

New container terminal gantry crane

Bejaia

Ground improvement for the construction of a container terminal gantry at the Port of Bejaia.



The project

As part of the construction of a container terminal in the port of Bejaia, Keller installed stone columns to enable a large gantry crane mounted on rails.

The challenge

The soil had poor characteristics (stress less than 1 bar).

Keller designed a soil reinforcement solution using stone columns to reduce the risk of liquefaction in the event of an earthquake, and reduce the expected settlement which could prevent the structure functioning as it should.

The solution

The stone columns were sized at ground level to support the foundation sill of the rails and reduce settlement to an acceptable levels.

The permissible stress (ELS) has was increased to 2 bars, allowing the building to be built safely and guaranteeing its proper functioning in the future.

Columns were installed to a depth of 18 metres to achieve this result and guarantee the treatment of soil layers subject to liquefaction.

In total, Keller executed more than 8,000 ml of stone columns to treat a sill over 430 metres long and a surface area of nearly 1,300 m2 in less than six weeks.

Project facts

Owner(s) Bejaia Mediterranean Terminal

Keller business unit(s) Keller Algeria

Main contractor(s) Port of Bejaia **Solutions** Bearing capacity / settlement control

Markets Infrastructure

Techniques Vibro stone columns / Vibro replacement

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