

PLATUNA® Alloy RU Platinum Ruthenium Electrolyte

Cost-saving electrolyte for brilliant jewelry

With the strongly acidic alloy electrolyte PLATUNA®-Alloy RU, smooth, shiny and crack-free platinum-ruthenium coatings can be deposited up to a layer thickness of 0.5 µm. The deposited coatings are characterized by brilliant gloss and, in contrast to conventional platinum coatings, do not exhibit a yellow tint.

The advantage of the electrolyte is mainly the cost saving due to the ruthenium content. This is because ruthenium is still the cheapest metal among the platinum group metals. Furthermore, the electrolyte has a low sulfuric acid content and is therefore less aggressive to the coating substrate. The deposition rate is independent of the current density, which leads to an optimum layer thickness distribution. No precipitation occurs and the platinum concentrate does not have to be stored in the refrigerator.

Electrolyte characteristics

Electrolyte type	Strongly acidic
Metal content	1.0 (0.8 - 1.2) g/l Pt, 1.0 (0.8 - 1.2) g/l Ru
pH value	< 1
Operating temperature	60 (55 - 65) °C
Current density range	3 (0.5 - 10) A/dm ²
Plating speed	approx. 0.06 µm/min at 3 A/dm ²
Deposition rate	approx. 4 mg/Amin at 3 A/dm ²

Coating characteristics

Coating	Platinum ruthenium
Alloy composition	approx. 80 % Pt, approx. 20 % Ru
Colour of deposit	White
Brightness	Bright, brilliant
Hardness	not measurable, approx. 500 HV
Max. coating thickness	approx. 0.5 µm
Density of the coating	approx. 18.7 g/cm ³

