

## Platinelektrolyt

### Platinum Plating Guide for Beginners

#### Brush / Tampon and Bath Plating

This guide is beginner-friendly, practical, and aligned with internationally accepted sources and training standards. It applies equally to brush/tampon plating and bath plating using a platinum electrolyte (e.g. BMG-110.3).

Platinum is considered one of the most noble precious metals. It is extremely corrosion-resistant, color-stable, and maintains its brightness even at layer thicknesses up to approx. 3 µm.

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#### 1. What Is Platinum Plating?

Platinum plating is an electrochemical process that deposits a bright, silvery-white platinum layer onto a conductive surface. The coating is decorative and functional, offering excellent durability and chemical resistance.

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#### 2. Electrolyte & Layer Properties

- Platinum content: approx. 5–10 g per liter
- achievable thickness: up to ~3 µm without color change
- very uniform, bright deposit

→ For best adhesion, platinum is plated onto nickel or a thin gold layer.

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#### 3. Suitable Substrates

Recommended:

- Nickel (polished)
- Gold / gold flash

Conditionally suitable:

- Copper or brass (with nickel underlayer)

Not recommended:

- Steel or iron without undercoating
- Aluminum without special pretreatment

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## 4. Safety

- not classified as hazardous, but irritating
- Wear protective gloves
- Wear safety goggles
- Avoid skin and eye contact

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## 5. Surface Preparation

### Polishing

- Polish surface to high gloss
- Platinum exactly reproduces the surface finish

### Cleaning & Degreasing

- Thoroughly degrease (electro cleaner, acetone, etc.)
- Clean clamps and contact points
- Handle only with gloves afterward

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## 6. Electrical Connections

- Positive (+): handpiece with electrode and fabric/cotton pad
- Negative (-): workpiece with crocodile clip

### Electrodes:

- Platinum anode (ideal)
- Graphite anode (alternative)

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## 7. Technical Parameters (Beginner Guidelines)

- Voltage: start at ~3 V
- Temperature: minimum room temperature
- Electrolyte: liquid or thickened (gel former optional)

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## 8. Brush / Tampon Platinum Plating

Typical uses: jewelry, repairs, partial areas

### Procedure:

1. Soak pad with platinum electrolyte
2. Connect polarity correctly
3. Plate using light, circular movements
4. Build a uniform platinum layer

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## 9. Platinum Bath Plating

### Additional notes:

- Center the workpiece in the bath
- Use platinum or graphite anodes
- Never use steel anodes

### Procedure:

1. Bring electrolyte to room temperature
2. Connect workpiece (negative)
3. Connect anode (positive)
4. Slowly increase voltage
5. Build desired thickness
6. Remove and rinse

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## 10. Post-Treatment

- No drying or curing time required
- Rinse with water
- Polish gently with a soft cloth and care product

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## 11. Common Beginner Issues

**Dull finish:** insufficient polishing, voltage too low

**Uneven deposit:** uneven movement (brush), poor anode placement (bath)

**Poor adhesion:** missing nickel or gold underlayer, poor cleaning

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### Key takeaway:

**Platinum plating delivers maximum durability and brightness – surface preparation and proper underlayers define success.**