

Studsvik

Freeze-Tec Dewatering

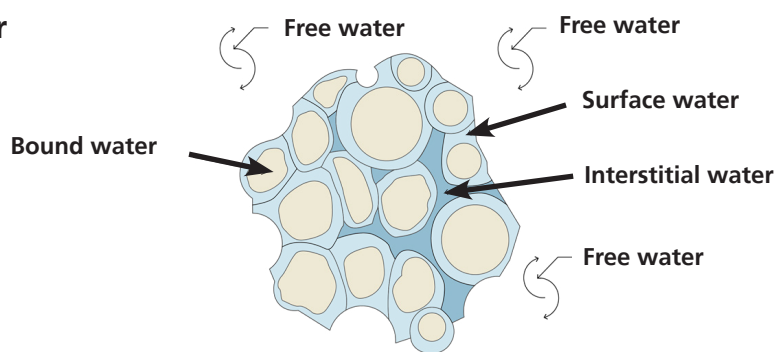


Freeze-Tec

The Freeze-Tec dewatering process is an advanced, effective and environmentally sustainable way of drying sludge. Through advanced freeze technology, an optimized freeze-thaw cycle is created to remove bound water and transform the sludge into coarse particles with low water content.

There are four different types of water in a sludge: free water, interstitial water, surface water and bound water. With mechanical methods, only free and interstitial water can be removed. The Freeze-Tec dewatering process is a process which converts bound water and surface water to free water. This has been used with extreme success on highly organic compositions such as sewage sludge (reaching dry substance up to 86%) with a lower energy consumption than any other known dewatering system.

Sludge / Water Composition



In addition to dewatering, the Freeze-Tec Dewatering process is used as a separator of oil and water emulsions. The process has excellent results in separating water from a variety of chemicals, as well.

Freeze-Tec Dewatering Benefits



Reduced Costs

- Extremely low energy consumption compared to alternative drying methods
- Reduced transportation and remediation costs from substantial volume reduction of sludge



Environmental Benefits

- Energy savings
- Lower carbon footprint
- Clean process involving no additives
- No toxic chemical as cold carrier

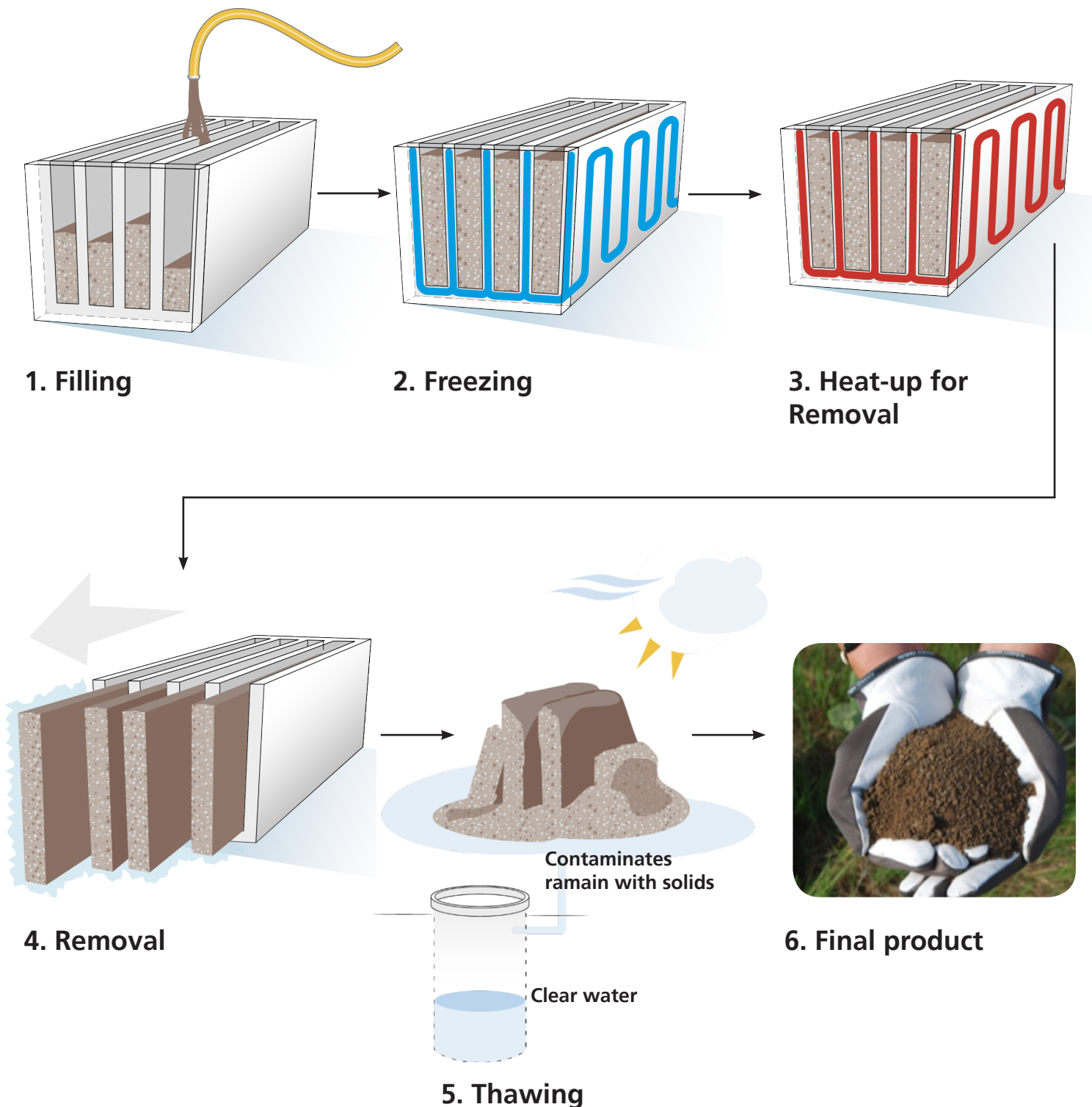


Fully Flexible Service

- Capable of treating all known types of sludge
- Portable methods for onsite/offsite work
- Continuous or batch process
- Superior reduction of water content
- Able to tailor the end dry substance level, as needed. In some cases, processed sludge can be reclassified as soil or used as biofuel

Freeze-Tec Dewatering Process

The standard batch dewatering box takes approximately 10m³ of sludge in one batch. Typically, the batch consists of a series of 3 to 10 compartments; additional compartments can be added if the flow of sludge requires it. The freezing process takes between 1 and 3 days, depending on the composition of the sludge. This technique has been in use at remediation sites for over 10 years for dewatering oil and mercury contaminated sludge.



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www.studsvik.com/Freeze-Tec



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