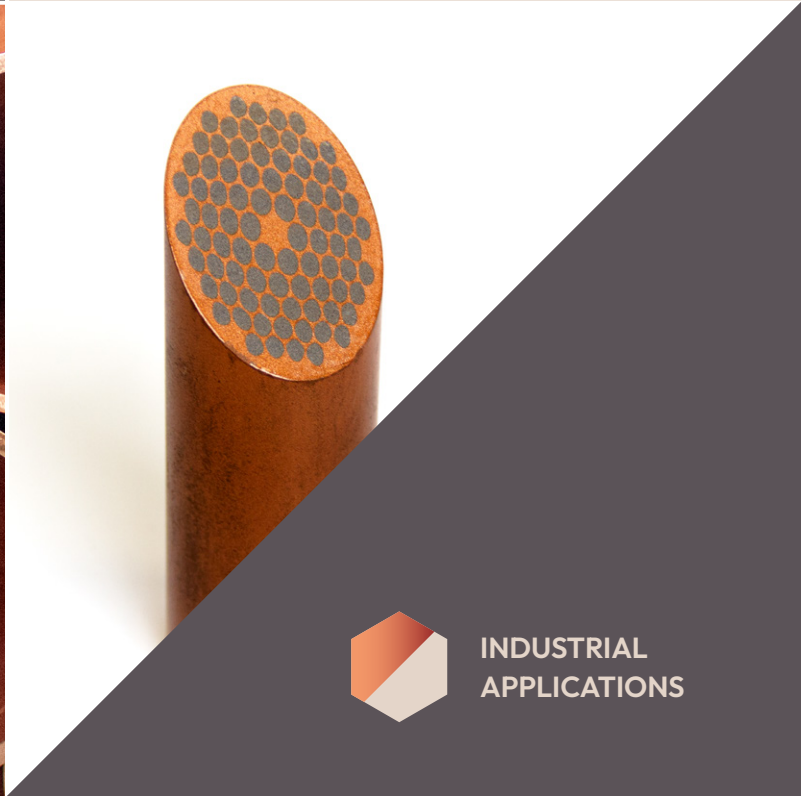
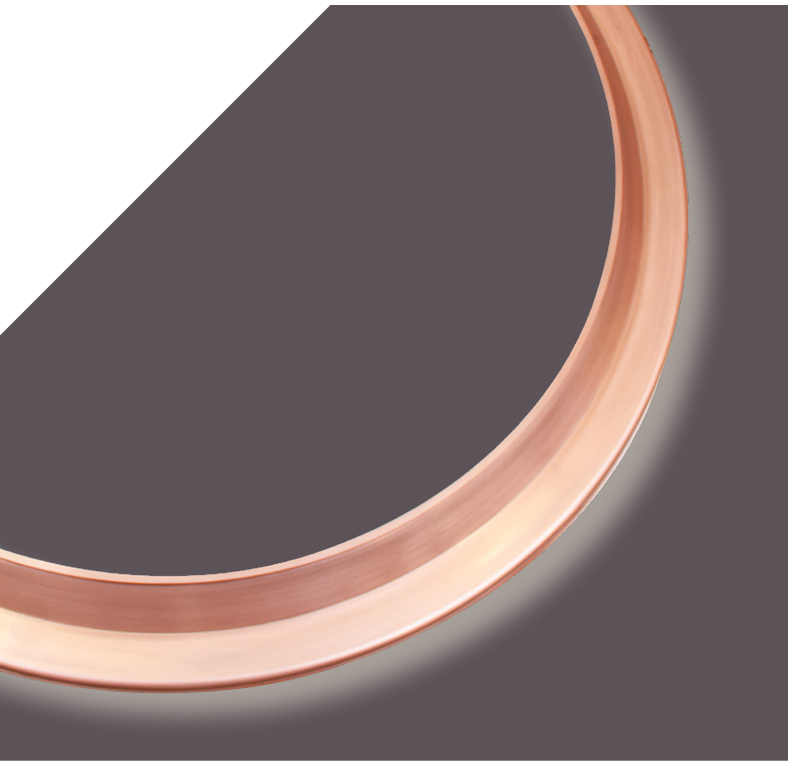




