

ALZON CF

CYANIDE FREE ZINCATE

INTRODUCTION

Alzon CF is a cyanide free process specifically developed to produce, a thin, tightly adherent, zinc alloy film on aluminium. This film provides a first class adhesion undercoat for electroless nickel and other electroplating processes.

Alzon CF is supplied as a 2 part process:

Alzon CF Make Up	Make up additive.
Alzon CF Replenisher	Replenishment additive

BENEFITS

- Long solution life.
- Consistent coatings.
- Excellent solution stability.

SOLUTION MAKE -UP

Alzon CF Make Up	25% v/v
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OPERATING DATA

Zinc Metal	5.5 – 6.5 g/L
Sodium hydroxide	60 – 70 g/L
Immersion Time	10 – 30 secs
Temperature	20 - 30°C

EQUIPMENT

Tanks	PVC lined or polypropylene
Heaters	Stainless steel (316)
Extraction	Essential



INSTALLATION

It is essential that the tanks to be used are thoroughly clean and free from all foreign matter.

1. $\frac{3}{4}$ fill tank with water.
2. Add Alzon CF Make Up
3. Mix well.

MAINTENANCE AND CONTROL

For small volume users of Alzon the long life of the process will make it more economical to dump and replace rather than analyse and replenish.

For large volume users replenishment can be carried out by the addition of Alzon CF Replenisher according to analysis.

ANALYSIS METHOD

1. Alzon CF Make Up

Reagents

0.1M EDTA

Eriochrome Black T indicator

Chloral hydrate

Ammonium chloride buffer solution - dissolve 54gm ammonium chloride in 500ml deionised water. Add 350ml 0.88 S.G. ammonia and make up to 1 litre.

Method

1. Pipette a 5ml sample of the plating solution into a 500ml conical flask.
2. Add 25ml DI water
3. Add 1gm chloral hydrate.
4. Add 25ml buffer solution.
5. Add a trace Eriochrome Black T indicator.
6. Titrate with 0.1M EDTA to a blue end point.
7. Record titre = t mls.

Calculation

$$t \times 5.45 = \% \text{ Alzon CF Make Up}$$



Replenishment

To raise the concentration of Alzon CF Make Up by 1% add 5ml/L Alzon CF Replenisher.

2. Sodium hydroxide

This analysis should only be carried out after Alzon CF Replenisher additions have been made.

Reagents

1N sulphuric acid (standard volumetric solution)

1113 indicator

Method

1. Pipette 10 mls of working solution into a 250 ml conical flask.
2. Add 50 mls deionised water and 3-4 drops 1113 indicator.
3. Titrate using 1N sulphuric acid from a yellow end point.
4. Record titre = t mls.

Calculation

$t \times 4 = \text{g/L Sodium hydroxide}$

Replenishment

For every 1 g/L required add 2ml/L 32% sodium hydroxide solution

NOTES

Pre Treatments

Aluminium alloys vary considerably in their make-up and selecting the right pre-treatment chemistry is of paramount importance to ensure optimum adhesion of the electroless nickel or electro plated deposits.

A typical sequence is as follows:

1. Soak clean. Cleaner 505
2. Cold water rinse.
3. Acid etch 50% nitric acid containing 50 g/L Econovate A. Room temperature, 30 secs.
4. Cold water rinse.
5. Cold water rinse.
6. Alzon CF, 30 secs at 20 - 30°C
7. Cold water rinse.
8. Zincate strip 50% nitric acid.
9. Cold water rinse.
10. Cold water rinse.
11. Alzon CF, 20 secs at 20 - 30°C
12. Cold water rinse.
13. Cold water rinse.
14. Electroless or electro nickel plate.

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
Cleaner 505	206001
Econovate A	223004
Alzon CF Make Up	225003
Alzon CF Replenisher	225004

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