

TECHNICAL DATA SHEET

METFIX ZN P – 700

(ZINC PHOSPHATE IMMERSION COATING)

Metfix Zn P– 700 is designed to produce heavy black “Zinc Phosphate” coating on iron and mild steel components by simple immersion.

MAKE – UP:

Clean the tank thoroughly before making up the solution. Be sure all grease, rust and scale is removed prior to making the phosphating solution.

OPERATING CONDITIONS:

	Without ACCELERATOR	With ACCELERATOR
Concentration of Metfix ZN P- 700	3 – 5 %V/V	3 – 5 %V/V
Accelerator concentration	-----	0.06% V/V
Operating Temperature	75 – 90°C	55 – 70°C
Immersion Time	5 – 10 minutes	3 – 10 minutes
Used as base under	Oil, grease	Paint

MAINTENANCE:

For optimum results and maximum solution life the Metfix ZN P – 700 solution and Accelerator should be maintained on the basis of regular analysis using the analytical procedure outlined under the heading “ Control”.

SLUDGE:

During the operation of Metfix Zn P – 700 sludge is produced which settles at the bottom of the tank. This solution should be desludged periodically to avoid dusty coatings.

TEMPERATURE:

Temperature should be maintain within the recommended limits.

High temperature will produce loose powdery coating and low temperature will give thin deposits.

PROCESS CYCLE & TIME:

- Degreasing 5 – 10 minutes
- Water rinse 15 – 30 seconds
- Water rinse 15 – 30 seconds
- Pickling / derusting 5 – 10 minutes
(Hcl / H₂SO₄)
- Rinsing 15 – 30 seconds
- Rinsing 15 – 30 seconds
- Conditioning 1-3 minutes(optional)
- Phosphatising 5 – 10 minutes
- Rinsing 15 – 30 seconds
- Rinsing 15 – 30 seconds
- Sealing 1 – 3 minutes
- Drying 1 – 4 minutes

CONTROL:**ZN P – 700 CONCENTRATION:**

Pipette out 10 cc of bath solution, add 5 drops of phenolphthalein indicator, well titrate against 0.1 N Sodium Hydroxide till colour changes to permanent pink.

The No. of ccs of Sodium Hydroxide corresponds to “Total Acid Pointage “.

For each point below 23 add “100 cc” of ZN P – 700 per 1000 liters of bath.

FERROUS IRON CONCENTRATION:

Pipette out 100 cc of bath solution in to a conical flask, add 1 – 2 cc of 50 % sulphuric Acid to it. Titrate against 0.1 N potassium Permanganate colour change from colourless to pink, persisting for atleast 15 seconds.

No. of cc 0.1N of $KMnO_4$ required $\times 0.056 =$ % of Ferrous Iron.

ACCELERATOR CONCENTRATION:

It is important to have correct amount of Accelerator in phosphating bath.

The Accelerator concentration can be checked by starch indicator paper and corrected accordingly before proceeding for titration of concentration determination.

COLOUR OF TEST PAPER.

- No. Accelerator ----- White
- Low Accelerator ----- Blue
- Optimum Accelerator ----- Blue
- Excess Accelerator ----- Black
- Excess Accelerator produces sludge and results in high consumption of Metfix Zn P – 700.
- Low concentration of Accelerator gives rise to accumulation of iron salts and adversely affects the coating.

ACCELERATOR CONTENT:

- Pipette out 50 cc of bath solution into a conical flask, add 4 – 5 cc of 50 % Sulphuric acid , mix well , and titrate against 0.1 N potassium Permanganate till colour changes to pink, persuiting for atleast 15 -18 seconds.
- Freshly prepared bath will have concentration 4.5 - 5.0 points (i.e. 4.5 c of 0.1 N potassium Permanganate) referred concentration range is 2 – 6 points. Add 10-

12 cc of Accelerator solution per 100 liters of the bath solution to raise the concentration by 1 point.

EQUIPMENT:

- Tanks and housing can be fabricated from mild steel plate, SS314L and SS316L.
- If gas fired burners are used they should be made of mild steel or equivalent.

HANDLING AND SAFETY PRECAUTIONS:

Metfix ZN P – 700 is acidic in nature. rubber gloves and aprons should be worn while handling. In case of contact with skin, flush with plenty of cold water.

WASTE DISPOSAL:

Solution of Metfix ZN P – 700 are acidic and contain zinc metal. Consult experts with regard to waste disposal regulations and process.

DISCLAIMER:

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