

TECHNICAL DATA SHEET

METFIX ZN P - 703

(ZINC PHOSPHATE IMMERSION COATING)

Metfix Zn P - 703 is designed to produce smooth fine grained “ Zinc Phosphate” coating on iron and mild steel components by simple immersion.

The coating weight obtained is 300-500 mg/sq.ft which is ideal undercoat for painting of metal subtract. It meets the specification of IS 3618 – 1966 Class B/C.

MAKE – UP:

PROCESS :

- Fill up the tank to half of its capacity with cold water.
- Add Metfix Zn P 703, 3-6% by volume of bath solution.
- Make - up to its operating level with cold water and mix it by stirring.
- Heat the bath to its operating temperature.
- Check the accelerator concentration with the help of starch iodide paper(blue color).
- Process the material.

OPERATING CONDITIONS:

Concentration of Metfix Zn P - 703	3 – 6 %v/v
Accelerator	0.03 – 0.06 % v/v
Operating Temperature	50 – 70°C
Immersion Time	2 - 5 minutes

MAINTENANCE:

For optimum results and maximum solution life the Metfix Zn P - 703 solution and Accelerator should be maintained on the basis of regular analysis using the analytical procedure outlined under the heading “ Control”.

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 2 - 5 minutes
- Rinsing 15 – 30 seconds
- Rinsing 15 – 30 seconds
- Sealing 1 – 3 minutes
- Drying 1 – 4 minutes

CONTROL:**FERROUS IRON CONCENTRATION:**

Pippet out 100 ml bath solution.

Add 3-5 drops of phenolphthalein Indicator

Titrate against 0.1N potassium permanganate to end point pink persisting for atleast 50 seconds.

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 - 703.
- Low concentration of Accelerator gives rise to accumulation of iron salts and adversely affects the coating.

Metfix Zn P - 703 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 - 703 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 - 703 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 - 703 are acidic and contain zinc metal. Consult experts with regard to waste disposal regulations and process.

DISCLAIMER:

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