

# Terminal 3, Copenhagen Airport

## Preliminary work for the extension of Terminal 3



**AARSLEFF**

For the extension of Terminal 3 at Copenhagen Airport, Aarsleff has carried out underpinning of part of the existing building. The project is carried out as part of the relocation of a service road which had to be moved before the extension of the terminal could begin.

The underpinning was mainly carried out with Titan 73/35 self-drilling micropiles type as well as a small number of drilled DN508-millimetre piles, which were drilled along the existing column foundations and subsequently cast together with these.

### Project optimisation

In collaboration with the client and the consulting engineer, we decided early on in the project to use self-drilling micropiles instead of the original solution with DN508-millimetre piles. By changing the execution method, we could optimise the time schedule and furthermore, we were able to install the piles as planned even in the hard and stony moraine clay of the area.

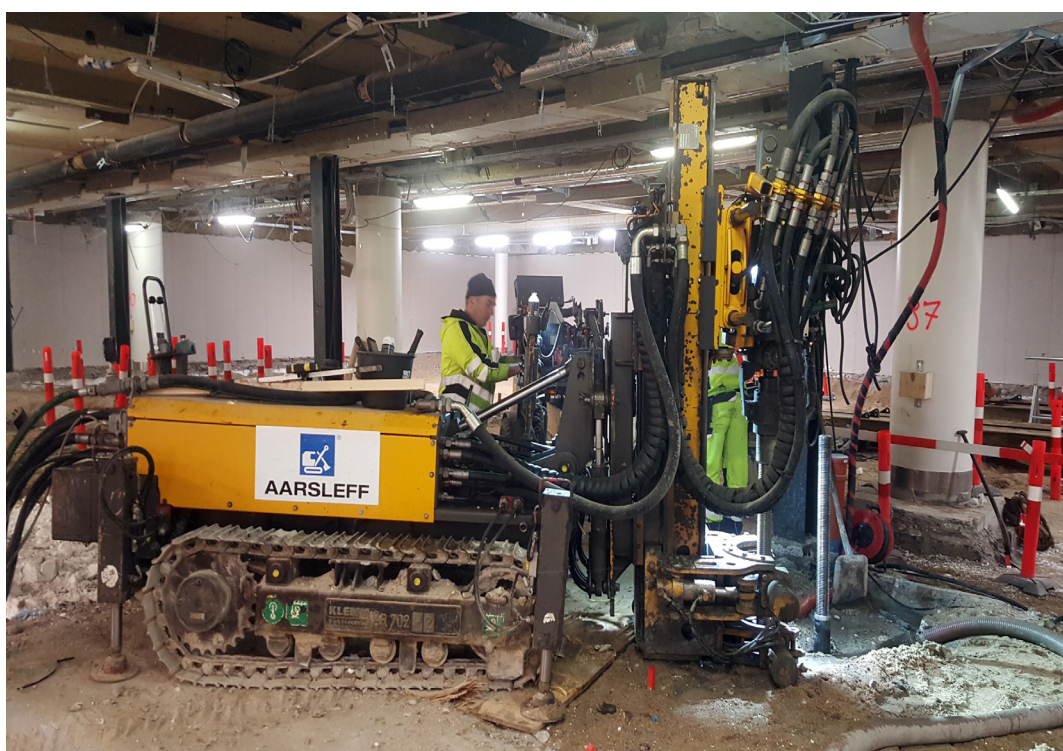
### 143 micropiles

To comply with the time schedule, we executed the five drilled piles at the same time as we installed and load tested four micropiles to verify the bearing capacity and the applicability in the specific soil conditions. The load tests showed the expected bearing capacity, and then we could start on the installation of the self-drilling micropiles on the rest of the project.

The project was carried out while part of the terminal was in operation, which placed high demands on airport safety as well as on minimisation of noise and vibration. To maintain operation of the terminal and the gates, we had to install all the piles with a very limited working height of down to 2.7 metres.

In addition to the limited working height, there was increased focus on the time schedule, as the relocation of terminal roads and installations was important before the extension of the terminal could begin.

All 143 micropiles were installed according to plan, and we were able to start on the subsequent contract of demolition, casting and relocation of installations.



#### Data

- 5 drilled piles, DN508 mm, L=6 m
- 143 self-drilling micropiles, L=15 m
- 4 load tests/test piles for determination of the bearing capacity of the micropiles

#### Client

Copenhagen Airport

#### Contractor

Per Aarsleff A/S Brødrene Hedegaard

#### Type of contract

Subcontract

#### Consulting engineer

MOE A/S

#### Construction period

September 2018-March 2019

#### Contract value

DKK 6 million

Aarsleff Ground Engineering is one of Europe's leading piling contractors, and we undertake a wide variety of piling, drilling and foundation projects in Denmark and abroad. We have offices in Poland, Sweden, Germany and the UK.

Our fleet covers hydraulic piling and drilling rig as well as cranes and vibrators.

#### Contact

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