

Secutex® Green - Renaturation/relocation of the Erft river near Neuss-Gnadenal - Germany

Renaturation of a watercourse

- **Project Name**
Renaturation/relocation of the Erft river near Neuss-Gnadenal, Germany
- **Client**
Erftverband, Bergheim, Germany
- **Designer**
Engineering office Dr.-Ing. Rolf Jürgen Gebler GmbH, Walzbachtal, Germany
- **Execution**
Böwingloh & Helfbernd GmbH, Verl, Germany
- **Product**
Secutex® Green 40G1 GRK 3





The Erft is a southwestern and left tributary of the Rhine, about 107 km long. Its course and water flow have been changed many times since the Middle Ages. In July 2021, some parts of Germany experienced continuous rain and floods, also in the catchment area of the Erft. In many places, the Erft overflowed its banks considerably, for example, in Bad Münstereifel and Erftstadt-Blessem, where - intensified by a rushing current - major damage was caused. Shortly before it flows into the Rhine, the Erft, which has been straightened over the past decades, is to be renatured, and the meandering course of the existing old arms is to be reconnected to the watercourse. This measure is part of the „Lower Erft“ perspective concept. The concept includes the near-natural redesign of the 40km long section of the Erft river from Bergheim to Neuss. Here, the Erft is being adapted to the reduced water flow (about a quarter of today's volume) associated with the end of lignite extraction.

At the lower end of the construction measure, a river bottom slide will be built to ensure ecological passability (passability for fish and small organisms). The fish pass will enable fish and small aquatic organisms to migrate from the Rhine into the Erft. The Erft river will be relocated over a length of 1,680m.

Challenge

The design of the new Erft river course, the secondary floodplains and the river bottom slide will result in 35,000m³ of excavation. The current course of the Erft will be backfilled over a length of approx. 300m in four sections. The excavated material will be completely reinstalled within the project area for landscaping and partial backfilling of the existing Erft river course.

During the construction work, the material is temporarily stored. Temporary storage areas on natural subsoil are needed for this purpose. The excavated material should be separated from the sub-soil during storage, for which a separating and filtering nonwoven can be used as standard. The stored excavated material should be reinstalled and thus be free of any adhering nonwoven residues or fibres from the temporary storage area.

Solution

This requirement has been solved excellently with a biodegradable nonwoven Secutex® Green 40G1 GRK 3. Due to its geotextile robustness class, this nonwoven from the GreenLine product family is strong enough to absorb the stresses of construction operations. Should fibres or nonwoven residues end up in the soil to be reinstalled, this is completely harmless, as the nonwoven Secutex® Green G1 will degrade 100% in the environment. TÜV Austria confirms this with the OK compost SOIL and OK biodegradable WATER certifications for the prevailing boundary conditions in this project. Other certificates such as OK biodegradable MARINE, OK compost HOME and OK compost INDUSTRIAL have also been confirmed for this nonwoven. The Seedling Certificate, according to DIN EN 13432, confirms the harmlessness towards seedlings so that nothing prevents successful renaturation.