



CUNOVA

FORMERLY KME
SPECIAL PRODUCTS
& SOLUTIONS



ANCU[®] - Copper Anodes for Electroplating



INDUSTRIAL
APPLICATIONS

ANCU[®] - Copper Anodes for Electroplating

cunova offers innovative product solutions tailored to the individual requirements of our customers from a wide range of industries. cunova is divided into four business units - Melting & Casting Technologies, Melting & Casting Services, Industrial Applications and Maritime Applications. Thanks to our many years of experience and sector-specific expertise, we are able to offer tailor-made solutions and exemplary engineering and services.

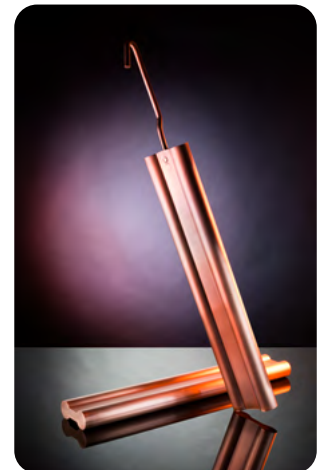
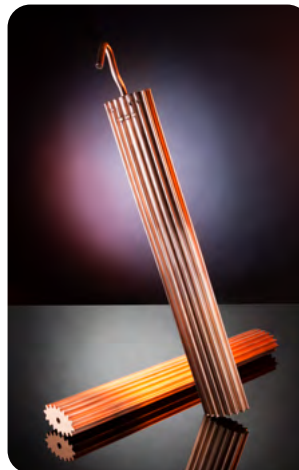
The cunova business unit Industrial Applications is specialized in the manufacturing of quality copper anodes. ANCU[®]- Copper Anodes are for electroplating use and produced in different forms and materials: clippings (slugs), ball anodes, flat copper anodes and profile anodes.

Special requirements demand equally special solutions. cunova supplies this sort of solutions.

Through a close working relationship with the users and manufacturers of electroplating plants, cunova has gained the technical understanding and competence needed to supply the best possible grade of anode for any particular type of copper plating bath, whether acid or alkaline.

Advantages of hot-worked (extruded) ANCU[®]-Anodes

- Very homogeneous fine grain structure
- Very homogeneous with regard to the phosphorus dispersion - without segregations -
- Uniform solution in the electrolyte
- No risk of sludge
- Uniform and very good copper plating



The basic material used for ANCU®- Copper Anodes by cunova is always high purity electrolytically refined cathode copper having a purity of more than 99,98 %. Impurities are given in the table alongside.

ANCU®- Anodes are of excellent homogeneity, with grain sizes of approx. 0.1 – 0.5 mm. Its fine grain structure ensures very even dissolution in the plating bath and thus a sound, uniformly dense cathode deposit.

cunova's ANCU®68 quality has been developed as a special grade for use in acid copper sulphate baths. The copper anode material develops a dark brown film during the plating process. This coating acts as a diaphragm and prevents the formation of sludge in the plating bath. Phosphorous is added to the copper during the manufacturing process, the additional Phosphorous helps to prevent the formation of sludge during the plating process.

Selection of the correct grade of copper anode material depends on the precise plating process and base material to which the plating will be applied, and must be chosen carefully. cunova can assist the customer with technical support to achieve the optimum plating solution.

The maximum residual grease value on the surface of cunova's ANCU®-Copper Anodes adds up to < 1 mg /dm² only. Upon request cunova will supply inspection certificates acc. to EN 10204 for the various ANCU®-qualities.

