



INSTALLATION GUIDELINE



DRAINTUBE® geocomposite



Sub-Slab Depressurization System under building

DRAINTUBE is manufactured by

AFITEX-TEXEL Geosynthetics Inc.

1300 2e rue, Parc Industriel

Sainte-Marie de Beauce (Québec) Canada G6E 1G8

DATE: 08/22/2025

Synopsis

GENERAL DESCRIPTION	3
1 HANDLIND AND STORAGE	3
2 INSTALLATION	3
2.1 DRAINTUBE® DESCRIPTION	3
2.2 PUTTING INTO PLACE	4
2.3 TRANSVERSE CONNECTIONS (AT THE END OF A ROLL)	4
2.4 SIDE BY SIDE CONNECTIONS	5
2.5 SPECIFIC POINTS.....	5
3 TERMINATION	7
3.1 CONNECTION TO THE COLLECTOR PIPE.....	7
3.1 UPSTREAM END	8
4 REPAIR.....	8
5 UPPER LAYERS INSTALLATION.....	9
5.1 GEOSYNTHETIC INSTALLATION.....	9
5.2 BACKFILL PLACEMENT	9
TABLE OF FIGURES	11

General Description

The product consists of geotextile layers comprised of short synthetic fibers of 100% polypropylene or polyester, which are needle punched together. Corrugated polypropylene pipes with two perforations per valley at 180-degree spacing and rotated 90 degrees per valley are inserted longitudinally between the geotextile layers during the manufacturing process at uniform intervals. DRAINTUBE® is manufactured in Canada.

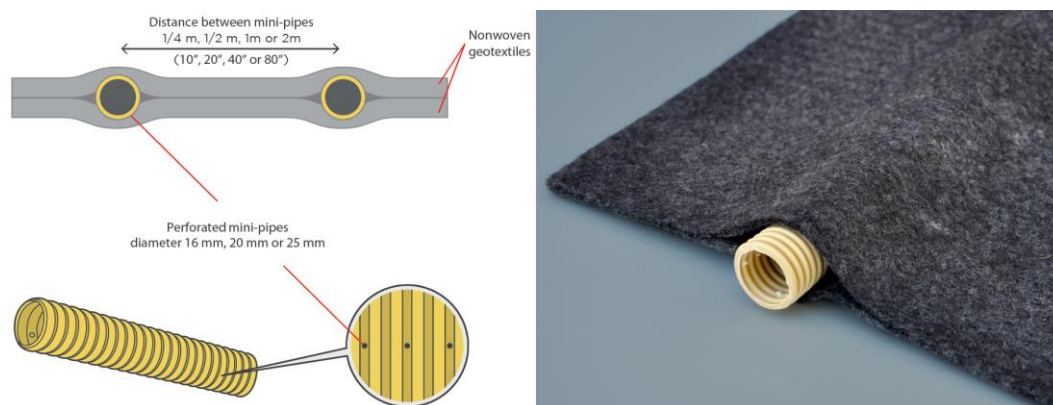
1 HANDLING AND STORAGE

Rolls of DRAINTUBE® geocomposite shall be shipped to the job site in a manner that will not cause damage to the rolls. The rolls shall be stored flat on a smooth surface (no wooden pallets) away from dirt, mud and excessive heat. For more detailed handling and storage information, please refer to ASTM D4873. The contractor shall handle the rolls so that they are not damaged in any way.

2 INSTALLATION

2.1 DRAINTUBE® description

DRAINTUBE® geocomposite is supplied on rolls 3.98 m (13 ft.) wide (figures 1 & 2).



Figures 1: DRAINTUBE® structure



Figure 2: DRAINTUBE® packaging

2.2 Putting into place

DRAINTUBE® is unrolled on a base which has been graded and compacted to the required elevation (figure 3). Ensure that the product is properly oriented.

