Au Fe

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umicore

AURUNA® 313

GOLD IRON ELECTROLYTE

Cobalt-free alternative to direct gold plating of stainless steel

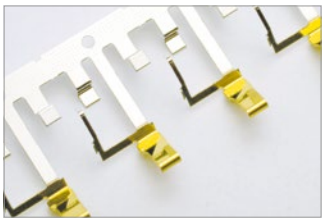
The highly effective, strongly acidic gold electrolyte AURUNA® 313 enables direct gold plating of stainless steels with good adhesion. It is particularly suitable for chromium-nickel steels, molybdenum-containing steels and nickel-based alloys that are difficult to activate. Thanks to its activating effect, AURUNA® 313 can also be used successfully for other passive materials that are difficult to electroplate. If necessary, activation can be supported by special pre-treatment measures.

Base metal intermediate layers and a reduction in corrosion resistance are avoided. The electrolyte is free of chloride or fluoride and is suitable for both decorative and technical applications. It has a large operating range and is suitable for rack, barrel and reel-to-reel applications.

The coatings made of AURUNA® 313 are crack-free, ductile and non-porous. They can be deposited brightly up to a coating thickness of 0.5 µm. The deposition speed is sufficient to economically deposit the desired coating thickness directly from the electrolyte in many cases. The coatings retain their bright appearance.

Advantages

- Good activation effect - without halides
- Adhesive direct gold plating of stainless steel
- Coatings are crack-free, ductile and low-porous
- Corrosion-resistant
- Large operating range
- For decorative and technical applications
- Suitable for rack, barrel and reel-to-reel equipment



Applications

- Watches
- Household articles
- Writing instruments
- Spectacle frames
- Costume jewelry
- Cutlery
- Electrical contacts
- Stainless steel contacts
- Stainless steel springs

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TECHNICAL SPECIFICATIONS

Electrolyte characteristics	
Electrolyte type	strongly acidic
Metal content	2 (1 - 3) g/l Au 0.5 (0.3 - 1.0) g/l Fe
pH value	0.9 (0.8 - 1.0)
Operating temperature	Room temperature up to max. 30 °C
Electrolyte density	1.04 g/cm³, increasing
Current density	4 (0.5 - 8.0) A/dm²
Deposition speed	approx. 0.07 µm/min at 4 A/dm²
Deposition rate	approx. 3.4 mg/Amin at 4 A/dm²

Coating characteristics	
Coating	Gold iron
Purity	99.5 % Au 0.5 % Fe
Colour of deposit	Deep yellow
Hardness of deposit	approx. 165 HV
Max. coating thickness	0.5 µm
Density	approx. 19 g/cm³

YOUR CONTACT

Do you have a specific question or would you like a no-obligation quote calculation?
Our specialist will be happy to help you with any technical questions you might have.

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