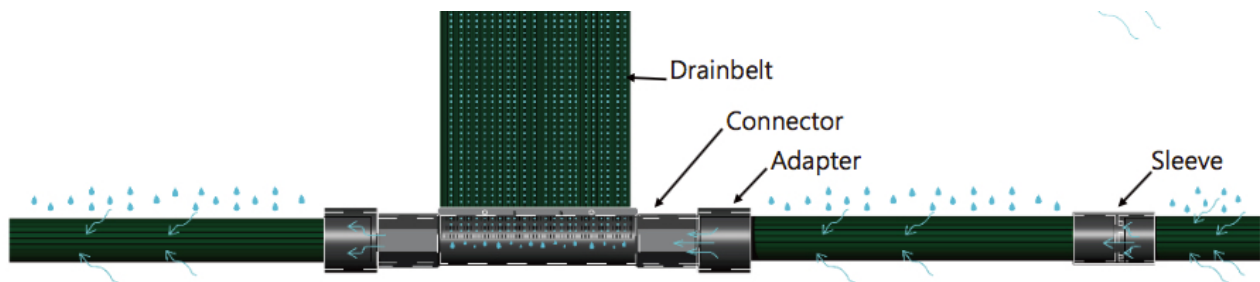


# Installation Guide For Capiphon Drainbelt and DRAINTUBE by Drainnovation®



Drainbelt and DRAINTUBE can be used together or separately. Assembly is simple and requires no special tools or equipment, nor does it rely on gravel/sand media backfill. Indeed its power is when it's in direct contact with the soil to ensure continuity of soil capillary pores to the capillary grooves in the surface of the Drainbelt or DRAINTUBE.

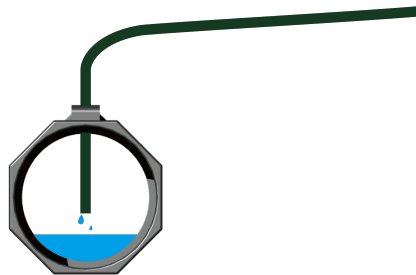
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## **1. Drainbelt**

Drainbelt can be installed horizontally for field applications or vertically in retaining wall applications.

Horizontal Installation: Cross section of Drainbelt discharging into a connector



### **1.1 Horizontal Installation:** Sports pitches, equestrian arenas, parks, gardens, lawns

- **Spacing.** Drainbelt is typically laid 1-4m apart depending on your soil type, depth of installation and required drainage rate.
- **Depth.** This will depend on soil type but is typically installed at 150-450mm depth. The greater the depth the better the drainage performance.
- **Length.** This will depend on the dimensions of the area to be drained and the required drainage rate. Typically Drainbelt is installed in 10-20m lengths. Each length of 10-20m discharges into a collector pipe or DRAINTUBE via a Drainbelt connector.
- **Fall.** It's recommended that Drainbelt is installed with a  $\geq 1\%$  slope to the discharge point

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- Collector pipe. The collector pipes are laid perpendicular to the Drainbelt in a trench below the level of the Drainbelt to afford a drop of  $\geq 150\text{mm}$  from the Drainbelt to the crest of the collector. This drop creates the siphonic action accelerating removal of water from soil. The collector pipe should have a fall of  $\geq 1\%$ . If using DRAINTUBE as the collector you will need to connect the DRAINTUBE to the connector via an adaptor; otherwise plain 60mm drain pipe can slot directly into the connector.
- Connectors: Drainbelt is fed into the slot of the connector. It should be placed to allow a gap between the end of the Drainbelt and the floor of the connector. There should be a smooth curve as the Drainbelt transitions from horizontal plane to vertical insertion into the slot of the connector. The Drainbelt can be secured to the connector screwing two small self-tapping screws into the locating holes of the connector, or alternatively heavy duty tape can be used to tape the Drainbelt to the outside of the connector.
- Collector discharge. The collector pipe/pipes can discharge into a ditch, stream, attenuation pond or sump. For larger schemes, the collector would be connected to a carrier drain. This connection can be made with standard drainage pipe fittings.

