

PMD MICAURA

DECORATIVE GOLD PLATING PROCESSES

INTRODUCTION

The Micaura series of gold plating electrolytes have been specifically developed to produce bright, hard wearing gold deposits in colours specifically suited to the decorative trade.

BENEFITS

Consistent deposit colour.

Ease of use.

Electrolytes available to suit most colour requirements.

Suitable for both flash and heavier deposits.

SOLUTION MAKE-UP

Micaura electrolyte - supplied ready for use.

OPERATING DATA

	Micaura			
CONDITION	452	9DF	4R	18MY
Gold Content (g/L)	4.5	2.0	4.0	4.0
pH	10-12	3.8-4.5	3.8-4.5	3.8-4.5
Temperature (°C)	10-35	30-45	30-45	30-45
Cathode current density (ASF)	2-10	2-15	2-15	2-15
Plating rate	1µm in 3.4 mins at 5 ASF	1µm in 7.5 mins at 10 ASF	1µm in 5 mins at 10 ASF	1µm in 5 mins at 10 ASF
Anodes	Stainless Steel (EN58J)	Carbon or Platinised titanium	Carbon or Platinised titanium	Carbon or Platinised titanium

EQUIPMENT

Tanks	Polypropylene, PVC, Polyethylene.
Heating	PTFE immersion.
Filtration	Glandless all plastic construction capable of at least 3 - 4 turn overs / hour through a 5µm polypropylene cartridge guaranteed free of winding lubricant.
Agitation	Solution and work movement.

INSTALLATION

It is essential that the tanks to be used for Micaura are thoroughly cleaned and leached before any product is introduced. If in any doubt as to the cleaning procedure please contact PMD (UK) Ltd Technical Department.

1. Add Micaura electrolyte in to the cleaned tank.
2. Heat to operating temperature.

PRE-TREATMENT

The processes are suitable for the direct gold plating of copper, copper alloys and for both silver and freshly plated nickel. However, it is sometimes advisable to “flash” gold plate the work first. This is certainly the case when heavy gold deposits are being applied to silver components. The best “flash” gold plating process in such instances is Gildaura.

The base metal or undercoat should be free of greases, oxides and cyanides. When alkaline electrolytic cleaners are used for pre-treatment, the articles should be swilled through running water, given a dip in 10% sulphuric acid, swilled again through clean running water, demineralized water and then placed in the gold electrolyte live.

TREATMENT POST-GOLD PLATING

Drag out

The use of at least one drag-out is recommended. A second drag-out tank is sometimes considered advisable, especially where the carry over from plating tank to drag-out No 1 is high. Barrels are particularly notorious in this respect. Where drag-out is used for topping up the plating bath it is recommended that the drag-out tank to be kept covered when not in use.

Hot water rinse

It is recommended to pass the work through a hot water rinse after going through drag-outs. This ensures that the work is properly rinsed and aids drying.

DEPOSIT PROPERTIES

Electrolyte	Colour	Carat	Hardness VPN	Maximum plating thickness recommended
452	18ct yellow	20	240	10 μ
9DF	British jewellery 9DF	22 1/2	260	3.5 μ
4R	Pale 9DF with pink tinge	22 1/2	260	10 μ
18MY	British Jewellery 18 medium yellow	22 1/2	240	10 μ

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MAINTENANCE AND CONTROL

The Micaura solutions should be maintained by the additions of the relevant replenisher units.

The replenisher units are supplied in 31.1gm (1 troy oz) gold. They consist either of a powder only (Micaura 452) or a powder and a liquid. The powder should be dissolved in a litre of warm DI water before adding to the bath.

Addition Rates

Additions per Amp hour

452	5.8 gm gold.
9DF	2.4 gm gold. 7.7 ml Micaura 9DF Brightener.
4R	2.4 gm gold. 7.7 ml Micaura 4R Brightener.
18MY	2.4 gm gold. 7.7 ml Micaura 18MY Brightener.

DISPOSAL

Dispose of in accordance with local authority requirements.

PRODUCT FAMILIES

The following products or product families are referred to in this data sheet.

<u>Product Name</u>	<u>Product Number</u>
Micaura 452 Electrolyte	038006
Micaura 9DF Electrolyte	038001
Micaura 4R Electrolyte	038002
Micaura 18MY Electrolyte	038003
Micaura 452 Replenisher 31.1gm unit	048011
Micaura 9DF Replenisher 31.1gm unit	048001
Micaura 4R Replenisher 31.1gm unit	048003
Micaura 18MY Replenisher 31.1gm unit	048002

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