AUROMEX T18K

DECORATIVE 18K GOLD PROCESS

INTRODUCTION

AUROMEX T18K is a slightly alkaline Greenish Pink gold electroplating process that produces 18 karat deposits. The process is specially designed for fine jewellery finishes, watch industry and especially suitable for the spectacle frame industry.

AUROMEX T18K produces extremely ductile, fully bright deposits with a uniform colour and long durability. High Hardness in the range of 260-300 Vickers makes these coatings hard wearing with excellent resistance to tarnishing and corrosion. **AUROMEX T18K** process is extremely stable, easy to operate and will deposit stable colour within 40 seconds.

PROCESS ADVANTAGES

* Economic
* Uniform light greenish pink colour.
* High resistance to tarnishing and corrosion.
* Uniform distribution, thickness.
* Exact matching, reproducibility.

DEPOSIT CHARACTERISTICS

Karat	:	17.5-18.5 Karats.
Hardness	:	260-300 mHv20g
Specific gravity	:	15.5-16.5 g/cm^2
Colour of deposit	:	18 karat Greenish Pink colour
Deposit Composition	:	Gold-Copper-Palladium-Cadmium alloy.

AUROMEX ® *CHEMICALS CORPORATION*
UNIT NO. 2, 4/F., INTERNATIONAL PLAZA, 20 SHEUNG YUET ROAD, KOWLOON BAY, KOWLOON, H.K.
TEL: 2796 7238 FAX: 852-2796 7117

EQUIPMENT REQUIRED

Tank	:	Polypropylene containers or steel containers lined with a suitable plastic material such as Tygon, polyvinyl chloride, or koroseal are recommended. Glass tanks may also be used
Rectifier	:	A standard D C power supply with an ampere output capacity sufficient to meet the requirements of the plating operation, should be used.
Filtration	:	Solution clarity should be maintained by continuous filtration through. double cotton cartridges
Agitation	:	Moderate agitation is necessary to maintain metal distribution. Mechanical (radial) agitation at 8 m/min may be used, combined with a jet stream equipped with special diffusers.
Temperature Control	:	Solution temperature should be maintained at optimum by thermostatically controlled stainless steel or titanium immersion heaters.
Anodes	:	Platinized titanium ruthenium anodes may also be used.

PLATING BATH PREPARATION

AUROMEX T18K make up agent is supplied in unit form. Each unit contains all the products required to make 10 litres of solution. It does not contain gold .The following instructions are for the preparation of 10 litres of solution.

Materials required :

Potassium Gold Cyanide (68.3%)	14.7 grams
AUROMEX T18K Make Up Concentrate	2 litres
AUROMEX T18K ACID Potassium Hydroxide	

Make Up Procedures :

1) Fill to a clean plating tank 2/3 of the required final volume with distilled or deionised water.
2) Add in the 2 litres **AUROMEX T18K** Make Up Conc. stir until completely mixed.
3) Check and adjust pH to 11.0 with 10% potassium hydroxide or **AUROMEX T18K ACID**.
4) Dissolve the gold potassium cyanide (68.3%) in a separate quantity of demineralised or distilled water and then add to the above solution.
5) Stir and check the pH again if necessary.
6) Dilute the solution to 10 litres with demineralised or distilled water, the solution is then ready to use.

OPERATING CONDITIONS

	UNIT	RANGE	OPTIMUM
Gold metal content	g/l	0.5-1.5	1.0
Anode to Cathode ratio		1 to 2	
Voltage	Volts	6-8	7.0
pH electrometric at 60℃		10-12	11
Temperature	℃	63-70	70
Cathode current density	A/dm²	4.4-5.5	4.95
Plating rate	mgm/Amp-min	60-65	65
Cathode Agitation	min	8-12	12

BATH MAINTENANCE

The gold metal content should be maintained at the recommended concentration (0.5 to 1.5 g/l) with periodic additions of gold potassium cyanide 68.3% .

Gold metal replenishment :

Replenishment should be based on regular analysis is the best method of control but replenishment can be made according to ampere-minutes consumed.

Amp-min	Gold consumed
2000	100 grams

For every 100 grams gold metal replenishment(147 grams 68.3% PGC) add one units 500 mls. **AUROMEX T18K** replenishment .

As drag out losses cannot be accounted for accurately, analytical checks should be preformed periodically.

pH Adjustment : This should be measured daily, using a meter, at the operating temperature of the bath. In order to maintain the pH value of **AUROMEX T18K** between 10-12 electrometric, proceed as follows:- To raise pH, use 10% w/v solution of potassium hydroxide (chemically pure). To lower pH, add **AUROMEX T18K Acid.**

PACKING

AUROMEX T18K Make Up Conc.	2 litre
AUROMEX T18K Replenisher Brightener	500 mls.
AUROMEX T18K Conducting Salt	10 or 20 kgs/pack
AUROMEX T18K Acid Solution	1,2 or 5 litre/bot.
AUROMEX T18K Copper Concentrate	1,2 or 5 litre/bot.
AUROMEX T18K Cadmium Concentrate	1,2 or 5 litre/bot.
AUROMEX T18K Palladium Concentrate	1,2 or 5 litre/bot.