

The Advanced Geosynthetic Contractor

CeTeau

CeTeau Tube



www.ceteau.com

The Advanced Geosynthetic Contractor



CeTeau



Shore Protection



Geo Bag

CeTeau

CeTeau is an innovative contracting company active in geosynthetic manufacturing, trading and construction. We can provide design and execute specialized ground improvement, environmental and geosynthetic constructions worldwide.

Thanks to our extensive knowledge, combined with the most modern equipment and expert technology, all activities are carried out with the utmost professionalism.

CeTeau Tube has a wide range of applications and is currently used in many civil and geotechnical engineering applications including:

- ▶ Marine Engineering
- ▶ Erosion Control
- ▶ Earth Dam
- ▶ Dewatering



CeTeau Office

Dewatering Tube

Containment & Dewatering

The use of specialty textiles fabricated into large diameter tubes has found increasing acceptance throughout the world as an effective alternative low cost method of dewatering a range of sludge materials, hazardous contaminated soils or dredged waste materials.

The use of the CeTeau Tube works effectively by:

Containing

Containing the fine grained material to be dewatered within the unique weave of the CeTeau Tube textile.

Dewatering

Dewatering of the excess water through the specially constructed high flow pores of the CeTeau Tube textile. There is significant volume reduction of the material in this stage which allows for repeated filling of the CeTeau Tube product in many cases.

Consolidation

Consolidation of the fines occurring after the final cycle of filling and dewatering. The fine grained solids contained within the CeTeau Tube continue to consolidate through desiccation with residual water vapour continuing to escape through the unique pore structure of the CeTeau Tube. This results in the most effective way of final disposal of the waste.

“CeTeau Tube has been manufactured using ultra flow textile for superior dewatering function.”

Applications

- ▶ Agricultural waste
- ▶ Industrial Waste
- ▶ Food waste
- ▶ Municipal waste



CeTeau Tube



CeTeau Pumps





CeTeau Tube Filling Procedure



CeTeau Tube Preparation



CeTeau Tube Placing

Preparation

Prepare the area for placement of the CeTeau Tube by ensuring that the site is made level and that all debris is removed that may damage the CeTeau Tube. There may be a requirement for the installation of a suitable membrane to the base of the site. An effective future drainage blanket may be incorporated to the underside of the CeTeau Tube product (such as Ceteau-Cell) in conjunction with a suitable nonwoven geotextile (such as CeTeau-Tex). Adequate area for access to the tubes is to be allowed for. It is advisable to place the CeTeau Tube product within a “bunded” cell area to minimise the risk of potential spillage. A slight “fall” in grade of 0.5% maximum may be helpful in the direction of CeTeau Tube length such that there can be a collection point for effluent water within the “bunded” cell area.

Placing

Unroll the CeTeau Tube product in the desired position. The tube cannot be moved once material has been placed in the tube. The tube position should allow for a sump within the “bunded area such that the effluent water may be pumped from the cell. If necessary use the webbing loops sewn into the seams to secure the CeTeau Tube during filling operations. These loops should be released as the CeTeau Tube is filled.

Polymer

Polymer addition to the CeTeau Tube should be considered to maximise the benefit of CeTeau Tube use.

Speak to our consultants for specific advice on polymer addition.



