
AUROMEX®

TECHNICAL INSTRUCTIONS

DATA SHEETS

AUROMEX YG24 **DECORATIVE 24K YELLOW GOLD PROCESS**

INTRODUCTION

AUROMEX YG24 is a slightly alkaline yellow gold electroplating process that produces 24 karat deposits. The process is specially designed for fine jewelry finishes, watch industry and especially suitable for the spectacle frame industry.

AUROMEX YG24 produces extremely ductile, fully bright deposits with a uniform color and long durability. High Hardness in the range of 160-240 Vickers makes these coatings hard wearing with excellent resistance to tarnishing and corrosion. **AUROMEX YG24** process is extremely stable, easy to operate and will deposit stable color within 40 seconds.

PROCESS ADVANTAGES

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

DEPOSIT CHARACTERISTICS

Karat	: 24 Karats.
Hardness	: 60-80 mHv20g
Specific gravity	: 18.5-19 g/cm ³
Color of deposit	: Rich yellow

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AUROMEX®

CHEMICALS CORPORATION

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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 YG24 make up agent is supplied in unit form. Each unit contains all the products required to make 10 liters of solution. It does not contain gold.

The following instructions are for the preparation of 10 liters of solution.

Materials required :

Potassium Gold Cyanide (68.3%)	14.6 grams
AUROMEX YG24 Make Up Concentrate (Code 1100)	2 liters
AUROMEX YG24 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 liters **AUROMEX YG24** Make Up Conc. (Code 1100), stir until completely mixed.
- 3) Check and adjust pH to 11.0 with 10% potassium hydroxide or **AUROMEX YG24 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 liters with demineralised or distilled water, the solution is then ready to use.

OPERATING CONDITIONS

	<u>Unit</u>	<u>Range</u>	<u>Optimum</u>
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°C		10-12	11
Temperature	°C	63-70	70
Cathode current density	A/dm ²	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
1550

Gold consumed
100 grams

For every 100 grams gold metal replenishment(147 grams 68.3% PGC) add one units 500 mls. **AUROMEX YG24** replenishment (Code 1105).

As drag out losses cannot be accounted for accurately, analytical checks should be performed 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 YG24** 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 YG24 Acid**.

PACKING

AUROMEX YG24 Make Up Conc. (Code 1100)	2 litre
AUROMEX YG24 Replenishing Brightener	500 mls.
AUROMEX YG24 Conducting Salt	10 or 20 kgs/pack
AUROMEX YG24 Acid Solution	1,2 or 5 liter/bot.