

Osebakken BT1

Porsgrunn, Norway

Keller installed close to 142.000 linear meters of 600mm diameter DDSM columns reaching to a maximum depth of 25m.

Cement-lime columns (DDSM) were installed not only to increase the stability of the soil, but also to provide foundation support for the future buildings.

In order to fulfil the design requirements, 45 FKPS tests were executed to confirm the as-built column homogeneity and strength results.



The project

Peab Eiendomsutvikling is responsible for construction of new apartment complex in Osebakken (Porsgrunn). The first stage of the project (BT1) comprises of 2 buildings which will consist total of 26 apartments. Keller was chosen to execute the DDSM columns to provide the direct support for the future foundations of the buildings.

The challenge

The construction site is located on a slope between the Porsgrunn river and the railway tracks. The soil profile consists of a 20-meter-thick layer of marine clay deposits, which are overlying moraine layer. The clay is homogenous and very sensitive (including quick clay).

The solution

Lime-cement columns were chosen as the geotechnical solution to stabilize the area and to transfer the loads from the foundations below the sensitive clay deposits (moraine layer). In order to meet the strict program requirements, Keller mobilized 3 drilling rigs to work simultaneously (each rig could mix soil to the depth of 25m). A total number of 45 columns were selected for FKPS testing to confirm that design shear strength was achieved. All columns passed the tests well before 28 days of curing time, which allowed Peab Eiendomsutvikling to accelerate the overall program of the project.

Project facts

Owner(s)

Peab AS

Keller business unit(s)

Keller Geoteknikk AS
Keller Grundläggning AB

Main contractor(s)

PBBL Prosjekt
Peab Eiendomsutvikling AS

Engineer(s)

Project manager - Erik Løberg
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Solutions

Bearing capacity / settlement control

Markets

Residential

Techniques

Dry soil mixing

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