CeTeau Tube Filling



CeTeau Tube Dewatering



CeTeau Tube Consolidation

Filling

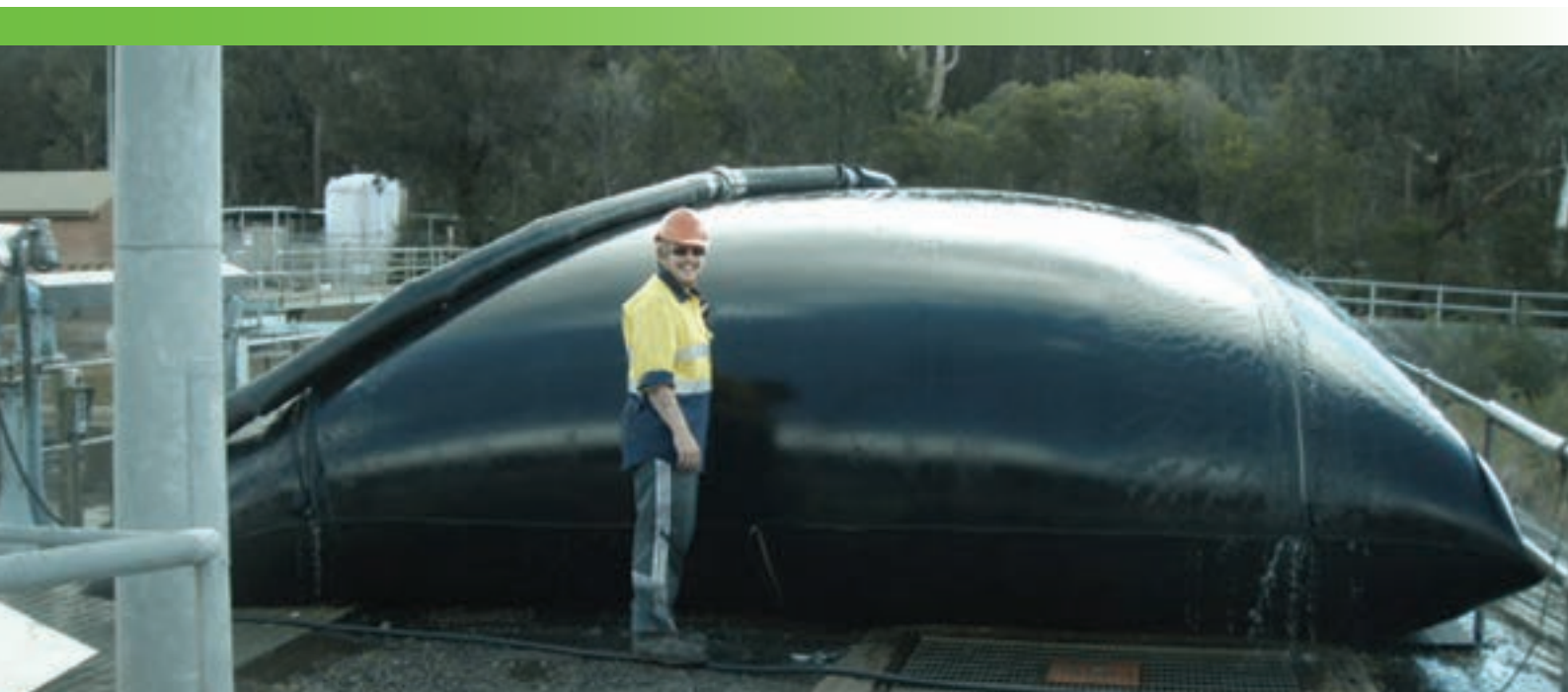
The CeTeau Tube is then pumped full of material, to a predetermined height (safe fill height) and then left to dewater under gravity over time. Dewatering rates of CeTeau Tube will depend on type of waste material pumped into the tube. Excessive pumping pressures are to be avoided, as rupture of the CeTeau Tube may occur if the seams are over-stressed.

Dewatering

Once sufficient dewatering has taken place the CeTeau Tube may be pumped full again, to the same height and pressure restrictions as set for the first fill cycle. This cycle can be repeated until it is assessed that the CeTeau Tube contains sufficient solids that further filling is not warranted. The number of fill cycles is dependent upon the waste material to be dewatered.

Consolidation

Consolidation of the fines within the CeTeau Tube starts occurring after the final cycle of filling and dewatering through desiccation with residual water continuing to escape through the unique pore structure of the textile. When it is assessed that the material within the CeTeau Tube has dried sufficiently the CeTeau Tube may be cut open and may be left to further air dry. The fill material may be disposed to a suitable waste site. Alternatively, small tubes can be manhandled and suitably disposed including the contained dewatered sludge.



Product Specifications



CeTeau Tube Ultra Flow Textile

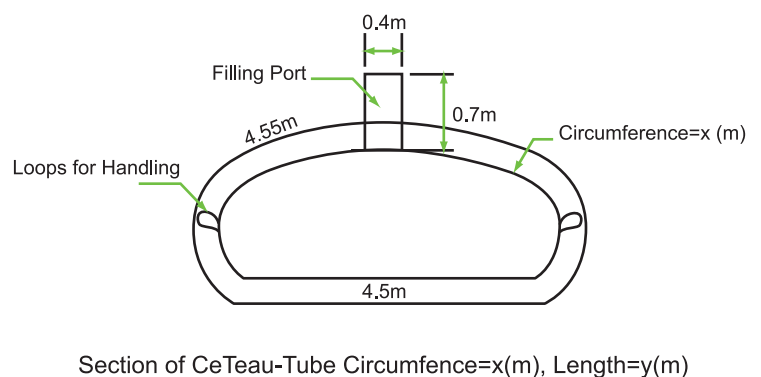
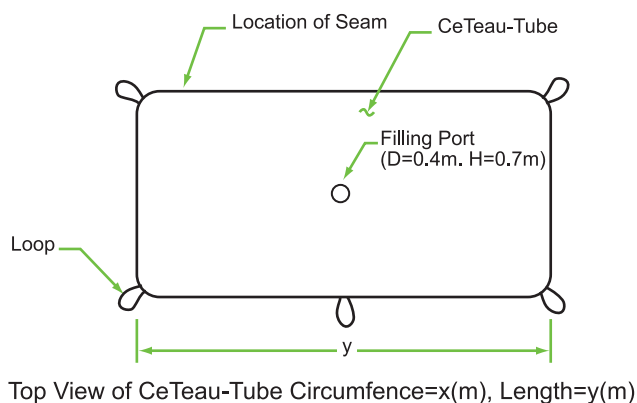
The high flow textile fabric used in the manufacture of the CeTeau Tube is composed of high-tenacity polypropylene filaments which are woven into a stable network such that the yarns retain their relative positions. The fabric is inert to biological degradation and resistant to naturally encountered chemicals, alkalis and acids. The fabric has been constructed to maintain excellent tensile strengths and filtration properties required for the application of CeTeau Tube.

