

GARDOETCH Z8310

Alternative name: Metall Add 557

Product Description

GARDOETCH Z8310 is specifically formulated to prolong the life of caustic based aluminium Die Stripping solutions and prevent the formation of hard precipitates, to the extent that cold, spent solution can be stored and pumped. Liquid caustic soda is highly recommended in preference to caustic soda pearl for safety and efficiency.

Advantages

- greatly reduces costs of dumping stripping solutions
- no scale redeposits. Dies stay clean.
- easy to control

Method of Use

GARDOETCH Z8310 is mixed with liquid caustic soda in a bulk storage tank to give a complete stripping product, or is added to the die stripping tank together with caustic soda liquid, or caustic soda pearl.

The ratio of mixture is 10 litres of GARDOETCH Z8310 to 100 litres of 50 % liquid caustic (150kg).

Alternately, if caustic soda pearl is used, add 3 litres GARDOETCH Z8310 for every 25kg bag

Operating Temperature : 95°C to 110°C
Etch Time : depends upon amount of aluminium to be removed.

For a strip tank of **1000 litres** proceed as follows:

- **Make up** of new solution

1. add about 300-500 **litres** of water to the tank
2. Add 300 litres of 50 % liquid caustic soda 50% and 30 litres of GARDOETCH Z8310
Or 200kg caustic soda pearl and 25 litres of GARDOETCH Z8310

USE EXTREME CARE IF CAUSTIC SODA PEARL IS ADDED TO THE BATH AS BOILING OVER MAY OCCUR.

3. Top up with water to the 1000 litre volume.
4. Start heating up to 100 Deg C, and start stripping of dies.

- **Stripping :**

5. Strip for about 6 hours at the set temp of 100 Deg C
6. Add a further 200 litres of liquid caustic soda and 20 litres of GARDOETCH Z8310, and continue to strip dies, removing and adding dies as required.
WHEN USING CAUSTIC SODA PEARL THIS SECOND ADDITION IS NOT RECOMMENDED BECAUSE OF THE EXTREME SAFETY RISK
7. Hold temperature of 100 to 110 Deg C. **Add water only** every 2-3 hours, to replace evaporation losses.
8. Stop adding any more water about 4 hours prior to dumping. (Minimise the total volume to be dumped)
9. Remove dies, dump the solution, ready to restart the cycle at step 1) every 24 hours (or longer if tank volume is larger or work throughput is low)
10. In order to assist in evaluation of the process collect a solution sample before the tank is dumped.
11. If you have multiple tanks, try to stagger the start ups of each strip tank (ie 1 every 24-48 hours if you have 3 tanks available.)

Solution Control :

The ideal bath concentration of a bath about to be dumped is 14%v/v of the liquid caustic soda + GARDOETCH Z8310 mixture (equivalent to 90 g/l caustic soda) and the ideal aluminium level is 150-160 g/l maximum, but will vary with each installation. Ideally samples should be taken and analysed when the plant is being setup to determine the ideal addition times and life of the bath. There is a balance between excess use of product to maintain a high aluminium removal rate in a bath high in aluminium and dumping more often.

Die Stripping Solution Control

Concentration is determined by the following method:

Titration Procedures:

- Step 1. Take a 5 ml sample from etch tank, place in conical flask, add 100 mls of distilled water plus 15 mls of 20% sodium gluconate solution plus 5mls of 10% barium chloride solution.
- Step 2. Using a pH meter titrate using 1.0N hydrochloric acid, until pH reaches 8.1. Number of mls of hydrochloric acid used = Titration A.
- Step 3. To the flask add 20 mls of 10% potassium fluoride solution. Titrate with 1.0 N hydrochloric acid until the pH again reaches 8.1. Keep adding additional increments 20 mls of 10 % potassium fluoride and continue the titration with hydrochloric acid until further additions of potassium fluoride do not raise the pH above 8.1. Record the total mls. of hydrochloric acid added in step 3 as B.

Concentration of GARDOETCH Z8310= $1.22 (A-B/3)$. % v/v
Or concentration of sodium hydroxide = $7.4(A-B/3)$ g/litre
Aluminium content = $1.8 \times B$ g/litre

Packaging

Available in 200 litre containers.

Safety, Transport and Storage Information

Please refer to the Material Safety Data Sheet

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