

REFERENZ HARBOUR CONSTRUCTION AND MARINE ENGINEERING
 Berth 9 - Offshore base Cuxhaven



The order for the construction of the offshore LP 9 in Cuxhaven was generated by a joint venture of F+Z Baugesellschaft (today Depenbrock Ingenieurwasserbau), Josef Möbius, Tiefbau GmbH Unterweser and Heinrich Hirdes via a secondary bid with optimized finger pier and sheet pile wall construction. Execution took place between March 2010 and December 2012.

The existing offshore base port LP 8 (see also reference projects) was thus extended by 680 m in length. The quay wall is divided into general cargo, bulk cargo and flushing berth. In addition, a finger pier was planned for the shipment of wind power foundations by means of a catamaran installation ship. In addition to the core services, consisting of pile driving and reinforced concrete work, dredging, drainage and road construction work was carried out.

The challenge of this project lay above all in the demanding local subsoil conditions with deep soft layers. In cooperation with the soil expert, various test loads on the supporting elements were carried out and evaluated and concepts for the pre-consolidation of the soft layers were developed.

After the technical office had successfully completed the implementation planning, it was carried out using its own equipment units.

Contract Value:
 ~ € 59,7 million

Executed by:
 Depenbrock Ingenieurwasserbau
 (former: F+Z Baugesellschaft)

Employer:
 Niedersachsen Port GmbH & Co. KG

Construction Period:
 2010-Jan. 2013

Construction site:
 Cuxhaven

Specifications / Main Quantities:

- Sheet piling
 - up to 30 m length 1.700 t
 - Pipes up to 40 m length,
 - Ø 1.420 mm, ca. 8.000 t
 - 290 pieces
 - Inclined pile anchoring
 - about 2.000 t; up to 50 m length
 - 260 pieces
- In situ concrete piles
 - length up to 36 m 800 pieces
- Dredging berth approx.
 - 500.000 m³
- Sand refill 500.000 m³
- Reinforced concrete
 - superstructure 10.500 m³



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The combined sheet pile wall consisting of support tubes $\text{\O}1420$ mm with lengths of up to 30 m was anchored back with Peiner sloping piles with lengths of up to 50 m. A low-lying shielding plate was provided to relieve the sheet pile wall for the very high area loads. The foundation of the slab with 3 to 4 pile rows was carried out using in-situ concrete driven piles $\text{\O}61$ cm with lengths of up to 36 m.

