



# Copper & Aluminum Rods

*for a connected world*



# NUMBERS

## The Foundation of Power & Progress

Every great structure, every powered city, and every advanced technology begins with a single, crucial element: a reliable conductor.

At **Energya Metals**, we don't just supply materials; we provide the essential foundation for the world's electrical and industrial infrastructure. Our commitment to metallurgical excellence ensures that from the largest power grid to the most precise electronic device, the core connection is built to perform, endure, and excel.

04

Production Lines

5+

Markets

10,000

MT

Capacity

# COPPER RODS

## Unmatched Purity. Unrivalled Performance

*Our high-purity, electrolytic copper rods are the benchmark for efficiency and reliability in electrical applications.*

### Key features

**>99.99% Conductivity:**

Maximizes electrical flow efficiency, reducing energy loss and operational costs.

**Superior Surface Quality:**

Ensures flawless wire drawing, minimizing breaks and production downtime.

**Excellent Ductility & Elongation:**

Allows for consistent drawing into ultra-fine wires for diverse applications, from delicate electronics to heavy-duty windings.

**Low Oxygen Content:**

Enhances resistance to embrittlement and failure, ensuring long-term product integrity.

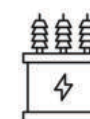
### Standards

ASTM B491

### Applications



Power cables (LV, MV, HV)



Magnet and transformer windings



Building wires & conductors



Automotive and telecommunications cables

# The Lightweight Champion of Conductivity

*Our aluminum rods offer an optimal balance of conductivity, light weight, and cost-effectiveness, without compromising on performance.*

## Key features

**Excellent Conductivity-to-Weight Ratio**  
Ideal for applications where weight savings are critical, such as overhead power lines and aerospace cabling.

**High Corrosion Resistance:**  
Forms a protective oxide layer, ensuring longevity and durability in harsh environments.

**Exceptional Formability:**  
Facilitates easy extrusion and drawing for complex profiles and consistent wire production.

**Proven Cost-Efficiency:**  
Delivers reliable performance at a lower overall project cost, optimizing your budget.

## Standards

ASTM B233

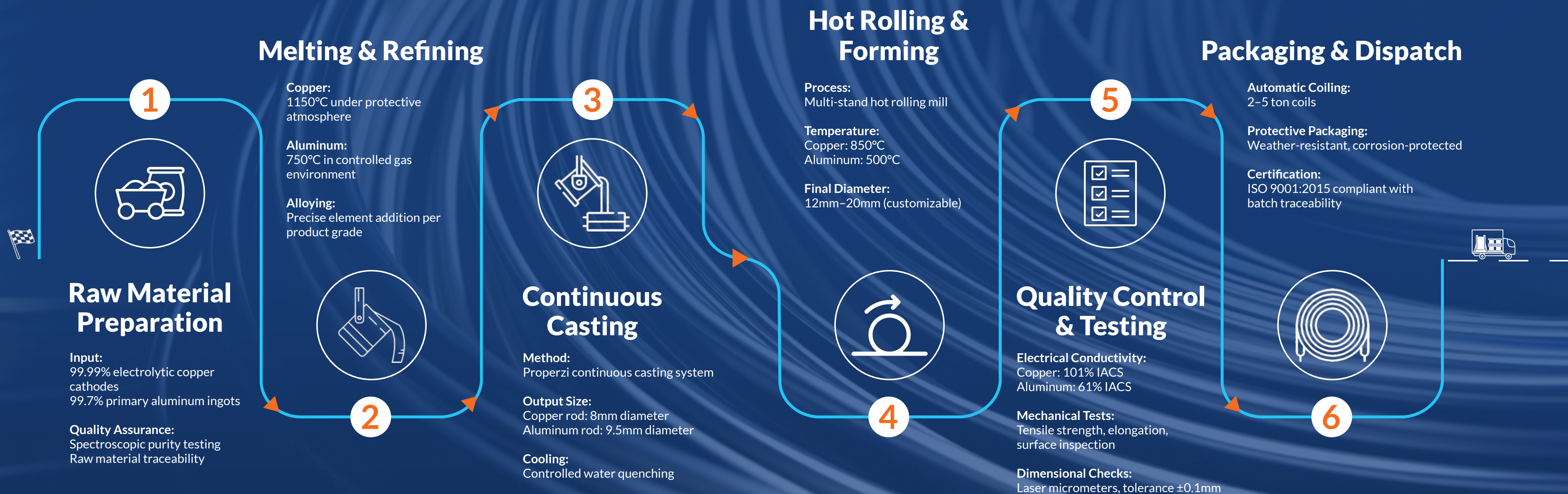
## Applications

-  Overhead power transmission lines (AAC, AAAC, ACSR)
-  Busbars and electrical conductors
-  Automotive and aviation wiring
-  Industrial machinery and equipment

