

DOKA Self-Climbing Formwork and Working Platform

Doka's "Super Climber" is the next generation in self-climbing formwork and working platform technology for high-rise cores. Designed with powerful single-stroke cylinders that support and climb all formwork, platforms and placing boom, it is the fastest climbing system on the market

- A single stroke cylinder moves the core with forms, placing boom and all level working platforms into the next level.
- No need to strip forms into units - a simple ratchet operation is all you need. This keeps the core forms as a single unit and cuts down labor cost and speeds up construction cycle.
- No shoes or profiles to be climbed or handled.
- An incorporated levelling mechanism, each lifting up to 90kips-eliminates any extra labor during climbing.
- No extra work or bracing required to handle the loads of the biggest placing booms in the market - keeping the cost and labor down.

Application

With over 2.8 million residents and a constant influx of people, the need for housing in Chicago is never ending. To meet this growing need, new residential condominiums are now being built at 2520 North Lakeview. The 800,000 sq. ft. condo development is built on a standard flat slab. The square column concrete-framed building has two large cores, which are uniquely shaped and have floor-to-ceiling heights that vary throughout.

For this particular building design, it is necessary to cycle the vertical formwork at the same speed as the horizontal formwork. Walsh Construction Company wanted to pour the slab and floors monolithically and needed a forming system that could easily meet those challenges. Additionally, the formwork system had to be capable of carrying a concrete placing boom, provide support for heavy loads (rebar) and be an easy-to-handle system that could keep them on a one-day cycle. For these reasons, Walsh chose Doka's Super Climber self-climbing form system with a working platform for high-rise cores. Walsh has been extremely pleased with the Super Climber system and has already committed to use this effective solution on their next concrete core project. The project was delivered at a competitive price because the formwork lowered the man-hour cost. Also, the project will be completed on schedule due to the ability to cycle the formwork floor to floor.

The fastest system on the market

The Super Climber system, Doka's newest member of their multiple climbing formwork systems, meets the tough requirements of extreme dynamic loadability with swift, smooth climbing. Also, Doka's Xclimb 60 automatic climbing formwork is being used on the north core. Using two self-climbing core systems would allow Walsh to cycle the cores as fast as the slabs. Doka's systems allow for prefabrication of panels and platforms, which help limit the amount of onsite work. By using Doka's formwork, it allows Walsh to meet their schedule and minimize the amount of man-hours on the project.

The 39-story structure needs approximately 2,300 sq. ft. of formwork. There are varying floor-to-floor heights with two double jumps. A total of five Super Climber hydraulic cylinders are used to climb a fully decked Level +1 and Level 0. Custom beams support a concrete placing boom and Framax stripping corners are incorporated into the Top 50 wall formwork for easy stripping relief. The formwork used includes: the new Doka Super Climber system with Top 50, self-climbing Xclimb 60 with Top 50, Frami lightweight formwork for columns, MF 240 platforms, 54,000 sq. ft. of Dokaflex slab formwork and 72,000 sq. ft. of reshoring materials.

Eliminating Crane Time

The Super Climber self-climbing core system offers faster cycle times. The system allows the inside and outside forms to be hung from the gantry, which allows the contractor to roll forms, while erecting and stripping. All of

the formwork for an entire story is raised independently of the crane. Minimum clearance is required for installation and minimum stripping required for climbing. A placing boom with a working platform can be attached to the gantry to provide access. Forms, platforms, and the placing boom are all cycled at the same time with minimal climbing time. Climbing can be completed in one singular smooth movement. Service loads can stay on the platforms while they are being raised.

Safe & Efficient

Because the climbing formwork system is anchored to the concrete at all times, all operations can be carried out safely and quickly on Doka's Super Climber's large, fully enclosed workspace. All wall forms are repositioned hydraulically with just one lift. The Super Climber is a safe and efficient way to construct high-rise cores. It has room for all of the site equipment needed and is enclosed on all sides for a safe, weather-shielded work area at any height. The live loads on the platform mean that less storage space is needed on the ground. After pouring, the formwork for an entire next story is raised by powerful hydraulic cylinders from one casting section to the next.



- The new Super Climber consists of 5 hydraulic cylinders capable of lifting 500,000 lbs., including the entire working floor, as well as a concrete placing boom and 3,200 sq. ft. of formwork, from lift to lift.
- Formwork for an entire story is raised completely independent of the crane, allowing climbing to be completed in one single smooth movement and enabling the contractor to keep a one-day cycle.

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