

Expansion of Port of Rønne, phase 1

Future-proofing Bornholm's largest traffic and commercial port



AARSLEFF

Port of Rønne is the largest commercial port of the island of Bornholm and essential for Bornholm's growth and development. To accommodate the increasing number of passengers and growing amounts of cargo transported on ships that tend to become larger and larger, Port of Rønne has made an ambitious master plan for expanding the port towards 2050. In a design & build contract, Per Aarsleff A/S delivered the first phase of the port expansion together with VG Entreprenør A/S – the Group's specialists in coastal protection and breakwater construction.

New large harbour area

The design & build contract consisted of 900,000 cubic metres of dredging of the harbour basin to a water depth of 11 metres as well as establishment of 150,000 square metres of harbour area with crushed stone paving. The port expansion will provide far better conditions for receiving bigger cruise ships and will secure the supply on Bornholm as well as facilitate new business areas within the offshore industry. Our work also included the establishment of a new utility system for the harbour area as well as a reception system for wastewater from the cruise ships.

In addition, we built a 600-metre-long combi wall consisting of a total of 4,500 tons of steel for a new heavy load quay. The quay consists of HZ/AZ profiles of up to 21.8 metres, anchored with up

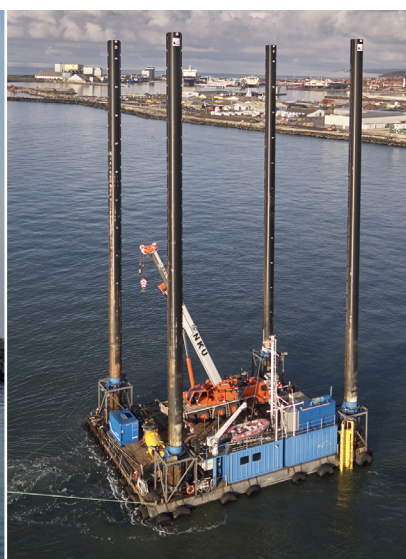
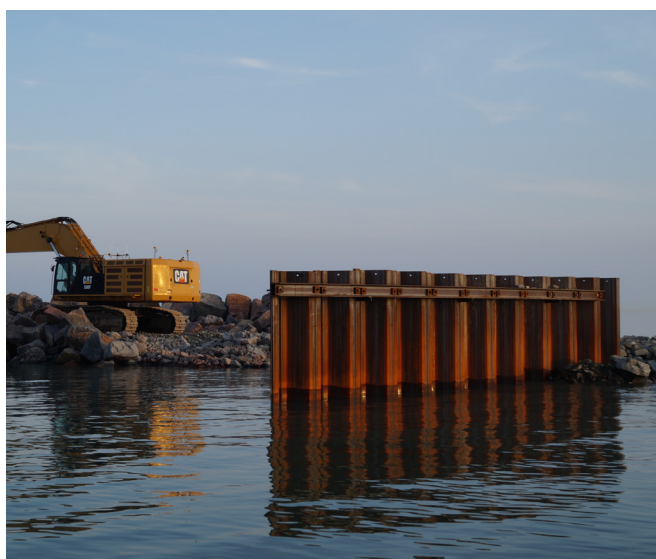
to 35-metre-long anchors. The work also involved concrete work as well as fitting out with fenders and bollards.

Special geological conditions

Throughout the project life cycle, we never lost sight of the rocky island's challenging geological conditions. The quay walls for example were installed in Jurassic deposits making great demands on the piling equipment used. The profiles were installed with an ICE1412C vibrator and redriven with a 16 tons free-suspended hammer. We used selected, local materials as approx. half of the 610,000 tons of stone for the new 1,100-metre breakwater came from local stone quarries. The remaining stones were sailed to Bornholm from Norway and Sweden. The largest cover stones used for the project weigh up to 25 tons each. We used a custom-built 200-ton excavator to build the outer breakwater.

Despite challenging wind and weather conditions, we completed the project on time and handed over a fully operational port now capable of accommodating the growing number of passengers and cargo. Our joint One Company collaboration between the Aarsleff divisions Ground Engineering and Construction plus the Aarsleff specialist VG Entreprenør allowed us to successfully deliver this significant project.

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Data

- 11,100 rm of stone break-water
- 610,000 tons of stone with cover stones up to 25 tons
- 900,000 m³ of dredging to a water depth of -11 m
- 925,000 m³ of sand to be supplied
- 600 m of combi wall for new heavy load quay
- 1 reception system for wastewater from cruise ships

- 1 utility system for new harbour area
- 150,000 m² of new harbour area

Client

Rønne Havn A/S

Contractor

Per Aarsleff A/S

Cooperation partners

VG Entreprenør A/S
Rohde Nielsen A/S

Type of contract

Design & build

Consulting engineers

Sweco
NIRAS (client's consultant)

Construction period

October 2017-October 2019

Contract value

Approx. DKK 546 million

Contact

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