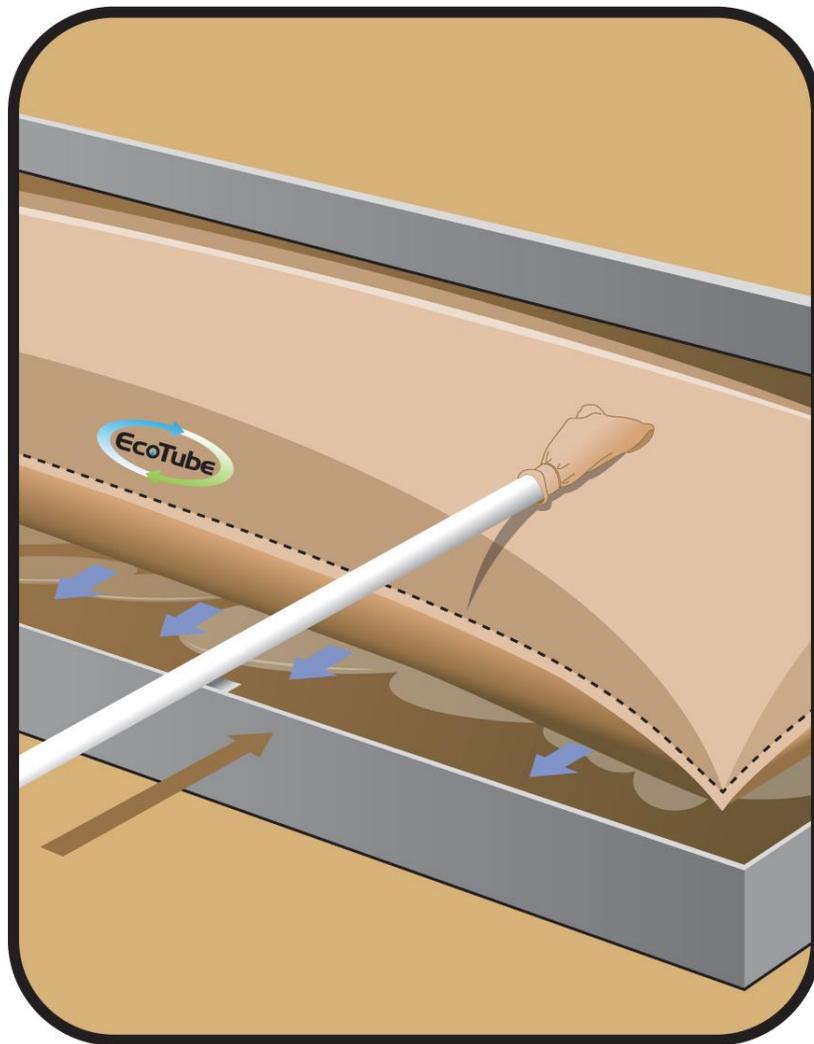




Construction Geosynthetics

EcoTube™ Installation Guide

ECOTUBE



1.0 General

- 1) This guideline covers general installation of EcoTube™ geotextile tubes for dewatering.
- 2) Where contradictions occur follow the instructions of the project engineer.

2.0 Handling

- 1) Unload rolls with equipment that will not damage the geonet.
 - a) No hooks, tongs, or other sharp instruments shall be used for handling EcoTubes™. EcoTubes™ should not be dragged along the ground. EcoTubes™ should be unrolled into position as recommended by the manufacturer.

3.0 Subgrade Preparation

- 1) Grade the site to remove any debris, rocks, roots etc.
- 2) Level the site from side to side with no more than a 0.5% grade from end to end.

4.0 Construct Containment Berm

- 1) If required, construct a containment berm around the dewatering site perimeter.
 - a) A rule of thumb is the height of the containment berm should be approximately 33% to 67% of the potential EcoTube™ dewatering tube height.
 - b) A trench should be excavated next to the containment berm, sloped to provide drainage to the opposite (lower) side of the dewatering site.

5.0 Impermeable Liner Placement

- 1) If required, install an impermeable geomembrane (thickness as directed by the site engineer) over the entire dewatering site, including the drainage trench and the perimeter berm.
- 2) A medium weight nonwoven geotextile may be used to help protect the geomembrane.
- 3) Consult the project engineer for details.

4.0 Drainage Rock Placement

- 1) Place drainage rock, sand or other free draining granular material and cover the entire site with the exception of the drainage trench and containment berms.
 - a) Occasionally, the engineer may also require these structures to be covered.
- 2) Some projects may utilize a geonet as an alternative drainage media.

5.0 EcoTube™ Deployment

- a) Unroll and deploy the EcoTube™ dewatering tube on top of the drainage media starting on the upper end of the dewatering site.
- b) Use the loop straps to correctly align the EcoTube™ dewatering tube.

6.0 Polymer System Set Up

- 1) Set up your make down polymer injection system with the polymer best suited for your project.
- 2) After injecting the required polymer into the sludge stream, collect a sample of the flocced material prior to pumping the treated sludge into the EcoTube™ to ensure the desired results.

7.0 Begin Dewatering

- 1) To start pumping the treated sludge stream into the EcoTube™ dewatering tube, attach your discharge line to the filling port(s).
 - a) The use of a multiple port manifold may be required to efficiently fill multiple EcoTubes™ tube/ports.
 - b) Do not exceed the design parameters of your specific EcoTubes™ dewatering tube.
 - c) Please refer to "EcoTubes™ Geotextile Tube Volumes & Dewatering Capabilities" for guidelines.
 - d) EcoTubes™ dewatering tubes can be topped off multiple times, but do not exceed the design parameters.

8.0 Remove Dewatered Material

- 1) Once the material has dewatered, the EcoTube™ becomes full, or the project is completed, cut open the EcoTube™ to remove the dewatered solid material.

9.0 Storage

- 1) EcoTube™ rolls are wrapped in a UV protective cover.
- 2) If stored outdoors for a prolonged period, elevate the EcoTubes™ from the ground and cover with a tarpaulin or opaque plastic.
 - a) Contractor must insure EcoTubes™ are adequately protected from:
 - i) Moisture
 - ii) Ultraviolet radiation
 - iii) Chemicals that are strong acids or bases
 - iv) Temperatures in excess of 140°F
 - v) Animal destruction

This material is presented for general information only. Always verify the suitability for a specific application with the project engineer. Where contradictions occur, follow the instructions of the project engineer. There is no implied or expressed warranty regarding the installation procedures or the geosynthetic products in this guide. Installation procedure and product choice is the sole responsibility of the contractor and contractor assumes all liability.