

ACAT PROVIDES COMPLETE CONTROL OVER ALL TYPES OF SEWAGE SLUDGE

Complex sludges constitute a significant challenge for the operators of many fully biological wastewater treatment plants. With its proven polymers, ACAT offers optimal solutions to keep plants running as efficiently as possible. This brings benefits to municipalities and their citizens.



The central wastewater treatment plant of the Laßnitz-Wildbach-Gamsbach wastewater association in Styria treats the wastewater from the municipalities of Deutschlandsberg and Frauental. It operates on the principle of fully biological wastewater treatment. Microorganisms remove pollutants from the wastewater. This process is supported by extensive mechanical procedures to achieve a

degree of purification of at least 95% for carbon compounds, at least 85% for phosphorus and at least 70% for nitrogen compounds. The wastewater treatment plant was built in 1973 for 16,000 PE (population equivalent). In 1995, the wastewater treatment plant was expanded to 22,000 PE. The maximum flow rate is 220 litres per second.

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Special requirements

Excess sludge in the wastewater treatment plant is treated using a mechanical excess sludge dewatering system. This process pre-thickens excess sludge produced during wastewater treatment prior to further treatment. This sludge contains water and solid substances. Pre-thickening reduces the water content of the sludge, which facilitates subsequent dewatering. The sludge is then further dewatered in a centrifuge. The centrifugal force separates the water from the solids, making the sludge even drier.

Complex sludges

“The wastewater treatment plant in Frauental has very special requirements and cannot be compared with any other plant in Austria. The variable sludge conditions, which have led to a need for improvement in the solids content values, i.e. the proportion of solids in the sludge after the water has been removed, are a particular challenge,” says Reinhold Kreilmair, Sales & Technology ACAT watertech.

To improve performance (product range, solids content, polymer consumption), the wastewater association turned to ACAT. “First, we tested the ACAT polymer sampling on the mechanical excess sludge dewatering system. The favoured ACAT product worked immediately and achieved optimal results in terms of solids content and consumption. The sludge throughput was consistently high,” concludes Kreilmair. Plant manager Martin Wolfsberger also emphasises this: “Our experienced wastewater treatment team quickly



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observed visible improvements in the sludge even before the laboratory analyses were evaluated. The measured values from the laboratory then impressively confirmed this assessment.” The voluminous flocculation and perfect dewatering were crucial for an almost clear, transparent centrate water. Thanks to ACAT, the previously problematic and difficult-to-control foaming has also been reduced.

Optimal results

Remarkable progress has also been made in the second stage of sludge thickening, i.e. dewatering on the centrifuge. A contract dewatering company that used a product from ACAT achieved excellent results right from the start. These even exceeded those achieved with the in-house centrifuge.

The product’s effective performance led the customer to test it in the second stage of sludge thickening. Finally, tests on the newly overhauled in-house centrifuge confirmed the positive results of the dewatering contractor. The precisely calibrated system resulted in reduced consumption of defoamers and sedimentation accelerators. Maximum performance “With the right products and machine settings, ACAT has succeeded in covering the enormously wide range of sludge conditions, thus ensuring consistently high plant performance,” explains plant manager Martin Wolfsberger. Reinhold Kreilmair adds: “Efficient sludge dewatering is one of the biggest challenges for almost all wastewater treatment plant operators. Thanks to our many years of experience and our consistent focus

on quality and innovation, we have the optimum solutions in our portfolio.” ●



Smooth operation thanks to ACAT: Wastewater treatment plant operator Erik Wagemann (left) and Reinhold Kreilmair (ACAT watertech) conduct an on-site inspection of the fully biological wastewater treatment plant in Frauental, Styria.