



Rehabilitation Lichtenberg Dam (D) Exposed Geomembrane System

Country	Germany, Saxony
Type	Dam, Reservoir
Client	Landestalsperrenverwaltung Freistaat Sachsen
Main Contractor	Renesco GmbH
Execution of the Work	Renesco GmbH
Designer	Tractebel (Engie) GmbH
Quality & Material Consultancy	GGU Gesellschaft für Grundbau u. Umwelttechnik, GEOscope GmbH
Construction Period	2026 (June-September)

Project Description

After 50 years of operation, several rehabilitation works are required at the Lichtenberg Dam, part of the drinking water reservoir situated south-east of Freiberg/Saxony. These include the external dam lining on the upstream dam face, the waterproofing of the intake tower and the reconstruction of the dam crest.

The 300-metre-long barrier structure, which was completed in 1975, is a 42.8-metre-high rock-fill dam with a surface seal made of asphalt concrete. The barrier dams up the small river "Gimmlitz" to form a reservoir of water covering around 100 hectares with a capacity of 15.6 Mio. m³.

The subsoil beneath the dam had to be prior sealed to the construction. To this end, a double-row grout curtain was driven into the ground to a depth of 25 metres. The 345-metre-long core wall, which houses the inspection gallery, rests on this sealing curtain.

Scope of Service

Supply & Installation of a drained waterproofing system using an exposed geomembrane/geocomposite, stretched and comparted by tensioning profiles with a quantity of around 20'000 m².

- Substrate preparation work of the asphalt concrete under tough environmental conditions with the exist of asbestos (TRGS 519)
- Installation of the stainless-steel tensioning profiles and setting of the adhesive anchors (face anchorage).
- HDPE geogrid (4mm) was installed behind the sealing liner.
- Installation of a 3.5 mm thick flexible geomembrane/geocomposite, based on PVC-P, according to EN13361, laminated on the backside with a geotextile of 500 g/sqm, based on polypropylene (PP).
- Watertight stainless-steel perimeter seal terminations to the asphalt concrete facing shell structure according to DIN 18195 with 12mm thick and 150mm width steel plates), quantity of around 750m
- Core drilling works for the drainage pipes, 30 pcs., with a depth of around 2.50m
- Around 4.4 km of stainless-steel profiles and 16'000 anchors
- Around 60 pcs. of air-ventilation pipes



1. Overview of the reservoir, dam structure and intake tower
2. Exposed PVC geocomposite with tensioning profiles
3. Installation of the new geomembrane system