

INSTALLATION GUIDELINE

OSMORIA Geoclean

Pavement with reservoir structure

Removing hydrocarbons and PAHs from stormwater



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1. INTRODUCTION

OSMORIA™ Geoclean® aquatextile is a high-performance material for integrated, sustainable stormwater management.

Installed in infiltration structures at the source, OSMORIA Geoclean aquatextile treats hydrocarbon and PAH-laden stormwater that passes through it, thereby protecting soil, surface water, and groundwater from this pollution, and preserving biodiversity.

This aquatextile is a durable material suited to the demands of public works sites. It is lightweight and quick to install. However, to ensure its functional performance and durability, it is essential to follow a few guidelines:

- Comply with your project manager's instructions regarding the materials to be used with or in contact with the prescribed aquatextile.
- Follow the installation recommendations detailed in this document.

2. BEFORE INSTALLATION

1. Layout plan

Before installation, it is recommended to prepare a layout plan to optimize the dimensions of the rolls with the structures. The layout plan should account for overlaps between the strips.

Ensure that the overlap between strips is at least 30 cm.

2. Storage of rolls prior to installation

Aquatextile rolls should be stored on a flat, clean, and horizontal surface on-site. Ensure the absence of:

- Any objects or blunt stones on the ground.
- Tears in the packaging due to weather or UV exposure.

Rolls can be stacked in pyramids up to a maximum height of three rolls, ensuring the base rolls are wedged and stable.

For prolonged storage over several weeks, the rolls should be protected from the elements, for example, by covering them with a tarpaulin.

Rolls should remain in their original packaging until installation. The packaging can be reused to rewrap partially used rolls.

3. Cutting the strips

It is advisable to set up a cutting area outside the installation zone. The strips should be prepared as needed for installation and numbered according to the layout plan.

Case of reservoir pavement with permeable surface: Depending on the design, particularly in cases of direct infiltration of rainwater through a permeable pavement surface, the aquatextile is placed on top of the reservoir structure, with the blue side facing the permeable pavement (See diagram 3 : Reservoir pavement with permeable surfacing).

3. INSTALLATION

1. Preparation of the subgrade

If the in-situ soil is sufficiently permeable to infiltrate the water stored in the reservoir structure, the surface on which the aquatextile is laid must be flat and free of sharp objects or stones.

If the in-situ soil is not permeable enough to infiltrate the stored water, an additional drainage layer with drainage pipes can be placed on the subgrade, with a geotextile separator in between. (See diagram 2: Reservoir pavement with impermeable overlay on low-permeability soil).

2. Unrolling the aquatextile

The aquatextile strips are unrolled on the subgrade according to the installation plan, ensuring proper overlaps.

The blue side of the OSMORIA Geoclean aquatextile, placed at the bottom and sides of the reservoir structure, should face inward: water always flows from the blue side to the white side of the aquatextile.

3. Installing the reservoir structure

If the soil is sufficiently permeable, the granular drainage layer forming the reservoir structure is placed directly on top of the aquatextile (see diagram 1: Reservoir pavement with impermeable coating on permeable soil). The grain size, thickness, and method of placing this drainage layer must meet the project specifications to avoid damaging the aquatextile.

No machine traffic is permitted directly on the aquatextile.

Once the reservoir structure is completed, the strips waiting on the adjoining vertical walls are folded flat over the top of the structure.

4. Piping through the aquatextile

In the event of raw water entering the infiltration structure via a pipe, it is strongly recommended that the OSMORIA Geoclean aquatextile should not be crossed, or at the very least that the crossing should be made above the highest water level in the structure.

If it is impossible to follow these recommendations, the aquatextile must be sealed off from the supply pipe with the utmost care, as follows, to prevent untreated water from passing along the pipe.

Cut the aquatextile crosswise at the point where the pipe passes through the aquatextile. This cut should be made with a cutter, taking the necessary safety precautions. The length of both cuts should be slightly smaller than the diameter of the pipe.

The pipe is then forced through this cut-out, from the outside (grey side) to the inside (blue side) of the structure. OSMORIA Geoclean deforms and applies with perfect contact all around the pipe. Secure the 4 aquatextile corners to the pipe with a stainless-steel clamp.



Figure 1: Cross-cutting of aquatextile for pipe passage



Figure 2: Pipe passes through aquatextile in the cut-out

Make sure the pipe is stable at the crossing point, so that it does not transfer stress to the aquatextile

5. Backfilling

Backfilling around and on top of the reservoir pavement should be done carefully using the specified granular material.



