Stannatech®-Flex

Immersion tin for flex applications

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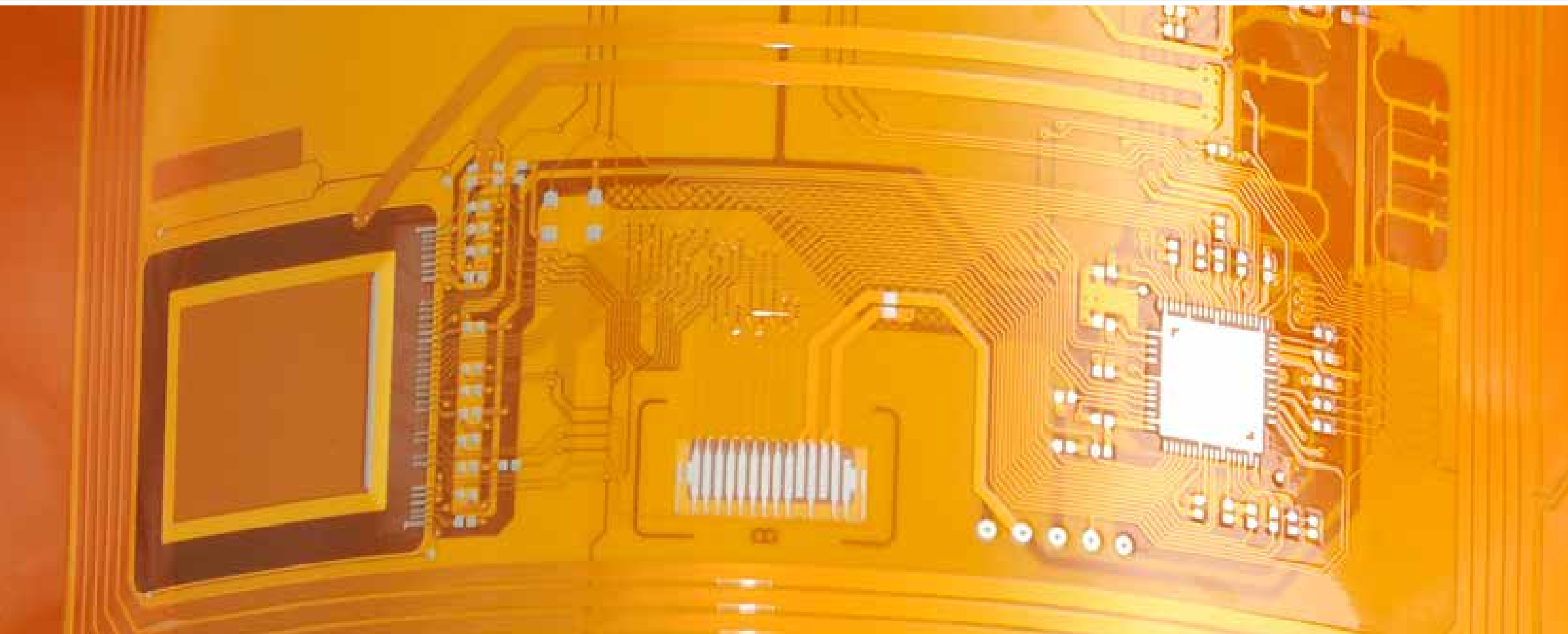

The immersion tin solution for battery applications

Mild plating properties and high material compatibility

Stannatech®-Flex is a new immersion tin finish which was developed for plating on flexible substrates with and without soldermask.

The mild plating properties and low viscosity prevent coverlay attack and ensure excellent performance on fine line structures. With the improved solution exchange by lower viscosity and the Stannatech® 2000-proven 2-step plating process, the risk for mouse bite defect is mitigated.

The bath is capable to work with MKS' Atotech Crystallizer® equipment which allows a tight control range of the copper content in the plating bath and by that an increased bath life with no need for any feed and bleed processing.

Benefits at a glance

- Smooth deposit with homogeneous thickness
- Compatible with MKS' Atotech auxiliary equipment such as Crystallizer® and ConStannic®
- Anti Whisker Additive to prevent whisker growth
- Fine line capable to 10 µm L&S
- Specific soft etch system for best performance

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Stannatech®-Flex – a tailored process for low copper attack

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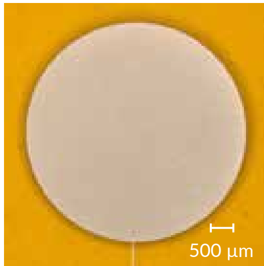

Figure 1: Even appearance on small pads

Technical benefits

Stannatech®-Flex has been specifically designed for flex applications to allow plating of fine line structures on flex substrates with and without solder mask. Due to the use of a cold tin predip step the excessive copper dissolution can be prevented. The low viscosity of the plating solution additionally ensures an excellent solution flow and easy rinsability of the substrate. Outstanding smooth surfaces with low Rz values can be achieved by applying the tailored Microetch System.

Equipment and process control

The bath formulation is designed to work with the established Crystallizer® system to allow a tight process control and precise copper monitoring. By that the chemistry consumption can be drastically reduced compared to systems which need to run in feed and bleed mode.

Process Flow

Acid Cleaner	Designed to guarantee best wetting performance on fine structures and panel designs
Soft Etch	Tailored microetch system for fine line structures on flexible substrates to achieve outstanding cleanliness and smooth copper surface with lowest copper attack
Stannatech®-Flex predip	Cold tin predip to prevent excessive copper corrosion in particular at solder resist edges to avoid the formation of mouse bite defects
Stannatech®-Flex plating bath	Immersion tin electrolyte with low viscosity and excellent plating properties to create smooth and defect free tin finishes

Saving potential by use of Crystallizer®

Total chemistry consumption	↘ - 90% by bath life extention, no feed and bleed necessary to control bath parameters
Tin	↘ - 90% by use of crystallizer, no feed and bleed required
Down time/maintenance	↘ - 5% by improved bath monitoring and control – reduced sludge formation and line contamination lead to reduced maintenance cycles

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