

Dewatering Tubes

Keep your site in compliance with our Geotextile Dewatering Tubes for clean water discharge in dewatering operations.



Product Summary

Dewatering Tubes are used extensively in construction and protection of water infrastructure systems. Applications include on-land and off-shore marine applications.

These close-ended tubes contain filling ports evenly spaced at intervals along the length to allow for even hydraulic filling of a slurry of sand and water. Their long exteriors and high permittivity allow them to effectively remove waste solids and other pollution from water while leaving sand and solids inside the tube. After drying, the sediment creates a solid horizontal structure of compacted sand and / or dried mud.

Dewatering Tubes are perfect for large dewatering filtration or sludge removal projects. Dewatering tubes have significantly larger dimensions and superior strength woven geotextile fabric or composite materials, as compared to the smaller footprint and non-woven material of dewatering bags. Once on site, Geotextile Dewatering Tubes are hydraulically filled with saturated sediment, sand or bio-organic solids and waste materials. When fully dewatered, the sediment is reduced in both weight and volume, allowing for more cost-effective material handling.

Features

- Increased storage capacity for long-term projects
- Made with weaving polypropylene fabric with superior tensile strength value
- Can effectively run 24/7
- Stackable and compatible with multiple filling ports
- UV Stabilized
- Lengths up to 250 ft

Dewatering Tube Specifications

15 ft Circumference	Empty Weight (lbs)	Tube Volume (yds ² / LF)
50 ft L	100	.06
100 ft L	200	.06
150 ft L	280	.06
200 ft L	375	.06
250 ft L	475	.06

30 ft Circumference	Empty Weight (lbs)	Tube Volume (yds ² / LF)
50 ft L	200	2.3
100 ft L	380	2.3
150 ft L	560	2.3
200 ft L	750	2.3
250 ft L	950	2.3

45 ft Circumference	Empty Weight (lbs)	Tube Volume (yds ² / LF)
50 ft L	300	4.1
100 ft L	570	4.1
150 ft L	850	4.1
200 ft L	1120	4.1
250 ft L	1400	4.1

60 ft Circumference	Empty Weight (lbs)	Tube Volume (yds ² / LF)
50 ft L	400	6.2
100 ft L	750	6.2
150 ft L	1120	6.2
200 ft L	1500	6.2
250 ft L	1850	6.2

Geotextile Fabric Specifications

Specification	ASTM* Test	Value
Wide Width Tensile	D4595	5,400 x 7,500 lbs/ft
Wide Width Elongation	D4595	17 x 13%
CBR Puncture	D6241	2,000 lbs
Puncture Strength	D4833	250 lbs
Trapezoidal Tear	D4533	280 x 300 lbs
Apparent Opening Size	D4751	40 US Sieve
Permittivity	D4491	0.260 sec ⁻¹
Water Flow Rate	D4491	20 g/min/sf
Factory Seam Strength	D4884	400 lbs/sf
UV Resistance @ 1,200 Hours	D4355	70%

Flow Rate: Flow rates are based on fabric ratings at the time of manufacturing. During a dewatering process, times may slow depending on the sediment content of your water and bag size. Please contact our sales team to discuss pumping rates for the duration of your project.

AOS: Apparent Opening Size. The sieve number denotes the number of holes present in the sieve within one inch length of a sieve mesh.

Microns: a unit of length equal to one millionth of a meter. This number denotes the size of the holes in a sieve. For reference, a human hair is roughly 50 microns wide.

What Size Discharge Hoses are Compatible?

Dewatering Tubes are designed with fill ports up to 12" in diameter spaced every 50' on the top of the tube. Once the hose is in place, tightly secure the fabric to the hose with wire, ties, clamps, ropes or similar on-hand materials.

Considerations for Filtered Water Runoff

Ensure to guide runoff from the Dewatering Tube into the nearest inlet. Avoid causing any erosion to the down-stream environment. Ask your representative if a scour pad may be required to protect your dewatering project laydown area and discharge paths.

What is the Maximum Pressure Input

Pressure should not exceed the 600-800 GPM range. Monitor during filling to verify the optimum pressure.

How Do I Filter Even Finer Sediments, Like Clay?

When using Dewatering Tubes, consider contacting a polymer specialist to treat the sludge. Dewatering Tubes in conjunction with a flocculent or polymer for finer clay and organic materials will improve flow rates, discharge clarity and percentage of solids retained.

