

## New generation screens using metal foil base material (patented)

**nb technologies**  
consulting engineers



The **sunstence® uni** (universal) is a combination of a perforated steel foil and an emulsion or a capillary film. There is no topography due to mesh crossing, which enables longer service life of the emulsion compared to mesh screens.

The **sunstence® uni sp (25µm foil thickness)** is dedicated to **single print** applications with or without alignment accuracy requirements and shows superior thickness uniformity of printed Ag.

In the single print, the sunstence® uni **saves up to 15% silver !!**

Less silver volume is printed on the bus bar due to the flatness of the foil.

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The **sunstence® uni dp (35/40µm foil thickness)** is dedicated to silver **double print** applications

The **sunstence® me** (metal etch) is a bi-level stencil, where the print image is etched directly into the metal sheet of 40µm to 50µm thickness.

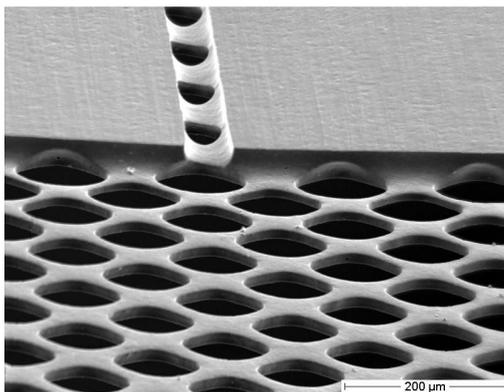
### Major benefits

- Alignment capability at high accuracy (not achievable with mesh screens)
- Advanced cell concepts in multi-print approach (e.g. selective emitter alignment)
- Image stability over high cycle number due to less or no screen degradation
- Life time >20.000 prints (uni, >90.000 prints reported for individual screens) and >50.000 (me)
- Fine line capability (30µm to 40µm depending on medium and application)
- Reduced printing force capability provides soft contact print and less breakage risk
- More uniform thickness of print (less wasted silver at same line resistance)
- Reduction in CoO (saves silver, more prints per screen, less change of screen, less wafer breakage)

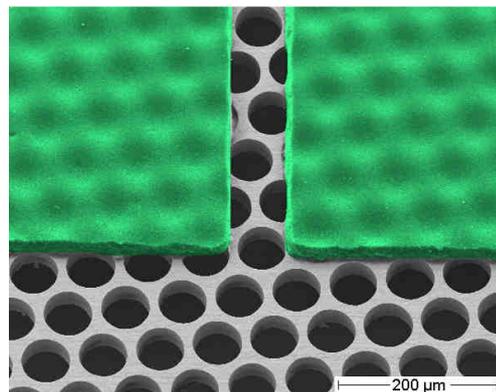
### Applications

- High thickness Ag single print at 0.25 aspect ratio
- Ag paste seed for plating (2µm thick at 40µm width)
- Etching paste for nitride etching and direct plating concepts
- Resist (HF compatible) for etching and plating concepts (nitride protection)
- Ag paste double print for increase of line thickness
- Aligned printing, e.g. doping + metal paste, etching paste + resist, resist + Ag paste

NEW



sunstence® me, bi-level stencil with  
printing image etched into metal foil



sunstence® uni, perforated metal foil +  
emulsion or capillary film

**sunstence® uni** and **sunstence® me** are distributed under the **sunstence®** family by Hans Frintrup GmbH.

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