Special Parts

for customised Solutions



INDUSTRIAL
APPLICATIONS

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CONTENT

The Company

As a pioneer in numerous key areas of industry, cunova offers a wide range of products and solutions that meet the highest standards. From mould tubes and plates to other casting moulds – our products in the field of continuous casting of ferrous and non-ferrous metals set standards worldwide. We are also specialists in extruded and drawn copper products and a high-performance partner for finished components that are developed together with our customers. cunova's expertise also extends to developing highly corrosion-resistant copper-nickel products and coatings that are specially designed for applications in shipbuilding and on offshore platforms in the oil and gas industry. Our portfolio is complemented by our service division, which optimally addresses individual customer needs with advanced services and technical support.

Our corporate philosophy is based on the core value of customer centricity: we are committed to providing our business partners with tailored solutions and superior service exactly where they need it. We have a global network of experts that fosters direct and immediate communication with our customers to understand their specific requirements and guarantee customised results. This collaboration enables us to offer not only efficient products but also complete solutions that deliver real added value and convince in the long term.

Industrial Applications

The Industrial Applications business unit develops and distributes products made of copper and copper alloys that are specially designed for industrial applications. Our portfolio includes extruded rods, profiles and tubes that are ideal for welding and cutting technology as well as for energy transmission. In addition, we produce high-quality copper powder that meets the highest quality standards for additive manufacturing. Another key focus is our »Special Parts« product range, which represents precision

and quality. We offer high-precision, finished components that are specially developed for demanding applications in aerospace technology, the automotive industry, welding and cutting technology, energy transmission and many other key industries. These components are characterised by their mechanical strength, electrical conductivity and corrosion resistance. Our decades of experience make us a reliable partner for numerous industries.

Customised Solutions for Your Requirements

At cunova, we deliver semi-finished products and precision parts according to either the customers specification, our engineering innovations, or a hybrid of the two executed towards a common goal.

Our facilities enable the production of piece weights from 0.5 kg to 10,000 kg. No matter what shape or dimension is required we can deliver exactly to your requirements.

Our global team of experts is ready to assist you in obtaining optimum technical and economic results for your solution.

Our Machining Capabilities

- Turning
- Milling
- Drilling
- Grinding
- Water jet cutting
- Pressing, drawing and levelling
- Welding:
 - MIG/MAG
 - EB welding
 - Resistance pressure welding
 - Hard and soft soldering
- Forging
- Bending
- Silver plating
- Tin plating
- Nickel plating

Extract of possible Materials *

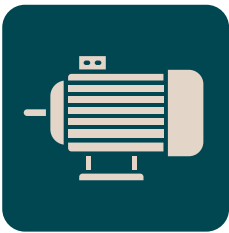
EN		ASTM
Cu-OFE	CW009A	C 10100
Cu-ETP	CW004A	C 11000
Cu-HCP	CW021A	C 10300
Cu-DHP	CW024A	C 12200
CuAg0,10P	CW016A	C 10700
CuCrIZr	CW106C	C 18400
CuNi10Fe1Mn	CW352H	C 70600
CuNi30Mn1Fe	CW354H	C 71500

* Other materials available on request.

AREAS OF APPLICATION

Flexible in Use – developed for numerous Applications

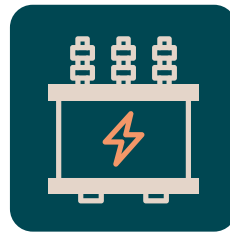
The innovation and diversity of cunova products and solutions can be found in a variety of industries worldwide:



