

Case History

Deviation of VILLENEUVE SUR ALLIER – RN7 LA PACAUDIERE (FRANCE)

Roadside Draining Trench - DRAINCOTEX

Date
2017

Quantity
7 200 ml

Contracting Authority
DREAL Auvergne-Rhône Alpes

Product
DRAINCOTEX

Designer
DIR Centre-Est

Earthwork Company
Colas Rhône Alpes/Auvergne

Project description

The construction site of the RN7 is located a hundred kilometers at the northwest of Lyon. It consists in the development of two lanes of the deviation of the city Villeneuve sur Allier.

A DRAINCOTEX solution was recommended for this project in order to deal with the issues due to water infiltration in the road structure.

Problematic

The water status of roads is determined by various internal water movements:

- Movement through the surface layers which is mainly caused by infiltration following the permeability of materials, cracking, joints, etc. This movement depends on the weather conditions and the characteristics of the surface layers. Water infiltration also depends on the water status of the internal layers.
- Movement across the shoulder towards the road and supporting soil materials, which depends on the weather conditions and design of the road.
- Movement related to the environment such as the rise of capillaries from layers, layers cut through by excavated material, or accumulation in the lowest points of the longitudinal profile.

Solution(s)

The main benefits of RDT are:

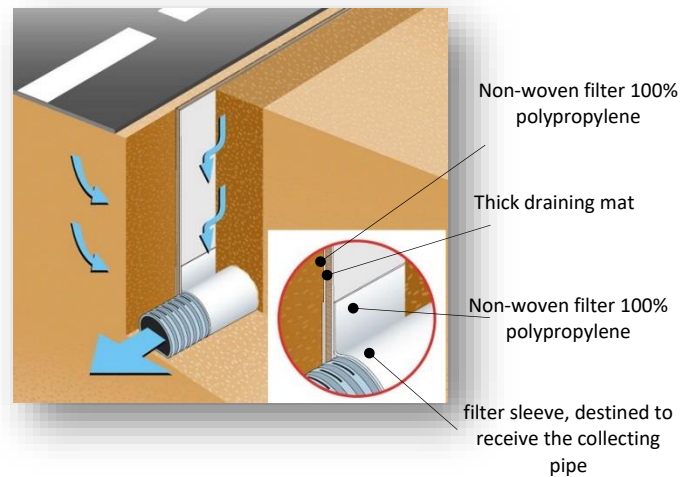
- It forms a capillary screen which retains the existing level of humidity in the supporting ground when being installed.
- It collects infiltration water present in the body of the road and in the upper supporting soil layer.
- It presents no risk for traffic circulation.
- The RDT has a strengthening effect on the road structure, particularly on flexible structures built on fine, water-sensitive supporting soil.



Product description and function

It is composed of a non-woven needed drainage layer made of polypropylene (PP) linked through needle-punching to two non-woven needle-punched geotextile filters in PP.

A filter sleeve, created with a filter geotextile and designed to receive the collecting pipe, is attached to the composite layer in the factory by welding. This makes it possible to avoid compression of the drainage portion at the bottom of the product and thus to avoid a decrease in its flow capacity along its plane.



Site evolution



Installation of the collecting pipe inside the filter sleeve thanks to a pulling wire industrially incorporated inside the sleeve



Installation inside the trench and backfilling

Practical advantages of the DRAINCOTEX

- DRAINCOTEX 200 is manufactured from geotextiles which are highly sustainable materials;
- It is industrially manufactured and therefore its manufacturing parameters are factory controlled, ensuring consistency;
- It allows a gain in volume of earthworks;
- It allows to reuse the soil excavated during construction of the trench;
- It can be installed manually or mechanically.

Contact

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