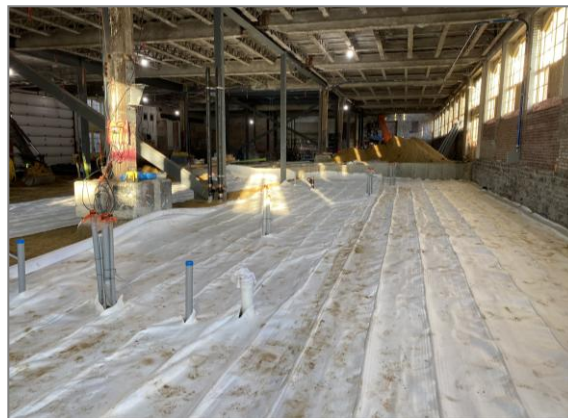


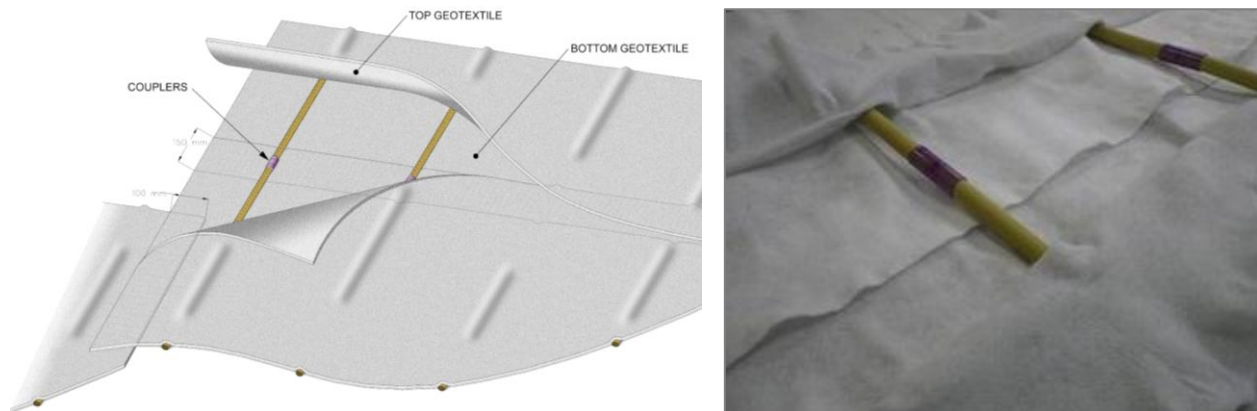
Figure 3: DRAINTUBE® installation

Protect underlying layers from damage during placement of the geocomposite. Use sandbags or equal to weigh down the geocomposites prior to backfilling to prevent displacement by the wind.

2.3 Transverse Connections (at the end of a roll)

Connection at the leading or terminating edge of the DRAINTUBE® shall be overlapped such that the upper geotextile layer can be rolled back 250 mm (10 in.) and the end of the next roll inserted into the opening. Mini-pipes are connected using snap coupler fittings supplied by the manufacturer (figures 4).

Overlapped geotextiles can be secured using sewn seams, welds (hot air or flame) thereby reducing the minimum overlap required.



Figures 4: Transverse connections with couplers

The mini-pipes of the geocomposite must always be maintained between the geotextile layers to prevent contamination by soil particles.

2.4 Side by Side Connections

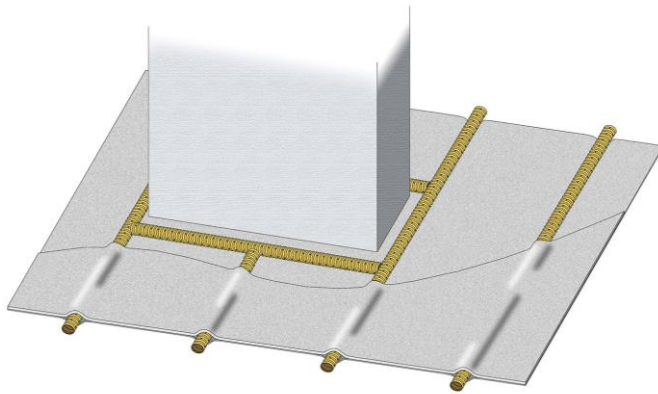
Connections along the side of the DRAINTUBE® roll are achieved with an overlap over a width of 250 mm (10 in.) (figure 5). Overlapped geotextiles can be secured using sewn seams, welds (hot air or flame) thereby reducing the minimum overlap required.



