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Super Climber SCP

The next generation in self-climbing formwork and working platform technology for high-rise cores



The fastest climbing system on the market

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 away from core walls, while erecting and stripping. All of the formwork for an entire story is raised independently of the crane.

Maximum safety

for the entire site

All operations can be carried out safely and quickly

- A single stroke cylinder moves the core with forms, placing boom and all level of working platforms up to 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.

Rapid working

in a controlled sequence

Optimized formwork concept for fast forming-times

- An incorporated leveling mechanism for up to 10 cylinders 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 cost and labor down.
- Together with the working platforms, timber beam or framed formworks are raised to the next casting section in a single lift by powerful hydraulic cylinders – completely eliminating the crane

Superlative cost-efficiency

for your high-rise core

A cost-effective solution is ensured by

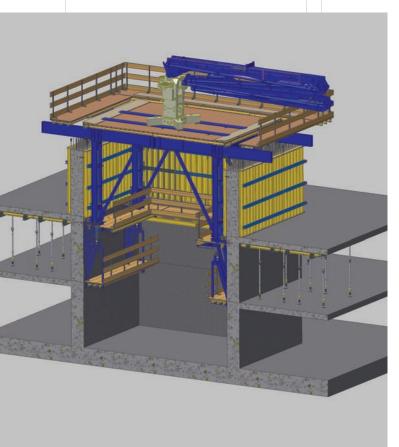
A single stroke cylinder on the Super Climber system moves the forms, placing boom, and all level
work platforms up to the next level. Formwork for an entire story is raised completely independent
of the crane, allowing climbing to be completed in one single smooth movement and enabling a
one-day cycle.



▲ Finding a solution that would allow the crew to cycle the vertical and horizontal formwork at the same speed in order to meet the tight schedule was key on the 45-story Regalia project.

Climbing as You Build the Most Luxurious Building in South Florida

Marketed as the most luxurious building in South Florida with only one unit per floor, the Regalia Sunny Isles Beach Condominium structure is going up with the fastest formwork climbing system on the market.





The design of the building requires a minimal amount of columns to give the building a open floor plan. However, this design feature required a large shearwall/elevator core for cross-bracing of the building. Finding the right formwork solution — preferably one that allows the crews to cycle the vertical and horizontal formwork at the same speed in order to meet the tight schedule — was key.

To meet these demands, concrete contractor Southern Pan Services (SPS) selected Doka's Super Climber self-climbing system with working platform for high-rise cores. The Super Climber system, Doka's newest member of their multiple climbing formwork systems, meets the tough requirements of extreme dynamic loadability with fast, smooth climbing.

"The design of the large core worked great with the Super Climber design," said Jared Wright, Doka Sales Manager. "The self-climbing core system offers faster cycle times. The system allows inside and outside forms to be hung from a gantry, which allows the contractor to roll forms away from or towards the formed walls, while erecting and stripping. All of the formwork for an entire story is raised independently of the crane. We engineered and provided safe work areas at elevations +1, 0, and -1 with another partial work area at -2."

All operations can be carried out safely and quickly on the formwork's large, fully enclosed workspace, because the climbing formwork system is anchored to the concrete at all times. The entire core formwork is repositioned hydraulically with just one lift. This self-climbing core system 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, weathershielded working at any height. The allowable live loads on the platform mean that less storage space is needed on the ground. After pouring, the formwork for an entire floor is raised by powerful hydraulic cylinders from one casting section to the next. The Doka Super Climber is capable of supporting the largest concrete placing boom on the market, fully extended, while anchored into position or while climbing. 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.

Doka's engineering team worked in conjunction with SPS to locate lifting locations for the Super Climber. This involved addition of rebar, custom spanning beams and relocation of block-outs. SPS planned the rebar gangs





▲ The rollback feature on the Top 50 system allows quick rebar installation and easy concrete floor finishing tasks to be carried out.





▲ The anchoring points from the lower platforms are capable to lift as one unit.



Carl Wright, Southern Pan Services, Florida Operations Manager

The Professional

The Doka self climbing wall system is by far one of the best systems I have used. It has reduced the labor cost in assembly, operating the system, & by freeing up crane time for other tasks enabling SPS to maintain the project schedule.

Doka has provided the service and support needed to address the questions and needs in a very timely & efficient manner preventing any delays."

based on the location of the gantry beams so they could maximize the rebar labor efforts.

The crews used the Super Climber to handle all shearwalls in one application, which allowed for better utilization of the crane on site. For the top deck, the Super Climber was fitted with a custom set of beams that allowed for the pump boom to be anchored to the deck and risen with the formwork.

