H-ADVANCED WELCO

DE-OXIDISED COPPER TIG ROD

PRODUCT DATA SHEET

AWS STANDARD: ERCu

Company	H-Advanced Welco
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1. Product Description

ERCu De-Oxidised Copper TIG Rod is a high-copper filler metal designed for gas tungsten arc welding (GTAW/TIG). It is used for fabrication of de-oxidised copper, repair of copper castings and selected joining or overlay applications.

The product is supplied in straight TIG rod lengths and is available in 1.6 mm, 2.4 mm and 3.2 mm diameters.

2. Typical Applications

• Fabrication and repair of de-oxidised copper components.
• Repair welding of copper castings.
• Copper pipes, tanks, fittings, bus bars and connectors.
• Selected joining to mild or galvanised steel where high-strength joints are not required.

3. Key Features

• High-copper filler metal.
• Dense, high-quality weld deposits.
• Relatively high electrical conductivity.
• Suitable for TIG fabrication, repair and overlay applications.

4. Product Range

Product	Diameter	Form	Typical Use
De-Oxidised Copper Tig Rod	1.6 mm	Straight TIG rod	Light gauge / precision welding
De-Oxidised Copper Tig Rod	2.4 mm	Straight TIG rod	General fabrication
De-Oxidised Copper Tig Rod	3.2 mm	Straight TIG rod	Heavier sections / repair work

5. Chemical Composition

Element	Composition
Manganese (Mn)	0.50% max.
Tin (Sn)	1.0% max.
Lead (Pb)	0.02% max.
Phosphorus (P)	0.15% max.
Copper (Cu)	98.0% min.
Silicon (Si)	0.50% max.

Element	Composition
Aluminum (Al)	0.01% max.
Others	0.50% max.

6. Mechanical Properties

Typical all-weld-metal / deposited weld-metal properties are shown below. Actual results may vary with welding procedure, base material and test conditions.

Property	Typical Value
Tensile Strength	Approx. 200 MPa (29 ksi)
Yield Strength	Approx. 55 MPa (8 ksi)
Elongation	Approx. 29%
Reduction of Area	Approx. 45%
Brinell Hardness	Approx. 54 HB

7. Welding Information

Process	GTAW / TIG
Shielding Gas	100% Argon or 100% Helium may be used, depending on section thickness and the qualified welding procedure.
Polarity	Typically DC electrode negative (DCEN).
Technique	Use clean base material and controlled heat input. Preheating may be required for heavier copper sections.
Surface Preparation	Remove oil, grease, oxides, paint and other contaminants before welding.

8. Storage & Handling

Store rods in a clean, dry area away from moisture, dirt, oils, chemicals and other contaminants. Keep packaging closed until required for use. Handle rods carefully to prevent bending, surface damage or contamination.

9. Standards & Classification

AWS Standard: ERCu
Classification: AWS A5.7 ERCu. Where certified mechanical properties or chemistry are required, refer to the Certificate of Conformity / Certificate of Analysis for the supplied batch.

10. Important Notice

The information in this data sheet is intended as general technical guidance. Welding results and deposited mechanical properties depend on base-metal composition, joint design, surface condition, welding parameters, operator technique and service conditions. Users are responsible for establishing and qualifying a suitable welding procedure for their particular application.

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