



MIRALLOY® For High Frequency Technology



Zn

Sn

Cu

Alternatives to silver coatings with good solderability and weldability

Your advantages:

- + Copper-tin-(zinc) alloy coatings
- + Light, white coatings (similar to silver)
- + Diamagnetic
- + Nickel-free (EC Nickel Directive 94/27/EC, Oeko-Tex 100 ff)
- + Free of heavy metals such as Cr, Pb, Co, Th etc.
- + Resistant to tarnishing and corrosion
- + Can be directly deposited on silver
- + Minimal intermodulation
- + Good solderability and abrasion behaviour
- + Excellent thickness distribution
- + Can be combined with precious metals
- + The coatings are RoHS compliant
- + Specified for many applications of well-known manufacturers

MIRALLOY® is an alkaline-cyanide electrolyte for depositing copper-tin-(zinc) coatings in barrel or rack operation. The white coatings are an interesting alternative to silver layers. The higher contact resistance of the MIRALLOY® coatings compared to silver is compensated for their good resistance to tarnishing and corrosion. The coatings also ensure an acceptable contact resistance in a sulphur-containing atmosphere and in this way they reduce the failure rates of components.

MIRALLOY® coatings are diamagnetic and therefore suitable for high frequency applications in particular.

The complete series of MIRALLOY® products is free of heavy metals. The coatings are RoHS compliant.

Applications

- High frequency connectors
- Contact elements
- Solder pins
- Bearing shells
- Battery covers
- Cooling coils
- Hydraulic parts



High frequency connector
coated with MIRALLOY®

Technical specifications MIRALLOY® 2844

Electrolyte characteristics MIRALLOY® 2844

Electrolyte type	Alkaline-cyanide
Metal content	8.5 g/l Cu 34.0 g/l Sn 0.75 g/l Zn
pH value	> 13
Operating temperature	60 °C
Current density range	0.5 (0.3-1.0) A/dm ²
Plating speed	Approx. 0.12 µm/ min at 0.5 A/dm ²
Anode material	MMO (type PLATINODE® 167, graphite)

Coating characteristics MIRALLOY® 2844

Coating	Copper-tin-zinc
Alloy composition	55 wt. % Cu 30 wt. % Sn 15 wt. % Zn
Colour of deposit	White
Brightness	Bright
Hardness of deposit	600 HV
HV 0.05 (Vickers) approx. values	
Max. coating thickness	5 µm
Density of the coating	8.2 g/cm ³

MIRALLOY® copper-tin-(zinc) electrolytes for the clothing industry:

- MIRALLOY® 2844 (white) for barrel and rack operation
- MIRALLOY® 2851 (white) for rack operation
- MIRALLOY® 2850 (white) for barrel operation



The world of noble
and functional surfaces