

GEOTUBE

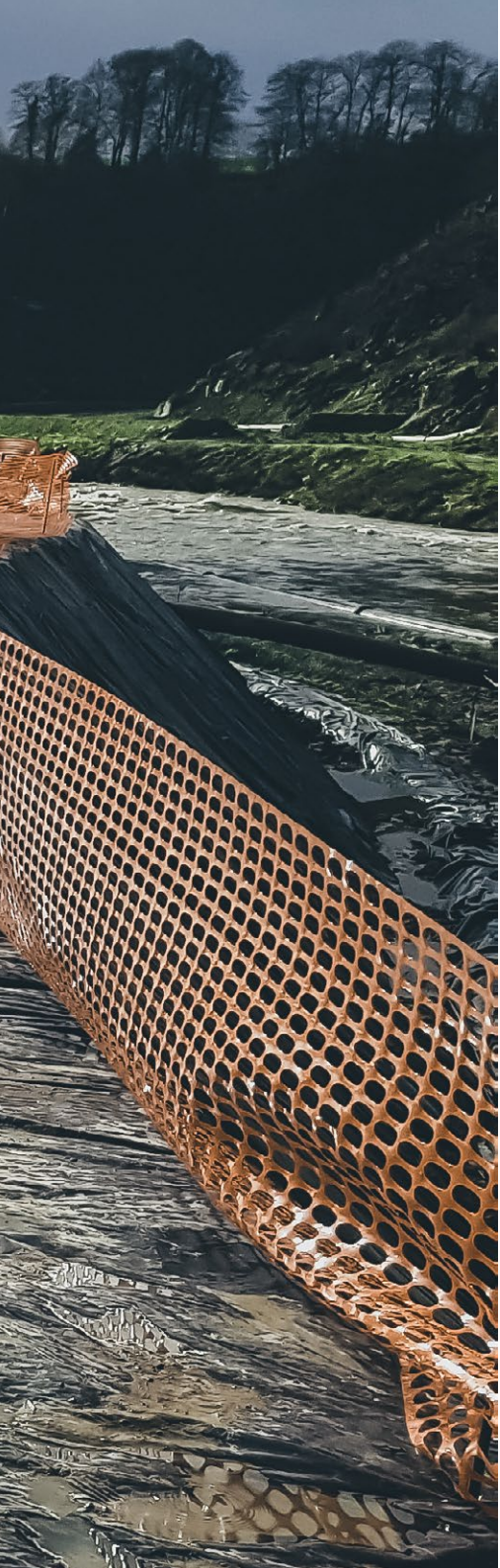
Dewatering systems and solutions



GEOTUBE® dewatering technology is engineered for environmental remediation and sediment dewatering.

These systems provide high filtration capacity and UV resistance as well as providing strength and durability for the most demanding site conditions.





GEOTUBE dewatering solutions

GEOTUBE technology is a globally trusted solution for high-performance sludge dewatering. Designed to reduce volume quickly and effectively, it simplifies handling, transport, and disposal. The system offers a cost-efficient approach and can be tailored to meet specific site conditions, volumes, and space constraints—making it ideal for a wide range of applications.

Stages of dewatering



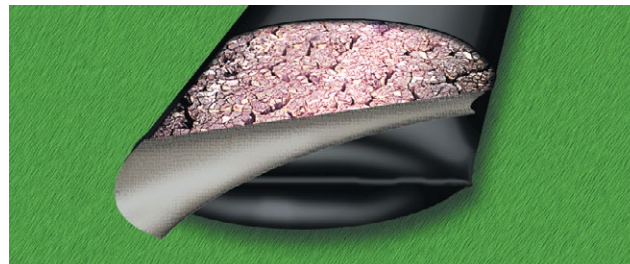
Filling

Sludge is pumped into the **GEOTUBE** unit, where environmentally safe polymers are added. These polymers cause fine particles to bind together, separating the water from the solids. The result is cleaner effluent and compacted solids, ready for easy handling and disposal.



Dewatering

As effluent drains from the **GEOTUBE** unit, over 99% of solids are retained inside. The resulting clear effluent can be safely collected and reused or discharged, supporting sustainable and efficient operations.



Consolidation

Up to 90% of sludge volume is reduced as solids remain securely within the **GEOTUBE** unit. Once full, the dewatered solids can be transported to a landfill, or the dewatered solids can be removed and repurposed for land application where permitted.