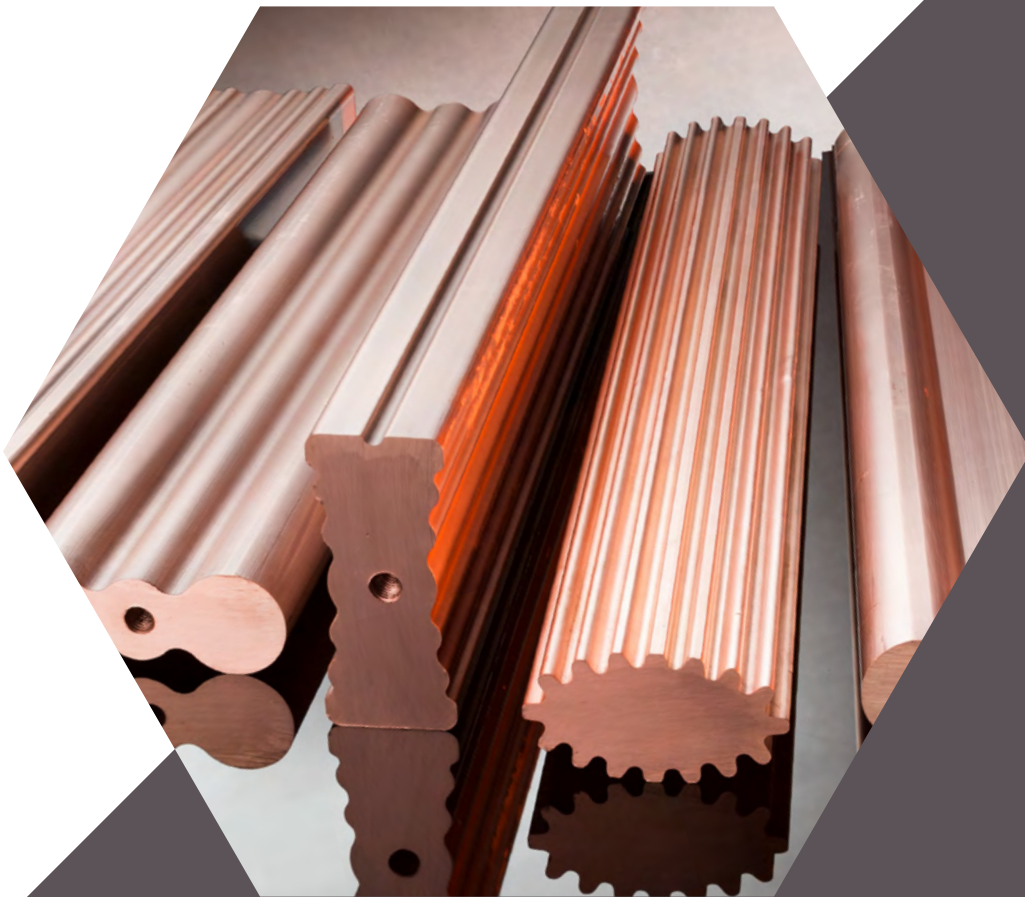
Impurities (guidance values)

S	0.0015 %
Ag	0.0020 %
Ni	0.0020 %
Fe	0.0030 %
Pb	0.0010 %
Sn	0.0010 %
As	0.0005 %
Sb	0.0005 %
Se	0.0005 %
Te	0.0005 %
Bi	0.0005 %

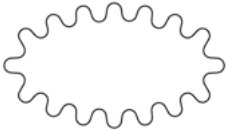



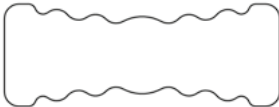
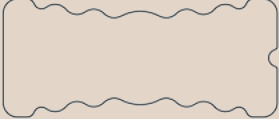
ANCU®- Grades

cunova Materials	Suitable for solutions		Remarks on use	Main alloying elements – Rem. Cu –
	acid	alkaline		
ANCU® 01	partially	partially	Increased tank sludge! Only recommended for deposits with subsequent mechanical burnishing.	O < 0.04 %
ANCU® 08	yes	yes	Universal, anode for acid and alkaline solutions. Particularly suitable for producing bright deposits in cyanide solutions at high current density.	O < 0.001 % free of Cu ₂ O
ANCU® 68	yes	no	Particularly suitable for use in acid copper sulphate electrolytes to produce bright deposits (low to medium current density).	P = 0.04 - 0.06 % free of Cu ₂ O