On one side of the structure, the property line was within 15-feet of the edge of the building and the team was restricted from anything flying over the property line. Additionally, the radial slab edges that change location and shape on every floor provided a great challenge to the design of the perimeter slab formwork. To meet these tight jobsite conditions, Doka and SPS worked closely to design custom pre-assembled Dokamatic tables that could easily be maneuvered with the building. The tables where designed for each area of the perimeter so that each could cycle from floor to floor without modification.

Work began in February and is expected to be complete in January.



▲ To meet the demands of this particular building design, it is necessary to cycle the vertical formwork at the same speed as the horizontal formwork. By using Doka's formwork, the contractor was able to meet their schedule and minimize the amount of man-hours on the project.





Watch how the tallest concrete building gets constructed via Live Construction Cameras.



Forming the Tallest Concrete Building in New York City

With a height of 1,380 ft., 147 condominium apartments, 432 Park Ave. will become the tallest building in New York City to the roof, surpassing both the new and old World Trade Center buildings, and second tallest in total height behind One World Trade Center.

Given the simplicity of the design, and the formwork climbing system chosen, the building is expected to rise at a rate of one floor per week with the mechanical floors taking around 2 weeks. It is expected to be topped out by early 2015, completed by mid 2015 and ready for occupancy by 2016.

Concrete Contractor, Roger and Sons Concrete, will utlize Doka's Super Climber climbing system to construct the mega tower to meet the construction schedule, along with Doka's engineering expertise and pre-assembly services.

The Super Climber system was the best

choice on this 89 floor building because the single stroke heavy duty hydraulic cylinder allows the system to climb a typical floor height of 15'-6" in less than 90 min. The formwork, which is suspended from the gantry, is easily rolled back and repositioned. This allows for a typical cycle time of 2-3 days. The large bearing capacity of the Super Climber made it possible to attach both a Concrete Placing Boom and a Crane to the gantry. This will allow the contractor to do light-duty crane picks and relieve crane time required by the tower crane. Two stair towers will be suspended from the Super Climber to allow access for workers from the hoist inside the core to the climbing platforms.



Antonio Rodrigues, President, Roger and Sons Concrete, Inc.

The Professional

We chose the Super Climber system because of its high strength capacity which allows storage of rebar at the gantry level in addition to supporting our concrete placing boom. This climber allows the core to be climbed ahead as an independent jobsite, housing and carrying everything with it from floor to floor."



Montreal: High End Solution for Small Space

The Centre hospitalier de l'Université de Montréal (CHUM) in downtown Montreal, Quebec, is one of the two major hospital networks in Montreal.

The design/construction of CHUM was entrusted to the construction health corporations of Laing O'Rourke and OHL Canada Montreal.

Concrete Contractor, Coffrage Alliance Ltee,

working together in partnership with Nadeau Spécialités de Construction, faced some major challenges on this 28-floor, 411' building. The complex design, included a required 5.0m pouring steps, two reductions in core wall thickness, and the need of a formwork system with the ability of carrying a Putzmeister concrete placing boom. "On a huge project such as this, the continuous challenge is the schedule. It's an ongoing process to keep all elements on track," stated Frank Trimboli, Sales Manager, Doka Toronto.

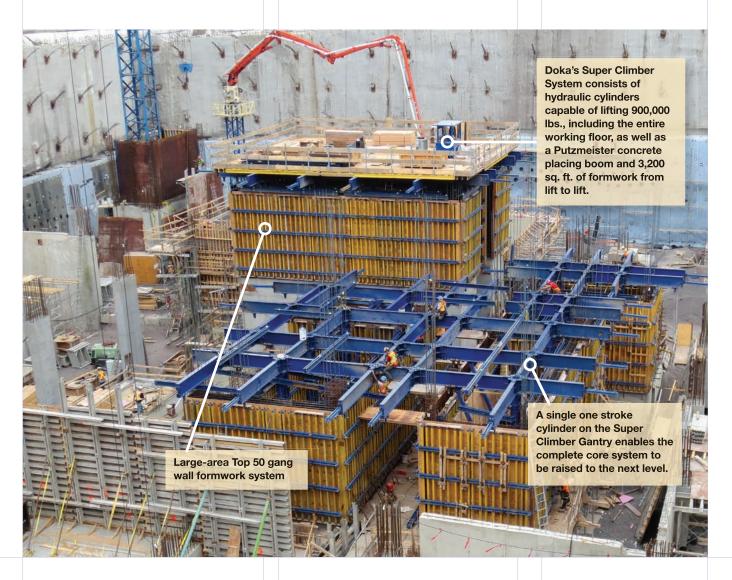
"To maintain safety at all times on restricted area of the site, Super Climber was the perfect choice," said Frank. "It was chosen because of the ability to roll back the forms, carry a large concrete placing boom and other materials, as well as climb everything in one simple step."

