

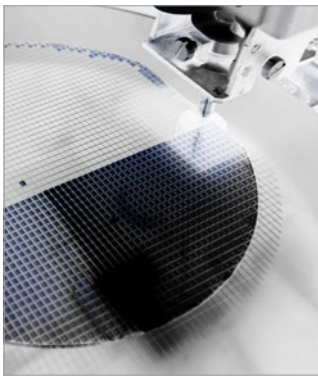


Version: 8 September 2025



AURUNA[®] SC-22

GOLD ELECTROLYTE



Cyanide-free gold electrolyte for the semiconductor industry

The cyanide-free gold electrolyte AURUNA[®] SC-22 was developed specifically for applications in the semiconductor industry. The electrolyte is based on sodium gold sulfite and features a stable, ammonia-free formulation with a wide operating window and easy handling. The electrolyte is pH-neutral to slightly alkaline (pH 7.5 - 9) and therefore has high resist compatibility.

The deposited gold layer has a purity of 99.9% and is free of pores and structural defects. It has a fine-grained microstructure with good planarity and uniform layer thickness distribution, even on complex geometries. The surface is smooth with a roughness between 5 and 40 nm, and the edges are sharp and precisely formed. The hardness of the layer is typically around 180 HV immediately after deposition. Subsequent heat treatment reduces the hardness to around 100 HV. The maximum achievable coating thickness is approximately 30 µm.

Advantages

- Cyanide- and ammonia-free
- Wide operating window
- Easy to use
- High resist compatibility
- Free of pores and structural defects
- Uniform layer thickness distribution
- High hardness

Applications

- Semiconductor applications
- Advanced packaging

AURUNA[®] SC-22

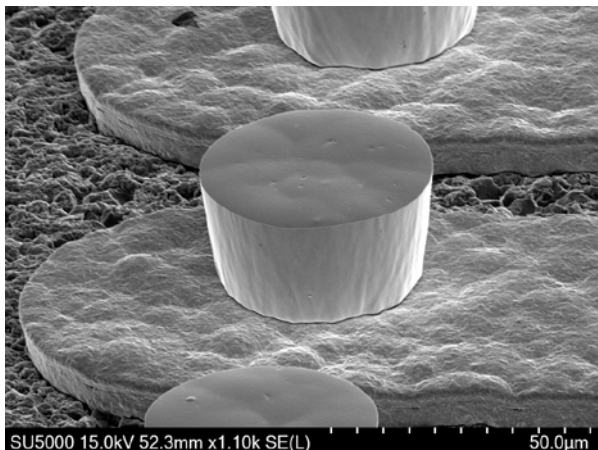
GOLD ELECTROLYTE

TECHNICAL SPECIFICATIONS

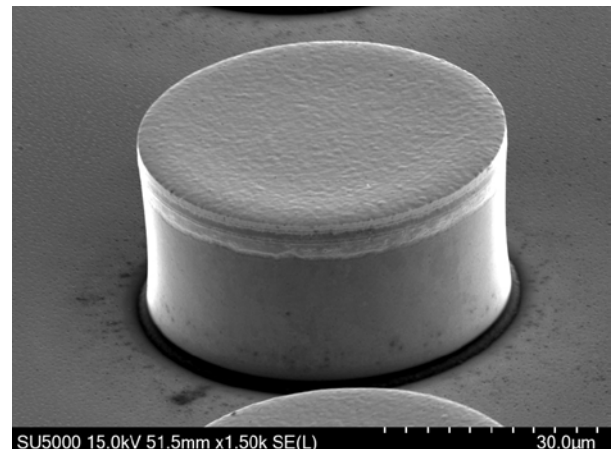
Electrolyte characteristics	
Electrolyte type	neutral to slightly alkaline
Metal content	12 - 15 g/l Au
pH value	7.5 - 9.0
Operating temperature	30 - 50 °C
Current density range	0.1 - 0.75 A/dm ²
Plating speed	0.38 µm/min at 0.5 A/dm ²
Anode material	Pt/Ti

Coating characteristics	
Coating	Gold
Purity	99.9 wt.% Au
Colour of deposit	Yellow
Brightness	Bright
Hardness of deposit	160 - 190 HV
Hardness after heat treatment	85 - 110 HV
Max. coating thickness	approx. 30 µm

Application for pillars and gold



Pillar structure – 26 µm Au



Cu/Ni/Au column with 1 µm Au

YOUR CONTACT

Do you have a specific question or would you like a no-obligation quote calculation? Our specialist will be happy to help you with any technical questions you might have.



Markus Legeler
Manager Sales International

Mail: markus.legeler@eu.umicore.com
Phone: +49 (0) 7171 607 - 204

