



ISO 9001:2015 REGISTERED  
Certificate No.: 50040 & 50415

## ERCu DATA SHEET

### Pinnacle Alloys ERCu (De-ox)

AWS CLASS ERCu

#### CODE AND SPECIFICATION DATA:

AWS A5.7 ASME SFA 5.7; UNS C18980

**COMMON NAME:** Copper

#### DESCRIPTION:

Pinnacle Alloys ERCu (Copper) is made of deoxidized copper, but may also contain one or more of the following elements: phosphorous, silicon, tin, manganese, and silver. Phosphorous and silicon are added primarily as deoxidizers. The other elements add either to the ease of welding or the properties of the final weldment. Pinnacle Alloys ERCu is generally used for the welding of deoxidized and electrolytic tough pitch (ETP) copper. Reactions with hydrogen in oxygen-free copper, and the segregation of copper oxide in tough pitch copper may detract from the joint efficiency. ERCu welding electrodes and rods may be used to weld these base metals when the highest quality is not required. Preheating is desirable on most work; on thick base metal it is essential. Preheat temperatures of 400°F-1000°F are suitable (especially when thicknesses of ¼" and over are welded). For thick base metals, GMAW is preferred.

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

**WELDING POSITIONS:** All positions



#### TYPICAL DEPOSIT COMPOSITION:

	AWS Spec	Weld Metal Analysis (%)
Aluminum (Al)	0.01	0.003
Copper (Cu) <sup>a</sup>	98.0 min	Balance
Lead (Pb)	0.02	0.0005
Manganese (Mn)	0.50	0.45
Phosphorus (P)	0.15	0.03
Silicon (Si)	0.50	0.40
Tin (Sn)	1.00	0.73

NOTE: Single values are maximums.

<sup>a</sup> Copper including incidental Silver

[www.pinnaclealloys.com](http://www.pinnaclealloys.com)

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**TYPICAL MECHANICAL PROPERTIES:**

	<b>AWS Spec (min)</b>	<b>As Welded</b>
Ultimate Tensile Strength	Not required	≥ 25,000 psi (170 MPa)
Hardness	Not required	25 Rockwell F

**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 CFR 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.

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