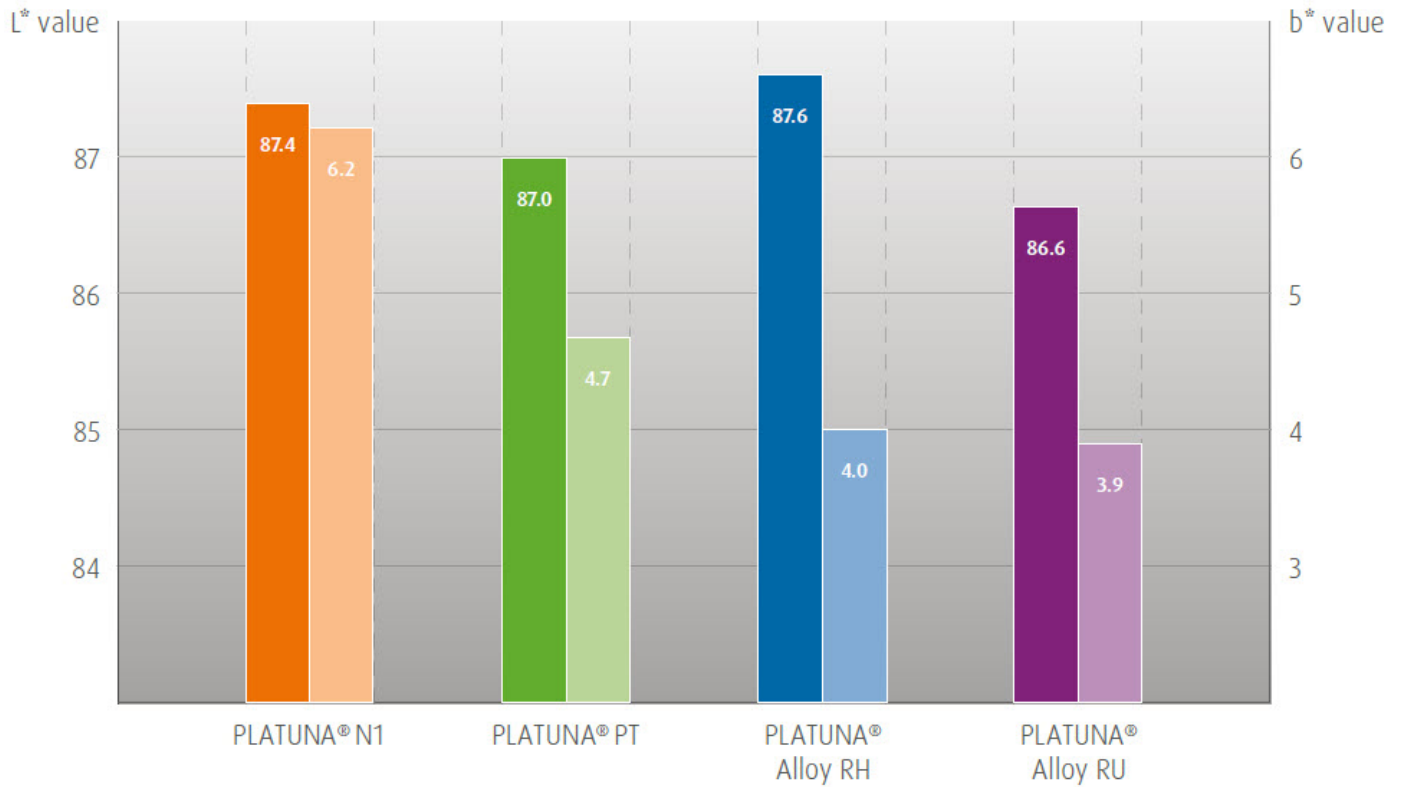
Advantages

- Excellent brightness without yellow tint
- Longer durability
- High abrasion resistance
- Current density independent
- Easy handling - no cold storage and no precipitation

Applications

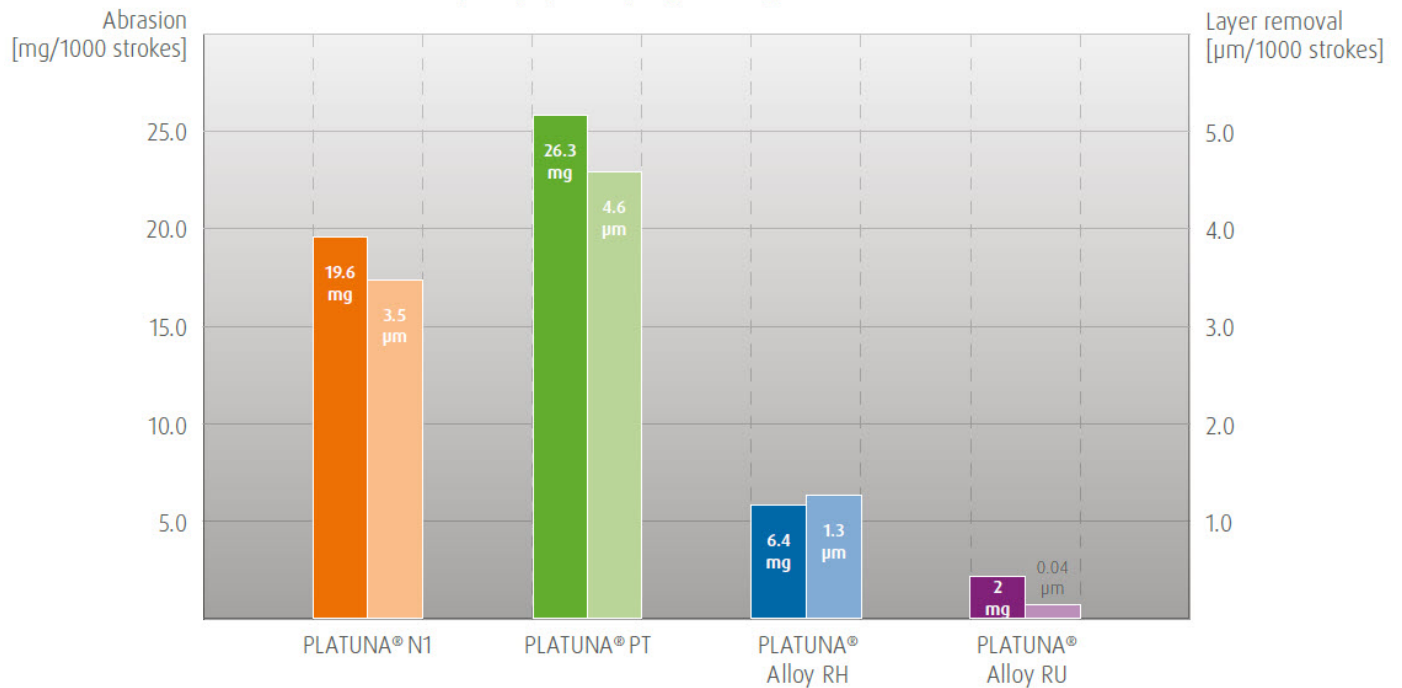
- Jewelry
- Watches
- Writing implements
- Spectacles frames
- Bathroom fittings

Color measurement L^* and b^* value
Neutral gray axis and blue-yellow axis



Wear test (Bosch-Weinmann)

1000 double strokes for 2 μm layer / emery strips with a grit size of 1000



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