



Case study Neutralac® SLS45

Metal galvanization Precipitation of heavy metals

Customer Application and Activity

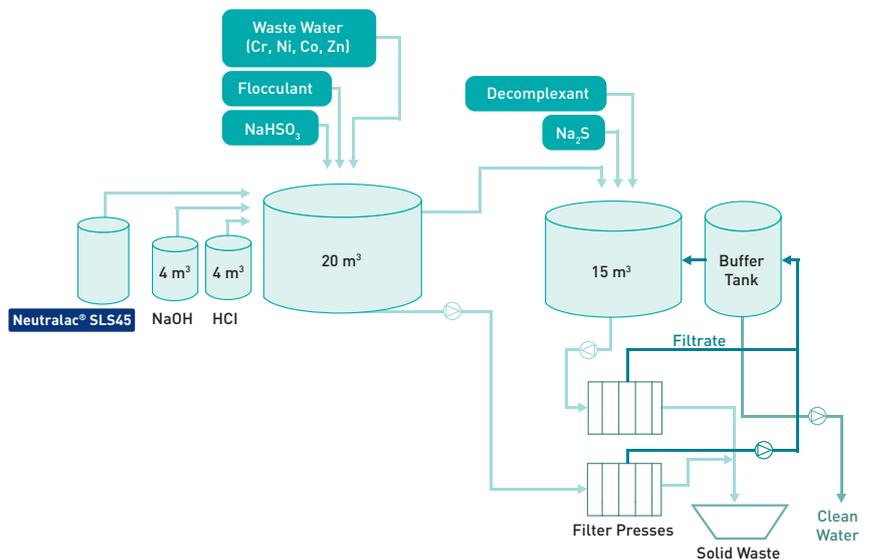
WHW Hillebrand Galvanotechnik, in Wickede (Germany), is a major European player in the surface treatment of metal parts. The search for the optimum solution for treating its rinsing water and other wastewater from its plant was one of its priorities. The plant creates 300m³ of effluents per day and strives to continuously improve the quality of its discharge of water into the environment.

Problem to be solved

In addition to filtering out zinc, copper and nickel, treating cobalt and chromium posed additional challenges and came at a high cost. Moreover, sedimentation of metallic hydroxide flocs by adding caustic soda was generally a timeconsuming operation and the dewatering of the sludges was not always satisfactory.

Neutralac® SLS45 Solution

Rheinkalk, the Lhoist Group's German affiliate, suggested precipitating the heavy metals by substituting Neutralac® SLS45 for caustic soda during neutralization. After a short validation test, and based on the positive effects noted, the process was quickly fully implemented on site.



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VIU results

Rheinkalk and its partners started a detailed analysis of the effluent treatment installation. Adapting the process to Neutralac® SLS45 could be carried out without stopping the installation. The following results were observed after the switch-over:

- Neutralization at a lower pH to achieve the reduction of high levels of chromium and cobalt (93% and 70% respectively) and certainty of meeting the effluent standards in any circumstances
- A considerable reduction in the sedimentation time required for metal hydroxide flocs removal and a marked increase in the effluent treatment capacity
- More efficient operation of the installation, which had sometimes reached the limits of its capacity, without enlargement, thanks to faster sedimentation
- A reduction by almost one-third of the volume of dewatered sludges and an improvement in filtration capacity
- The use of a ready-to-use reagent which made using caustic soda combined with hydrated lime in the effluents unnecessary
- The use of environmentally friendly products



Conclusion

Convinced by the improved results of the process, the customer has invested in its Neutralac® SLS45 solution. Since 2008, its new installation has been working successfully