Motors



Generators



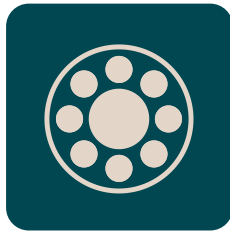
Transformers



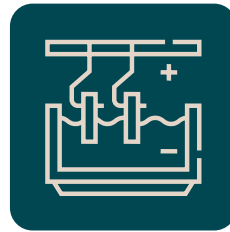
Medical Technology



Welding Technology



Plain Bearings



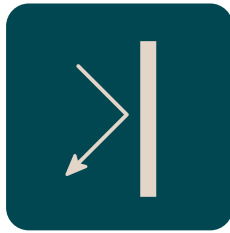
Electroplating



Mechanical Engineering



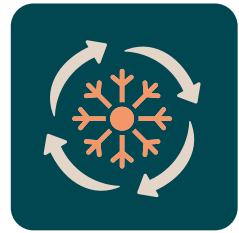
Electrical Engineering



Vacuum Coating



Heat Conduction



Cooling



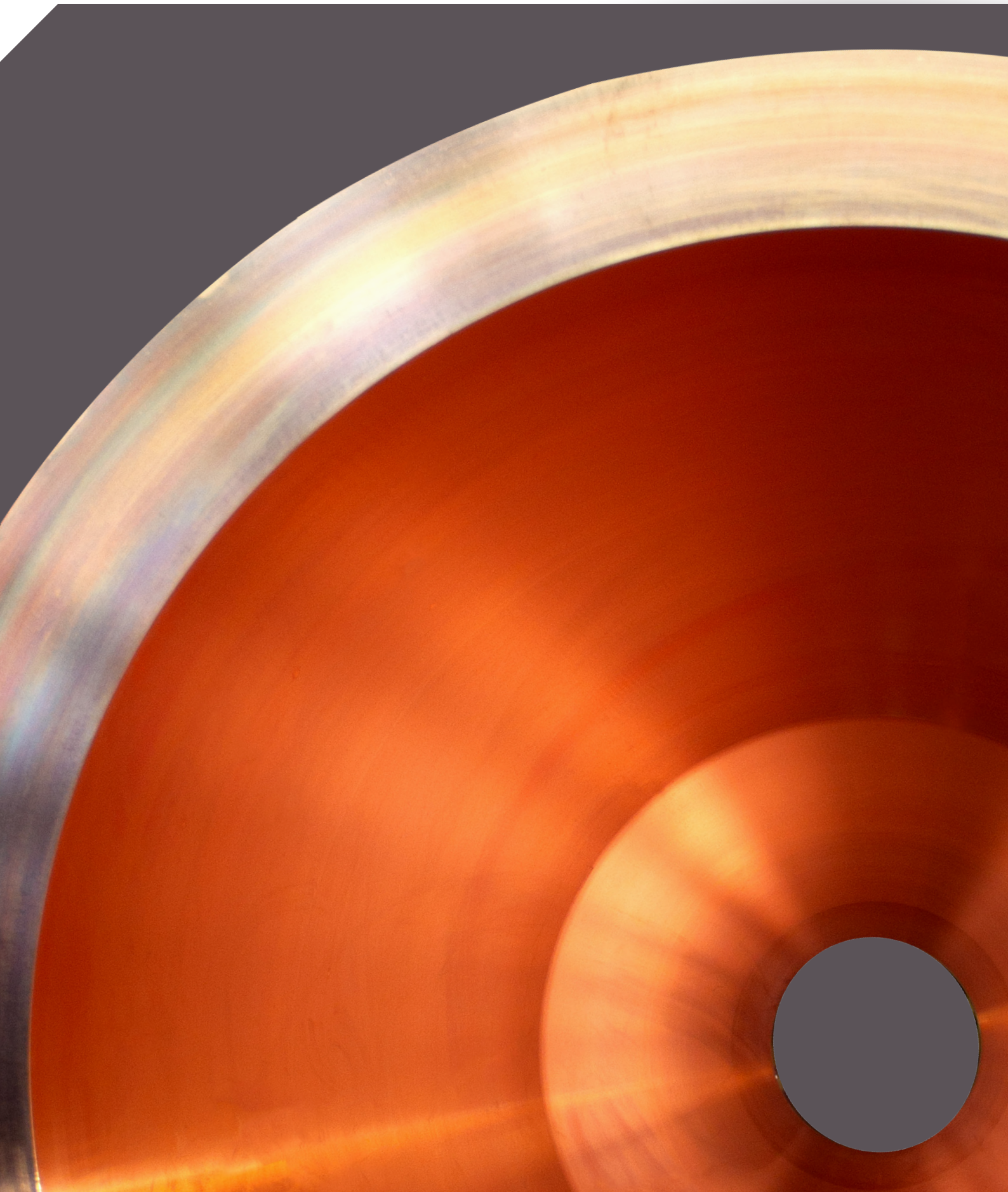
Basic Research

From Standard to Special: Examples of our Product Expertise

Our wide range of products includes a broad spectrum of specialised solutions that are tailored to the many and varied requirements of our customers. The following examples represent just a small selection of what we have to offer. We also excel in developing customised solutions that precisely meet your specific needs.

