

Flood defences alongside the River Flöha in Olbernhau: Retaining wall upgrading works and deep foundations with TITAN micropiles



Olbernhau in the Erz Mountains is not only famous for its wooden nutcrackers, but also attracted fame of an unwelcome kind during the floods of August 2002. The River Flöha burst its banks and the ensuing flood caused damage totalling about € 40 million in the little town.

The challenge

Uninterrupted flood defences over a distance of 3 km and designed for 50-year return flood are intended to protect Olbernhau from future flood disasters. This project called for an access road to be built in the river so that the upgrading works to the existing retaining walls and the provision of the deep foundations for the new walls could be carried out in the dry. The cramped site conditions ruled out the use of large plant.

The solution

Almost 1000 TITAN micropiles supplied by Friedr. Ischebeck GmbH were installed in section 2 of the flood defence measures (between the Markt and Obermühlen bridges). To upgrade the existing retaining walls, TITAN 30/11 micropiles, 3 m long, were installed to act as tension piles. TITAN 40/16 and TITAN 52/26 micropiles, 6 m and 9 m long, were installed to function as compression piles beneath the foundations for the new retaining walls. Only small rigs were required for the drilling operations, the same method being used throughout despite the different types of application for the TITAN micropiles.

Freiberg-based contractor LSTW Landschaftsgestaltung, Straßen-, Tief- u. Wasserbau GmbH carried out the work. In the past subcontractors had been appointed, but in August 2020 the company invested in its own plant for installing TITAN micropiles. Managing director Volker Walter explains: "This investment decision was made easy by the convincing product range, the good cooperation with Ischebeck and the enormous potential in this market."

LSTW GmbH invested not only in new drilling and grouting equipment, but also considered environmental aspects by purchasing an up-to-date washing and neutralisation tank.

Project: Flood defences concept No. 22, section 2, Flöha in Olbernhau

Construction period: 2021–2023

Client: Dams Authority of the Federal State of Saxony

Contractor: LSTW Landschaftsgestaltung, Straßen-, Tief- u. Wasserbau GmbH, Freiberg

Products used:

- approx. 505 pcs. TITAN 40/16 and 52/26 micropiles
- Foundations for retaining walls, inclined at 0° to 30° to the vertical
- Retaining wall anchorages and upgrading, approx. 80° to the vertical



Ischebeck TITAN 40/16 and TITAN 52/26 micropiles were used in the foundations for new retaining walls in this section of the flood defences.

The benefits of TITAN micropiles

- Good economics and fast progress on site with the self-drilling system
- Retaining wall foundations, anchorages and upgrading all with just one system and the same plant on site
- Small plant is also ideal for areas with difficult access
- Extremely low-vibration, rotary percussive installation
- Approved for permanent applications (100+ years)



TITAN micropiles are approved for permanent applications (100+ years, DIBt approval Z-34.14-209).

Would you like to find out more about TITAN micropiles?

We would be happy to advise you about your particular project. Simply get in touch with us. We look forward to hearing from you.



TITAN 30/11 micropiles were used to upgrade existing retaining walls.

FRIEDR. ISCHEBECK GMBH

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