



## **PHOSPHAT Z – 101** MICROCRYSTALLINE ZINC PHOSPHATE

### **Description:**

**PHOSPHAT Z-101** is an emerald green liquid concentrate of mildly acidic metal phosphates that already contain the necessary catalysts and crystal refining toners required to produce optimum corrosion protection and appearance of the surface finish.

### **Advantages:**

- Provides microcrystalline zinc phosphate coatings that are extremely fine and compact.
- Paint adhesion is improved due to refined crystalline matrix of coating.
- Cost of paint is reduced since the extremely fine-grained phosphate coating allows greater coverage.
- Corrosion protection is increased because of improved paint bond.
- Appearance of paint finish is improved because of smoother microcrystalline finish.
- Saves in operational costs, because of compactness of microcrystalline coating tends to restrict formation of excessively heavy coatings.
- Simplifies process control because of built-in catalysts and toners.

### **Application:**

**PHOSPHAT Z-101** is a chemical concentrate that is specifically formulated to provide smooth, compact, microcrystalline zinc phosphate coatings to steel, zinc and cadmium surfaces. **PHOSPHAT Z-101** coatings provide increased protection from corrosion as well as improved paint adhesion. Because of the compact coating, paint consumption is vastly reduced, and improved luster is obtained.

**PHOSPHAT Z-101** conforms to U.S. Military Specification **MIL-P-16232, Type Z** and **TT-C-490, Type I**.

### **Usage:**

**Precleaning** – Prior to phosphating, parts must be free of all grease, rust, soil, and loose scale. Cleaned parts must be water-break-free after rinsing with clean cold water.

**Phosphating** – The **PHOSPHAT Z-101** is used diluted with water as follows:

For spray application: 2-3% at a temperature of 140-180°F for 1-2 minutes.

For dipping: 8-10% at a temperature of 140-180°F for 5-10 minutes.

The bath should be tested and adjusted to operational limits

**Rinse:** The phosphating parts are to be immediately rinsed in cold or lukewarm clean, overflowing water bath, for not less than 60 seconds.

./..



-2-

**Inhibitive Rinse – HIB** is a non-chromate rinse aid that may be used to replace chromic acid type rinse inhibitors. For best results a clean, fresh water rinse should follow the **HIB** rinse. This can be done by adding **HIB** to the rinse immediately, following the phosphate bath and use clean, hot water in the final rinse.

**HIB** is used 2-3 ‰ in hot water to provide post rust inhibition. Maintain the pH of **HIB** at pH of 3.0 – 4.0 by additions of small amounts of phosphoric acid. Drain tank and recharge daily.

If a chromate type inhibitive rinse is required because of government restrictions use **HIBI SEAL-NC** 2-5 ‰ in hot water (140-160°F) and adjust the pH of the solution to pH 3.0-4.0 by the addition of small amounts of phosphoric acid. Drain tank and recharge daily.

#### **Acceleration of Baths :**

Excellent zinc phosphate coatings are normally provided by **ACCEL** baths when operated within the recommended control range. Should lower temperatures or shorter contact time be unavoidable, the bath can be accelerated by **ACCEL** to encourage heavier, more corrosion resistant coatings. **ACCEL** is used by dissolving 1-2 lbs. in 10 gallons of water, and slowly running the solution into the **PHOSPHAT Z-101** bath during production use.

#### **Other Applications:**

**PHOSPHAT Z-101** coatings can also be oiled or impregnated with corrosion inhibitors to provide additional corrosion protection.

The dark gray matte finish provided by **PHOSPHAT Z-101** is attractive, and this coating can be used for a decorative finish.

#### **Equipment:**

**TANK:** Heavy gauge, mild steel or stainless.

**PUMP:** Stainless steel.

**HEATING:** Stainless steel steam coils, internal gas tubes or gas burners.

**DRYING:** Hot chamber, warm air blast.

#### **Caution:**

**PHOSPHAT Z-101** contains acidic ingredients. Avoid contact with skin and eyes.