

Synchronous climbing of all platforms: First use of the RCS MAX in South Korea

The Sharp # Central Park III, Incheon, South Korea

Only a few kilometres away from the South Korean capital Seoul, two new 140 m high luxury residential towers were built under strict safety requirements and within a tight construction time. PERI met the demand for efficient construction as well as low personnel costs with the new and innovative RCS MAX Rail Climbing System. A premiere, because RCS MAX was used here for the first time on South Korean soil.

A total of 84 consoles as well as hydraulic units were supplied for the construction of the two residential towers, which each offer space for a total of 351 residential units on 40 storeys. The RCS MAX Rail Climbing System scored among other things with an innovative climbing process, clever safety features and a particularly easy assembly of the climbing consoles.

Safe from floor to floor

Due to the stricter guidelines of the South Korean government, safety was the top priority for all participants and processes. The RCS MAX Rail Climbing System was convincing the customer with decentralised hydraulic units that enabled all platforms to climb upwards synchronously. Potential sources of danger such as falling edges or falling parts were thus already excluded in the system. In addition, functions such as an automatic stop in case of overload or collision, a dead man's control with several remote controls as well as an emergency stop switch on each platform rounded off the multi-layered safety concept of the rail-guided climbing system.

Revolutionary climbing process

But it was not only in terms of safety that the ingenious system was a highlight on the South Korean construction site. The load transfer via the lower climbing section meant that the platforms were ready for use again more quickly for the next section, which shortened the climbing cycle and thus also the construction time of the project. In addition, the climbing process consisted of only a few steps and could be learned by site personnel with minimal training effort. The intuitive

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plug-and-play configuration made the system very easy to set up and did not require any specialised personnel, keeping labour costs low right from the start.

Full compatibility with the proven RCS Rail Climbing System

In addition, the integrated hydraulics of the RCS MAX Rail Climbing System reduced crane use to a minimum. Via the RCS C MAX Climbing Rails, which were particularly flexible in their inclination, the consoles were connected to the building at all times via climbing shoes. These, in turn, could be easily installed at chest height of the operator and without any ladder at all, which further increased the safety of the site personnel.

The new RCS MAX components are also fully compatible with the proven RCS Rail Climbing System. This accordingly made it possible to combine RCS MAX with the RCS P Climbing Protection Panel in South Korea. As the cylinder was firmly connected to the system at all times and climbed upwards with it, no awkward conversions were necessary. Thus, synchronous climbing of all platforms was possible, even with the enclosure solution. The work could be carried out safely even at great heights and with high wind loads.

Complete control

The new RCS MAX Hydraulic Unit also came up with some new features. Any malfunctions were immediately indicated by a light signal on the power unit and could thus be quickly recognised and directly remedied. A display attached to the unit by cable also enabled the construction site team to fully monitor the entire climbing process. This reduced any downtimes and additionally increased productivity on the construction site.

Project support during construction

Throughout the entire project, PERI engineers provided support and advice to the site team. Intensive advance planning and on-site supervision of the climbing process ensured that construction progressed quickly. In this way, the project requirements could be met and the tight construction schedule adhered to.

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Photo 1

In Incheon, South Korea, just a few kilometers from Seoul, two new luxury residential towers were built using the RCS MAX Rail Climbing System.

(Photo: PERI SE)



Photo 2

The two buildings each comprise 40 stories and are 143 m high. They provide space for a total of 351 residential units.

(Photo: PERI SE)



Photo 3

With the help of the RCS MAX Hydraulic Unit, malfunctions were quickly and easily detected via light signals on the hydraulic unit as well as the indication on the display.

(Photo: PERI SE)



Photo 4

The lightweight system components required far less space at the construction site on account of their compact dimensions.

(Photo: PERI SE)

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Photo 5

The load transfer to the lower climbing section shortened climbing cycles and reduced downtime.

(Photo: PERI SE)



Photo 6

The RCS MAX Rail Climbing System scored with high productivity and safety.

(Photo: PERI SE)

Contractor

POSCO E&C Co. Ltd, Yeongnam, Südkorea

Field Service

PERI South Korea, Seoul

About PERI:

With sales of € 1,614 million in 2021, PERI is one of the leading manufacturers and suppliers of formwork and scaffold systems in the world. The family-owned company, with its headquarters in Weissenhorn (Germany), a workforce of 9,100 employees, more than 60 subsidiaries and well over 160 warehouse locations, provides its clients with innovative system equipment and comprehensive services relating to all aspects of formwork and scaffolding technology.

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