



FEATURES

Client	Outokumpu Stainless Oy
Location	Port of Röyttä, Tornio, Finland
Period	2005 – 2006
Contractor	Terramare Oy

SCOPE

The harbour of Röyttä was extended with a new 484 metre long retaining quay wall, including the renovation of the old quay, in which a new 215 metre tubular steel pile wall was installed. The quantity dredged from the port basin was 750,000 m³.



QUANTITIES

Dredging	750,000 m ³
Piling	85 piles, l=16.7 m, d=1220 mm
Retaining quay wall	484 m, h=11.6 m
Renovation of old quay	215 m
Erosion protection slabs	7,800 m ²
Concrete in total	9,700 m ³
Tubular steel pile wall	661 tonnes

MAIN PLANT

Backhoe dredger	Koura 2, Long John, Attila and Kuokka-Pekka 2
Self propelled barges	Pena 1, Cara, Tiukka, Jupiter and Uranus
Floating Crane	Nosto-Pekka
Tug	Retu
Draglines	Lima 2400 and Manitowoc 4600
Pile driving rig	Junttan PM 25 on work platform Pora-Pekka 4

A Aerial view of the Röyttä Harbour and the project area.

B Port of Röyttä before the extension.



INTRODUCTION

The Tornio Stainless Steel Works has made major investments, resulting in the need to extend the Port of Røyttä. The extension project included a new retaining quay wall, the renovation of the old quay and dredging of the port basin.

SLIPFORM CASTING, RETAINING QUAY WALL AND DREDGING

Construction of the Røyttä Harbour extension started with slipform castings in which 95 elements for the new retaining quay wall were built at site. Dredging of the harbour basin began simultaneously. A total of 750,000 m3 of the basin was dredged. The dredged material in the basin was used for reclamation on a new port field. The elements of the retaining quay wall were installed before winter. The erosion protection slabs were also built at site and installed.

TUBULAR STEEL PILE WALL

The following building season started with the construction of the coping beams, reclamation works and dredging. Renovation of an old quay wall is always challenging, because the condition of old structures might be unpredictable. The renovation proceeded well, and the tubular steel pile wall was completed on schedule. The durable tubular pile wall consists of steel pipes welded together with shaped joints. The piling plant operated both onshore and offshore. The anchor bars were installed between the old chests, piles and pipe lines.

MAIN PLANT USED ON THE PROJECT

The dredging of Røyttä Harbour basin was executed by utilizing four of Terramare’s own backhoe dredgers Koura 2, Long John, Attila and Kuokka-Pekka 2. The dredged material was transported by barges and lifted by the draglines Lima 2400 and Manitowoc 4600. The floating crane Nosto-Pekka was used for transportation and installation of the elements. The piling was executed by the piling rig Junttan PM 25.

The extension of Røyttä Harbour was completed on schedule at the end of 2006.

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- C** Backhoe dredger Koura 2.
- D** Quay wall elements.
- E** Installing element with floating crane Nosto-Pekka.
- F** Concrete coping beam.