

BOSKALIS ENVIRONMENTAL

Boskalis Environmental is involved in soil cleaning, the processing of dredged sediment, water and land remediations, resource reuse and depot management.

We specialize in the large scale cleaning of contaminated soil and mineral waste. In doing so, we use techniques that we develop ourselves and installations that we design and build ourselves. We also take care of the entire process, including inspection, planning, transport and marketing of the partial flows.

Because we have our own technical service, engineering department and laboratory, we are able to carry out complex projects in full: from the preliminary research, the design and the project management, to the construction of the necessary installations, the implementation and the operations. Boskalis Environmental works closely with Boskalis Netherlands and Boskalis International.

WATER TREATMENT

Closely related to our soil treatment processes is our knowledge in the field of process and wastewater treatment.

REMOVAL OF SUSPENDED SOLIDS

An important step in the wet processing of soil and dredged material is the removal of suspended solids from the process water, to enable reuse of this water. In principle, sedimentation could be used, but due to the fineness of the particles in combination with the large process water flow, accelerated sedimentation by means of flocculation is necessary.

In flocculation, the clumping together of fine suspended particles is promoted by dosing a suitable flocculant, also called polymer. This clumping together increases the mass of the particles and thus the settling speed and the particles can be removed in a relatively compact sedimentation step.

Flocculation can also be used to remove barely settleable, colloidal particles from, for example, the overflow water of a sludge basin or sand depot. As a result, strict discharge requirements with regard to turbidity and suspended solids content can be met relatively easily and with a high degree of certainty. Sludge settled in this way can often be excavated and transported for processing or reuse elsewhere.

The research for the flocculant selection is carried out in our laboratory. For the dosing 'in the field', a dosing unit is designed, placed in a 20 ft sea container for quick and easy transport to the project location. In the dosing unit, the flocculant is dissolved, diluted and dosed. Dosing takes place on the basis of the suspended solids content, after measuring the incoming density.



A Polymer dosing unit in Tanger, Morocco



This minimizes overdosage of the flocculant. The process of production and dosing is highly automated, making remote control and checks possible.

Our polymer dosing unit can, for example, be used on projects where limited depot area is available, the time schedule of the project is tight and/or where strict requirements are set for the turbidity of the discharge water.

OTHER WATER TREATMENT TECHNIQUES

In addition to accelerated sedimentation, Boskalis Environmental has knowledge and practical experience with a wide range of water treatment techniques. This includes pH correction, sand and active carbon filtration (in soil remediation works for, among other things, the removal of oil and PAHs, but also for the removal of PFAS), softening of water (lime removal) and removal of (heavy) metals by means of precipitation. Finally, we have extensive expertise in the field of reverse osmosis, including the necessary pre-treatment, to remove chloride from process water.

Boskalis Environmental has knowledge and experience, equipment and contacts in the market to be able to offer a suitable solution for almost all water treatment issues.



B Water treatment on our AEC processing plant, wASH, Alkmaar, The Netherlands

C Clear overflow, sediment treatment plant, Fox River, United States

ONZE VESTIGINGEN

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