

## Harbour Quay Wall in Odense, Denmark

### Project Owner:

Commune Odense

### Client:

Morgens Pedersen A/S

### Quick Info:

Harbour sheet pile anchoring in Odense  
Harbour with GEWI-bar anchors

### Technical Information:

System:	GEWI-bar anchors, Ø 57,5 mm, St 670/800, with 2 secondary injections
Quantity:	45 pcs. inclined at 30° to horizontal axis
Length:	20,00 m
Anchor Forces:	Service Load = 695 kN, Test Load = 973 kN
Technique:	Rotary percussive drilling
Soil Type:	Peat, Clay
Time Frame of Works:	September 2011

In the course of renovation activities in the harbour of Odense, a stretch of ca. 135 m long quay wall had to undergo reconstruction. A new harbour sheet pile wall was installed about 1 m parallel to the old quay facility on the waterside. This endeavour required 45 pcs. tie-back anchors to secure the new quay wall. One specialty in this project was that all anchor production took place from tidal waters. Adjusting to the constantly changing heights demanded special expertise from our personnel (see Image 1).

A number of old wood piles, on top of which the existing quay facility was founded, had to be perforated in the course of production. Despite these obstacles we were able to realise all anchorings with limited additional effort while keeping disruption to a minimum. In order to avoid oversize transportation cost, we decided to couple our anchor bars to reach the total anchor length of 20 m employing special coupling devices with added protection against decoupling in the course of production activities.



Image 1: Drill rig on a swimming platform