# ALUMINUM RODS

# STATE OF ART

## PROCESSES



# Copper Rods

## Technical Data Sheet



### Description

Energyya Pure Copper Rods are manufactured to Grade C11020 in accordance with ASTM B491, and are primarily used for wires and cables.

Diameter: Ø8.0mm ±0.38mm  
Standard Compliance: ASTM B491

### Mechanical Properties

| Tensile Strength<br>(N/mm2) | Elongation % Min.<br>(250mm Gauge Length) |
|-----------------------------|-------------------------------------------|
| 228 ± 3                     | 30% ± 2                                   |

Surface is clean and free from Imperfections  
Surface Oxide Max : 750 Å

### Electrical Properties

| Conductivity<br>(% IACS) |
|--------------------------|
| 100%                     |

### Chemical Properties

| Element              | Unit | ASTM B491<br>Requirement |
|----------------------|------|--------------------------|
| Copper (Cu), max.    | %    | 99.9%                    |
| Oxygen Content, min. | ppm  | 400                      |

### Packaging

Polyethylene Sheet wrapped, strapped on wooden pallets

# Aluminum Rods

## Technical Data Sheet



### Description

EC Grade 1350 Pure Aluminum Rods are manufactured using Continuous Casting and Rolling (CCR) technology, ensuring high conductivity and mechanical reliability.

Diameter: Ø9.5mm ±0.5mm  
Standard Compliance: ASTM B233

### Mechanical Properties

| Temper | Tensile Strength<br>(Mpa) | Elongation % Min.<br>(250mm Gauge Length) |
|--------|---------------------------|-------------------------------------------|
| H11    | 80–95                     | 10                                        |
| H12    | 83–117                    | 4                                         |
| H14    | 103–138                   | 4                                         |

### Electrical Properties

| Temper | Resistivity<br>(Ω·mm²/m) | Conductivity<br>(% IACS) |
|--------|--------------------------|--------------------------|
| H11    | 0.02785                  | 61.9%                    |
| H12    | 83–117                   | 61.5%                    |

### Chemical Composition

| Element                               | ASTM B233<br>Requirement |
|---------------------------------------|--------------------------|
| Aluminum (Al), min.                   | 99.6%                    |
| Silicon (Si), max.                    | 0.1%                     |
| Iron (Fe), max.                       | 0.4%                     |
| Copper (Cu), max.                     | 0.05%                    |
| Manganese (Mn), max.                  | 0.01%                    |
| Magnesium (Mg), max.                  | 0.03%                    |
| Chromium (Cr), max.                   | 0.01%                    |
| Zinc (Zn), max.                       | 0.05%                    |
| Gallium (Ga), max.                    | 0.03%                    |
| Vanadium (V) +<br>Titanium (Ti), max. | 0.02%                    |
| Boron (B), max.                       | 0.05%                    |
| Others (each), max.                   | 0.03%                    |
| Others (total), max.                  | 0.1%                     |

### Packaging

Coil Weight 2000 kg ±10%  
Internal Diameter Ø550–600 mm  
External Diameter Ø1300–1340 mm  
Coil Height 850–900 mm  
Polyethylene Sheet wrapped, strapped on wooden pallets



## Why choose Energya Metals?

### **Uncompromising Quality Control**

Every batch is rigorously tested to meet international standards (ASTM, BS, IEC).

### **Technical Expertise**

Our metallurgists and engineers provide unparalleled support, from product selection to application optimization.

### **Sustainable Sourcing**

We are committed to responsible and traceable material sourcing, supporting your ESG goals.

### **Global Reach, Local Impact**

With a robust supply chain, we deliver consistency and reliability wherever your projects are.



Kickstart Your Project  
with the Right Foundation

Choose



**energya**<sup>®</sup>  
**Metals**

Reach us

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