ANCU[®] - Copper Anodes for Electroplating



ANCU®- Forms

Profile form	cunova-profile No.	Width [mm]	Thickness [mm]	Surface [m ² /m]	Circumference [mm]	Weight [kg/m]
	30	76	43	0.288	288.94	18.02
	558	80	32	0.184	184.72	17.73
	814	94.9	34.5	0.239	239.80	21.14
	821	94.9	34.5	0.243	243.56	22.38
	823	95	35	0.269	269.14	23.67
	827	95	41	0.283	283.94	28.71

ANCU[®] - Forms

Profile Anodes

extruded, in a variety of sections and sizes (see page 5) with hooks or just drilled for hanging. cunova profile anodes have proved to be successful especially in the PCB industry.

Flat Copper Anodes

extruded, to any specified size, either drilled or not drilled for hanging.

Ball Anodes

for use in titanium baskets.

Clippings (Slugs)

for use in titanium baskets.

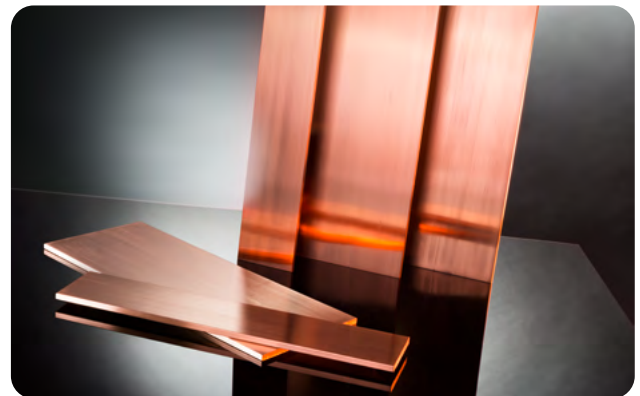
Clippings (slugs) and ball anodes are delivered in PE-bags of 10 kgs or plastic buckets of 25 kgs. Pallet weight: 500 kgs.

As part of its standard product range cunova also supplies bearer bars for anodes, busbars and wire anodes of Cu-ETP (or of Cu-HCP, if requested) acc. to DIN CEN / TS 13388.

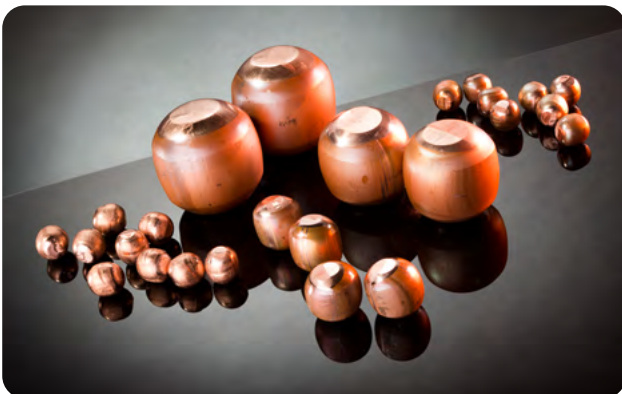
Other forms, sizes, materials and types of packaging upon request.



Profile Anodes



Flat Copper Anodes



Ball Anodes



Clippings (Slugs)





CUNOVA

FORMERLY KME
SPECIAL PRODUCTS
& SOLUTIONS

**Further information on
ANCU®- Copper Anodes for Electroplating:**

T +49 541 321-2101
info@cunova.com
www.cunova.com

cunova GmbH
Klosterstrasse 29
49074 Osnabrück
Germany

® = registered trademark

All changes reserved. MCO350623.

Owing to limitations in printing technology, the colours reproduced in this brochure should be regarded as approximate equivalents to the colours described.