



Yash Chemical Industries

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Seven Tank Phosphating Pre-Treatment Process

STAGE - 1 : ALKALINE DEGREASING

1. Product Code : CLEAN Y-15
2. Strength : Dissolve 5-7 Kg 100 ltrs. of soft water.
3. Duration : 5-15 minutes. (Time may vary depending upon the condition of **Metal Sudo. and Toughness of Oil**)
4. Pointage : 70.80
5. Temperature : 70 ± 15 °C
6. Replenishment : Add 125 Kg of AL1 / AL2 for 1000 ltrs. of bath increase the **Pointage by 1.0**.
7. **Testing** : Take 10 ml. Sample of degreasing Bath into a 250 ml. Erlenmeyer Flask.
add 50 mls. of D.M. Water.
Add 2-4 drops of phenolphthalein into the flask.
Titrate against N/10 Standard Sulphuric Acid till Pink Colour changes to Colourless.
Note the volume of Standard Sulphuric Acid Consumed in mls.
Mls. of Standard Sulphuric Acid consumed are called Pointage.

STAGE - 2 : WATER RINSING

Make sure before shifting to **Stage-3**, a proper water rinse has happened.

STAGE - 3 : RUST REMOVER

1. Product Code : RUSTO-DI
2. **Strength** : a) Mix 25 ltrs. of Rust Remover with 75 ltrs. of Soft Water to make the solution of Rust Remover workable from Ambient Temperature to maximum to 60 °C.
b) Mix 10-12 ltrs. of Rust Remover with 90-88 ltrs. of Soft Water to make the solution of Rust Remover workable from 40-45 °C to maximum of 60 °C

- 3. Duration** : 5-15 minutes. (Time may vary depending upon the condition of **Metal Surface and Rust.**)
- 4. Pointage** : a) 24-31 for 25% Bath.
b) 10-16 for 10-12% Bath
- 5. Temperature** : a) Ambient Temperature to maximum of 60 °C
b) From 40-45 °C to maximum of 60 °C
- 6. Replenishment** : Add 7.2 ltrs. of Rust Remover to 1000 ltrs. of bath Solution to increase the **Pointage by 1.0**
- 7. Testing** : Take 1.0 ml. Sample of Rust Remover Bath into a 250 ml. Erlenmeyer Flask.
Add 50 mls. of Soft Water.
2-4 drops of Methyl Orange into the flask.
Titrate against N/10 Standard Sodium Hydroxide till Red Colour changes to Yellow.
Note the volume of Standard Sodium Hydroxide consumed in mls. Mls. of Standard Sodium Hydroxide consumed are called pointage.

STAGE - 4 : WATER RINSING

Make sure before shifting to Stage-5, proper water rinse has happened.

STAGE - 5 : PHOSPHATING

- 1. Product Code** : Phoscoat-150
- 2. Strenght** : Fill the tank to 2/3 rd of its capacity with Soft Water.
Add Phosphating Chemical from 30-50 ltrs. for the bath solution of 1000 ltrs.
Raise the bath temperature minimum to 60 °C
add Toner Crystals 150 gms. Pre-dessolved in Soft Water aprox. 7850 mls
Before heading towards Phosphating process ensure that Starch Iodide paper is Nitrite positive.
Top up the tank with soft water and raise the temperature.
- 3. Duration** : 5-15 minutes. (Time may vary depending upon the Temperature of the bath and thickness of the coating required.)
- 4. Pointage** : 18 - 22
- 5. Temperature** : 70 -22
- 6. Replenishment** : Add 1.6 ltrs.of Phosphating Chemical to 1000 ltrs. of bath solution to increase the **Pointage by 1.0.**
- 7. Testing** : Take 10.0 ml. Sample of Phosphating Bath into a 250 ml. Erlenmeyer Flask.
Add 50 mls. of Soft Water.

Add 2-4 drops of Phenolphthalein into the flask.
Titrate against N/10 Standard Sodium Hydroxide till
Colourless solution changes to Pink.
Note the volume of Standard Sodium Hydroxide
Consumed in mls. Mls Standard Sodium Hydroxide
consumed are called Pointage.

STAGE - 6 : WATER RINSING

Make sure before shifting to **Stage-7**, a proper water rinse has happened.

STAGE - 7 : PASSIVATION

- Product Code** : **PASS - 40**
- Strenght** : Fill the tank to 2/3 rd of its capacity with Soft Water.
Add Passivation Chemical from 0.20 - .25 ltrs. for the
bath Solution of 1000 ltrs.
- Duration** : 60-90 secs. (Time may vary depending upon the
Temperature of the bath.)
- Temperature** : 75 + 5 °C

TONER CONCENTRATION

- Test Paper Method** : Dip a small leaf of **Starch Iodide** test paper in the
bath. After 15 secs. See the colour change of the leaf
dipped in the bath. It can be put as follows:-

Colour of Paper	Interpetation	Recomendations
Remains White	: No Accelerator	Add Toner
Palc Yellow	: Insufficient Accelerator	Add Toner
Blue to Dark Blue	: Accelerator Optimum	Nothing is to be added
Black	: Excess Toner	Either run the bath as it is Or apply dummy.

- Titration Method** : Take 50 ml. Bath sample in Erlenmeyer Flask and
add 10 ml of 50 % Sulphuric Acid.
Titerate with **N / 10 Potassium Permanganate**
(3.16 g/l) untill the pink colour persists for 15 secs.
Note the volume of Potassium Permanganate
called **Pointage**.
- Pointage** : Min. 2.4

STAGE - 3 : RUST REMOVER

- Product Code** : **RUSTODI**
- Strenght** : c) Mix 25 ltrs. of Rust Remover with 75 ltrs. of Soft
Water to make the solution of Rust Remover
workable from **Ambient Temperature** to
maximum of 60 °C.

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- d) Mix 10-12 ltrs of Rust Remover with 90-88 ltrs. of Soft Water to make the solution of Rust Remover workable from 40-45 °C to maximum of 60 °C.
3. **Duration** : 5-15 minutes. (Time may vary depending upon the condition of **Metal Surface and Rust**)
4. **Pointage** : **c)** 40-45 for 25% Bath
d) 14-16 for 10-12% Bath
5. **Temperature** : a) Ambient Temperature to maximum of 60 °C
b) From 40-45°C to maximum of 60 °C
6. **Replenishment** : Add 1.4 ltrs. of Rust Remover to 1000 ltrs. of bath solution to increase the pointage by 1.0
7. **Testing** : Take **1.0 ml.** Sample of Rust Remover Bath into a 250 ml. Erlenmeyer Flsk.
Add 50 mls. of Soft Water.
Add 2-4 drops of **Methyl Orange** into the flask.
Titrate against **N/10 Standard Sodium Hydroxide** till **Red Colour** changes to **Yellow**.
Note the volume of Standard Sodium Hydroxide Consumed in mls.
Mls. of Standard Sodium Hydroxide consumed are called **Pointage**.

STAGE - 4 : WATER RINSING

Make sure before shifting to Stage-5, a proper water rinse has happened.



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House Keeping
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Phosphating
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Rust
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