



BANGALORE REFINERY

CYANIDELESS ROSE GOLD PLATING SOLUTION (CLRGPS)

GENERAL INFORMATION:-

CLRGPS is BRPL's latest installment of red gold solutions developed to meet the plating industries mature keen eye for color. A pink color with true rose gold undertones, presenting a distinctive pink finish. The plating layer is also more tarnish resistant when compared to the common 18KT gold titled solutions found on the market. This plating solution though alkaline but is cyanide free. It is easily transported given the toxic level contained is below the limit established by international transportation laws.

TECHNICAL DATA SHEET:-

Product's pH	Alkaline
Metal concentration	2 g / ltr
Solution form	Ready-to-use
Plating solution color	Transparent BLUE
Storage time	2 years
Volume	1 liter
Plating appearance	Shiny
Metal Purity (%)	99.9
Hardness [HV 0.01]	90-100
Plating color	Rose Gold Pink
pH	10.3
Voltage [V]	9 – 11 volts
Working temperature [°C]	Ambient room temperature
Exposure time (sec)	10 – 12 seconds
Anode type	Platinized titanium

PREPARATION:-

CLRGPS is a ready-to-use plating bath at the concentration of 2 g/l of gold. No preparation is required.

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:-

CLRGPS can be deposited directly onto Palladium, Nickel, and precious metal substrates. No intermediate deposit of Palladium or Nickel is required over Silver, and all alloys containing copper. It can be plated directly. 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 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 (containing no traces of organic compounds, Chlorine, Silicon, or Boron).

BATH MAINTENANCE:-

This process is easy to maintain, but will initially requires frequent analytical controls in order to obtain a correct concentration level of the metal present. Metal concentrations greatly influence the final deposited color; therefore, an incorrect management of these parameters shall inevitably lead to unwanted colors. The initial gold concentration; for example, with a bath operating at a concentration of 2 g / l it can be used upto a maximum consumption of 0.4 g / l of Gold. And after that do the recovery of gold. **Now here is a benifit of cyanideless plating, the recovery of gold is very easy as compared with its counterpart gold potassium cyanide solution. Heat the cyanideless plating solution to a temperature of 60 -70 degree C. and then add just a pinch of oxalic acid to it and the immediate precipitation of gold starts to occur. No harmful fumes of cyanide and sulfuric has to be taken care of in cyanideless gold plating solution.**

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. Optimum working temperature is 40OC. For better results do not apply higher voltage, apply 10 volts.

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.

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 BRPL, 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.