Features and benefits

Versatile design

- Sized for large or small scale applications
- Can be stacked to optimize space and dewater better due to surcharge
- Customized **GEOTUBE** system geometry to fit any laydown area
- Once dewatering is completed, solids can be removed or capped in place

Efficient installation

- Provides a quick mobilization and start-up
- Can be placed in mobile roll-off box for easy transportation and disposal
- Requires less manpower and capital expenditure
- No energy used for dewatering

Performance

- Provides dewatering and containment in one operation
- Fast and cost effective dewatering solution
- Effectively contains hazardous materials
- Significantly reduced volumes, reducing transportation and disposal costs
- Prevents airborne particle contamination
- Can be used in a continuous process
- **GEOTUBE** units can be used to expand embankments and berms



Applications

- Environmental remediation
- Environmental dredging
- Mining and mineral processing
- Energy – fly ash and bottom ash
- Water and wastewater treatment
- Agriculture
- Aquaculture
- Pulp and paper

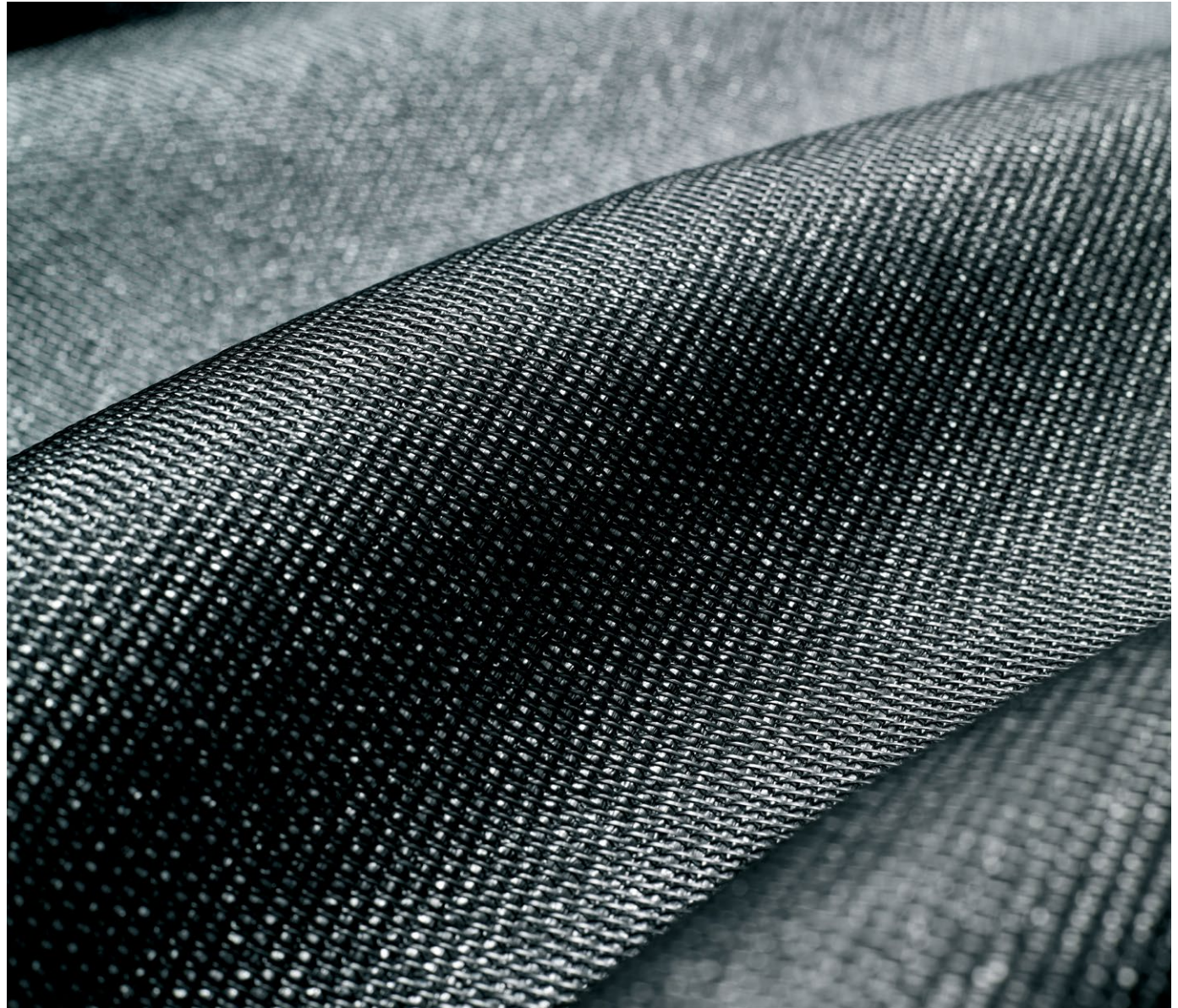
GT500D: Woven and engineered for superior dewatering performance

For **GEOTUBE** dewatering applications, Solmax has developed the **GEOTUBE GT500D** material—a special high performance filter fabric with unique filtration properties designed to optimize dewatering efficiency.

This advanced textile is used to construct **GEOTUBE** systems in standard circumferences of 10, 13.7, 18.3 m, and 27.4 m, with lengths up to 35 meters readily available from stock. For larger or more complex projects, custom dimensions and tailor-made solutions are part of our core expertise.

