

Mammoet smoothly executes tandem lift in Dubai

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Two cranes in synchronicity at Palm Jumeirah

Mammoet, the world's largest service provider specializing in engineered heavy lifting and transport, has completed a complex tandem lift at the Palm Jumeirah Island in Dubai. Beijing-based China State Construction Engineering Corporation (CSCEC) is building the Viceroy resort at Palm Jumeirah for Dubai-based Skai Holdings. The Viceroy will have 481 hotel rooms and 221 residences. The resort will also include 10 restaurants, an 800-square-meter spa, a 350-square-meter gym, a 106-meter swimming pool, and a beach club. Completion of the complex is expected in late 2016.

Mammoet was contracted to assist with building the presidential suite, a bridge-like structure between the two main wings of the complex. The suite's structure is supported by 10 trusses, weighing from 50 to 130 tons. The trusses needed to be mounted across the span between the complex's two wings at a height of 60 meters.

The equipment needed to lift the trusses into place had to be positioned more than 100 meters away from the building, as the area around, and in between, these buildings was under construction at the time. At such a distance from the installation point the lifting maneuver required precision planning, and specialized equipment, providing the right combination of reach and strength to ensure the heavy trusses were lifted safely and smoothly into place. Due to existing infrastructure on site, the only location to place lifting equipment was on the beach in front of the complex. Usually in such circumstances, a 3000-ton heavy lift crane with a long reach would be used.

However, there was limited space in which to install such a heavy crane. The crane would also have required extensive ground improvement work to the beach in front of the hotel in order to withstand its ground bearing pressure.

Mammoet suggested a faster and more cost-effective approach, using a CC8800, 1600-ton crane, with a LR1600, 600-ton crane, to perform a tandem lift to move the trusses into place. The two cranes were each smaller than a 3000-ton model and easier to assemble in the confined space available. They also exerted lower ground bearing pressure on the beach than a 3000-ton crane, requiring less ground improvement work prior to carrying out the lift. Yet, in combination, they provided the strength and reach required to carry out this

maneuver from a tricky position.

The maneuver required careful and detailed execution as the cranes had to perform a synchronized, eight meter crawl during the lift while supporting the load at maximum radius and load capacity for the height. Crane supervisor, Harold Leemhuis, explains: "We had limited working space in which to assemble the cranes and we were executing the project in temperatures ranging between 40°C and 50°C. Our planning and experience with complex maneuvers of this type and in those conditions, ensured the lifting was carried out safely and precisely, while limiting any potential delays to the overall project schedule."

Following successful completion of the lifting work Nabil Akiki, CEO of Skai Holdings, praised the team "I am really impressed with Mammoet's professionalism and commitment, it was the right decision to contract this critical job to Mammoet."

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