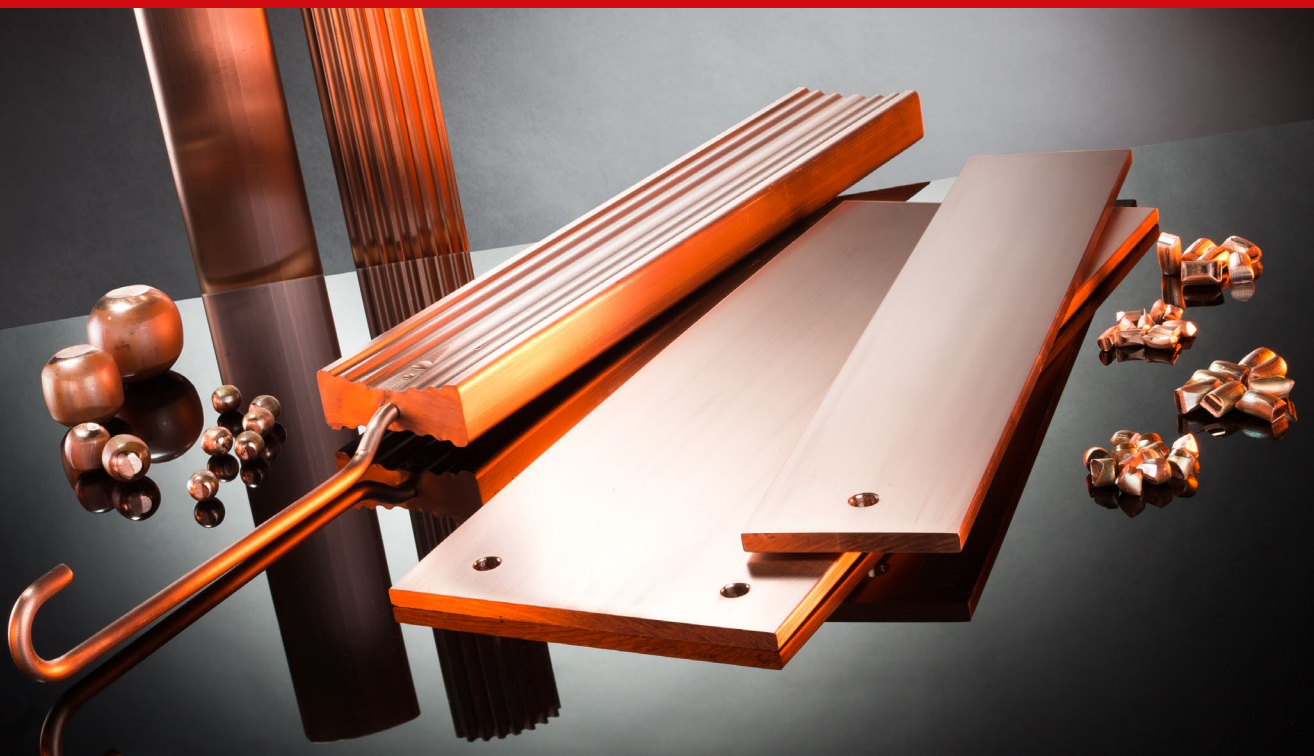


ANCU[®]

ANCU[®] - COPPER
ANODES FOR
ELECTROPLATING

KME Germany GmbH & Co. KG
SPECIAL DIVISION
[EN]



ANCU®-Copper Anodes for Electroplating

KME - one of the world's largest manufacturer of copper and copper alloy products - offers best possible solutions for users in various industrial branches. Our delivery program provides a wide range of high-tech solutions in copper with an optimal level of product quality.

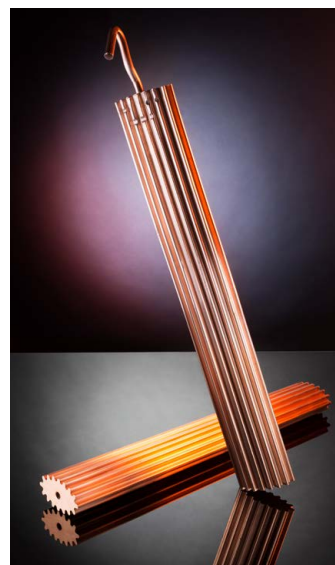
The business unit »Extruded and Drawn Products« within KME's »Special Products« division is specialized in the manufacturing of quality copper anodes. ANCU®-copper anodes are for electroplating use and produced in different forms and materials: clippings (slugs), ball anodes, flat copper anodes and profile anodes.

