

Omya Water & Energy  
omya.com



enhanced  
by Omya

# Omya Optical

50,000 PE Combined Municipal &  
Industrial WWTP



THINKING OF TOMORROW

# 50,000 PE Combined Municipal & Industrial WWTP

## FACTS & FIGURES

- 50,000 PE municipal waste water and 70,000 PE industrial waste water
- Treatment consists of sludge flotation as primary treatment, a biology step with 11,000 m<sup>3</sup> basin volume followed by clarification.
- High COD, ammonium and sodium loads in effluents from food industry



## INITIAL SITUATION

The WWTP is located in Lower Saxony, Germany with influent waste water coming from municipal, agricultural and industrial (meat processing) users.

Produced bio-sludge is used for methane (power) generation.

## THE CHALLENGE

The treatment process includes flotation and activated sludge treatment (including nitrification and denitrification). High levels of fats and greases in the influent coming from the local meat production industry, are a particular concern. Consequent unstable operating conditions lead to various process failures and labor-intensive interventions. Use of calcium hydroxide or calcium oxide for pH control resulted in pipe blockages (scaling).

## THE SOLUTION

To increase operational efficiency, the WWTP switched from calcium oxide to Omya Optical, consequently seeing a reduction in the number of associated blockages and failures. The plant requires 70 MT of Omya Optical per year and while initially using paper bags, the facility now uses a silo system with automated screw feeder dosing, requiring no human intervention.

Challenge	Impact of Omya Optical
High levels of fat & grease from local meat production industry	Improved sedimentation characteristics through smaller, denser, more uniform floc formation
High volume of difficult-to-settle sediments	Clearer effluent overflow provides a more stable process flow
Unstable and changing operating conditions	Reliable and consistent operation due to the improved pH buffering capacity
Regular intervention of workforce and high workload	Workload reduced through more stable process and operating conditions
Handling difficulty of calcium oxide or calcium hydroxide	Sophisticated dosing system resulted in 30% reduction of overall mineral consumption as well as easier application
Corrosion and pipe blockages (scaling) caused by calcium oxide or hydroxide use	Easier and safer handling and extended equipment lifetime

Omya International AG, Baslerstrasse 42, CH-4665 Oftringen, email: [info.water@omya.com](mailto:info.water@omya.com)

**THIS PAPER CONTAINS  
OMYA PIGMENTS**

Omya has taken every possible care to ensure that the information herein is correct in all aspects. However, Omya cannot be held responsible for any errors or omissions which may be found herein, nor will it accept responsibility for any use which may be of the information, the same having been given in good faith, but without legal responsibility. This information does not give rise to any warranties of any kind, expressed or implied, including fitness for purpose and non-infringement of intellectual property. The technical information presented comprises typical data and should not be taken as representing a specification. Omya reserves the right to change any of the data without notice.