

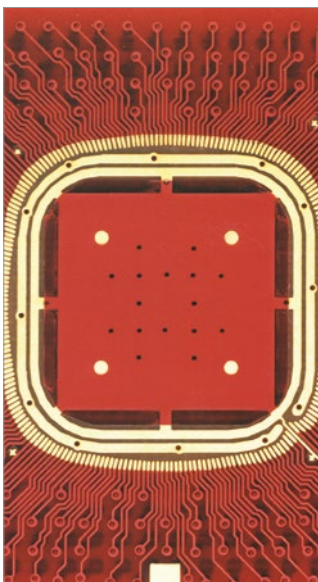


Version: 30 May 2017



AURUNA[®] 5000 ST

SOFT GOLD ELECTROLYTE



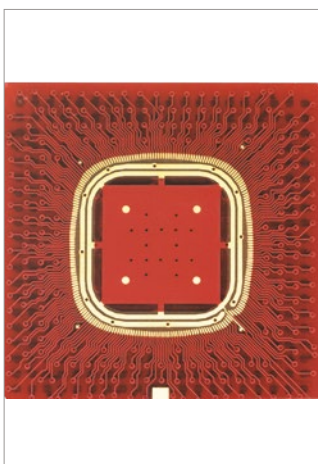
Lead-Free Electrolyte with Low Gold Content

AURUNA[®] 5000 ST fine gold bath is a neutral electrolyte for depositing matt yellow gold coatings. The gold surface has a low reflection factor. The lead-free electrolyte is particularly suitable for producing bondable and solderable surfaces on rigid or flexible printed circuit boards, ceramic or metallic substrates. The fineness of the AURUNA[®] 5000 ST layers is approx. 99.99 % Au. The layer hardness as plated is about 65 - 85 HV 0.025. AURUNA[®] 5000 ST layers therefore meet the requirements of ASTM B488 - 01, type III, code A/B.

In general AURUNA[®] 5000 ST will be plated over a matt nickel layer on a PCB. The gold layers exhibit excellent bondability and solderability, high ductility and a low electrical resistance.

As a special plating technology, it is also possible to plate AURUNA[®] 5000 ST gold layers directly on copper, without nickel interlayer (DGOC: direct gold on copper).

Compared to AURUNA[®] 5000, the grain structure of the gold layers deposited from AURUNA[®] 5000 ST have a substantially larger grain diameter and in addition to the standard wire bonding techniques it is also suitable for bonding techniques with higher bonding temperatures. The electrolyte is easy to use and has a long lifetime.



Advantages

- High purity 99.99% of gold
- Suitable for puls- and direct current plating
- Excellent for thermosonic gold wire bonding
- Direct gold on copper (DGOC) plating
- Excellent appearance and high performance
- High current efficiency
- Resist-friendly operating conditions
- Excellent solderability
- Low hardness, low contact resistance
- ASTM B488 - 01: type III, code A/B
- Matt yellow appearance

Applications

- PCB plating for RF application, where absence of nickel is required (telecommunication, signal converter), for both flex and rigid boards.

AURUNA® 5000 ST

SOFT GOLD ELECTROLYTE

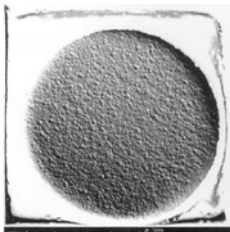


TECHNICAL SPECIFICATIONS

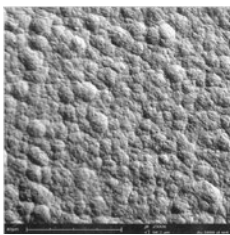
Electrolyte characteristics	
Electrolyte type	Neutral
Metal content	4 (2.5 - 7.0) g/l Au
pH value	6.0 (5.8 - 6.2)
Operating temperature	65 (62 - 68) °C
Current density range	0.3 (0.1 - 0.5) A/dm ²
Plating speed	0.17 µm/min at 0.3 A/dm ²
Anode material	Pt-Ti (type PLATINODE® Pt/Ti)

Coating characteristics	
Coating	Pure gold
Purity	99.99 wt. % Au
Colour of layer	Matt yellow
Hardness of layer HV 0.015 (Vickers)	≤ 85 HV
Max. coating thickness	10 µm

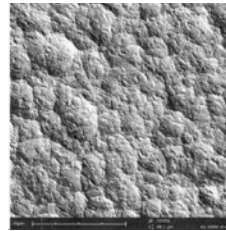
Grain Structure of AURUNA® 5000 ST Layer



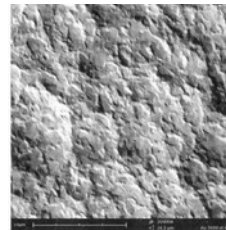
Magnification 500 X



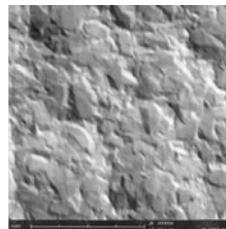
Magnification 2500 X



Magnification 5000 X



Magnification 10000 X



Magnification 20000 X

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Electroplating

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