Figure 5: Side by side connections

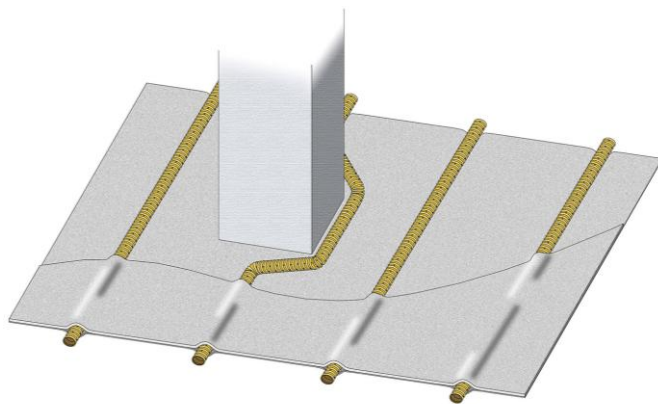
2.5 Specific points

In case of wide posts, DRAINTUBE® is cut next to the post. The mini-pipe(s) interrupted by the post are cut off about 100 mm (4 in.) upstream of the post. A mini-pipe is then positioned at 90° angle between the drainage layer and the filter layer so as to link the closest two mini-pipes (figures 6).



Figures 6: Passing of a wide post

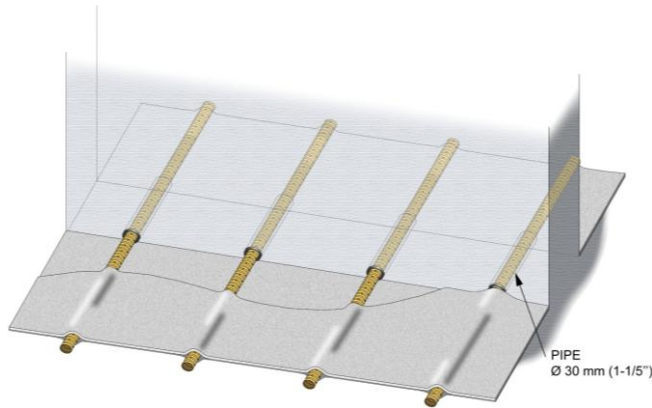
In case of a narrow post less or equal to 300 mm (12 in.) width, the mini-pipe is then derived along the side of the post (figures 7).



Figures 7: Passing of a narrow post

Cross walls which interrupt mini-pipes must be passed as follows (figures 8):

- formation of mounds of highly permeable granular material (in case of groundwater),
- separation of these mounds from the form base by a geotextile filter on either side of the cross wall (in case of groundwater),
- linking of the two mounds by drainage channels at least 30 mm (1-1/5") diameter.

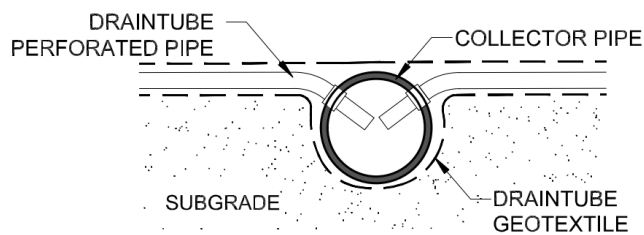


Figures 8: Passing of a cross wall

3 TERMINATION

3.1 Connection to the collector pipe

DRAINTUBE® can be connected directly to a collector pipe using the Quick Connect system (figures 9 & 10). For vacuum applications, this allows a positive connection of the mini-pipes to the collector pipe.



