

Technical data sheet and product guideline



GFRED-ECOC

Concentrate red gold solution for bath plating 1 g/100 ml

Color coordinates



L	85.5
a	10.4
b	17
c	19.9

Product form

Metal concentration	1 g/100 ml (Au)
Form	Liquid
Material color	Blue
Storage time	2 years
Format	Concentrated
Volume	1 liter

Operating data

	Range	Optimal
Voltage (V)	4.0-6.0	5
Current density (A/dm ²)	0.5-5.0	2.0
Working temperature (°C)	50-60	55
Exposure time (sec)	30-50	40
pH	10.00-11.00	10.50
Cathode efficiency (mg/Amin)	8-14	10
Anode/cathode ratio	>1:1	
Anode type	Titanium platinized or stainless steel	
Agitation	Moderate	

Metal concentration

Metal	Range (g/l)	Optimal (g/l)
Gold	0.8 - 0.4	0.8

Deposit data

Purity (%)	99.9
Hardness (HV 0,01)	90-100
Density (g/cm ³)	19
Thickness (um)	0,1-0,2
Appearance	Shiny
Color	Red

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Preparation

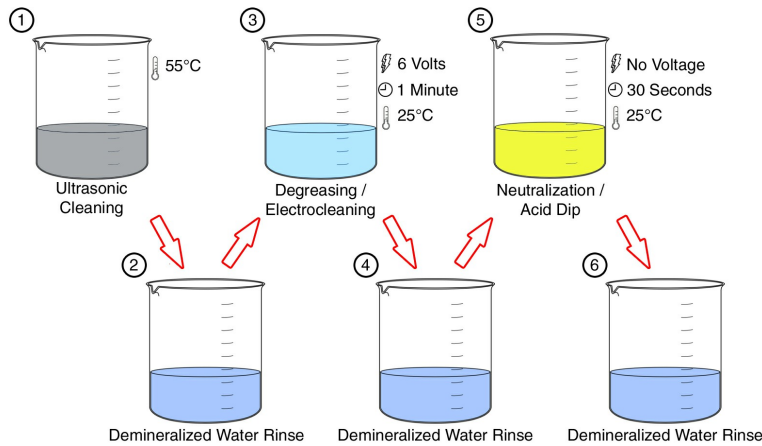
GFRED-ECOC is the concentrated version of GFRED-ECO. To prepare the ready-to-use solution, add the 100 ml bottle to 900 ml of pure deionized water.

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



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Bath maintenance

This process is easy to maintain, but will initially requires frequent analytical controls in order to obtain a correct concentration level of all the metals present. Metal concentrations greatly influence the final deposited color; therefore, an incorrect management of these parameters shall inevitably lead to unwanted colors. Some general guidelines for maintenance are below described:

- Adding GF1AGR will lead the colour towards green-/pale hues.
- Adding GF1CUR will lead the colour towards red/pink hues.
- Adding GF10AUR will lead the colour towards yellow hues.
- Adding AUS683 is used to replenish the gold content
- Potassium cyanide concentration must be frequently controlled to be maintained at the correct working concentration

Post treatment

Electrolyte should be removed from the surface as quick as possible. Rinse off the bath rests in a recovery rinse (still rinse). Rinse the parts in circulating deionized water and dry.

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).

Safety information

Being an alkaline 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.

Additional hints

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.

Product correlations

AUS683	Gold replenisher in salt form	GF1ARG	Silver salt replenisher
GF1CUR	Copper salt replenisher	GF-SF	Conducting and forming salts
GF10AUR	Gold replenisher solution 10g/100ml		

