

GALVANIC INDUSTRY SPECIAL TREATMENTS

INTECNA focused the attention on special treatments, by improving efficiency and by solving problems until now not totally solved.

1. - DEGREASING CYCLES WASTEWATER TREATMENT

Wastewater arising from degreasing cycles usually affect the correct working of sedimentation plant. That depends on strong alkalinity, presence of emulsified oils, detergents, buffer component and dispersant. Volume of such wastewater is small (not more than 1 %) compared with the amount of galvanic cycle wastewater, but the quality of such water obliged the manufacture to eliminate the flow separately. Moreover, sometimes heavy metals removal efficiency decreases for the presence of complexing agents.

INTECNA's process developed in several galvanic industries allowed to feed wastewater of degreasing cycles after a pre-treatment with own product HYPOL PWD 100 C 1 directly in the treatment plant.

METHOD DESCRIPTION

In a stirred vessel, wastewater pH is corrected with Sulphuric Acid until 2 – 2,5.

HYPOL WD 100 C1 is added under stirring (dosages between 3 – 5 Kg/cubic meter) until big flocks formation.

Limpid wastewater can be added (after sludge separation) to main flow to wastewater treatment plant.



Photo represents typical wastewater treated with own product HYPOL PWD 100 C 1

2. - ZINC REMOVAL

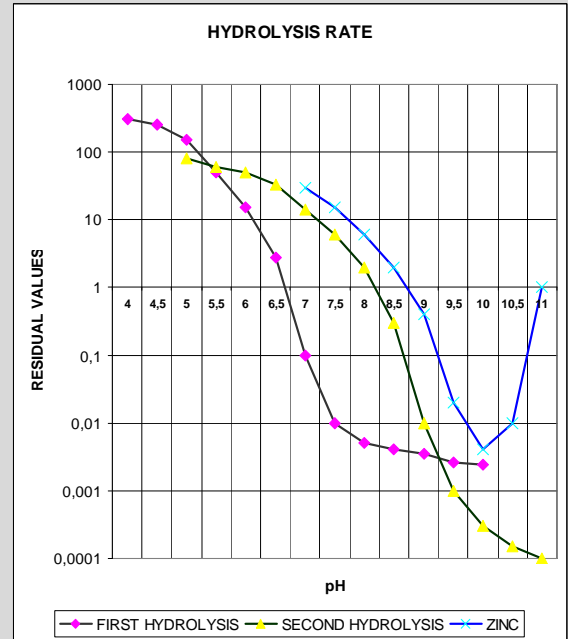
Residual quantities removal of Zinc represents a typical problem in Zincification industry.

It's well known that Zinc removal is obtained by precipitation at pH 9,8 – 10,2, but unfortunately the amphoteric nature and the quality of amorphous flocks not always allow a good efficiency in Zinc removal.

INTECNA's method is able to grant a complete Zinc removal **without the use of expensive complexing agents or Sulphides** and allow to apply the product in a conventional sedimentation plant without investments costs.

Basic principle of proprietary formulation of product HYPOL EBDH is his hydrolysis capacity in a pH range higher than usual flocculants (Iron or Aluminium based).

In the graphic is reported the hydrolysis rate of the product component compared with known Zinc precipitation curve. Amorphous Zinc flocs are absorbed on the hydrolysis products and the water becomes totally limp and clear



METHOD DESCRIPTION

In a conventional sedimentation plant, HYPOL EBDH is continuously added on the acidic flow (dosages 500 – 1000 ppm).

After the sedimentator, Sodium hydroxide is added until pH 9,9 – 10,2.

Anionic polymer (HYCRAM A 740) is added to allow the formation of big flocks.

TREATMENT BENEFITS

Such method allows

- to obtain residual Zinc Values less than 1 ppm
- to avoid the use of lime
- to decrease sludge formation more than 60 %
- to avoid the use of Sulphides or Complexing agents
- to carry out the treatment without plant modification



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