

## **E-Prep® 222**

### **Stabilized Peroxide Bright Dip Process for Copper and Leaded Brass**

**E-Prep 222** accelerates the brightening reaction, stops the breakdown of the peroxide and prevents retarnishing of brass and copper after brightening. **E-Prep 222** does not contain Nitric or Chromic acids or chromates and is environmentally safe. It does not contain chelaters or complexers, simplifying waste treatment. **E-Prep 222** is supplied as a liquid concentrate.

**E-Prep 222** is specifically designed to work on leaded brass and on tin/lead soldered areas where it offers a more uniform finish and minimized white powdery deposit of the insoluble lead onto the brass surface.

Brass and copper parts should be thoroughly cleaned prior to the **E-Prep 222** descaling and bright dipping process. **E-Kleen 105** is an ideal cleaner for this purpose.

#### **EQUIPMENT**

Polypropylene tanks, reinforced from outside, are best suited for use with **E-Prep 222**. Stainless Steel tanks utilizing Inconel Alloy 22, Inconel 600, Inconel 617 or Incoloy 800 grades. Stainless steel coils are used for internal cooling. Teflon coated heaters are recommended for the bright dip tank. Do not use stainless steel, quartz or titanium heaters.

Good exhaust ventilation with positive air flow over the tank is highly recommended for large tanks of **E-Prep 222**. Smaller solution volumes should be operated in well ventilated areas.

#### **OPERATION**

1. **Pre-conditioning and scale removal**

75% by volume water

15% by volume concentrated Sulfuric Acid, 66° Be

10% by volume **E-Prep 222**

**Temperature:** 70-80°F

**Time:** 1-2 minutes

2. **Cold water rinse**

3. **Bright dip**

75% by volume water (70% if using 26% strength Hydrogen Peroxide)

10% by volume **E-Prep 222**

15% by volume of 35% Hydrogen Peroxide (20% if using 26% strength Hydrogen Peroxide)

**Temperature:** 110° - 120°F

**Time:** 1 to 2 minutes

Make sure the Hydrogen Peroxide used is from new stock as it tends to lose effectiveness in bringing about the brightening reaction if it is old.

**Note:** If the temperature of the solution exceeds 130°F, cooling water should be impinged on sides of the tank or an internal cooling coil should be used...Teflon cooling coils are recommended.

Depletion of the Hydrogen Peroxide and **E-Prep 222** from the Bright Dip solution is indicated by slowness of the fizzing reaction and lack of the golden film formation during brightening. Add 3% **E-Prep 222** and 8% Hydrogen Peroxide to rejuvenate the bath. The bath could be replenished a few times in this manner, but should be dumped when exhausted due to the build up of dissolved metals.

4. **Cold water rinse**
5. **Desmut** - Dip into a 3 to 5% volume Sulfuric Acid solution.
6. **Cold water rinse**
7. **Hot water rinse**
8. **Forced air or spin dry**

**Note:** When working with leaded brass, avoid processing for too long in **E-Prep 222** bright dip as it will create more white powder. Use of ultrasonic in the final hot water rinse helps to further remove the white residue.

### **CAUTION**

The **E-Prep 222** solution is mildly acidic. Avoid contact with eyes, skin and clothing. Wear eye protection (glasses, goggles or face shield), protective rubber gloves and aprons, when preparing solutions and while working with the solutions. Do not mix the **E-Prep 222** concentrates or solutions with alkaline materials, cyanide or any other substances. The **E-Prep 222** solution is toxic if taken internally. Store material away from heat and direct sunlight.

Do not work with the **E-Prep 222** solution or other materials without first reading and understanding the **SAFETY DATA SHEET** furnished by **EPI**.

### **PACKAGING**

Five (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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