

# Argalux<sup>®</sup> NC mod

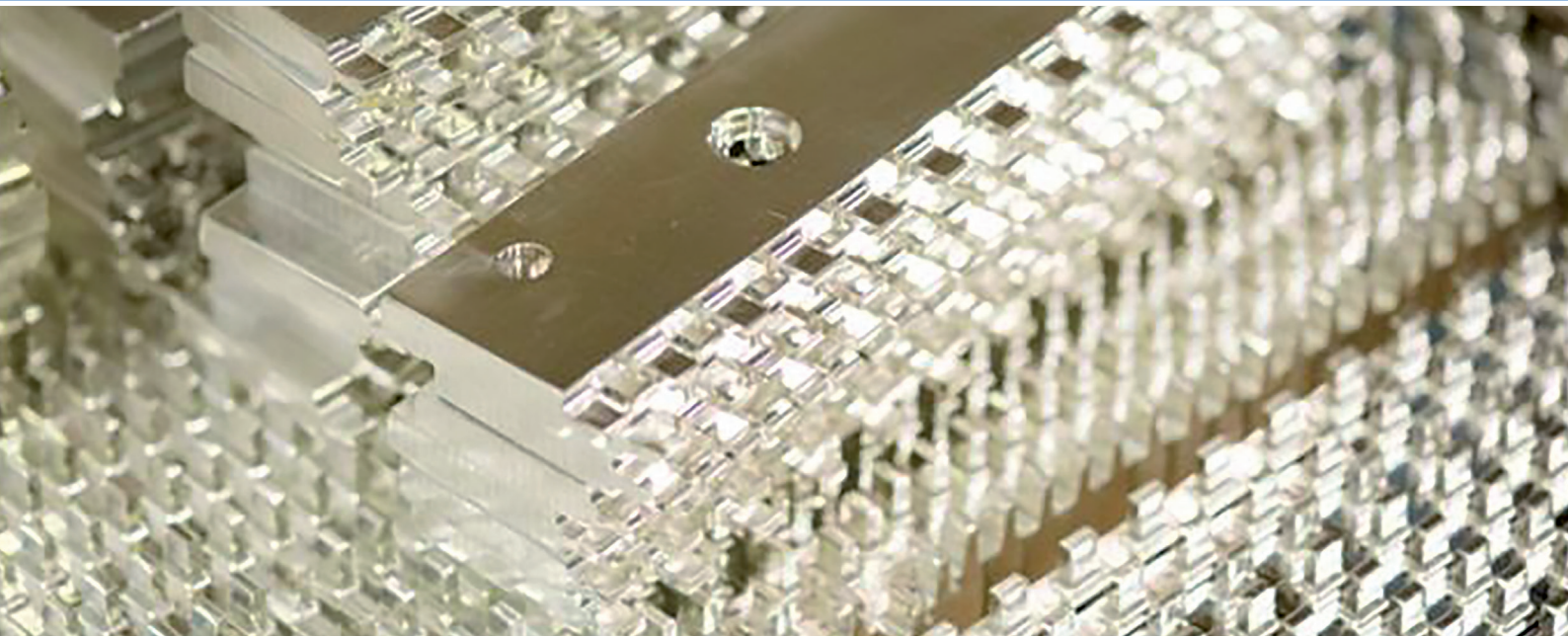
## Silver plating



Electronics

Functional electronic coatings

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## Cyanide free hard silver-plating process

### Argalux<sup>®</sup> NC mod

Argalux<sup>®</sup> NC mod is a cyanide free silver plating process that can be used for plating hard silver deposits on connectors, bus bars, sliding contacts, lead frames and more. The deposit has a low contact resistance making it an ideal surface finish for many electronic applications.

Its hardness and crystal structure are extremely temperature stable and withstand temperatures of 170 °C for 100h without significant recrystallisation.

Together with our Argalin<sup>®</sup> XL anti-tarnish it is the perfect match for temperature sensitive applications.

