


GENERAL INFORMATION

GF145N is a ready-to-use gold plating bath that confers to the surfaces worked with the typical C145N alloy red color which is very appreciated in the russian market.

Product form

Metal concentration	0,5 g/l (Au)
Solution form	Liquid
Plating solution color	Transparent
Storage time	2 years
Volume	1 liter

Deposit data

Purity (%)	99.9
Solution appearance	Shiny
Hardness [HV 0.01]	90-100
Density [g/cm ³]	19.0
Plating solution color	Russian Red
Thickness range [μm]	0,1 - 0,2



Operating data	RANGE	OPTIMAL
pH	9-11	10.0
Solution density (°Bé)	2-6	4.0
Voltage [V]	3 - 6	4.5
Working temperature [°C]	60	60
Exposure time (sec)	10 - 60	35.0
Cathode efficiency [mg/Amin]	8-12	10.0
Anode-cathode ratio	>1:1	>1:1
Anode type	Titanium platonized or stainless steel	
Agitation	Absent	

Metal concentration	METAL	RANGE (g/l)	OPTIMAL (g/l)
	Gold	0.6 - 0.3	0.5

Color coordinates

L*	88.1
a*	7.7
b*	20.0

**PREPARATION**

GF145N is a ready-to-use plating bath at the concentration of 0.6 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

GF145N 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

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).

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.

Agitation of pieces is not mandatory.

Best performances are obtained at 60°C working temperature.

Density of the solution It is important to check the density of the solution every week. It has to stay in the range of 2-6 °Bé. correct the solution density with the suitable conducting salts.

pH corrections Use potassium hydroxide to high the pH.

Consumptions Every 1000 Amin 10 g of fine gold are consumed.

Analytical controls This process is easy to maintain, but it initially requires frequent analytical controls in order to obtain a correct concentration level of all the metals present. Clearly, 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:- Copper concentration is 0.2 g/l and within a range of 0.18-0.22 g/l.- Silver concentration is 0,05 g/l and within a range of 0,045-0.055 g/l.

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.

DISCLAIMER

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