Key features

- Exceptional filtration for effective dewatering
- Available in standard and custom sizes
- Designed for durability and operational efficiency





Eyeport: An innovative fill-port design for GEOTUBE systems

Solmax has developed a unique fill port specifically for its **GEOTUBE** systems, enhancing both performance and safety during dewatering operations. This advanced port design significantly increases the fill rate, allowing for greater volumes to be processed without compromising the integrity of the system.

Strategically positioned between the connected fabric panels, the fill port eliminates the need to cut holes into the textile during construction. This not only preserves the strength of the material but also simplifies the installation process.

The dredge pipe can be inserted more easily, with minimal need for complex bends in the pumping line. It can rest almost horizontally on the **GEOTUBE** system, supported by protective measures at the pipe flanges to ensure safe and efficient operation.



Key features

- Reduced stress on the textile structure
- Increased filling efficiency
- More uniform distribution of fill material
- Enhanced safety during filling operations





Expert support and tools for your project

Project testing and engineering support

Solmax offers standardized testing procedures to support your project's engineering development. These tests deliver insights into sediment behavior and system performance, helping you plan with greater accuracy.

Available tests

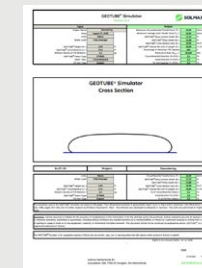
- **Cone test:** using a small circular sample of **GEOTUBE** GT500D material
- **Hanging bag test:** simulates dewatering of approximately 70 liters of sediment
- **GEOTUBE dewatering test (GDT):** a comprehensive field test for real-world conditions.

All required materials are readily available from stock and can be shipped quickly upon request. To obtain the full test procedure, please contact our office or email geotube@solmax.com.

Engineering tools for design optimization

To support your project design, Solmax has developed **specialized spreadsheet-based calculation models** that help determine the optimal dimensions and number of **GEOTUBE** units required:

GEOTUBE Simulator



GEOTUBE Quick Calculator



Our local Engineering Business Managers are available to assist you with these calculations and provide expert guidance tailored to your project needs.

An aerial photograph showing a large-scale dewatering project. A series of long, curved, light-colored GEOTUBE units are arranged in a semi-circular pattern, enclosing a body of water. The surrounding area is a mix of dense green forest and cleared land. A dirt road or path runs alongside the units. The water inside the enclosure appears murky, while the water outside is clearer. The overall scene depicts a significant engineering project in a natural setting.

The GEOTUBE dewatering process is straightforward; prepare the platform, install protective layers, and place the units for pumping. Final design must follow local regulations, with support available from our engineering experts.

GEOTUBE dewatering operation

These steps give general guidance for creating a dewatering cell. Final design should be done by local consultants, in line with local permits and regulations. Our Engineering Business Managers can also assist with the design.



Step 1

Select a level strip of land to use for the building dewatering platform. Requirement can be in surrounding of the to be dredged area, surface large enough to store the quantity, easy removal for the effluent water.



Step 4

Place the roll of **GEOTUBE** dewatering unit on top of the dewatering platform. Unroll the systems complete and fix them at some position piles.



Step 2

Install a impermeable geomembrane with a nonwoven protection layer (this is not necessary if a sand drying bed is used).



Step 5

Layout the **GEOTUBE** dewatering unit as required and set up the chemical dosing system (if necessary) and piping system. Connect the units with the dredging pipe.



Step 3

Place a thin layer of drainage aggregates (this may not be necessary in some cases).



Step 6

Pump the sludge into the **GEOTUBE** dewatering unit.

About Solmax

Solmax is a world leader in sustainable construction solutions, for civil and environmental infrastructure. Its pioneering products separate, contain, filter, drain and reinforce essential applications in a more sustainable way – making the world a better place. The company was founded in 1981, and has grown through the acquisition of GSE, TenCate Geosynthetics and Propex. It is now the largest geosynthetics company in the world, empowered by more than 2,000 talented people. Solmax is headquartered in the province of Quebec, Canada, with subsidiaries and operations across the globe. To find out more, contact infoasia@solmax.com.

Uncompromised quality

Our products are manufactured to strict international quality standards. All our products are tested and verified at our dedicated and comprehensive laboratories which maintain numerous accreditations. We offer our partners a wide scope of testing according to published standards to ensure products delivered to sites meet specified quality requirements.

Let's build infrastructure better

Solmax is not a design or engineering professional and has not performed any such design services to determine if Solmax's goods comply with any project plans or specifications, or with the application or use of Solmax's goods to any particular system, project, purpose, installation, or specification.

Products mentioned are registered trademarks of Solmax in many countries of the world.

SOLMAX.COM

