

Auronal™ 6

Gold Process

Auronal 6 process produces ultra pure 24 karat, lustrous deposits that are soft and ductile. Considerable savings are realized due to the bath's outstanding throwing power, high speed, and ability to deposit uniformly over complicated shapes. The Auronal 6 process is recommended for strip, rack, or barrel plating applications where higher plating speeds are required, and is particularly suitable for deep-tank rack plating in printed circuit board applications.

Auronal 6 meets the requirements of Mil Spec. G45204C, Type III and Type I, Grade A.

OPERATIONAL DATA

Parameters	Range	Optimum
Gold Content	6 - 20 g/l	8 g/l
pH	5.8 - 6.5	6.0
*Temperature	32 - 60°C	55°C
S.G.	1.116 - 1.180 g/cm ³	1.140 g/cm ³
**Cathode Current Density	0.1 - 8 A/dm ²	1 A/dm ²
Agitation	Vigorous solution or mechanical	
Plating Rate	ca. 1.5 minutes to deposit 1 micron (40 microinches) at 1 A/dm ²	
Deposition rate	ca. 0.122 g/Amin (100% Cathode efficiency)	

* Note: Lower temperatures will generally produce brighter deposits as well as reduce the amount of gold immersion on hybrid packages.

** Depending on gold concentration.

DEPOSIT DATA

Purity	ca. 99.9 %
Density	ca. 19.2 g/cm ³
Hardness Range	70 - 85 Knoop

SOLUTION MAKE UP FOR ONE LITER

Chemicals Required	Volume
Deionised Water	150 ml
Auronal 6 Make up (1 unit = 750 ml)	1 unit
Potassium Gold Cyanide (68,3 % Au). Mix until completely dissolved	11.7 g/l
Deionised water	to make one litre

Make up procedure

1. Add Auronal 6 Make up water to separate clean tank.
2. Deionised water should then be added to bring level in plating tank up to approximately 90% of final volume.
3. Heat solution to 50°C.
4. Add Potassium Gold Cyanide 68.3% previously dissolved in warm deionised water.
5. Dilute to final volume with deionised water.

EQUIPMENT

Tanks	Polypropylene
Anodes	Platinum coated titanium (Shibley Quality)
Heaters	Silica sheathed or teflon coated immersion type heaters
Filtration	0.5 - 5 micron filters with a pump capacity providing 5 solution turnovers per hours

SOLUTION MAINTENANCE

Replenishment	For every 100 g Gold extracted from the solution (ca. 825 A/min) add: - 147 g Potassium Gold Cyanide (68.3 % Au) - 1 unit (100 ml) Auronal 6 Replenisher
pH	reduce by 0.1 unit with 3 ml/l Auronal 6 Acid Solution increase by 0.1 unit with 2.5 g/l Potassium Hydroxide
S.G.	increase by 0.01 g/cm ³ (1°Bé) with 15 ml/l Auronal 6 Complexer

GENERAL

Metallic Impurity Limitations*

Iron + Nickel	200 ppm
Copper	25 ppm
Lead	5 ppm
Zinc	25 ppm

- These concentrations represent the maximum allowable impurity levels in solution for deposits to still pass required heat and bonding tests.

When ordering please use the following product codes and description:

LIST OF PRODUCTS

Product Code	Product Name
600 038 01	Auronal 6 Make up Solution
600 038 06	Auronal 6 Replenisher
600 038 12	Auronal 6 Acid Solution
600 038 56	Auronal 6 Complexer

Electroplating chemicals and specialities can be corrosive, harmful and poisonous. Care should be taken with respect to appropriate storage, handling and utilisation. When disposing such chemicals, the regulations regarding the treatment of waste water are to be strictly observed.

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For Industrial Use Only

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