OXYGEN-FREE COPPER · GRADE C10100

Copper Rod

Technical Data Sheet

REARDEN PRECISION · 2026

Oxygen-Free Copper Rod — C10100

Rearden Precision · Houston, TX — Data Sheet, Specifications are subject to change or deviation prior to purchase.

PRODUCT DESCRIPTION

High-purity (≥99.99% Cu), oxygen-free copper rod, immune to hydrogen embrittlement and suited to the most demanding electrical and thermal conductivity applications. Manufactured through RCIcast® continuous casting technology, it can be joined by all standard welding and brazing methods and offers excellent deformability for fine and ultra-fine wire drawing.

TYPICAL APPLICATIONS

- Electrical and power cables (building wire, utility, power cable)
- Wire drawing for fine and ultra-fine wire · Busbar manufacturing
- Magnet wire and electrical windings · Automotive and e-mobility wiring

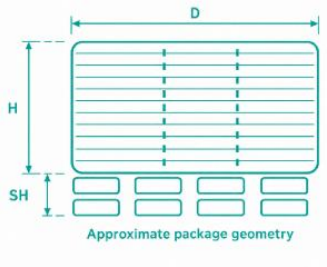
PRODUCT OVERVIEW

Producer	Rearden Precision — Houston, TX, USA
Product	Oxygen-Free Copper Rod
Standard	ASTM B49 / UNS C10100
Casting	Vertical continuous casting — RCIcast®
Raw material	Cathode ER/EW (Grade 1) ASTM B115
Finish	Bright, oxide-free

AVAILABLE SIZES

Ø (mm)	Ø (in)
8	*≈ 0.315 in (5/16")*
12.5	*≈ 0.492 in (1/2")*
16	*≈ 0.630 in (5/8")*
20	*≈ 0.787 in (25/32")*

PACKAGING DIMENSIONS — APPROXIMATE



Coil height (H)	18 in. (457 mm)
Coil diameter (D)	43.3 in. (1,100 mm)
Skid height (SH)	6.5 in. (165 mm)
Overall height*	24.5 in. (622 mm)
Nominal coil weight	6,000 lb. (2.72 MT)
Packing	Wooden skid + protective bag

TECHNICAL PROPERTIES

Electrical resistivity: ≤ 0.017241 Ω·mm^2/m (equivalent to μΩ·m)

Thermal conductivity: ≈ 390 W/(m·K), typical for 100% IACS copper

Physical constants: density 8.94 kg/dm^3 · melting point 1,083 °C · specific heat 385 J/(kg·K) · coefficient of linear expansion 0.0000177 1/K

Standard 6,000 lb. coil configuration on wooden skid. Dimensions may vary slightly by coil build and protective packaging.

**Approximate overall height is calculated as coil height plus skid height. Approximate package envelope: Ø 43.3 in. × 24.5 in. high, excluding minor bag overhang.*

CHEMICAL COMPOSITION — C10100 (OFE)

Reference chemical limits for OFE / UNS C10100. Values are weight percent (wt.%) unless otherwise noted.

Element	Requirement	Element	Requirement
Copper	≥ 99.99%	Silver	≤ 0.0025%
Lead	≤ 0.0005%	Arsenic	≤ 0.0005%
Zinc	≤ 0.0001%	Oxygen	≤ 0.0005% (≤ 5 ppm)
Iron	≤ 0.0010%	Antimony	≤ 0.0004%
Phosphorus	≤ 0.0003%	Tellurium	≤ 0.0002%

QUALITY ASSURANCE

- Visual inspection of every coil for surface defects, cracks, and micro-holes
- Oxygen content verification (≤5 ppm) by chemical analysis
- Electrical conductivity testing on each production diameter.
- Bend testing to confirm immunity to hydrogen embrittlement.

STORAGE, HANDLING & ORDERING

- Store coils in a dry, covered area to prevent surface oxidation.
- Manage with sling- or fork-compatible pallets rated for 6,000–8,000 lb. coils.
- Specify diameter and coil weight when ordering.
- Custom packaging in size and weight is available on request.