Are Dewatering Tubes Reusable?

We do not recommend using Dewatering Tubes more than once. Contamination may occur with the composition of sediment that the Dewatering Tubes may absorb from one project to the next, the stress on the seams and folds through the filling and drying process, and the weight of the solids left after the water has mostly evaporated. Handling alone makes reuse unfeasible for most applications.

How Do I Dispose of the Material?

Expect 20% to 50% of the tube's content to remain as solids. Dispose of the Dewatering Tube and it's contents as directed by the site engineer, as it is dependent on the jobsite. If allowed, the dewatering bag may be cut open and the contents seeded after removing visible fabric. The Dewatering Tube as a whole is not recyclable.

How Can I Improve the Filtration of the Tube?

To increase the efficiency of filtration, we recommend placing the tube on an aggregate, pallets or a hay bale bed to maximize water flow through the entire surface area of the tube. The surface should provide full coverage under the surface area of the tube.

Determining Cubic Yards of Material to Dewater

The formula for determining cubic yards is pond length x width x depth divided by 27. Then multiply % of solids.

What Should I Consider When Choosing Size?

When planning a Dewatering Tube program, it is necessary to consider dredging, pumping, and piping systems, as the sludge flow to these tubes must be controlled through a series of manifolds and valves.

Other considerations include:

- Slurry/sludge solids content
- Placement of inlets for distribution of sludge/solids in each tube
- Drainage of free flowing filtrate from each tube to the retention area
- Stability of additional layers of tubes (if filling a second layer tube)
- Safe locations for tubes with respect to potential hazards

What Are Some Common Placement Options?

- 20 ft. drop box / rolloff
- Dump truck or flatbed
- Construction site laydown area with sufficient space and drainage
- Containment vehicles

Where Should I Place the Dewatering Tube?

Dewatering Tubes should be placed near an inlet for runoff water to flow towards. Ensure the surface down-stream of the Dewatering Tube is resistant to erosion. For jobsite safety, we do not recommend placing Dewatering Tubes on steep surfaces or steep slopes where it may roll. Likewise, to prevent pooling, Dewatering Tubes are not recommended to be placed on flat surfaces without a nearby inlet.

Can Multiple Pipes Discharge into a Single Tube?

Yes, multiple discharge pipes can be connected to various ports in a Dewatering Tube. Monitoring filling and dewatering activities is important until site-performance has been reviewed.

DOT Guidelines

Dewatering Tubes can help your site stay in compliance with local and federal stormwater regulations. Its components meet USDOT Erosion and Sediment Control requirements and exceed minimum guidelines outlined in your local DOT Erosion and Sediment Control Design and Review Manual.

How Do I Know When It Is Full?

Dewatering Tubes work best when filled to 80% capacity with sludge and sediment that is then allowed to consolidate. Once the consolidation has taken place then Dewatering Tubes are refilled, and that cycle continues until the solids reach 80% capacity. For continuous operation, most customers purchase multiples to allow for settling times, creating a 'train' effect, dependent on volume and laydown areas available. After the sludge or sediment removal process is complete the material can then be removed from the Dewatering Tubes and transported to an off-site location or used as fill or compost. If the Dewatering Tubes are to be left in place, they should be suitably designed and laid out for final footprint requirements as they cannot be moved when full.

Florida Compliance

In February of 2015, Florida DEP added dewatering operations to the revised Generic Permit for Stormwater Discharges from Construction Activities (CGP). It is not uncommon for land development to require dewatering onsite. Dewatering is the act of temporarily lowering the water table by pumping groundwater from one location to another, and discharge should not cause a violation to surface water quality standards during dewatering. Operators may obtain a Generic Permit for Discharge of Groundwater from Dewatering Operations through the FDEP when filing for their NPDES NOI. In addition, it's important to note that Standards must also get authorization from their respective local municipality and water management districts. In order for dewatering activities to meet the requirements of the DEP permit, the FDEP or EPA must identify the site or sites within 500 feet as not contaminated or remediated. If contamination is present, the responsible party must remediate the site before dewatering can begin. Adding dewatering activity to the CGP last year has allowed Standards to file one NOI with DEP for NPDES and Dewatering. If dewatering is not notated during the initial application the Standard would need to file a Notice of Intent to Use the Generic Permit for Discharge of Ground Water from Dewatering Operations.