

## Three New Tests Allow Accurate Assessment Of Geotube® Dewatering Technology

**Bench-scale and field-scale tests provide information about dewatering efficiency, flow rates, and chemical conditioning choices.**

Careful analysis of dewatering methods is required before attempting large-scale dewatering projects, and TenCate's Geotube® has developed three, new small-scale tests designed to provide accurate information about how its dewatering technology will work in full application.

TenCate develops and produces materials that function to increase performance, reduce cost, and deliver measurable results by working with our customers to provide advanced solutions.

The new bench- and field-scale testing procedures simplify evaluation of Geotube® dewatering technology, and can provide detailed information about the process. The bench-scale tests provide an almost-instant assessment of how a particular material will dewater with Geotube® dewatering technology. The field-scale test produces a more specific analysis, with accurate estimates of flow rates and overall project efficiency.

"These new tests are updates of older tests, such as the Hanging Bag test," said Mark Gunzenhauser, Vice President of Industrial Fabrics for TenCate. "We have been able to simplify our testing methods and make them more accurate."

The three tests are called:

- The Geotube® Dewatering Test (GDT)
- The Rapid Dewatering Test (RDT)
- The Cone Test

**The Geotube® Dewatering Test (GDT)** is the field-scale evaluation. It uses a small bag (made from Geotube® GT 500 fabric) designed to hold one cubic foot of material. The bag is placed on a simple, inexpensive PVC frame with a container to catch drainage underneath.



*The Geotube® Dewatering Test (GDT) is a simplified field-scale test designed to replace the former Hanging Bag test. A one cubic foot Geotube® container is used to test dewatering efficiency for different sludge samples. Results accurately predict full-scale Geotube® dewatering operation. The container can be cut open and the dewatered sludge tested further (see inset).*

A stand pipe is attached to a connection on top of the bag. The bag is then filled with sludge, and dewatering is timed. The stand pipe allows water pressure assessment during the process. The test can be completed in less than one hour. Because of its simplicity and repeatability, the GDT is particularly useful for evaluating different chemical conditioning applications that can improve the dewatering efficiency.

After the test is completed, the bag can be cut open and the dewatered sludge analyzed to determine percent solids. Effluent quality can be assessed, and the GDT results have also proven to be very accurate in predicting how Geotube® dewatering technology works in full-scale operations.

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The Geotube® Rapid Dewatering Test (RDT) uses a specially designed funnel. A disc of Geotube® fabric is placed in the bottom, and the sludge filters through it. The RDT can quickly provide a basic evaluation of how well a material can dewater. It is also very useful for assessing different polymer treatments.

The two bench-scale tests are often conducted in advance of the GDT. **The Rapid Dewatering Test (RDT)** uses a specially designed funnel that fits on top of a typical 500ml beaker. A disc of Geotube® GT 500 fabric is placed in the bottom of the funnel and sludge is poured into the top of the funnel so that it filters through the fabric.

The RDT also allows for variations in chemical conditioning additives to be tested and evaluated quickly and at minimal expense.

Both the GDT and RDT require special equipment (all TenCate representatives have these items), but in situations where they are not available or practical to use, an accurate



version of the test can be conducted with just a sample of Geotube® GT 500 material. **The Cone Test** provides the same information as the RDT, using only a piece of Geotube® material fashioned into the shape of a cone to catch the sludge and allow it to drain into a container.

A Geotube® representative can work with an organization to administer a small-scale test to evaluate material and to provide suggestions as to the best dewatering approaches. In addition, step-by-step manuals for each test are available for organizations who may want to conduct them on their own.

To learn more, visit [www.geotube.com](http://www.geotube.com) or call 1-888-795-0808.



The Cone Test provides information similar to the RDT. It requires only a sample of Geotube® dewatering fabric fashioned into a cone.



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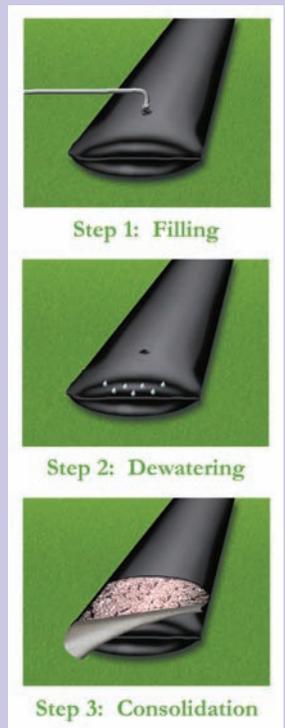
## How Geotube® Dewatering Technology Works

Dewatering with Geotube® technology is a three-step process.

In the **confinement** stage, the Geotube® container is filled with dredged waste materials. The Geotube® container's unique fabric confines the fine grains of the material.

In the **dewatering** phase, excess water simply drains from the Geotube® container. The decanted water is often of a quality that can be reused or returned for processing or to native waterways without additional treatment.

In the final phase, **consolidation**, the solids continue to densify due to desiccation as residual water vapor escapes through the fabric. Volume reduction can be as high as 90 percent.



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