SoilTain®

Dewatering Tubes

HUESKER

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SoilTain®–Tubes for dewatering dredged materials

Hanging Bag Filtration Test

The **SoilTain® Dewatering Tube** is a containment system designed for dewatering a wide variety of sludge types. Gravimetric drainage of the sludge is accompanied by a volume reduction.

Due to the special opening size of the geotextile used to form the tube the solid component of the sludge is captured inside the tube whereas the water can escape from the tube.

The dewatering performance of this system can be further enhanced by combining polymer additives to the slurry before pumping it into the tube. The purpose of the polymer additives is to flocculate the fines and to increase the dewatering efficiency.
Based on the results of preliminary field testing with Hanging Bag Filtration Tests or Pillow Tests the appropriate amount of additives can be defined.

Custom-made solutions

The tube dimension can be customized according to the project requirements. HUESKER provides a wide range of tubes with varying lengths and diameters. Furthermore HUESKER offers different types of fabrics with varying characteristics for the tube shell.

Dewatering

Disposal of the dewatered material

SoilTain® Dewatering Tubes can be applied where all kinds of dredged materials have to be drained and/or contaminates encapsulated.

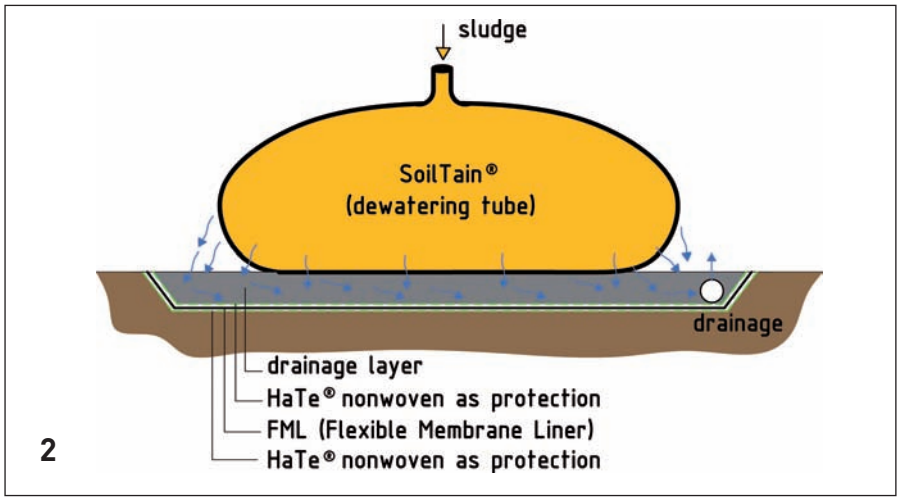
General application fields for dewatering tubes are:

- Municipal sewage sludge
- Agricultural sludge
- Industrial sludge
- Marine (contaminated) sediments
- Sludge lagoon cleanouts

Agriculture as well as municipal sewage sludge cleanouts can be conducted by the application of dewatering tubes. With regard to environmental remediation measures the possible use ranges from marine sediments to slurrys.

Typically the dewatering process consists of 4 stages as shown in Table 1. During the first two steps a filter cake at the inner surface of the tube develops. The filter cake increases the filter efficiency but the permeability of this inner layer should be controlled carefully to minimize the risk of clogging. Therefore pre-processing by the addition of adding polymers can be important.

After the reduction of water content the consolidated material may be deposited, combusted or used for land-application.



Picture 1:
Prepared water collection tray

Picture 2:
*Schematic definition sketch of the **SoilTain®** dewatering system*

Picture 3:
Tube draining water

The 4 Stage SoilTain® Dewatering Mode of Operation			
1. Filling	**2. Dewatering**	**3. Consolidation**	**4. Disposal**
The geotextile tube is filled with processed sludge. The geotextile confines the solids.	The geotextile enables the water to drain but still retains the solids.	Due to the process of desiccation the water content of the former sludge continues to decrease.	Subsequent deposition, combustion or land application of the dewatered sludge.
At the inner surface of the tube a filter cake develops			

HUESKER Synthetic GmbH is certified by:

HUESKER offers a wide range of technically demanding solutions relying on our many years' experience. Our solutions are economical, reliable and up-to-date and used in:

Earthworks and foundation engineering, landfill construction, hydraulic engineering, road construction

Technical assistance, planning, support - worldwide

Reliable and advanced techniques characterise our products in many applications:

Fortrac® - a flexible, high modulus and low-creep geogrid for soil reinforcement

HaTelit® – a flexible, high-modulus and temperature resistant grid for asphalt reinforcement

Stabilenka® – a high-modulus polyester woven for reinforcement and separation of soils

Robutec® – a very high-modulus and alkali-resistant woven for reinforcement and separation of soils

Fornit® – a biaxial geogrid for subbase reinforcement

Comtrac® – a geocomposite for reinforcement, separation and filtration of soils

Duogrid® – a geocomposite made of biaxial high-modulus flexible geogrid and a nonwoven

NaBento® – geosynthetic clay liner for sealing

Incomat® – a concrete- or sand-mat for sealing and erosion control

Ringtrac® – geotextile tube for reinforcement and soil containment

HaTe® – wovens and nonwovens for separation, filtration, drainage and protection

SoilTain® – systems for hydraulic engineering and dewatering

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