

AT-1988 Activation Acid Salt**AT-1988 活化酸盐****一、Introduction**

AT-1988 is an acidic oxide remover that can effectively remove oxides from copper and its alloys. When used on hard-to-treat copper alloy leadframes, AT-1988 leaves no residual stains.

二、Advantages and Features

1. Short immersion time, effectively removing oxides from copper and its alloys.
2. Foam-free plating solution.
3. Low-acidity working solution
4. Wide operating range Suitable for various types of electroplating equipment.
5. No need to replenish acid solution.

三、Bath Configuration (makeup)

Required Chemicals	Iron/Nickel Alloys	Copper and Copper Alloys
-AT-1988 Activation Acid Salt	100 g/l	100 g/l

四、Bath Preparation and Replacement

1. Add deionized water to the plating tank, slowly add AT-1988 Activation Acid Salt, and stir continuously until completely dissolved.
2. Generally, observe the activation effect of the workpiece to determine whether to replace the solution, or replace it when the plating solution is severely contaminated.

五、Operating Conditions

Component	Iron/Nickel Alloys		Copper and Copper Alloys	
	Operating Range	Recommended Parameters	Operating Range	Recommended Parameters
AT-150 Activation Acid Salt	50-150 g/L	100g/L	50-150g/L	100g/L
Temperature	25-40°C room temperature			
Time	8-60 sec	30 sec	8-60 sec	10 sec

六、Analysis, Replenishment and Replacement Methods: Replenishment

AT-1988 opening salt should be replenished according to the analysis results.

Analysis method for AT-1988 opening salt

Reagents:

- 200 ml/L sulfuric acid;
- 200 ml/L potassium iodide solution ;
- 0.1M sodium thiosulfate;
- 1% starch indicator ;

Steps:

- 1; Draw 2 ml of AT-1988 working solution into a 250 ml conical flask. Add 50 ml of deionized water.
- 2; Add 20 ml of 20% sulfuric acid. Add 25 ml of 25% potassium iodide.
- 3; Add 2 ml of 1% starch indicator and continue titrating until the solution becomes colorless (end point).
- 4; Stopper the bottle and let it stand in a dark place for more than 30 minutes. Titrate with 0.1M sodium thiosulfate until a pale yellow color appears as the endpoint.

Calculation:

AT-1988 opening salt (g/L) =

[Volume of sodium thiosulfate used (ml) - Copper concentration (g/L) x 0.315] x 8.57

Analysis method for copper content in AT-1988 working solution:

Reagents:试剂: 1. 100 ml/L (10% v/v) ammonium hydroxide ;
 2. Murexide indicator
 3. 0.01M EDTA

Steps:

- 1; Draw 2 ml of sample into a 500 ml conical flask. Add 200 ml of deionized water and stir evenly.
- 2; Add 1 ml of ammonium hydroxide to the sample solution; the solution turns blue.
- 3; Add 0.1-0.3 g of murexide indicator until the solution turns yellow (the amount of murexide added and the solution color depend on the copper content in the solution: the higher the copper content, the more murexide needed, and the darker the color).
- 4; Titrate with 0.01M EDTA until the solution turns violet (end point).

Calculation: Copper content (g/L) = Consumption of EDTA (ml) x EDTA concentration (M) x 31.5
Bath replacement

When the copper content in the AT-1988 working solution reaches 16,000 ppm or more, the working solution should be treated.

七、Equipment

Plating tank 镀槽:

Polyvinyl chloride (PVC) or polypropylene

Heater: Teflon-coated immersion heater.

Note: Stainless steel hardware such as screws, O-rings, and heaters are not recommended.

七、ProductInformation 产品信息

Product Code	Product Name	Application	Packaging
10198801	AT-1988 Activation Acid Salt	Activation and oxide film removal for iron-nickel materials, copper materials and their alloys	25 KG/bag

Version A 2017-6-10
A 版 2017-6-10