Physical Properties	Unit	Value	Test Method
Unit Mass	g/m ²	≥ 450	ASTM D5261
Apparent Opening Size	mm	≤ 0.4	ASTM D4751
Mechanical Index Properties			
Tensile Strength Tult	kN/m	≥ 70/105	ASTM D4595
Elongation	%	≤ 25/25	ASTM D4595
Hydraulic Properties			
Permittivity	s-l	≥ 0.4	ASTM D4991
Flow Rate Q ₁₀₀	l/m ² /min	≥ 2400	

N.B. Where two values are reported the first value is in the roll direction, the second value is in the cross roll direction.

CeTeau Tube Standard Tube Sizes :

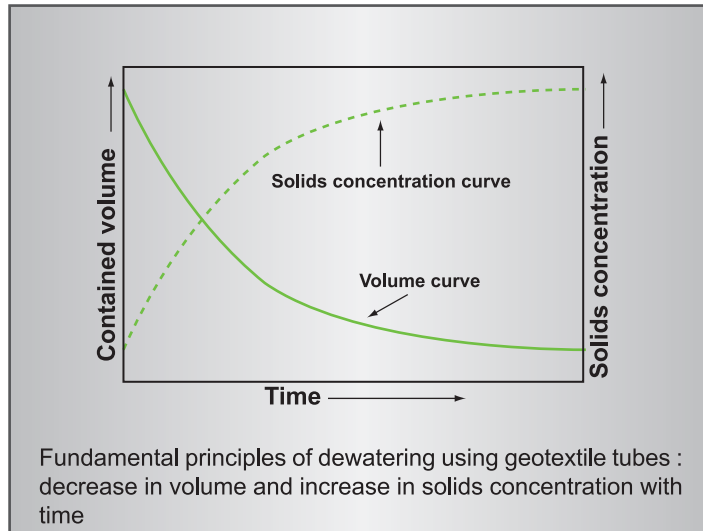
Circumference [m]	Flat Width [m]	Theoretical round diameter [m]	Recommended filled height [m]	Nominal Overall filled width [m]	Approx. Volume per lineal meter [m ²]
4.5	2.3	1.45	0.8	2.3	2
6.8	3.4	2.2	1.2	3.5	3
9	4.5	2.9	1.4	4.6	5
11.3	5.7	3.6	1.5	5.8	7.5
13.5	6.8	4.4	1.6	7	10



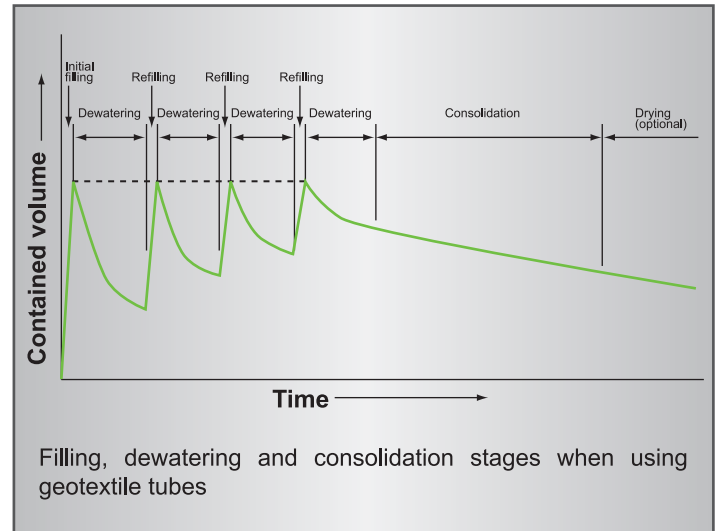
N.B. CeTeau-Tube may be constructed to a variety of sizes in both length and diameter. Please speak to CeTeau for your specific project requirements.

Principle

Geotextile Tubes - Fundamentals



Geotextile Tube Filling Process



CeTeau

The Advanced Geosynthetic Contractor



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