

Technical Information Sheet

UNIPHOS – HP

Zinc Phosphating Chemical for Sheet Metal Components

(Used By HOT DIPPING Process in a Seven Tank Plant)

SCOPE : UNIPHOS-HP is an excellent formulated product for the process of Zinc Phosphating on the Sheet Metal Components ; and offers prolonged protection against corrosion . The microcrystalline Zinc Phosphate Coating also works as an excellent undercoat. Any type of finish Paint or Lacquer or Powder Coating shall have excellent adhesion to the base metal. The coating weight shall be generally of the order of 300 -700 mg/ft², and shall be adequate to impart a substantially improved corrosion resistance to the base metal. The Zinc Phosphate Coating shall conform to the requirements of **IS 3618 / IS 6005** and most other international specifications. The Zinc Phosphate Coating shall be very smooth, Microcrystalline and compact in nature. The UNIPHOS-HP formulation has Grain Refining Agents incorporated in sufficient quantities.

TECHNICAL SPECIFICATIONS :

- **Colour and Nature** : Pale Greenish ; Clear Viscous Liquid.
- **Specific Gravity** : 1.40 +/- 0.03 at 25 °C.
- **Concentration of Use** : 3 % Vol / Vol.
- **Dipping Temperature / Time** : 65 - 70 °C ; for 5 - 10 Min.
- **Total Acid / Free Acid** : TA 20 +/- 2 Points FA 3 to 5.
- **Accelerator** : Additive - 1 (Nitrate - Nitrite)
- **Testing Frequency** : Preferably every Four Hours.
- **Coating Weight / Nature** : Very smooth , Microcrystalline , Compact Coating 300-400 mg/ft²

TESTING AND CONTROL :

The testing of the Zinc Phosphating Bath Solution shall be carried out at least twice in a shift; in order to obtain best results. The addition of the 10- 20 % Toner solution shall be done; preferably by continuous dripping process and this shall result into formation of a very uniform coating ; through-out the working

TOTAL ACID : This is determined by Titrating 10 ml of the Phosphating Bath Solution against std. 0.1 N sodium Hydroxide ; Using Phenolphthalein Indicator. End Point : Colorless to Persistent Pink .Burette Reading in ml is the Total Acid Pointage . This shall be mentained **between 18 to 22**.

FREE ACID : Titrate 10 ml of the Phosphating Bath Solution against 0.1 N Sodium Hydroxide Solution ; Using Bromo Phenol Blue Indicator. End Point Yellow to Blue. Buratte Reading in ml is Free acid pointage . This shall be mentained **between 3 to 5**.

REPLENISHMENT : Add 0.150 to 0.160 Litres of UNIPHOS- HP per 100 Ltrs of bath solution to increase the Total Acid Pointage by ONE. This will also automatically adjust the FREE ACID Value.

Higher Free Acid shall result into more grain size of the Coating ; Increased consumption of the Phosphating Chemical ; and may result in increased paint consumption and reduced corrosion resistance.

UNIPHOS-HP is formulated in such a manner that it is totally compatible with almost all major & reputed brands of the Zinc Phosphating Chemicals. Hence it is not necessary to discard the existing baths & UNIPHOS- HP can be used for Replenishment. Use of UNIPHOS- HP shall very substantially reduce the sludge formation, because of the balanced and calculated ratio of Phosphate/ Nitrate in the bath. The low sludge formation shall also result into increased out-put; minimal sludge deposition while lifting the work & reduced bath maintainance.

Handling PRECAUTIONS and Effluent Treatment : Operators shall use rubber Gloves / Aprons / Face shield and the normal protective gear while working with UNIPHOS CP and during its handling. Uniphos HP is an acidic chemicals. This is water based and Hence it is Non-Flammable .In case of Spillage on Floor or contact with skin; flush affected area of the body with plenty of running water. Call for Medical assistance. The Floor Spillage is neutralized to pH 7 by adding / Sprinkling any alkali solution , 5 % solution of Caustic or Lime water, till neutral pH (6.5 to 7.5) is reached.

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