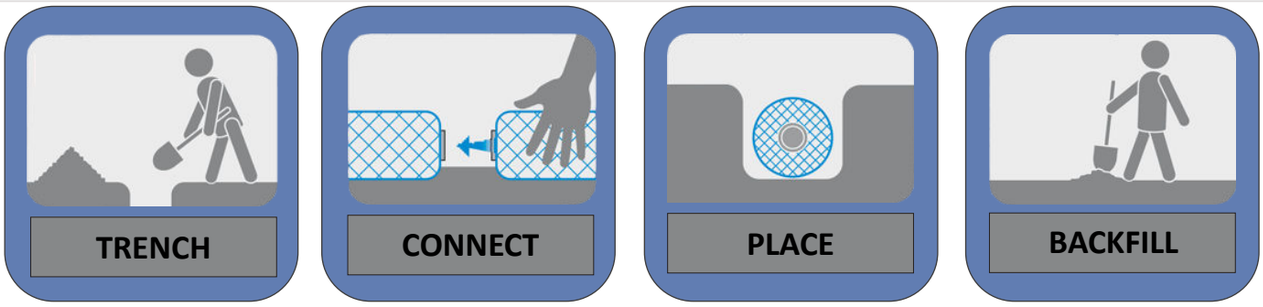
drenotube®

INSTALLATION MANUAL

ALL IN ONE DRAINAGE SYSTEM

Drenotube® installation guide – SOIL DRAINAGE



Important! – Soil site has to be permeable in order to infiltration to occur. Clay or limestone soils are not suitable for **Drenotube®** The product must be installed in compliance with any local rules or design requirements. Take into consideration that these requirements may imply the modification of the installation steps mentioned below.

Roots find for water an can damage any drainage system. If necessary use herbicides and sub-surface screen foils to avoid roots from coming into the pipe. Use the same techniques as for a traditional drainage.

TRENCH

1. Identify and Mark area to be Drained:

Determine where drainage needs to be placed (wet areas), size and layout for the **Drenotube®** system. Mark off the drain line before digging. If the area is large, it may be necessary to install more than one line or install a herring-bone pattern.

2. Digging the Trench:

Start digging the trench at the point where the water will be discharged or connected to a central drain line. This will allow you to determine the necessary grade to insure proper water flow. The bottom of the trench needs a minimum slope of 0,5 per cent (maximum 2,5) without any dams, stepdowns or other water stops.

Open up a trench about 400mm for DR300L3/6 or 450 to 500 mm for DR370L3/6 wide. A narrow trench not only saves labor in excavation, but also provides better load-bearing capacity after backfilling is complete. Choose SN4 or SN8 (ring stiffness) according to trench depth however never exceed the ring stiffness of the corrugated pipe.

Drenotube®	Minimum backfill cm (without live load)[2]	Minimum backfill cm (with live load)	Maximum trench depth m	Trench width cm
DR300SN04	40	80	3	40
DR300SN08	40	80	5	40
DR370SN04	40	80	3	45 to 50
DR370SN08	40	80	5	45 to 50

(1) Never exceed the ring stiffness of the corrugated pipe. Do not pass over the trench with heavy machinery during installation.

(2) Movable loads like people walking or traffic.

In case to choose another configuration to allocate adjacent bundles then the trench needs to be wider.

Cross section of different possible trench configurations. The minimum backfill depth is 40 cm

CONNECT

Connection of the **Drenotube®** draining segments (bundles).

Remove the protective **Drenotube®** shipping bag prior to placing bundle in the trench. Remove any plastic bags in the trench before system is covered. Place the **Drenotube®** units end to end along the top of the trench.

Units are printed longitudinally with a line displaying the words “This side up”. Segments must be installed positioning this line upwards.

The uncovered part (1/4) must be placed facing the bottom of the trench. Connect the pipe with the external coupling being sure that they are fully inserted to insure proper coupling.

In case you need a shorter segment to end the installation units can be cut and retied with the original tie, wire or duct tape.

Excess beads can be dumped into the trench. Cover the upper end of the pipe with an end-cap to prevent soil or sand from getting into the drainage line.

PLACE

Placement in the bottom of the trench.

Drop bundles into the trench (be sure to precisely position “This side up” upwards) and connect at the discharge point. **Drenotube®** bundles are flexible and can fit in curved trenches as it may be necessary to avoid trees, boulders, or other obstacles.

The center-most units containing the pipe are joined end-to-end with an external pipe coupler. In case to use outer units, without pipe, then shall be butted against each other and do not require any type of connection.

BACKFILL

Before backfilling the trench be sure there is no plastic bags on top of the **Drenotube®** Check again the longitudinal line displaying the words ” This side up” is positioning upwards. Fill the trench with a permeable soil. Do not backfill with impervious soils like limestone or clay. Backfill can be compacted by either manual or mechanical means and by layers. Never exceed the ring stiffness of the corrugated pipe. The minimum backfill cover needed is 40 cm.