Henkel Technologies

PARCO CLEANER 2510

SCOPE

Parco Cleaner 2510 is an inhibited acid supplied in liquid form. It is used by immersion for the removal of rust and scale from ferrous articles. It is particularly advantageous in removing scale-like deposits from pipes, nozzles and heating coils in **Bonderite** spray systems with a minimum of labour.

This procedure for equipment cleaning is recommended for the following reasons:

A. Relatively inaccessible parts such as the pump intake and discharge lines are easily cleaned.

B. Equipment life is prolonged because it is unnecessary to remove pipe coils, headers or risers for cleaning.

C. The amount of labour required to clean the equipment is reduced.

MATERIALS

Parco Cleaner 2510
Parco Neutraliser 2013
Testing Reagents and Apparatus (not required when cleaning **Bonderite** process equipment.)

EQUIPMENT

Immersion tanks for repeated pickling operations should be lined with polyethylene, rubber or polyvinyl chloride (PVC).

For **Bonderite** system cleanout, mild steel tanks will not be adversely affected, if instructions are followed.

IMMERSION APPLICATION FOR RUST AND SCALE REMOVAL

A typical sequence of steps in the process as used for rust and scale removal is:

A. Alkali clean.
B. Rinse.
C. Treat with **Parco Cleaner 2510.**
D. Cold water rinse.
E. Neutralise with **Parco Neutraliser 2013.**
F. Cold water rinse.

Initial charge

The best concentration depends on the severity of rust and scale to be removed and the time available. The normal concentration is 20-25% by volume, but it may vary over the range of 10-50% by volume for immersion application. Henkel representative will establish the best concentration for each application.

Fill the tank about ½ full with cold water. Add the required amount of **Parco Cleaner 2510** then add water to the working level. Mix thoroughly.

IMMERSION APPLICATION FOR RUST AND SCALE REMOVAL (continued)

Operation

Immerse the cleaned and rinsed parts at room temperature for a sufficient time to remove rust or scale. Withdraw the articles at regular intervals and check visually for completeness of removal. Occasional movement of the parts or mild agitation of the solution will assist removal.

After rust removal in **Parco Cleaner 2510,** the parts should be thoroughly rinsed with water which is overflowed sufficiently to prevent excessive contamination.

To eliminate all traces of the acid cleaner, the parts should be rinsed at room temperature in a solution containing 14 kgs of **Parco Neutraliser 2013** per 1,000 litres of solution. This neutralising rinse is followed by a final, overflowing, cold water rinse.

Testing and Control (Free Acid)

Pipette a 1 ml sample into a 150 ml beaker. Add 10 drops of bromocresol green indicator, then titrate with 0.1N sodium hydroxide until 1 drop changes the colour from yellow to green. The ml of titrating solution required indicates the strength of the cleaner in points.

After determining the strength which gives the most satisfactory operation, the cleaner should be controlled within plus or minus 1 point of that value. An addition of 1.6 kgs of **Parco Cleaner 2510** per 1,000 litres will increase the strength approximately 1 point.

% By Volume	Points
10	9.5
15	14.2
20	19.0
30	28.5
40	38.0
50	47.5
60	57.0

SCALE REMOVAL FROM A BONDERITE SYSTEM

Fill the rinse tanks on each side of the **Bonderite** process stage with water and add 5 kgs of **Parco Neutraliser 2013** per 1,000 litres.

Transfer the **Bonderite** solution to a storage tank. If a storage tank located outside of the spray tunnel is available, it should be used; if not, use tank #2 in a six-stage unit, or tank #5 (after rinsing thoroughly) in a five-stage unit.

If the **Bonderite** solution is heated with pipe coils, these coils may be left in to furnish heat for the cleaning solution and they will be cleaned during the process. However, if electropolished stainless steel plate coils are in the tank, it is important that they be removed to prevent damage to the coils. In this case, the acid cleaning solution should be heated with live steam.

Remove the sludge, rinse the tank thoroughly with a hose, then fill with sufficient water to cover the pump intake during circulation. Make sure that all nozzles and holes in riser caps are open and check overspray.

