

Project Report

Geolock

Cofra

Project

Abcoude, Netherlands

Total Project Area

1,650 m²

Required Technique

Geolock

Equipment

1x 35 ton crawler crane with
a 2 tons vibrator "7RF"

1x trenching machine with a 8,0 m¹ long chain



Geolock is a vertical plastic waterproof barrier consisting of a patented lock construction made of extruded HDPE with a HDPE 2,0mm membrane welded to it. This lock construction guarantees optimal waterproofing. Geolock can be used as a vertical water barrier in civil engineering constructions.

The Project

Abcoude is a small village at the south of Amsterdam, the river "Angstel" flows through the center of the village ending at the north side of the village in a lake "Abcoudermeer". Because the dike near the lake, separating the river from a urban area, is constantly leaking, the Regional Water Authority "Waternet" decided to reconstruct the dike. To prevent the leaking of water through the dike, resulting in instability of the dike, the new construction is designed with a Geolock vertical barrier. The Geolock vertical barrier is placed in a "mixed-in-place" bentonite trench reaching a maximum depth of 7.10 m beneath ground level.

Installation

A special made steel guiding frame attached to the Geolock sheet pile is lifted by the crawler crane and vibrated into the "mixed in place" bentonite trench until the required depth is reached. When lifting the steel-frame the Geolock sheet pile will stay behind at the required depth. The next Geolock sheet pile will be connected to the installed one and vibrated to the required depth. A total of 262.50 m¹ of Geolock vertical barrier is installed at three areas along the dike. The Geolock sheet piles are installed at two different depths, respectively 6.10 m and 7.10 m below ground level.

Review

The Geolock vertical barrier is executed in a satisfying way according the design to ensure that the leakage of the dike cannot take place any longer. The dike protecting the urban areas near the river and lake is now reliable and will be a stable construction for many decades.

