AN ISO 9001:2015 COMPANY
CERTIFICATE NO.: C755336

ERCuSi-A DATA SHEET

Pinnacle Alloys ERCuSi-A
AWS CLASS ERCuSi-A
CODE AND SPECIFICATION DATA:
AWS A5.7 ASME SFA 5.7; UNS C65600
COMMON NAME: Silicon Bronze

DESCRIPTION:
Pinnacle Alloys ERCuSi-A (Silicon Bronze) is a copper-based alloy containing approximately 3% silicon; it may also contain small percentages of manganese, tin, or zinc. These alloys are used for gas tungsten and gas metal arc welding of copper-silicon and copper-zinc base metals, to themselves and also to steel. When gas metal arc welding with ERCuSi-A filler metals, it is best to keep the weld pool small and the interpass temperature below 150°F to minimize hot cracking. The use of narrow weld passes reduces contraction stresses and also permits faster cooling through the hot-short temperature range. When gas tungsten arc welding with ERCuSi-A filler metals, best results are obtained by keeping the weld pool small. Preheating is not required. Welding can be done in all positions, but the flat position is preferred.

DIAMETERS: .023”, .030”, .035”, .045”, 1/16”, 3/32”, 1/8”, 5/32”

WELDING POSITIONS: All positions

TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Aluminum (Al)	0.01	0.006
Copper (Cu)[a]	Balance	Balance
Iron (Fe)	0.50	0.01
Lead (Pb)	0.02	0.001
Manganese (Mn)	1.50	1.10
Silicon (Si)	2.80-4.00	3.03
Tin (Sn)	1.00	0.008
Zinc (Zn)	1.00	0.021

NOTE: Single values are maximums.
[a] Copper including incidental Silver

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TYPICAL MECHANICAL PROPERTIES:

	AWS Spec (min)	As Welded
Ultimate Tensile Strength	Not required	≥ 50,000 psi (345 MPa)
Hardness	Not required	70-85 HBW

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, 8669 NW 36 Street, #130, 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 SDS sheets may be obtained on the website below.