

Job Report

# Vibro Compaction with HS 8130



**LIEBHERR**



### Situation

Burj Khalifa, the tallest building in the world, dominates the town at a height of 828 m and is a symbol of the building boom in the Emirates. Where oriental tradition and ultra-modern design merge – that’s where the superlative becomes architectural reality. The new port with almost two million square metres is proving to be a further prestige project in Dubai. It includes 1110 berths for 1400 yachts, a terminal for cruise ships, luxury hotels, shopping centres, residential

### Challenge

In order for the project to be a success, the building ground must be improved along the 2675-metre long coast. For this purpose Keller is compacting more than 7 million cubic metres of sand in an area of 380,000 m<sup>2</sup>. Through deep compaction, the load-bearing capacity of the ground to support construction loads is enhanced and the settlement of

### Implementation

The long boom of the HS 8130 provides Keller with a large working radius. Without having to change the position of the duty cycle crawler crane, a wide radius of building ground can be compacted. The radius is a particular advantage for the steep drop into the sea. Work of this kind is usually carried out from a barge. Or land is temporarily reclaimed for the task and subsequently restored to the sea. Both these methods are considerably more time-consuming and cost-intensive.

buildings and a 135-metre high lighthouse. The new harbour in the Persian Gulf is the cornerstone for the Emirates’ vision of attracting 20 million tourists per year from 2020. Keller Grundbau GmbH is involved in the project. Through the right choice of construction machinery, the company has managed to eliminate one costly time-consuming working process.

the ground is reduced. Keller is a pioneer for soil compaction and has been involved in a number of large construction sites in the United Arab Emirates, including “Palm Islands”. For the current harbour project, the company is using a duty cycle crawler crane from the Liebherr HS series. The HS 8130 is equipped with a vibro-flot for deep compaction.

Thanks to the deep compaction using the HS 8130, Keller improves the building ground down to a depth of 19 m. The aim is to withstand a construction load of 200 kPa. In order to verify the geo-technical requirements of the ground, approximately 600 compaction points are being tested using SPT. In addition to the large radius of the HS 8130, the complete HS series has proven itself through its all-rounder qualities.

#### Technical data – HS 8130:

Max. lifting capacity:	130 t
Max. winch line pull:	2 x 350 kN
Max. main boom:	53 m
Operation weight:	116 t

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