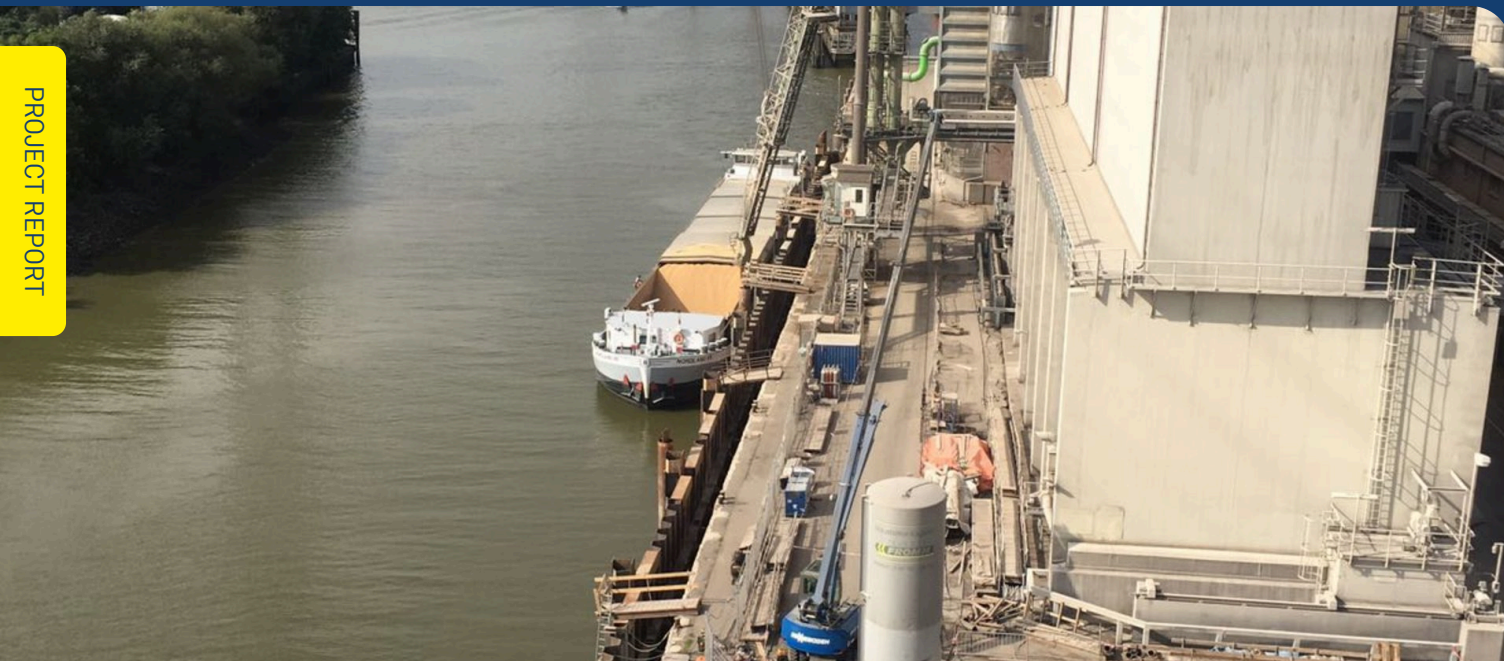




Hamburg Neuhöfer Canal

Data and facts

Company	PORR Spezialtiefbau GmbH
Type	Rehabilitation
Runtime	05.2016 - 10.2016
Principal	Aug. Prien GmbH & Co. KG

[Project report online](#)

www.porr.de



Micro-grouted piles for the rehabilitation of a quay wall in the Port of Hamburg

Quay wall refurbishment on the Neuhöfer Canal

The project is situated in the immediate vicinity of the Köhlbrand Bridge within the Port of Hamburg. As part of the refurbishment works, the existing quay wall was supplemented with a new sheet pile wall structure. The structure was back-anchored using micro-grouted piles.

56 micro-grouted piles for rear anchoring

A total of 56 GEWI micro-grouted piles with double corrosion protection were manufactured to anchor the new sheet pile walls. The piles have total lengths ranging from 25.0 m to 30.0 m and a diameter of 75 mm. In total, approximately 1,609 running metres of micro-grouted piles were installed. The piles were installed at angles ranging from 42° to 53° and serve to anchor the quay wall structure.

Work carried out from a pontoon in a tidal harbour area

The work was carried out entirely from a pontoon. The site on the Neuhöfer Canal is characterised by the tidal influence of the Port of Hamburg, which means that working conditions change regularly. An 80-tonne mobile crane was also used on the pontoon for the installation of the micro-grouting piles. Equipment and material logistics were adapted to the spatial conditions of the site.

Subsoil and existing structures

During the works, various obstacles as well as substances corrosive to concrete were encountered in the subsoil. The micro-grouted piles were constructed taking these constraints into account. Furthermore, the works had to be co-ordinated with the ongoing operational activities at the port site. Construction work was partially interrupted to allow for the unloading of seagoing vessels.

Load tests on the anchoring elements

Due to the varying pile inclinations, a variable test rig was developed for the load tests. The maximum test load applied was 2,810 kN. The tests were carried out to verify the load-bearing capacity of the anchoring elements.

Basis for the quay wall refurbishment

With the installation of the micro-grouted piles, the rear anchoring of the new sheet pile wall at Berth 2 of the Neuhöfer Canal was carried out. The anchoring elements form an integral part of the quay wall refurbishment and the upgrading of the port infrastructure.

Impressions

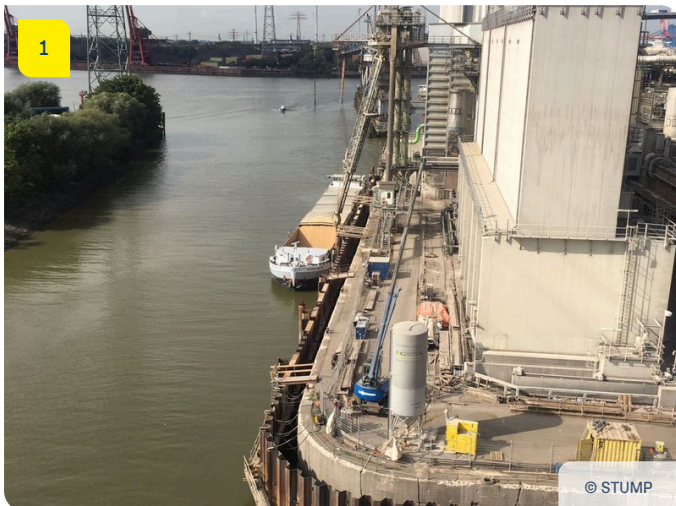


Image notes

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Neuhöfer Kanal Hamburg

Kaimauer Neuhöfer Kanal Hamburg

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Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

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