

Argalin[®] XL

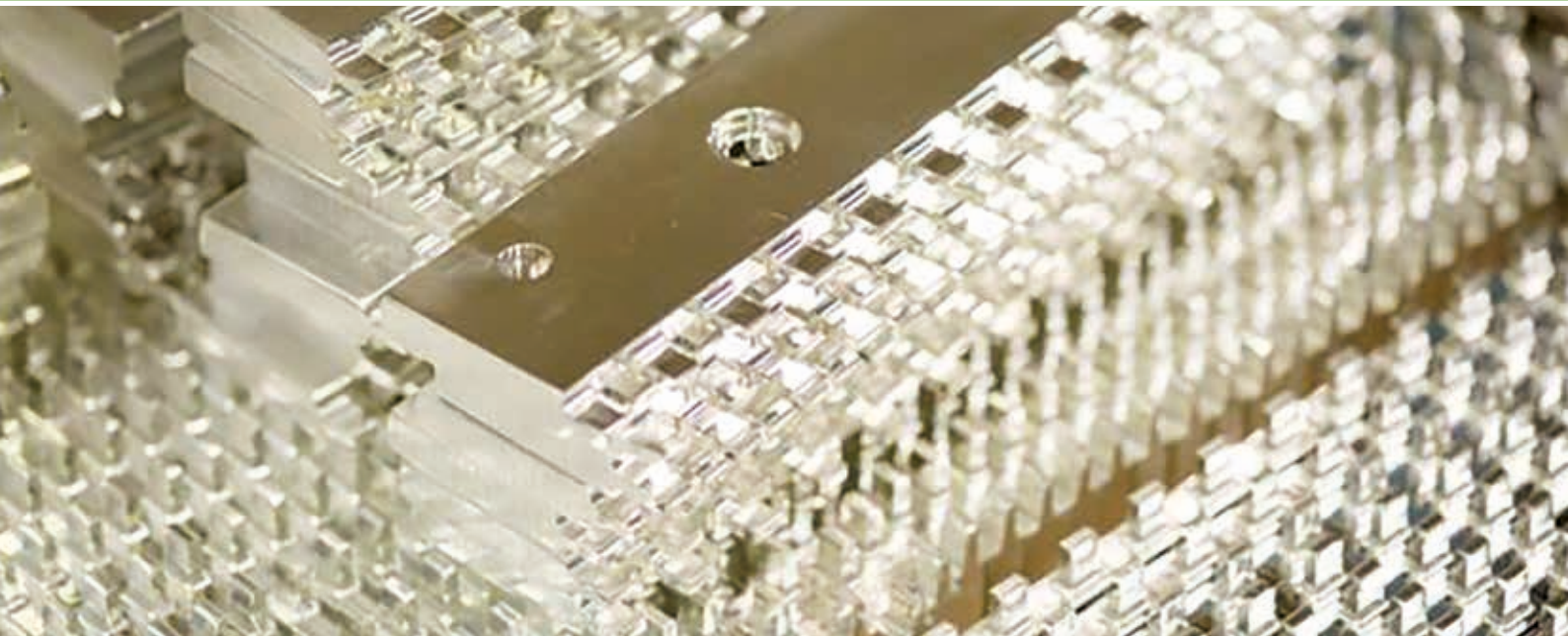
Silver anti-tarnish



Electronics

Functional electronic coatings

atotech.com



High performance inorganic and Cr(VI)-free silver anti-tarnish



High temperature stability

High temperature stability

Our Argalin[®] XL process is designed for inorganic anti-tarnish of silver and silver plated leadframes or connectors. Compared to other electrolytic passivations, the process combines two very important requirements. The process is Cr(IV)-free and shows excellent anti-tarnish performance before and after high temperature treatment.

Features and benefits

- RoHS conform: Cr(VI) free process
- Passes tarnish tests even at lower Ag thickness
- Excellent passivation and high temperature stability
- Non-foaming process
- Wide application range: rack and barrel and reel-to-reel installations
- Fast cathodic deposition
- Qualified for tab leads, connectors and chargers in the automotive industry

Silver anti-tarnish



2% K2S immersion test /
5 mins (0.2 µm Ag) with
pre-baking @ 200 °C, 1 hour

Figure 1:
Non-treated
Figure 2:
Argalin® XL



Qualified for
electric automobiles

Argalin XL performance table

	Test Criteria	Argalin XL Cr(VI) free	Argalin Cr(VI) reference
Anti-tarnish	Sulfide Dip test	↑	↑
	Thioacetamide test	↑	↑
Stability	Storage 2h at 200 °C	↑	↑
	Kesternich test	↑	↑
Follow up process	Solderability	↑	↑
	Wire bonding	No Data	↓
	Mold adhesion	↑	↑
Performance vs. pure Ag	Sliding friction	→	→
	Contact resistance after 1h at 200 °C	→	↓
Environment	RoHS	Yes	No

↑ = passed/improved, → = no significant change, ↓ = worse

Argalin XL process table

Process	Process time s	Temperature °C	Cathodic CD [A/dm ²]	pH
Argalin XL	4 - 60	45	6 - 18	5.8 - 6.5

