TINSHIELD PLUS II

TIN POST TREATMENT

INTRODUCTION

TinShield Plus II is a water-based tin protective agent post-treatment for tin and tin alloy surfaces. TinShield Plus II forms a protecting nanometer film that improves the anti-tarnish and wear-resistance properties.

BENEFITS

- Easy Process. Simply immerse the workpiece parts into the TinShield Plus II working solution.
- No organic solvents in the TinShield Plus II concentrated and working solutions.
- The thin film can tolerate short periods of heating (200°C)
- The nanometer thin film is non-toxic, making TinShield Plus II safe to use and environment friendly.
- The thin film does not have any negative impact on contact resistance and solderability while improving anti-tarnish and wear-resistance.
- No water stain after treating with TinShield Plus II.
- TinShield Plus II has a long working bath life.

SOLUTION MAKE -UP

TinShield Plus II is diluted to 10% in DI water. The solution is then ready to be used.

OPERATING DATA

Concentration	75 – 125ml/L
Temperature	50 - 60°C
Immersion Time	30 secs – 4 Minutes

MAINTENANCE AND CONTROL

Evaporation losses should be compensated for by adding distilled or deionised water. The TinShield Plus II concentrate must be maintained at 100%. The effective inhibitor content can be determined using the method described in the Analytical Procedures section.

REPLENISHMENT

Replenishment should be carried out according to the following table:

TINSHIELD PLUS II WORKING SOLUTION (%)	TINSHIELD PLUS II CONCENTRATION ADDITION (ML/L)
100%	0
90%	10
80%	20
70%	30
60%	40
50%	50

ANALYTICAL PROCEDURES

Equipment Required:

- A UV/V is spectrophotometer capable of 280nm output
- Quartz cuvettes matched set if a dual beam instrument is used
- Two 1000ml volumetric flasks
- 100ml volumetric flask
- 1ml pipette

1. Add 10ml of concentrated TinShield Plus II into a 100ml volumetric flask and bring to volume with DI water; this is the **standard working solution**.
2. Pipette 1ml of the TinShield Plus II standard working solution into a 1000ml volumetric flask and bring to volume with DI water.
3. Set the spectrophotometer to 280nm in absorbance mode. Zero the spectrophotometer with DI water in a quartz cuvette. Once zeroed, remove the blank.
4. Pour out the DI water and add the standard working sample from the final dilution. Pour it out again then add a new sample from the last dilution. Wipe the sides and place it in the spectrophotometer.
5. Measure the absorbance of the solution (standard working solution A_{280nm}).
6. Pipette 1ml of the TinShield Plus II current working solution into a 1000ml volumetric flask and bring to volume with DI water.
7. Add the working solution sample from the final dilution (Step 6). Pour it out again; then add a new sample from the last dilution. Wipe the sides and place it in the spectrophotometer.
8. Measure the absorbance of the solution (current working solution A_{280nm})
9. Use the following equation to determine the percent concentration of the current working bath:

% Concentration of TinShield Plus II =
(Current Working Solution A_{280nm}) / (Standard Working Solution A_{280nm}) x100%

Use the table above for replenishment with the TinShield Plus II concentrate.

DISPOSAL

Dispose of in accordance with local authority requirements

PRODUCT FAMILIES

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
TINSHIELD PLUS II	574031

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