet may be obtained at www.pinnaclealloys.com.