



FEATURES

Client	Port of HaminaKotka Ltd, Finland
Projects	Port of Hamina PK3 reception quay and river vessel jetty contracts
Location	Hamina, Finland
Period 1	PK3 reception quay strengthened & extension December 2016 – October 2017
Period 2	New river vessel jetty, dolphin and two ramps May 2017 – April 2018
Contractor	Terramare Oy

SCOPE

Port of HaminaKotka Ltd and Sarens Group N.V. signed an agreement on the transport of 1,000–1,600 tonne modules to Kazakhstan via the Port of Hamina. Terramare has implemented two quay contracts for the project, included the strengthening and extension of the PK3 quay as well as the construction of a new river vessel jetty, including a mooring dolphin and two ramps.

A Artist's impression of the completed harbour area project.

Terramare Oy
Laurinmäenkuja 3 A
PO Box 14, FI-00441 HELSINKI, FINLAND
P +358 9 613 621 | F +358 9 6136 2700
www.boskalis.com/terramare

QUANTITIES | PK3 RECEPTION QUAY

Strengthened, length x width	140 m x 15 m
Bored tubular steel piles	148 (for strengthened)
Extension, length x width	100 m x 21 m
Driven tubular steel piles	147 (for extension)
Concreting, total	4,265 m ³
Reinforcement steel, total	600 tonnes

QUANTITIES | NEW JETTY, DOLPHIN AND RAMPS

Dredging, jetty basin	41,000 m ³
Jetty, length, total	123 m (including dolphin)
Driven tubular steel piles	74 (for jetty and dolphin)
Ramps / width	2 / (24.75 m + 24.75 m)
Bored tubular steel piles	78 (for ramps)
Concreting, total	2,650 m ³
Reinforcement steel, total	512 tonnes

MAIN PLANT

Backhoe Dredgers	Attila (Hitachi EX 1900-5) Kuokka-Pekka 5 (CAT 349 EL)
Grab Dredger	Meri-Pekka (Liebherr HS 895 HD)
Self-Propelled Barge	Fredrik (capacity 300 m ³)
Work Pontoons	Paalu Upi
Piling Equipment	Junttan PM 25 LC
Tug	Koli
Other plant	Piling unit & excavators on land



INTRODUCTION

Terramare has implemented at the Port of Hamina two quay contracts commissioned by Port of HaminaKotka Ltd. The quays were constructed for the transport of massive modules via the Port of Hamina to Kazakhstan. The modules, ordered by

the oil industry and transported by Sarens Group N.V, weigh over 1,000 tonnes, with the heaviest weighing nearly 1,600 tonnes.

The quay contracts included the strengthening and extension of the Port of Hamina's Palokangas PK3 quay for the reception of the modules as well as the construction of a new jetty, including ramps, for the river vessels that will transport the modules to Kazakhstan. Both quays have been delivered fully equipped.

PK3 RECEPTION QUAY

The PK3 quay contract included the strengthening of the retaining quay wall field and ramp as well as a temporary extension of the quay for the duration of the transport project. The work began with the demolition of the quay field, after which piling, moulding, reinforcement and concreting work was launched. Preliminary work also included the removal of erosion protection slabs along part of the quay.

The PK3 quay was strengthened over an area approximately 140 metres long and 15 metres wide. Strengthening of the quay field was based on 148 bored tubular steel piles, each 17–18 metres in length. The approximately 100 metres long and 21 metres wide extension section of the sea-facing side was founded on 147 driven tubular steel piles. Concrete beams and slabs were cast for the strengthened quay field and extension. After the transport project, the temporary quay widening will be removed.

RIVER VESSEL JETTY, DOLPHIN & TWO RAMPS

The river vessel quay, implemented as a jetty, is located on the opposite side of the PK3 quay harbour basin. The contract began with 41,000 m³ of dredging in the harbour basin. The quay work consisted of the construction of a 92-metre jetty equipped with a dolphin and loading ramp. The total length of the structure, including the dolphin and a connecting steel bridge, was 123 metres. The jetty was founded on 74 driven tubular steel piles and the loading ramps on 78 bored tubular steel piles. Concrete beams and decks were cast on top of the pilings. The jetty, delivered fully equipped, will remain at the port for future use.

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PORT OF HAMINA, FINLAND

PK3 RECEPTION QUAY AND RIVER VESSEL JETTY CONTRACTS



- B** View of the PK3 reception quay worksite.
- C** Piling unit Junttan PM 25 LC and work pontoon Paalu.
- D** View of the River vessel jetty worksite.
- E** View of the River vessel jetty ramp worksite.