

**JEWELRY
PLATING**
GT2A
READY TO USE PLATING BATH 2 g/l 24kt GOLD COLOR
DESCRIPTION

Legor Plating Division R&D Labs have now released the new gold plating solutions GT, based on the positive recent experiences with organic additives in acid plating baths for the electronics industry.

The GT series products allow to obtain hard, brilliant gold depositions of 22.5-24 cartage, with an excellent wear and corrosion resistance, and the following characteristics:

- Perfect functioning even at low gold concentration
- Wide current flow range
- Excellent distribution
- Low density gold deposits
- Easy to control and to maintain

DEPOSIT DATA

Hardness (HV 0,01)	155 – 220
Density (g/cm ³)	16.5 – 17.0
Thickness (um)	0.5 – 3
Appearance	Shiny

OPERATING DATA	RANGE	OPTIMUM
Gold concentration (g/l)	1.0 – 4.0	3.0
Cobalt concentration (g/l)	0.5 – 1.5	1.0
pH	3.2 – 3.8	3.5
Time of exposure (s)	30 – 120	90
Operating temperature (°C)	35 – 45	40
Voltage (V)	3.5 – 4.5	4.0
Solution density (°Bé)	8 – 12	10
Current density (A/dm ²)	0.5 – 10	4.0
Cathode efficiency (mg/Amin")	20	
Deposition rate at 5 A/dm ² (µm/min)	0.5	
Agitation	Necessary	
Solution stirring	Filter pump for volumes >10 l	

SUPPLEMENTARY INFORMATION
Packaging

The product comes in a high-density polyethylene bottle.

IMPORTANT: when you receive the product make sure that the underlid is intact. When the package is opened before pouring the solution the underlid should be completely removed using a sharp-tipped knife or scissors. Once the package is opened the solution should be transferred to the container in which it is to be used; under no circumstances should the solution be stored inside its original packaging.

Preparing objects

For maximum performance the objects to be treated should be cleaned beforehand using ultrasound washing treatments and special cleaning agents, then subjected to electrolytic degreasing treatment. For best results use of the SGR1 (see technical sheet) electrolytic degreaser is recommended.

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Temperature

GT2A gives excellent performance in a temperature range between 35°C and 45°C.

Equipment

In order to operate with best results using GT2A, processing systems assembled in PVC (polyvinylchloride) or PP (polypropylene) are advised, complete with:

- Complete rectifier with amperemeter and voltmeter, with low alternate current residue
- Thermoregulated heaters
- Ampere-minutes or Ampere-hours counter
- Platinum or Platinum plated titanium anodes
- Magnetic entrainment filtering pumps with woven polypropylene cartridges (5-15 micron), boiled and washed before usage.

Post-treatment

In order to stabilize more quickly the color deposited, immersion in hot water of the plated pieces (60-70°C for 30-60 seconds) is advised.

Galvanic bath maintenance

Gold additions: Gold plated from the bath must be reintegrated with high quality, stable in acid electrolytes, Potassium Gold cyanide at 68% concentration (Code: AUS683). The gold metal concentration shall not be lower than 75% of the nominal value, therefore the quantity of additions shall be decided based on the bath volume.

Brighteners and other additives addition

With every gold addition it is necessary to add the brighteners and the other additives in order to obtain the desired color. When 100 g of gold are added, the following additions are to be performed:

- 100 ml of GT4COR 5g/100 ml
- 100 ml of GTADR

In case there should be an incorrect equilibrium of any of these additions, our Technical Customer Service shall advise the proper modifications or corrections.

pH

The solution pH should be held at the nominal value; it is possible to correct it by adding a concentrated solution of citric acid to lower it, or potassium hydroxide (KOH) to raise it.

Solution density

In case a strong entrainment is present, the solution density should be brought back to its initial value by adding GT-SC conductive salts, knowing that 20 g/l raise the density of 1 Bé.

Effects of the various parameters on the deposited color

All the operative parameters influence the color deposited, especially temperature and pH. It is strongly recommended to consult our Technical Customer Service before modifying the nominal operative conditions.

Safety Information

GT2A gold plating bath is a chemical solution of acid nature. Caution should be exercised when using the product, avoiding contact with the eyes and skin. Use gloves and safety goggles. For further information please refer to the relative safety sheet.

Solutions for plating	Code
Gold plating solution 2 g/l	GT2A
Cobalt replenishing solution (50 g/l) for GT2A thick gold plating process	GT4COR
Replenishing solution for GT2A thick gold plating process	GTADR
Replenishing salts for thick GT2A gold plating process	AUS683
Gold plating solution 2 g/l	GT2A

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Classification and designation are noted in the Material Safety Data Sheet (according to the European legislation). The safety instructions and the instructions for the environmental protection have to be followed in order to avoid hazards for people and environment. Please consider the explicit details in our Material Safety Data Sheets.

DISCLAIMER

All recommendations and suggestions in this bulletin concerning the use of our products are based upon tests and data believed to be reliable. Since the actual use by others is beyond our control, no guarantee expressed or implied, is made by Legor Group, its subsidiaries or distributors, as to the effects of such use or results to be obtained, nor is any information to be construed as a recommendation to infringe any patent.