



AURUNA® 311 Gold Cobalt Electrolyte

For the adhesive direct gold-plating of stainless steel and nickel

AURUNA® 311 is a strongly acidic alloy electrolyte for the adhesive direct gold-plating of stainless steel. It is preferably used for chromium-nickel steels, molybdenum steels and nickelbased alloys difficult to activate. Due to its strong activation effect, the electrolyte can be often successfully used as well for other passive materials difficult to plate.



The gold electrolyte is suitable for both strike gold layers and thick coatings in the decorative field. The coatings are ductile, low in pores and protect against corrosion. The alloy electrolyte can be used for rack and barrel operation as well as in reel-to-reel plating (e.g. spray and dip cells and brush).

AURUNA® 311 is also available as a cobalt-free special version.

Electrolyte characteristics

Electrolyte type	Strongly acidic
Metal content	2 (1.0 - 2.5) resp. 4 (3.5 - 4.5) g/l Au
pH value	0.6 (0.1 - 0.8)
Operating temperature	Room temperature up to max. 40 °C
Current density range	2 - 6 A/dm ²
Plating speed	0.04 - 0.15 µm/min
Anode material	Pt-Ti, MMO (type PLATINODE® 177)

Coating characteristics

Coating	Gold-cobalt
Alloy composition	0.3 weight % Co 99.7 weight % Au
Colour of deposit	Deep yellow

Brightness	Bright
Hardness	165 HV (HV 0.015 (Vickers) approx. values)
Max. coating thickness	Approx. 10 µm
Density of the coating	Approx. 17.5 g/cm ³

Advantages

- Hard gold electrolyte for the direct gold-plating of stainless steel
- Very good activation effect – without halogenides
- Low-pore, ductile and crack-free coatings
- Suitable for strike gold layers as well as for thick coatings
- Good throwing power
- Available as a cobalt-free special version
- The coatings are RoHS compliant
- Suitable for rack, barrel and reel-to-reel plating

Applications

- Household articles
- Writing implements
- Spectacle frames
- Watches
- Cutlery

Your contact person



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