

## Bridge in Wischhafen

### Project Owner:

District of Stade

### Client:

Fr. Holst GmbH & Co. KG

### Quick Info:

Deep foundation of a road bridge with TITAN micropiles according to DIN EN 14199

### Technical Information:

System:	TITAN micropile
Quantity:	19 pcs. type 73/53, 7 pcs. type 73/53 + 73/45
Length:	24,00 to 31,50 m
Service Load:	up to 746 kN compressive load, up to 322 kN tensile load
Technique:	rotary percussive flush drilling with single casing
Building Ground:	Sand
Time Frame of Works:	28.07. – 13.08.2010

The bridge of the district road K 85 (Hollerdeich) across the „Wettern“ near the junction with the primary road B 495 (Stader Straße) in Wischhafen, Niedersachsen, was due to be rebuilt. In order to sustain increasing traffic loads caused by agricultural machines and equipment in the future, the project owner has commissioned to rebuild the bridge from the ground up. In this endeavour, we were entrusted with the task to produce the necessary deep foundations for the counterforts and the wing walls.

According to the original plan of our client, the pile production should have taken place from the old bridge prior to demolition. But because of different headaches and obstacles this idea was abolished, such that the bridge was finally torn down prior to pile production. Therefore, we were able to conduct our drill and grout works comfortably from ground level (see Image 1). Due to very soft upper building ground we had to take measures to protect our micropiles from kinking. For that matter, we constructed the upper 3 m of some piles with thicker TITAN casings than the lower 21,00 to 28,50 m. We also inserted HDPE casings with diameters of 200 mm, as required by constructional authorization. Image 2 depicts our completed TITAN micropiles after the pile heads, which were then embedded in their respective counterforts, had been mounted. In addition to ca. 750 kN compressive loads, our mini piles had been designed to bear tensile loads of up to ca. 320 kN.



Image 1



Image 2