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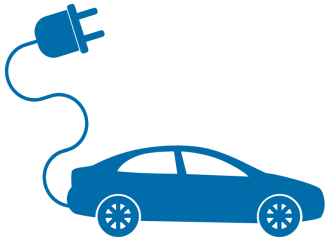
Metal Deposition Solutions

ARGUNA® 630 Hard Silver Electrolyte

For the Deposition of Silver Layers with High Hardness



ARGUNA® 630 is an alkaline cyanide hard silver electrolyte for (electro) technical applications. The additives increase the wear resistance compared to conventional silver layers significantly: The layers obtain a stable hardness of 120 to 140 HV, even after thermal aging.

In particular, ARGUNA® 630 is, suitable for electromechanical components that are exposed to increased mechanical stress. The higher hardness and improved wear resistance allow significantly more mating cycles. Additionally, the reliability and durability of the contact systems increase.

According to the operating parameters, the electrolyte is suitable for reel-to-reel plating, rack and barrel systems.

Electrolyte characteristics

Electrolyte type	Alkaline-cyanide
Metal content	30 (25 - 35) g/l Ag
KCN content	130 (110 - 170) g/l
pH value	12.5
Operating temperature	25 - 40 °C
Current density range: Rack operation	0.5 - 5 A/dm²
Current density range: Barrel operation	0.5 - 2 A/dm²
Current density range: Reel-to-reel plating	5 - 50 A/dm²
Plating speed: Rack operation at 1 A/dm2	1 µm in 1.5 min
Plating speed: Rack operation at 5 A/dm2	1 µm in 0.3 min
Plating speed: Reel-to-reel plating at 20 A/dm2	13 µm in 1 min
Anode material	Fine silver

Coating characteristics

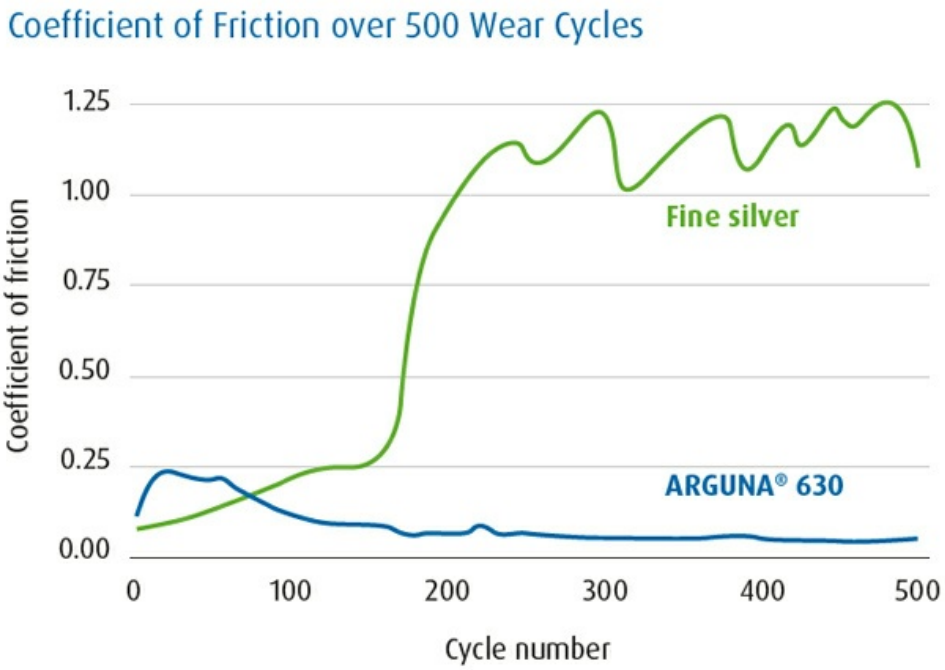
Coating	min. 98 wt.% Ag
Colour of deposit	White
Brightness	Bright
Hardness	approx. 120 - 140 HV (after thermal aging)
Density of the coating	10.5 g/cm³

Advantages

- Perfect silver layers for highly stressed electro–mechanical components
- High, stable coating hardness between 120 to 140 HV, even after thermal aging
- Low wear, thus significantly more mating cycles
- Suitable for reel-to-reel, rack and barrel plating
- Good electrical properties, even for high voltage

Applications

- Electromechanical connectors
- High voltage contacts
- Plug-in chargers for electric vehicles



Test conditions

Test equipment	UNAT (ZWICK/ASMEC)
Test mode:	Cyclic wear trial
Contact force (normal force):	50 mN
Lateral excursion (track length):	2 x 50 µm
Wear frequence:	16 Hz
Wear cycles:	500
Specimen:	Hard gold

Your contact person

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