

## TECHNICAL DATA SHEET

### METFIX ZN P - 702

#### (ZINC PHOSPHATE IMMERSION COATING)

Metfix Zn P - 702 is designed to produce heavy “Zinc Phosphate” coating on iron and mild steel components by simple immersion.

#### SALIENT FEATURES:

- Prevents excessive wear and tear of moving parts of machinery.
- Act as an excellent corrosion barrier coating.
- Coating weight of 800-2000mg/sq.ft is produced.( IS : 3618 – 1966 Class A2 )
- Low coating weight 400 – 750 mg/sq.ft is produced using accelerator which serves as base for paint and oil. ( IS : 3618 – 1966 Class B )

#### BATH MAKE – UP:

- Fill up the tank to half of its capacity with cold water.
- Add Metfix Zn P - 702, 2.5-3.5 liter per 100 liter of bath solution.
- Make - up to its operating level with cold water and mix it by stirring.
- Heat the bath to its operating temperature.
- Carry – out ageing by introducing 30 – 40 gms of cleaned steel wool per 100 liters of bath solution for 10 – 15 minutes. Remove the steel wool.
- Process the material.

#### OPERATING CONDITIONS:

	<b>Without Accelerator</b>	<b>With Accelerator</b>
Concentration of Metfix Zn P - 702	2.5 – 3.5 %V/V	2.5 – 3.5 %V/V
Accelerator Concentration	-----	0.06% V/V
Operating Temperature	75 – 90°C	55 – 70°C
Immersion Time	5 – 10	3 – 10
Used as base under	Oil, grease	Paint

**MAINTENANCE:**

For optimum results and maximum solution life the Metfix Zn P - 702 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 - 702 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 maintained 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<br>(HCl / H <sub>2</sub> SO <sub>4</sub> ) | 5 – 10 minutes        |
| ➤ 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:****FERROUS IRON CONCENTRATION:**

Ferrous iron should be maintain below 0.4%by either discarding the solution completely or partially.

**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 - 702.
- Low concentration of Accelerator gives rise to accumulation of iron salts and adversely affects the coating.

**Metfix Zn P - 702 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 25 add "100 cc" of Metfix Zn P - 702 per 100 liters of bath.

**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, persuing 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 - 702 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 - 702 are acidic and contain zinc metal. Consult experts with regard to waste disposal regulations and process.

**DISCLAIMER:**

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