### Properties

- Cyanide free electrolyte based on  $\text{AgNO}_3$
- Designed for rack and barrel applications
- Applicable current densities: 0.5-1.5 ASD
- Hardness of  $> 130 \text{ HV}_{25}$
- Temperature stable up to more than 170 °C
- Perfect match with Argalin<sup>®</sup> XL anti-tarnish

# Argalux<sup>®</sup> NC mod – The ideal surface finish for electronics applications

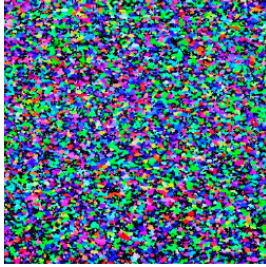


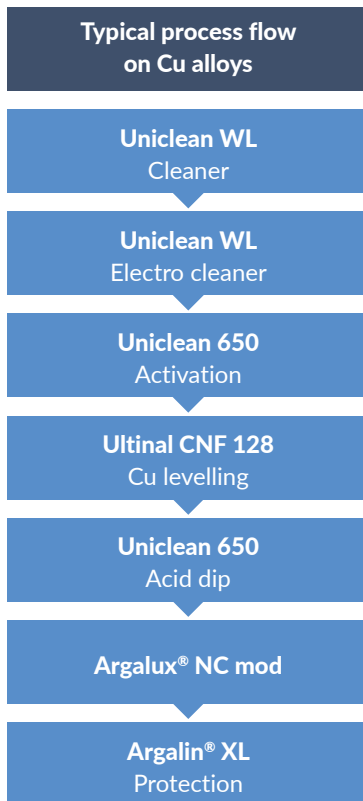
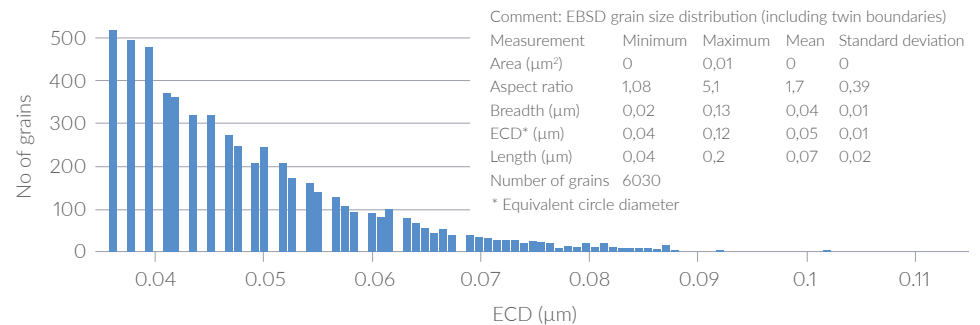
Figure 1:  
EBSD after 100 h/170 °C

## Deposit characteristics and thermal stability

Argalux<sup>®</sup> NC mod deposits are fine grained. The mean crystal size evaluated by means of EBSD is about  $60 \pm 20$  nm. Even after 100 h at 170 °C there is no significant crystal growth measurable. As a consequence, deposit characteristics are largely unaffected by temperature. Hardness and contact resistance values remain constant.

The deposit contains traces of C (< 0.1%), S (< 0.0005%) and N (< 0.02%) and is rated as ASTM B700 Type 2 B deposit. The surface is semi bright, the degree of brightness can be adjusted and varied by current density and thickness. The silver surface is perfectly solderable even after pressure cooker tests.

## EBSD evaluation of Argalux<sup>®</sup> NC mod layers after 100h at 170 °C storage



## Process information

Argalux<sup>®</sup> NC mod is an alkaline process and operates at room temperature in rack and barrel tools. It can be directly plated on silver, brass, bronze and copper without the need for a silver strike. On nickel intermediate layers a strike layer is recommended. Argalux<sup>®</sup> NC mod can be operated with soluble Ag anodes or insoluble anodes.

## Operating parameters and performance

- Current density: 0.4 - 1.5 ASD
- Deposition speed : 0.12 - 0.50 µm/min
- pH: 8.5 - 9.2
- Hardness: 130 HV25
- Contact resistance : 1.7 m Ohm
- Purity: ASTM B700 Type 2B
- Temperature stability: 100h > 170 °C without recrystallisation
- Appearance: Semi bright i.e. technical brightness
- Good solderability