## **1.2 Vertical.** Retaining walls

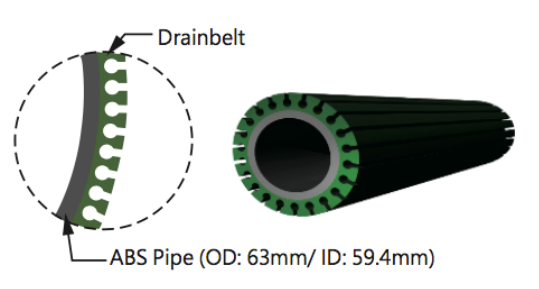
- Spacing. Drainbelt is typically spaced at 1-3m intervals for retaining walls, depending on the volume of the catchment to be drained and the required drainage rate.
- Attachment. Drainbelt can be attached to the wall using silicon sealant or tape, making sure the Drainbelt is secure and will not be dislodged during backfilling operations.
- At the base. DRAINTUBE is laid horizontally at the base of the retaining wall with a  $\geq 1\%$  fall.
- Connection. The Drainbelt is perpendicular to the DRAINTUBE and connected to the DRAINTUBE via connector and adaptors.
- Discharge: The collector can be discharged into a drain, sump, ditch, stream or connected to a larger carrier pipe using standard drainage fittings.

## **Assembly**

**NB. The end of the Drainbelt that is in the soil and not discharging into a collector /connector should always be taped up in order to seal the end of the capillary grooves. This is necessary to avoid fine particles entering the system.**

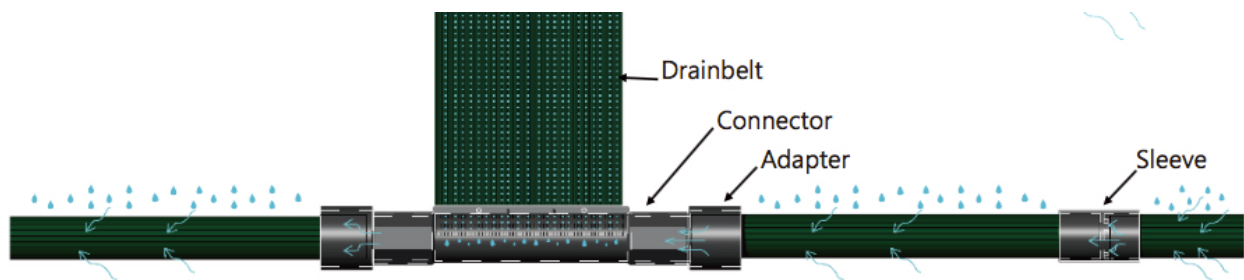
## 2. DRAINTUBE

DRAINTUBE is supplied in 1m lengths and comprises an ABS pipe with outer covering of Drainbelt.



Fitting accessories include sleeves, end caps, adaptors and connectors. Sleeves are used to connect two DRAINTUBES. The sleeves are directional and must be fitted in the same direction as the intended flow. The sleeves allow the water that is “sucked” by the outer Drainbelt to discharge inside the DRAINTUBE to be carried away inside the tube.

DRAINTUBE can be used on it’s own or in conjunction with Drainbelt. It’s typical use is for retaining walls, earth embankments and intensive sports pitch drainage.



The ends of DRAINTUBE should always be sealed with an end cap, to prevent ingress of dirt.

DRAINTUBE can be connected to standard 60mm drainage pipe via an adapter. It is recommended that un-perforated drainage pipe (twinwall or coiled) is used to prevent ingress of fines and ensure the long life of the drainage scheme.

In highly intensive schemes DRAINTUBE can be used as the collector pipe for the grid of Drainbelts. The DRAINTUBE then discharges into a carrier drain such as un-perforated twinwall.

DRAINTUBE should always be installed with a minimum fall of 1%.