



ACETube®

Industrial Sludge Treatment Capacity Improvement with ACETube®

◆ Background

Traditional wastewater treatment plants have two methods for sludge dewatering. One is natural exposure in sludge drying beds; the other is to use dewatering machines. Dewatering by means of drying beds entirely takes advantage of sunlight. The shortcoming is inefficiency. Besides, treatment volume also depends upon the area of drying beds. Speaking of dewatering machines, such as belt press filter, it is an industrial machine, used for solid/liquid separation processes, particularly the dewatering of sludge. The machine needs not only electricity, but also regular maintenance. It means operation costs are required, too. Moreover, carbon emission is another issue. In fact it is not beneficial to costs and environment.

◆ The Problem / Task

The contractor used the sludge buffer pool with depth 3 meters. The main function is storage of sludge for dewatering treatment. However, if sludge volume is huge and there is no more space to build new buffer pools, it will cause full load to the treatment plant due to low dewatering efficiency and accumulated sludge volume. Now there is a new technology method - ACETube® for sludge dewatering. ACETube® has the following advantages: ACETube® can be installed properly according to practical conditions of the job site; fast dewatering process can promote treatment efficiency and capacity of the buffer pool.

◆ The Solution / Design & Construction

While dewatering process with ACETube®, there are four stages: pumping, dewatering, solidification and disposal. In the first stage a dredging boat with capacity 230m³/hr was used to pump sludge into ACETube®. In order to promote dewatering efficiency, flocculant or polymer were pumped into sludge. Before that, jar test/ cone test should be done for the best dosage. Polymer dosing system could mix polymer with sludge for keeping them well-mixed and dewatering efficiency. To meet requirement of the project, filling ports and the tube size were customized. Its circumference is 11.5m; length - 45m; tube capacity is about 500m³. 30 pcs of ACETube® are used in this project.

◆ Result

One of the advantages of the new technology - ACETube® is installation is possible in a job-site with the limited area. Besides, initial dewatering efficiency is excellent. Carbon emissions of ACETube® cause less harm to the environment. Efficient dewatering means taking less space in the job-site. After finishing safety analysis, the contractor made sure that there is no problem about it and continued using ACETube® for 2.5 months. What is more important - ACETube® not only saved time, but also made more space for the buffer pool.

