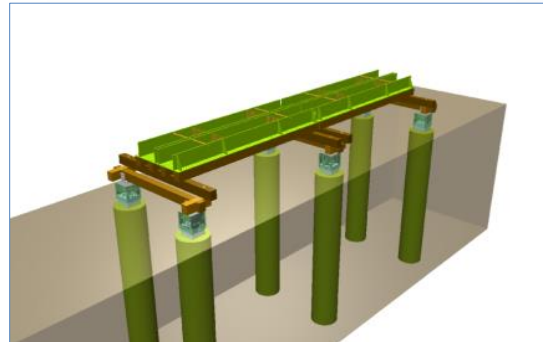
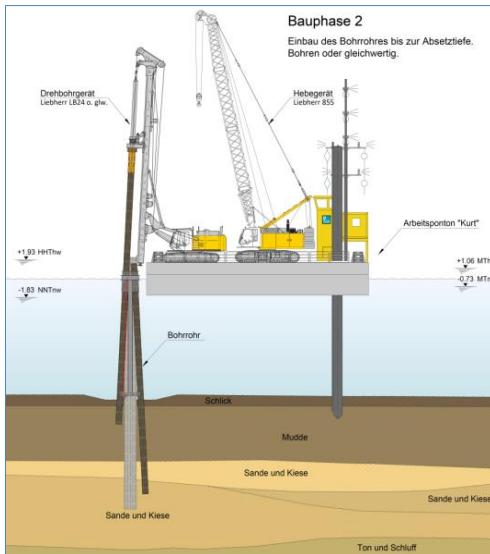




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## REFERENZ HARBOUR CONSTRUCTION AND MARINE ENGINEERING

# Replacement of demagnetisation facility, Karl-Friedrichsort



On 7 November 2012 the water construction engineering division of Bilfinger Construction GmbH was part of a bidding consortium (partners: F+Z Baugesellschaft mbH, TGF, 55%, Aug. Prien und Tiefbau GmbH Unterweser) which was awarded the contract for the construction of the submarine demagnetisation facility in Kiel-Friedrichsort. The contract was for a secondary proposal.

The new plant was to provide magnetic measurement, demagnetisation, measurement and adjustment of ferromagnetic ships (submarines) up to 180 m in length, 25 m in width and with a draught of up to 9 m. The newly constructed demagnetization facility is to be approx. 300 m from the shore. The water depth here is between 10 and 13 m. The exterior dimensions of the plant are approx. 90 x 250 m (approx. 22,500 m<sup>2</sup>).

In return, the existing facility which is no longer large enough must be demolished and removed.

The ship units to be measured will either be towed over the demagnetization plant or will move into position under their own power. In the simulation of roll measurements, the units must be tied in place above the plant. The necessary fastening systems for this purpose must be provided.

**Contract Value:**  
~ € 26.8 million

**Executed by:**  
F+Z Baugesellschaft

**Employer:**  
WSA Lübeck

**Construction Period:**  
2012-2020

**Construction site:**  
Kiel-Friedrichsort

**Specifications / Main Quantities:**

- New construction:  
 Displacement bore piles  
 Ø 85 with integrated prefabricated concrete parts 40/40 cm  
 ~7,500m  
 In-situ concr. piles Ø 76 cm  
 1,030m  
 GRP reinforcements  
 56t  
 Fastenings ~ 28t  
 (a-magnetic)  
 PE cable ducts ~ 3,950m  
 Steel tubes as aux. piles  
 500 t  
 Basralocus wooden piles  
 280m3 50/50 cm  
 Sawn timber ~ 450m3  
 Basralocus/Baugesellschaft  
 HDPE pipes ~ 480m  
 Fastenings ~ 1,000m

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The technical measurement and simulation features in the simulator consist of a coil system and two rows of probe sensors. The necessary energy supply systems are part of the contract. The laying of the cables (under water) will be the subject of a later tender process.

Consortium with Aug. Prien und Tiefbau GmbH Unterweser.

### Specifications / Main Quantities:

#### New construction:

Displacement bore piles  
Ø 85 with integrated prefabricated  
concrete parts 40/40 cm  
~7,500m

In-situ concr. piles Ø 76 cm  
~ 1,030m

GRP reinforcements  
~ 56t

Fastenings (a-magnetic)  
~ 28t

PE cable ducts ~ 3,950m

Steel tubes as aux. piles  
~ 500 t

Basralocus wooden piles  
~ 280m<sup>3</sup> 50/50 cm

Sawn timber ~ 450m<sup>3</sup>

Basralocus/Bongossi/oak

HDPE pipes ~ 480m

Fastening cables ~ 1,000m

#### Demolition:

Wood from underwater foundings  
~ 655T

PE ducts ~ 500m

E cables Ø20 mm ~ 24,000m

