

Biopharm Filling Kalundborg

Shell structure contract for Novo Nordisk A/S



AARSLEFF

Per Aarsleff A/S has constructed a large factory building for Novo Nordisk for the extension of the company's facilities in Kalundborg. The new multi-storey building with a five-metre-deep basement will ensure that Novo Nordisk can meet future demands for its current products.

Concrete cast in situ, concrete elements and steel

The contract comprised earthwork, sewer work, concrete work, element installation and pavement work. The building's foundations, construction pits and floor slabs at basement level is made of concrete cast in situ.

The basement is encircled by concrete element walls and has a strong concrete deck placed on column beams. The basement deck is carried out as a very thick filigree deck with strong reinforcement to support the future production plants.

Above ground level, the building has concrete columns that support the latticed trusses made of steel beams which are to carry the technical floor of the factory. The facades are made of double-height sandwich concrete elements, and the roof deck is made of voided slab elements mounted on the steel structure. In addition to the concrete

work, the contract comprised supply and installation of the steel structures.

Establishment of construction pit

Besides the construction of the shell structure, the main contract also comprised land development work, inclusive of the construction pit. With a basement planned for a depth of five metres and pits for Novo Nordisk's technical system, the excavation work reached depths of nine metres, so we were close to groundwater level. We protected the pits against uplift failure by means of groundwater lowering, and we protected the structures against penetration of groundwater.

Tight time schedule

The project was carried out according to a very tight time schedule with specific sub-deadlines and close coordination with Novo Nordisk. The project design was carried out concurrently with the execution phase, so part of the structures had to be adjusted on a continuous basis. However, Aarsleff had all necessary expertise in-house, so there were no unnecessary delays.



Data

- Construction pit – 13,900 m³ of soil
- Steel sheet piles
- Groundwater lowering – 6 active wells
- Sewer work – stormwater, wastewater and process sewer
- Concrete work – 3,810 m³ of concrete work, 290 tons of reinforcement

- Supply and installation of concrete elements
- Supply and installation of steel
- Paving and gardening work.

Client

Novo Nordisk A/S

Type of contract

Main contract

Contractor

Per Aarsleff A/S

Consultant

NNE Pharmaplan A/S

Construction period

August 2011-June 2012

Contract value

DKK 45.3 million

Contact

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