Bright Tin CULMO NF

Bright Tin CULMO NF is a sulphuric acid based electrolyte which is mainly applied for electro-technical component finishing, both rack and barrel applications, in the field of household accessories.

Bright Tin CULMO NF deposits fully bright tin coatings over an extremely wide current density range. The electrolyte is easy to maintain and has a high stability.

Bright tin layers of any thickness can be deposited from Bright Tin CULMO NF. Even thin layers are bright, and the brightness continues to improve with increasing layer thickness due to the good levelling quality.

The tin deposits from Bright Tin CULMO NF are resistant towards fingerprints. Solderability remains excellent after prolonged storage periods.

The additives required for bath make-up and operation do not contain any alkylphenol ethoxylates (nonylphenol ethoxylates).

They also meet the requirements of the RoHS Directive (Restriction of certain Hazardous Substances) relating to the limit of lead, mercury, cadmium, chrome(VI), Polybrominated Biphenyls and Polybrominated Diphenyl Ethers.

Bright Tin ACITIN 2000 1

Bright Tin ACITIN 2000 1 plating solution gives a bright pure tin deposit with excellent tarnish and corrosion resistance. The solderability remains good even after long storage or heat ageing tests (16 hours at 155°C). The process is ideally suited for rack and barrel applications.

The additives required for bath make-up and operation do not contain any alkylphenol ethoxylates (nonylphenol ethoxylates).

The additives required for bath make-up and operation meet the requirements of the RoHS Directive (Restriction of certain Hazardous Substances) relating to the limit of lead, mercury, cadmium, chrome (VI), Polybrominated Biphenyls and Polybrominated Diphenyl Ethers.

Matt Tin MBF 20 RB

Matt Tin MBF 20 RB is a sulphate-free process giving a fine crystalline deposit with good covering power. It is ideal for rack and barrel applications.

Matt Tin MBF 20 RB Additives are low foaming, making the process ideal for use in equipment where there is significant electrolyte movement or turbulence. Anode solubility in Matt Tin MBF 20 RB is greater than in a sulphuric acid based process, thereby overcoming anode passivation problems where plant design restricts the available anode surface area.

Matt Tin LC 10 (SAT 10)

Matt Tin SAT 10 is a sulphuric acid based electrolyte giving fine crystalline deposits. Special features of the bath are exceptional covering power and excellent solderability. The main application is the tin-plating of electronic or precision components.

Its use as a metal resist deposit in printed circuit manufacture has limited application. Based on our experiences tin electrolytes based on sulphuric acid are sensitive towards impurities caused by photo resist bleeding. The compatibility of Matt Tin SAT 10 with the photo resists to be used must be checked prior to use.

Matt Tin SAT 10 is used in the same composition for barrel or rack applications. The deposits are very solderable even after heat or steam ageing for 16 hours at 155 °C.

The formation of tin(IV)compounds is slowed down and therefore clouding of the electrolyte is prevented.

Operating the Matt Tin SAT 10 is simple and easy. It only requires maintenance of the tin(II) and sulphuric acid contents as well as periodical replenishment of the additives that are mainly consumed by drag-out.

The information in this data sheet is based on laboratory as well as practical experience. Figures quoted for operating limits and replenishment quantities are for guidance. Actual values necessary will depend on the components being plated (material and geometry), their application and plating plant conditions.

The additives required for bath make-up and operation meet the requirements of the RoHS Directive (Restriction of certain Hazardous Substances) relating to the limit of lead, mercury, cadmium, chrome(VI), Polybrominated Biphenyls and Polybrominated Diphenyl Ethers.

Matt Tin SAT 20 1

Matt Tin SAT 20 1 is a sulphate-free electrolyte depositing fine crystalline coatings. A good covering power and less sensitive to bleeding of alkali soluble plating resists are the special features of this process. Therefore, it is ideal as a metal resist in PCB manufacturing.

