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TECHNICAL DATA

E-Pik™ 216

Zinc Diecast Deoxidizer and Surface Conditioner

E-Pik 216 is a mildly acidic liquid concentrate which is used at 2% by volume in water at room temperature. It is used to prepare diecast zinc surfaces for plating with **EPi's E-Brite Ultra Cu** alkaline non-cyanide copper plating process.

It is moderate in its action and will not darken the zinc surfaces with immersion times of up to 1 minute.

Solution Make-up

E-Pik 216 concentrate:	1-4% by volume in water
Temperature:	65-90˚ F (18-32˚C) (room temperature)
Time:	15-60 seconds immersion

Operation

1. Soak cleaning in **EPi's E-Kleen 163** and electrocleaning in **E-Kleen 173**.

2. Overflowing cold water rinse.

3. Immerse in **E-Pik 216** solution. Prior to charging a production tank, some experimentation should be performed with properly cleaned sample parts using a 2% by volume **E-Pik 216** solution as a starting point to determine the optimum immersion time. Zinc diecast parts are typically pulled from bath when gassing occurs.

4. Overflowing cold water rinse.

5. Copper plate in **EPi's E-Brite Ultra Cu** alkaline non-cyanide copper process. It is recommended to use live entry on parts going into the **E-Brite Ultra Cu** solution.

6. Overflowing cold water rinse.

7. Acid copper, nickel, tin plating or other operations.

SOLUTION CONTROL

The strength of the solution is maintained by small periodic additions of **E-Pik 216**. The solution is dumped only when its effectiveness is diminished by accumulation of metals, dirt, oil, etc. The strength of the solution may be determined by burette or dropping bottle method.

Burette Titration Procedure

1. Take a sample of the solution and cool to room temperature.
2. Pipette 10 ml of the sample into a clean 250 ml Erlenmeyer flask.
3. Add 50 ml D.I. water.
4. Add 5 drops 0.1% Methyl Orange Indicator.
5. Titrate with 0.1 N Sodium Hydroxide from orange to yellow color.
6. Concentration of **E-Pik 216** (% by volume) = ml of Sodium Hydroxide x 0.373.

Dropping Bottle Test Procedure

1. Use a 25 ml graduated cylinder to measure out 25 ml of the **E-Pik 216** solution and transfer to a 250 ml beaker.
2. Add 25 ml water and 4 to 6 drops of Methyl Orange indicator.
3. Add the 6 Normal Sodium Hydroxide Solution dropwise to the sample. Count the drops while swirling the sample solution.
4. The endpoint will be marked by a change in color from red to yellow.
5. The number of drops of 6N Sodium Hydroxide used is a measure of the concentration of the **E-Pik 216** solution:

   Concentration of **E-Pik 216** (% by volume) = (number drops 6N Sodium Hydroxide) x 0.25

A test kit for the above procedure is available from **EPi** and contains:

1 each	125 ml dropping bottle of 6N Sodium Hydroxide
1 each	2 fl oz dropping bottle of Methyl Orange indicator
1 each	250 ml polypropylene beaker
1 each	25 ml graduated cylinder

CAUTION

The **E-Pik 216** may cause skin irritation. Avoid prolonged contact with skin. Do not get in eyes. In case of contact with skin or eyes, flush freely with water for at least 15 minutes. For eyes, get medical attention. Avoid breathing mists. When handling and working with solutions, wear glasses, goggles or face shield.

Do Not mix **E-Pik 216** or its solutions with alkaline materials or with any other chemical substances. The **Safety Data Sheet** furnished by **EPi** must be read and understood prior to working with **E-Pik 216** or its solutions.

PACKAGING 5- and 55-gallon non-returnable containers.

IMPORTANT NOTICE! For Industrial Use Only

The following is made in lieu of all warranties, expressed or implied, including the implied warranties of merchantability and fitness for purpose: seller's and manufacturer's only obligation shall be to replace such quantity of the product as proved to be defective. Before using, user shall determine the suitability of the product for its intended use, and user assumes all risk and liability whatsoever in connection therewith. **Neither seller nor manufacturer shall be liable either in tort or in contract for any loss or damage, direct, incidental or consequential, arising out of the use or the inability to use the product.**

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