Silvertech MSH

Medium to high-speed hard silver

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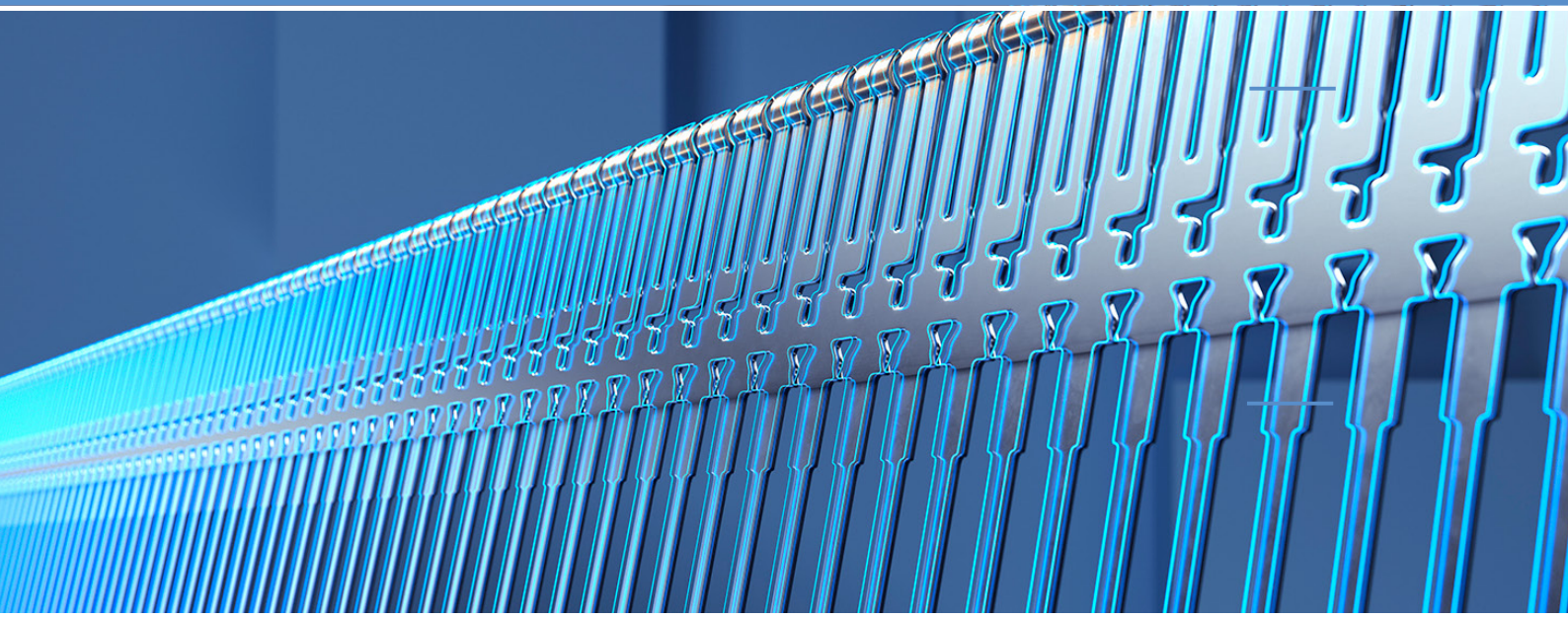

Hard silver process for connectors, contacts, and bus bars

Silvertech MSH

Silvertech MSH is a medium to high-speed plating process that deposits hard silver on bus bars, connectors, and chargers. Its hardness of > 120 HV_{20} and exceptional conductivity match the demands of the automotive industry. The process is designed to run in reel-to-reel or strip-to-strip applications up to 30 ASD.

Operating conditions and performance

- Current density: 10 to 30 ASD
- Hardness: > 120 HV_{20}
- Contact resistance: 3 – 4 mΩ, heat stable
- Purity: > 99 % ASTM B700-20 type 2, grade B
- Appearance: Technical brightness
- Contains Antimony as a hardener agent
- For reel-to-reel and strip-to-strip equipmenty

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Silvertech MSH – Hard silver plating process

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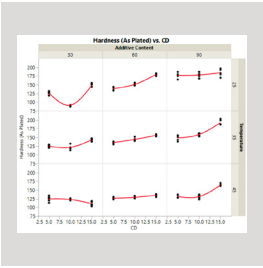

Figure 1:
Deposit characteristics:
Hardness vs. current density

Process & deposit characteristics

Silvertech MSH creates a homogeneous mirror-bright silver finish. The process is based on a cyanide system and contains Antimony as a hardener agent to guarantee Vicker's Hardness of a minimum of 120 HV_{20}. Silver is the most conductive material and has tremendous cost benefits compared to gold. Thick layers of hard silver can be applied onto sliding contacts to increase the overall lifetime. Therefore, Silvertech MSH is one of the more prominent solutions for connections in electric vehicles.

Silvertech MSH runs at medium to high speeds between 10 – 30 ASD. These conditions create bright deposits with hardness values of > 120 HV_{20} with no burning discovered.

Silvertech MSH can be combined with our Cr(VI)-free anti-tarnish coatings to maintain its plating characteristics for improved life.

Step	Process	Temperature	Time	Current density	Deposition rate
1	Cathodic cleaning	45-55 °C	5 min		
2	Cathodic activation	35-45 °C	3 min		
3	Nickel plating	50-60 °C	15 s	10 ASD	0.5 µm/min
4	Ag strike	RT	10 s	0.2 ASD	
5	**Ag plating Silvertech MSH**	**45 °C**	**12 s**	**Maximum: 30 ASD**	**Maximum: 18 µm/min**
6	Anti-tarnish	40-50 °C	15-30 s		