Anode solubility in systems based on the Acid Concentrate FF is much higher than in sulphuric acid based processes, so the electrolyte is especially beneficial when anode passivation occurs in a matt tin sulphate electrolyte.

Matt Tin SAT 20 1 is easy to operate and maintain. Only monitoring the concentrations of tin(II) and acid is necessary, additive consumption is mainly due to drag-out.

If Tin Additive SAT 26 is used, the electrolyte is operated with methanol-free additives.

Tin MBF 20

Tin MBF 20 is a strongly acidic, fluoride-free process for the deposition of silky-matt fine crystalline coatings. It is used for tin plating of wires and tapes in reel-to-reel plating lines. The additives used are low foaming and so during operation no disturbing foam formation occurs. The deposits from Tin MBF 20 give excellent solderability and melting behaviour in reflow processes even after heat ageing (e.g. 155 °C / 16 hours).

Bright Tin GBF 30

Bright Tin GBF 30 is for the use in Reel-to-Reel- and barrel installations. The fluoride-free acidic electrolyte deposits bright tin coatings. Depending on plant conditions and operating temperature cathodic current densities up to 30 A/dm² can be achieved. Solderability is still excellent even after tempering (aging test). Since titanium is not attacked, this metal is suitable i.e. for contacting of the anodes.

The additives used are low foaming. This results in no foam formation even during intensive electrolyte agitation.

The layers deposited from this electrolyte meet the requirements of the RoHS (Restriction of (*the use of certain*) Hazardous Substances) EU Directive 2011/65/EU relating to the limit of lead, mercury, cadmium, Cr(VI), Polybrominated Biphenyls and Polybrominated Diphenyl Ethers.

Matt Tin SLOTOTIN 40

The Matt Tin SLOTOTIN 40 is a strongly acidic, fluoride-free process for the deposition of silky-matt fine crystalline coatings. This process is mainly applied in reel-to-reel plants. When operated with a reduced tin concentration it can also be used for rack- and barrel applications. Tin is deposited with a grain size of 3 - 8 µm tends to less formation of whiskers in comparison to bright tin layers (grain size < 1 µm).

The deposited tin layers contain only low quantities of co-deposited organic compounds. Measured as carbon, the values are approx. 0.005 - 0.025 % by weight. The additives don’t change during deposition. Therefore, the carbon co-deposition rate remains low even after longer operating period.

Solderability of the tin coatings deposited from Matt Tin SLOTOTIN 40 is still excellent after heat ageing at (155 °C / 16 hours) and can be fused.

The process has been developed as a lead-free alternative for all types of components. The coating is compatible with all lead-free tin-based solder-alloys.

The additives required for electrolyte make-up and operation meet the requirements of the RoHS (Restriction of *(the use of certain)* Hazardous Substances) EU Directive 2011/65/EU relating to the limit of lead, mercury, cadmium, Cr(VI), polybrominated Biphenyls and polybrominated Diphenyl Ethers.

Bright Tin SLOTOLET GB 20

Bright Tin SLOTOLET GB 20 is for the application in reel-to-reel plating lines. The fluoride-free, acidic electrolyte deposits bright tin coatings. Depending on the plant conditions and operating temperature cathodic current densities up to 30 A/dm³ can be achieved. The carbon content is approx. 0.02 % only.
Solderability of the coatings is excellent even after accelerated heat ageing (e.g. tempering 16 h/155 °C).

Titanium is among other things suitable for contacting of anodes, since titanium isn't attacked.

Bright Tin SLOTOTIN 70

Sulfuric Acid based tin electrolyte for the deposition of bright tin layers even at low current densities. Especially suitable for geometrically complex components.

APPLICATION
- Electronics (connector housing, resistors, capacitors etc.)
- Household appliances (tinplate, kitchen appliances, etc.)

PROCESS
- Rack- and barrel plating lines
- Operation in the low temperature range possible

BENEFITS
- Low tendency to Sn(IV) formation
- Stable electrolyte with only three additives
- Very good solderability, even after aging
- Meets RoHS Directive 2011/65/EU