


**GENERAL INFORMATION**

GP1-3N is a yellow gold pen plating solution which deposits a brilliant 3N gold color to the surface applied. 3N can be described as a rich yellow with green undertones and considered to match 14 kt yellow gold plating in most international markets. It is a perfect solution to for two-tone plating applications where a rich gold color is required. It can also be used to highlight specific details or cover solder joints on 3N gold colored or 14 kt gold items. This yellow gold pen plating solution is nickel, lead, and cadmium free.

**Product form**

Product's pH	Alkaline
Metal concentration	1 g/ 100 ml
Solution form	Ready-to-use
Solution form	Liquid
Plating solution color	Transaprent-Green
Storage time	2 years
Volume	100 ml

**Deposit data**

Purity (%)	100.0
Hardness [HV 0.01]	90 - 100
Density [g/cm <sup>3</sup> ]	19.6
Thickness range [µm]	0.05 - 0.2



Operating data	RANGE	OPTIMAL
Voltage [V]	See information section	
pH	8 - 10	8.0
Working temperature [°C]	20 - 30	25

Metal concentration	METAL	RANGE (g/l)	OPTIMAL (g/l)
	Gold	10	10.0

**Color coordinates**

L*	87.8
a*	4.2
b*	26.4
c*	26.7

**PREPARATION**

GP1-3N is a ready-to-use pen plating solution at the concentration of 1 g/ 100 ml. No preparation is required. It is important to check, once the product has been received, the integrity of its packaging.

**EQUIPMENT**

Power supply: Pen plating machine (5 Amp – 12 Volt rectifier)  
Anode: A pen with a platinum collar  
Tips: Fiber (white or brown)

**PRE TREATMENT**

Work pieces designated to undergo a pen plating operation, must go through the same cleaning procedures as recommended for bath plating operations. GP1-3N can be deposited directly onto silver, palladium, gold, nickel and its alloys. An intermediate deposit or precious metal plating strike is necessary before depositing onto materials containing tin, lead, zinc, aluminum or 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 running water and dry.

**BATH MAINTENANCE**

Use until the rhodium solution is completely exhausted without the additions of any replenisher -additive.

**SUPPLEMENTARY INFORMATION****Choosing the correct voltage**

The best voltage for using GP1-3N is to be chosen upon the kind of tip used on the pen:

- White tips: 8 -10 V
- Brown tips: 7 - 9 V
- PENGRAF: 3 - 5 V

**About working temperature**

Work at room temperature, in the range of 20-30°C.

**About the color of the solution**

The color of the solution is initially transparent but during time it tends to switch gradually to pale green until blueish tones as the cyanide degrades. For this reason it is advisable to use it in a short time.

**SAFETY INFORMATION**

Being an alkaline solution, the electrolyte is corrosive therefore is 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 cyanide based chemicals. For further information please refer to the relative MSDS.

**DISCLAIMER**

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