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Version: 24 March 2025

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ARGUNA® 630

HARD SILVER ELECTROLYTE

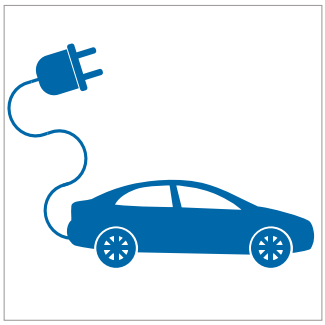
For the Deposition of Silver Layers with High Hardness

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 reduced wear of the coatings show particular advantages in the case of more severe vibration and temperature stresses on contact surfaces and connectors.

Appropriate contact lubrication makes the coatings suitable for e-mobility applications and increases the reliability and durability of the contact systems.

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



Advantages

- Perfect silver layers for highly stressed electro-mechanical components
- High, stable coating hardness between 120 to 140 HV, even after thermal aging
- Reduced wear, improved vibration and temperature resistance
- Suitable for reel-to-reel, rack and barrel plating
- Good electrical properties, even for high voltage

Applications

- Connectors subject to high stress
- Plug-in chargers for electric vehicles

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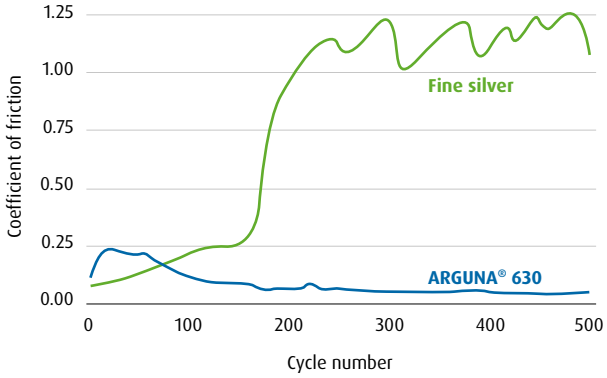
TECHNICAL SPECIFICATIONS

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
Barrel operation	0.5 - 2 A/dm²
Reel-to-reel plating	5 - 50 A/dm²
Plating speed	
Rack operation at 1 A/dm²	1 µm in 1.5 min
Rack operation at 5 A/dm²	1 µm in 0.3 min
Reel-to-reel plating at 20 A/dm²	13 µm in 1 min
Anode material	Fine silver in titanium baskets with anode bags

Coating characteristics	
Coating	min. 98 wt.% Ag
Colour of deposit	White
Brightness	Bright
Hardness of deposit HV 0.025	approx. 120 - 140 HV (after thermal aging)
Density of the coating	10.5 g/cm³

Coefficient of Friction over 500 Wear Cycles



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

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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