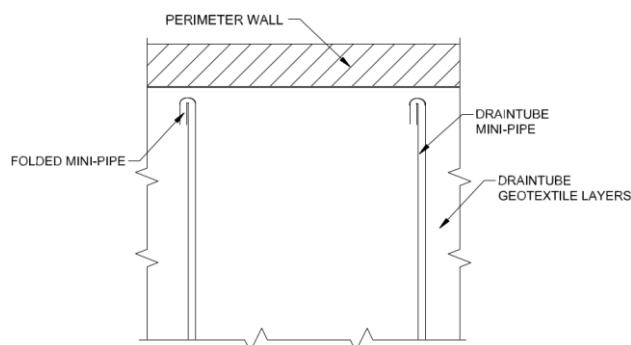
Figures 9: Quick Connect system



Figure 10: Connection to a collector pipe using Quick Connects

3.1 Upstream end

If one end of the DRAINTUBE[®] is not connected to a collector pipe (upstream end), the mini-pipes are folded back and inserted between the geotextile layers of the geocomposite (figures 11).



Figures 11: Upstream end of DRAINTUBE[®]

4 REPAIR

Prior to covering the deployed DRAINTUBE[®] drainage geocomposite, each roll shall be inspected for damage. Any rips, tears or damaged areas on the geocomposite shall be repaired.

If a section of pipe is damaged during installation, add a piece of undamaged pipe of the same diameter next to the damaged pipe, extending a minimum of 150 mm (6 in.) beyond each end of the damaged section of pipe.

If the geotextile is ripped or torn, install an undamaged piece of the same material under the hole that extends a minimum of 150 mm (6 in.) beyond the hole in all directions to ensure that protection of the geomembrane is maintained.

If the area to be repaired is more than 50 percent of the width of the panel, then the damaged area shall be cut out and replaced with undamaged material. Damaged geotextile shall be replaced by the same type of geotextile.

5 UPPER LAYERS INSTALLATION

5.1 *Geosynthetic installation*

DRAINTUBE[®] shall not stay uncovered for more than 14 days after deployment.

Low ground pressure All-Terrain Vehicle (ATV) that exerts a maximum load of 6 psi may be used on DRAINTUBE[®]. It shall be operated to avoid abrupt stops, starts, and/or turns. ATV tires shall be clean, and no passengers are allowed on the ATV. No other equipment shall be operated on the top surface of the geocomposite drainage layer without permission from the Engineer.

Geosynthetic (geomembrane, geogrid, etc.) is to be installed without displacing the DRAINTUBE[®] (figures 12).



Figures 12: Upper geosynthetic layer placement

5.2 *Backfill placement*

The geocomposite drainage layer shall be covered with the specified material within 14 days of deployment. The backfill shall be free of foreign matter which could damage the geocomposite drainage layer. Backfill may usually be placed directly on DRAINTUBE[®] (figure 13). Care should be taken to avoid displacement of the geocomposite.



Figure 13: Backfilling

The backfill shall not be dropped directly onto the drainage geocomposite from a height greater than 1 meter (3 ft.). The backfill shall be pushed over the geocomposite drainage layer in an upward tumbling motion that prevents wrinkles in the drainage layer.

Low ground pressure All-Terrain Vehicle (ATV) that exerts a maximum load of 6 psi may be used on DRAINTUBE®. It shall be operated to avoid abrupt stops, starts, and/or turns. ATV tires shall be clean and no passengers are allowed on the ATV. No other equipment shall be operated on the top surface of the geocomposite drainage layer without permission from the Engineer.

The contractor must maintain a minimum of 300 mm (12 in.) of backfill between DRAINTUBE® and the backfill equipment or use adapted lightweight equipment. Heavy equipment like dumpers shall operate on access roads with a minimum thickness of 1 m (3 ft.) above the DRAINTUBE®.

Table of figures

Figures 1: DRAINTUBE® structure	3
Figure 2: DRAINTUBE® packaging	4
Figure 3: DRAINTUBE® installation.....	4
Figures 4: Transverse connections with couplers	5
Figure 5: Side by side connections	5
Figures 6: Passing of a wide post	6
Figures 7: Passing of a narrow post	6
Figures 8: Passing of a cross wall	7
Figures 9: Quick Connect system	7
Figure 10: Connection to a collector pipe using Quick Connects.....	8
Figures 11: Upstream end of DRAINTUBE®	8
Figures 12: Upper geosynthetic layer placement	9
Figure 13: Backfilling	10