Selection of Products

- Rings, flanges, discs, cylinders
- Tube systems
- Conductor bolts, conductor tubes
- Connecting and joining parts
- Contact jaws
- Bushings
- Profiles
- Rondes
- Rods, bolts
- Target plates
- Cooling trays
- Plates (machined)
- Switching lines
- Combustion chambers



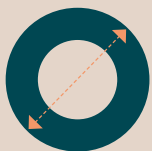
Copper Tubes for customised Applications

cunova manufactures seamless drawn copper tubes for high current and high voltage technology and many other applications. Thanks to optimised processes we offer a wide selection of dimensions and materials precisely adapted to customer requirements.

In addition to processing such as milling, grooving, drilling or threading, we also perform welding work and supply of accessories. The professional assembly of parts at our facilities is available upon request. With our customised solutions we reliably support our customers in the implementation of projects.

cunova manufactures seamless drawn tubes for electrical applications in the following dimensions:

Material	EN	ASTM
Cu-OFE	CW009A	C 10100
Cu-ETP	CW004A	C 11000
Cu-HCP	CW021A	C 10300
Cu-DHP	CW024A	C 12200



Outer Diameter *

40 mm to 460 mm



Wall Thickness *

3 mm to 50 mm

(depending on diameter).

* Other dimensions available on request.

In addition, larger diameters can be produced as longitudinally welded tubes or forged parts.

High-Purity Copper Tubes for innovative Coating Processes

cunova copper tubes are used in a wide range of applications including sputter targets – a specialised application that places particularly high demands on material and precision.

Sputter copper tubes are crucial for the production of ultra-thin, conductive layers in technologies such as flat screens, OLEDs, touchscreens and microelectronics. As a target material in the sputtering process, they release copper atoms that are transferred to substrates, enabling uniform, highly conductive layers.

Thanks to its excellent electrical conductivity, copper offers clear advantages such as higher pixel densities and better resolutions. Sputter copper tubes combine material purity, homogeneity and stable geometry for reliable coatings.

The quality of the copper tube directly affects the properties of the layer and thus the performance of the end product. Our sputter copper tubes are customised to meet specific requirements and optimise production processes.



Cutting-Edge Processes for Top Quality

At cunova, quality is our top priority – it is the standard by which we measure ourselves every day. To ensure that our products meet the highest requirements, we use the most modern test procedures and comprehensive quality controls. Each part and each component is carefully tested to meet the specific requirements of our customers and to ensure a consistently high performance.

Extract from our Test Methods

Non-destructive Testing (NDT)

- RT Testing (Radiographic Testing)
- LT Testing (Helium Leak Test)
- PT Testing (Dye Penetrant Testing)
- UT Testing (Ultrasonic Testing)
- VT Testing (Visual Testing)
- All Tests with Certificates from the DGzFP

Mechanical Properties in the Laboratory

- Tensile Tests:
 - Rp0.2 (Yield Strength)
 - Rm (Tensile Strength)
 - A (Elongation at Fracture)
 - Z (Contraction at Fracture)
 - Modulus of Elasticity
- Hardness (HV, HBW, HR)
- Conductivity
- Bend Tests
- Hot Tensile Tests
- Impact Tests
- Fatigue Tests

Measuring Machines

- Faro Measuring Arm
- Faro Laser Tracker
- 3D CNC Measuring Machines
- Rotational Testing
- Pressure Testing

Chemical Analyses

- Grain Size Determination
- Macroscopic Testing
- Scanning Electron Microscope
- Microstructure Testing





CUNOVA

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