(The recommended make up concentration is 10-20% by volume. ie.a 9.5 to 19 point bath.)

For each 1,000 litres of solution in the **Bonderite** process stage being cleaned, add 10 kgs of **Parco Cleaner 2510** per titration point. Heat to 50°C.

Perform the operations in the order given:

1. Close all doors and covers.
2. Start exhaust fans.
3. Start the pumps on each side of the stage being cleaned.
4. Start the pump on the stage being cleaned.

Caution: Avoid entering the spray tunnel. Should it be absolutely necessary to enter the spray tunnel, turn off all sprays and hose down the interior thoroughly before entering.

Circulate the cleaning solution for approximately one hour then shut off the pump. Check the interior of the stage for completeness of scale removal. If necessary, repeat the circulation and examination until the equipment has been satisfactorily cleaned. This normally requires 1-4 hours.

The rinse stage following the processing stage may be cleaned if the **Bonderite** solution is not stored in the final rinse tank. To do this, proceed as follows:

1. Transfer the **Parco Neutraliser 2013** from the rinse tank after the processing stage to the final rinse tank and start circulating the solution.

2. Rinse the tank just emptied with water.

3. Transfer the **Parco Cleaner 2510** to the empty tank.

4. Circulate for an hour and check for completeness of cleaning.

   Repeat if necessary.

If desired, the rinse stage or stages ahead of the **Bonderite** process zone may be cleaned in a similar manner. In this case the cleaner in tank #1 should be discarded, then the **Parco Neutraliser 2013** from the rinse tank preceding the processing stage should be transferred to tank #1. The **Parco Cleaner 2510** may then be transferred to the rinse tank to be cleaned.

At the conclusion of the cleaning operation, discard the solutions. Add sufficient water to each tank to run the pump. Circulate the water for 15 minutes. Drain each tank and hose out the spray tunnels and tanks.

Remove the sludge from the tank or tanks cleaned with **Parco Cleaner 2510.**

Fill the cleaned tanks with water, add 5 kgs of **Parco Neutraliser 2013** per 1,000 litres and circulate for 30 minutes.

Discard the **Parco Neutraliser 2013.** Hose out the tanks and spray tunnel. Fill with water, circulate for 15 minutes and drain.

Return the **Bonderite** solution to the processing stage, add water to the specified level and bring up the concentration in accordance with the process specification for the **Bonderite** process being used.

METHOD FOR TESTING

If the above procedure is followed, it is unnecessary to test the solution. However, if desired, the strength may be determined according to the procedure given

DISPOSAL OF SPENT PARCO CLEANER 2510

Discharge of acidic cleaners into sewers which are not acid proof may damage the sewers. When it is necessary to discard any acid cleaner, neutralisation may be required to meet local water control regulations.

PRECAUTIONARY INFORMATION

The following suggestions for handling **Parco Neutraliser 2013 and Parco Cleaner 2510** have been prepared in accordance with a pattern established by the Manufacturing Chemists' Association.

Caution: **Parco Neutraliser 2013** contains a strong alkali and can cause severe burns. Do not take internally. Avoid contact with skin or clothing. Wear a face shield and rubber gloves and apron when handling this material. To avoid spattering, sprinkle the required quantity slowly over the surface of the bath. In case of accidental contact with skin or clothing, wash immediately with large quantities of water. For eyes, flush freely with water for at least 15 minutes and obtain medical attention at once. Clean up spillage.

Danger: **Parco Cleaner 2510** is a corrosive liquid and can cause sever burns. The vapour is likewise hazardous. Do not take internally. Do not breathe vapour. Avoid contact with skin or clothing. Wear a face shield and rubber gloves and apron when handling this material. In case of accidental contact with skin or clothing, wash immediately with large quantities of water. For eyes, flush freely with water for at least 15 minutes and obtain medical attention at once. In case of spillage, flush with plenty of water. The dilute mixture is also dangerous and the same precautions should be observed.

DISCLAIMER

16th July, 1996