Figure 2: Injection well with a decanter to collect rainwater from an impermeable surface and inject it into the reservoir structure. The decanter reduces the amount of solid particles entering the buried structure



Figure 3: Ballasting of the OSMORIA Geoclean aquatextile and installation of the granular reservoir structure



Figure 4: Granular reservoir structure on OSMORIA Geoclean aquatextile with perforated raw water supply pipe

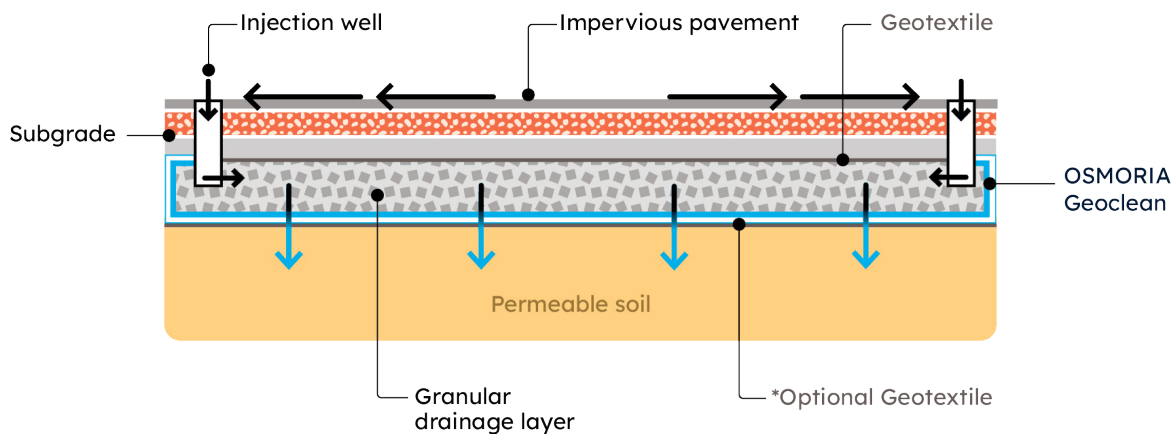


Figure 5: The aquatextile wraps the reservoir structure, with the blue side facing upstream



Figure 6: Backfill placed over the reservoir structure wrapped with OSMORIA Geoclean aquatextile

4. SCHEMATIC DIAGRAMS



*If the distribution grain size of the materials requires a filtration function

Diagram 1: Reservoir pavement with impermeable overlay (permeable soil)

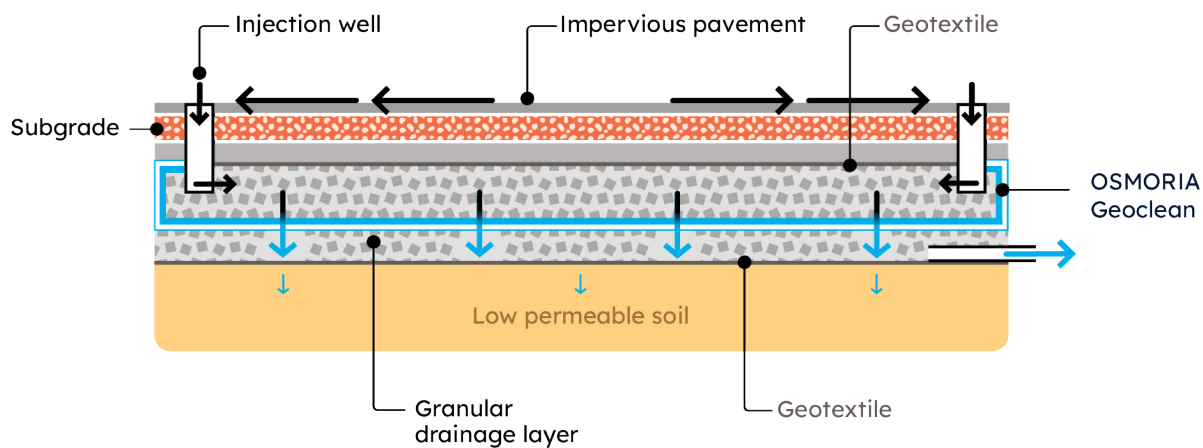


Diagram 2: Reservoir pavement with impermeable overlay (low-permeability soil)

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