

**JEWELRY
PLATING**
GTBROWN

READY-TO-USE THICK PLATING BATH 1,5 G/L BROWN GOLD COLOR

DESCRIPTION

- Chocolate brown gold color
- Thickness up to 2 micron
- Contains no free cyanide
- Nickel, Lead and cadmium free

GTBROWN is an acidic gold micron thick plating solution giving a brown gold deposition, particularly suitable for decorative application in the watch industry as well as in the costume jewelry or in any other sector which requires a particular gold coverage with high resistance to the abrasion and corrosion.

PRODUCT FORM

Metal concentration (g/l)	1.5 g/l (Au)
Form	Liquid
Material color	Brown
Storage time	2 years
Volume	1 liter

DEPOSIT DATA

Purity (%)	75
Hardness (HV 0,01)	400 - 450
Density (g/cm³)	16.0
Thickness (µm)	0.2 – 5
Appearance	Shiny
Color	Brown


Color coordination

L	68
a	5.9
b	14.6

OPERATING DATA	RANGE	OPTIMAL
Voltage (V)	0.5 – 3.5	2.5
Current density (A/dm ²)	1.0 - 2.0	1.5
Working temperature (°C)	35 - 45	40
pH	3.7 – 4.0	3.7
Cathode efficiency (mg/Amin)	2 - 4	4.0
Deposition rate at 1 A/dm ² (µm/min)	0.02	
Anode type	Titanium platinized or mixed oxides	
Agitation	Moderate	

Metal concentration (g/l)	Range	Optimal
Gold (Au)	2.0 - 4.0	4.0
Copper (Cu)	0.1 - 0.2	0.15

PREPARATION

GTBROWN is a ready-to-use plating bath at the concentration of 1.5 g/l of gold. No preparation is required while filling the working tank.

EQUIPMENT

Working vessel materials:

- Pyrex glass / PVC / polypropylene
- Power supply: DC current rectifier with low residual AC(<5%)
- Heating element
- Anode type: Platinized titanium [1.5-2.5 µm] or stainless steel

For larger bath volumes:

- Magnetic driven filter pumps with 5-15 µm cartridge (before use, boil and wash the cartridges with demineralized water for 3 hours to prevent organic contamination)
- Amp/min counter

PRE TREATMENT

GTBROWN can be deposited directly onto Palladium, Nickel, and precious metal substrates. An intermediate deposit of Palladium or Nickel is required over Silver, and all alloys containing copper to prevent copper migration. An intermediate deposit or precious metal plating strike is necessary before depositing onto Tin, Lead, Zinc, Cadmium, Aluminum and Iron.

POST TREATMENT

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

WATER PURITY

To prevent contamination of the bath both during its preparation and any subsequent replenishing operations, use demineralized water with a conductivity of less than 3 µS/cm (containing no traces of organic compounds, Chlorine, Silicon, or Boron).

BATH MAINTENANCE

It is necessary to maintain the solution at the optimum operating conditions through the addition of gold in form of gold potassium cyanide salt 58%. **Ruthenium concentration is equal to 0.1-0.2 g/l with an optimum value of 0.15 g/l.**

SUPPLEMENTARY INFORMATION

For maximum performance and in particular in terms of resulting color do not use an excessive agitation. A moderate agitation of the pieces to be plated will be sufficient. For larger volumes it is sufficient the use of a magnetic drive filter pump with a not too much high capacity.

SAFETY INFORMATION

Being an acidic solution, the electrolyte is an irritant to the skin, eyes and mucous membranes. Caution should be exercised when using the product, avoiding contact with the eyes and skin. Use gloves and safety goggles. Keep away from acid based chemicals. For further information please refer to the relative MSDS.

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 of 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.