

DECRAGOLD NN 1200

INTRODUCTION

Decragold NN 1200 is one of a series of decorative gold plating processes specially formulated to give a nickel/indium alloyed gold with consistent pale gold coloured deposit.

The process is suitable for rack and barrel plating, and for flash or heavy (5 μ) deposits.

BENEFITS

Consistent deposit colour.

Ease of control.

SOLUTION MAKE-UP

Decragold NN 1200 is supplied ready for use at the gold concentration suitable for the application (See NOTES).

INSTALLATION

The following cleaning and leaching procedure should be followed before installing a Decragold NN 1200 Solution.

1. Thoroughly wash the tank with clean water.
2. Leach overnight at 50-60°C with a 50g/L solution of citric acid.
3. Wash out tank thoroughly with clean water then add the Decragold NN 1200 solution.
4. Heat to operating temperature.

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OPERATING CONDITIONS

	BARREL	RACK
Gold Concentration	1-3g/L	4-6g/L
Nickel Concentration	0.7-1.3g/L	0.7- 1.3g/L
Indium	1-2g/L	1-2g/L
Cathode current density	0.1-0.6 A/sq.dm.	0.5-2.0 A/sq.dm.
Anode current density	0.25 A/sq.dm.	0.25 A/sq.dm.
Temperature	25-40°C	25-40°C
pH	3.5-4.5	3.5-4.5
Density	12°Be (S.G. 1.09 min)	12° Be (S.G. 1.09 min)
Plating rate	SEE NOTES	

EQUIPMENT

Tanks	Moulded polythene or PVC
Anodes	Platinised titanium
Agitation	Solution movement
Filtration	Glandless all plastic construction capable of 3-4 turn-overs/hour through a 5µ polypropylene cartridge free of winding lubricant.

MAINTENANCE AND CONTROL

The solution should be regularly analysed for gold and nickel and kept within 5% of the optimum concentrations.

The gold and nickel concentrations will be approximately maintained by the following additions every ampere-hour:

1.5gm gold as Potassium Gold Cyanide
1.5ml/ Decragold NN 1200 Replenisher

These materials are supplied in Units of Decragold NN 1200 Replenishment, each Unit consisting of:

100gm gold as Potassium Gold Cyanide
100ml Decragold NN 1200 Replenisher

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Specific gravity	Maintain the solution density at 12° Bé (S.G. 1.09). To raise the density by 0.005 add 12 ml/L Decragold NN 1200 Acid adjuster and 17ml/l Decragold Buffer Solution.
pH	Maintain the pH by additions of Decragold NN 1200 Acid Adjuster (the pH will increase with electrolysis). A 20ml/L addition will reduce pH by 0.1. If it is necessary to increase the pH a 20ml/L addition of a 20% w/w sodium hydroxide (lab. reagent grade) will increase the pH by 0.1.
Nickel and Indium	A 5ml/l addition of Nickel Booster will raise nickel concentration by 0.1g/l. A 2ml/l addition of Indium Concentrate will raise the indium concentration by 0.1gm/l.

NOTES ON THE USE OF DECRA GOLD NN 1200

Gold concentration	For heavy deposits (1-5 μ) the solution should be used at 5g/L gold; for flash deposits (0.1 - 0.5 μ) the gold concentration can be reduced to 1g/L.
Plating rate	This can be increased by: a. increasing current density. b. increasing pH. c. increasing temperature. d. increasing gold concentration. eg. in rack plating at 5g/L gold, 1A/sq.dm, pH 4.3, 30°C - 1 μ in 8 minutes in barrel plating at 1g/L gold, 0.1A/sq.dm, pH 4.3, 30°C, - 1 μ in 60 minutes

DISPOSAL

Dispose of in accordance with local authority requirements.

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PRODUCT FAMILIES

The following products or families of products are referred to in this data sheet:

<u>Product Name</u>	<u>Product Number</u>
Decragold NN 1200 RTU	037051
Decragold NN 1200 Base Solution	037052
Decragold NN 1200 Replenisher Unit	047053
Decragold NN 1200 Acid Adjuster	067029
Gold as GPC - 100gm unit	029003
Decragold Buffer Solution	061004
Decragold Nickel Booster	067031
Decragold Indium Concentrate	067030

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