Special requirements demand equally special solutions. The business unit »Extruded and Drawn Products« division supplies just this sort of solution.

Through a close working relationship with the users and manufacturers of electroplating plants, KME 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



ANCU®-Materials/Grades

The basic material used for ANCU®- copper anodes by KME 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.

KME'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. KME can assist the customer with technical support to achieve the optimum plating solution.

The maximum residual grease value on the surface of KME's ANCU®-copper anodes adds up to $\leq 1 \text{ mg/dm}^2$ only.

Upon request KME will supply inspection certificates acc. to EN 10204 for the various ANCU®-qualities.

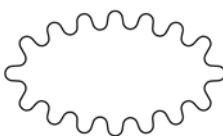



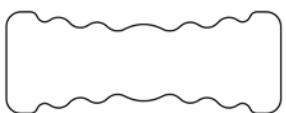
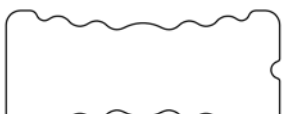
Impurities (guidance values)

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

KME grade	Suitability 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.	$O \leq 0.04 \%$
ANCU® 08	yes	yes	Universal, anode for acid and alkaline solutions. Particularly suitable for producing bright deposits in cyanide solutions at high current density.	$O \leq 0.001 \%$ free of Cu_2O
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_2O



ANCU®-Forms						
Profile form	KME-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 4) with hooks or just drilled for hanging. KME 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.

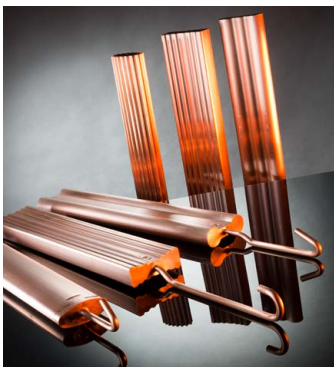
Clippings (Slugs)

for use in titanium baskets.

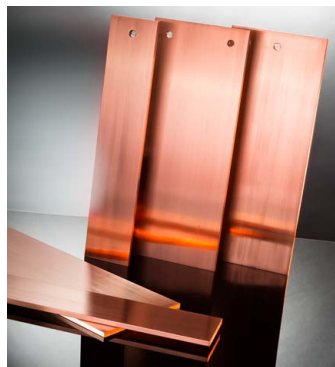
Clippings (slugs) and ball anodes are delivered in PE-bags of 10 kgs or plastic buckets of 25 kgs. Pallet weight: 500 kgs.

As part of its standard product range KME 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.

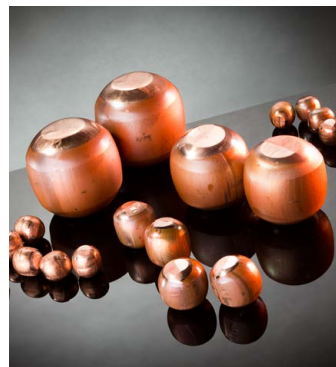
Other forms, sizes, materials and types of packaging upon request.



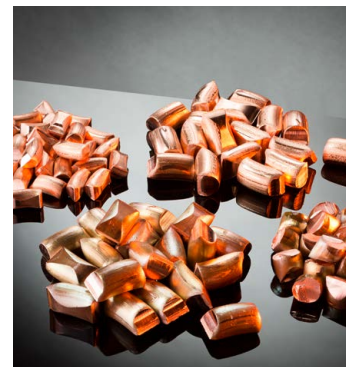
Profile Anodes



Flat Copper Anodes



Ball Anodes



Clippings (Slugs)

Further information:

WWW.KME.COM

® = registered trademark

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EXTRUDED AND DRAWN PRODUCTS

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