



# EZ Bond 100 Zincate Replenisher & Activator

## DESCRIPTION

**EZ Bond 100 ZINCATE** is an electroless process for aluminum which is used to prepare aluminum for electroplating. It enables many different electro-deposits to be applied directly without brass or copper strike plate.

**EZ Bond 100 ZINCATE** creates a dull-gray zinc alloy on aluminum or its alloys. The solution is easy to control and economical to use while exhibiting excellent adhesion and corrosion resistance.

## OPERATING PARAMETERS

|                |  |
|----------------|--|
| Make-up        | EZ Bond 100 Zincate activator: 16% by volume<br>EZ Bond 100 Zincate replenisher: 12% by volume |
| Immersion Time | 30 to 90 seconds   |
| Temperature    | 60-90°F (15-30°C)  |

## PHYSICAL PROPERTIES

EZ BOND 100 ZINCATE ACTIVATOR:  
EZ BOND 100 ZINCATE REPLENISHER:

## CONTROL PROCEDURES

Work-flow:

1. Pre-clean to remove processing soils\*
2. Etch clean\*
3. Water rinse
4. Remove smut and activate\*
5. Water rinse
6. **EZ Bond 100 ZINCATE** treatment
7. Two water rinses
8. Electroplating

Some alloys may require a double zincate to obtain desirable film formation. Use steps 1 – 8 above followed by the steps below to process a double zincate.

1. Remove **EZ Bond 100 ZINCATE** by immersing in **Zincate STRIP**.
2. Water rinse



3. **EZ Bond 100 ZINCATE** treatment
4. Two water rinses
5. Electroplating

#### OPERATING CONDITIONS:

After immersion in **EZ Bond 100 ZINCATE**, parts should have a uniform dull gray appearance. If the film becomes patchy, cleaning or activation steps are suspect and should be checked. It is important to maintain temperature within the specified range. Although, some tin containing alloys may require heating up to 105°F (41°C).

Immersion times are variable depending upon the type of alloy being processed. Commercial pure aluminum usually requires 2 minutes where alloys containing magnesium will require shorter times.

#### EQUIPMENT:

**EZ Bond 100 ZINCATE** solution should be periodically stirred to insure that its concentration remains constant. **EZ Bond 100 ZINCATE** solution can be kept in any plastic lined tank. We recommend to use an exhaust system on the tank since **EZ Bond 100 ZINCATE** contains small amounts of cyanide.

### ANALYSIS

#### **EZ Bond 100 ZINCATE REPLENSHIER**

Ammonia buffer solution: Add 50 mL of ammonium hydroxide and dilute to 1 liter. Then mix well.

1. Pipet a 1 mL sample of the bath into a 250 mL Erlenmeyer flask and dilute with about 100 mL of DI water.
2. Place stir bar in flask and stir well.
3. Add a crushed Metab tablet and mix until dissolved. (Solution will turn purple.)
4. Add 1-2 mLs of Ammonia buffer solution and titrate immediately with 0.0575 M EDTA to the violet endpoint.
5. Calculation:

$$\text{EZ Bond 100R ZINCATE Replenisher (\% vol)} = (\text{mLs } 0.0575 \text{ M EDTA}) \times 4.0$$

Maintain the Zincate Replenisher level above 12.5% by vol.

#### **EZ Bond 100 ZINCATE ACTIVATOR**

1. Pipet a 5 mL sample of the bath into a 250 Erlenmeyer flask.
2. Add 50 mL of DI water.
3. Add 3 – 4 drops phenolphthalein indicator.
4. Titrate the solution from pink to the clear endpoint with 0.5N Acid.
5. Calculation:

$$\text{EZ Bond 100A ZINCATE Activator (\% vol)} = (\text{mLs of } 0.5\text{N acid}) \times 0.75$$

Maintain the EZ Bond 100 Zincate Activator level above 16.6% volume.

### SAFETY AND STORAGE

Precautions required for cyanide containing products should be used. For specific information consult product MSDS.

**EZ Bond 100 ZINCATE** are highly concentrated products, which should be stored in a dry place at a minimum temperature of 68°F (20°C).

## WASTE TREATMENT

**EZ Bond 100 ZINCATE** solutions contain small amounts of cyanide. These cyanides must be destroyed using normal disposal methods for cyanide prior to precipitation of metals and filtration.

### **CAUTION!**

Since **EZ Bond 100 ZINCATE** products contain cyanide, caution should be observed when handling the products, the solution, its rinse waters and its waste. Precautions required for cyanide containing products should be used.

## MISCELLANEOUS

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