The Super Climber uses a single stroke cylinder to move the core with forms, concrete placing boom and multiple levels of working platforms up to the next casting step. An incorporated leveling mechanism is used for up to 10 cylinders — each lifting up to 90kips — eliminating any extra labor during climbing. Also, no extra work or bracing is required to handle the loads of the biggest placing booms in the market, which keeps the cost and labor



The Professional

A milestone is about to be reached with the Doka Super Climber at the CHUM project. We can all be proud of the work done so far and are very optimistic about the success in achieving our objectives related to the system. Working in a partnership between ALLIANCE team and DOKA team is the key to success for this project and for future projects!"



down. In addition, the contractor is using Doka's special Flex Corners along with the Super Climber system on all the cores which helps strip the formwork away from the walls in a single and quick movement.

Alliance has four tower cranes placed in four stair wells. One of the stair wells requires the SKE100 system to climb ahead of the rest of the cores. The SKE100 solution for the stair shaft was selected based on the requirements to have a self-climbing solution in this area. The problem the customer had in this area is the shaft contains a crane mast and has little to no room to work inside. SKE100 was chosen because of its flexibility which allowed the system to be mounted on the exterior of the core wall and still have the capacity to raise a gantry system. A total of six SKE 100 climbers are in use on this core.

On the Chum project, Doka is also providing formwork design calculations and drawings, along with on-site field service. The first phase will be finished in the spring of 2016.



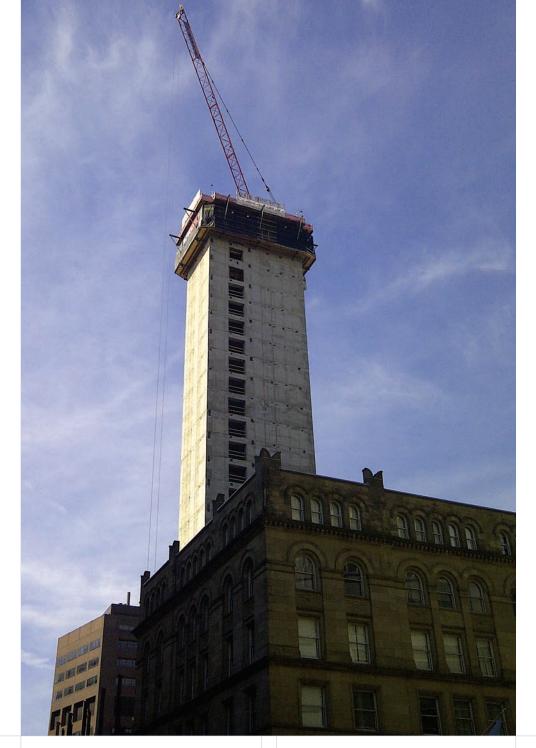
Daniel Nadeau, Owner, Nadeau Spécialités de Construction (left), Carl Dichiara, Project Manager, Alliance (right)

The Professional

I choose the Super Climber System from Doka because of their simplistic workability with our workforce and adaptability to any site condition. The relationship with Doka has made this an easy choice on choosing the best system for the job."

— Daniel Nadeau

➤ The Super Climber system allowed the contractor to achieve the fasted possible cycle with the least amount of manpower.





2-day Super Climber Cycle Speeds construction in New England

This 27-story Kensington project is a structural steel building with a concrete core. The core was to be built ahead of the structural steel on this project.





Safety netting can be incorporated into any of Doka's Climbing systems for maximum safety.

The concrete contractor, G&C, investigated many alternatives for forming the core with both self climbing & conventional formwork systems. At the end of the decision making process the contractor selected Doka's Super Climber SCP system and framed wall formwork Framax Xlife because it would allow them to achieve the fastest possible cycle with the least amount of manpower.

After carefully planning the installation and cycling of the system the contractor put the system into action. This foresight in planning allowed them to execute a well thought out preassembly process and installation plan with no surprises. They were able to work closely with Doka Field service and engineering to work out all kinks prior to beginning the installation process.

There are challenges to overcome on every project. This project was no exception and had a few setbacks with poor soil conditions. This caused the work on the core mat to start about one month late. This late start however did not change the required completion date of the core. One of the deciding factors in going with the Super Climber system was the ability to start installation of the system very low to the

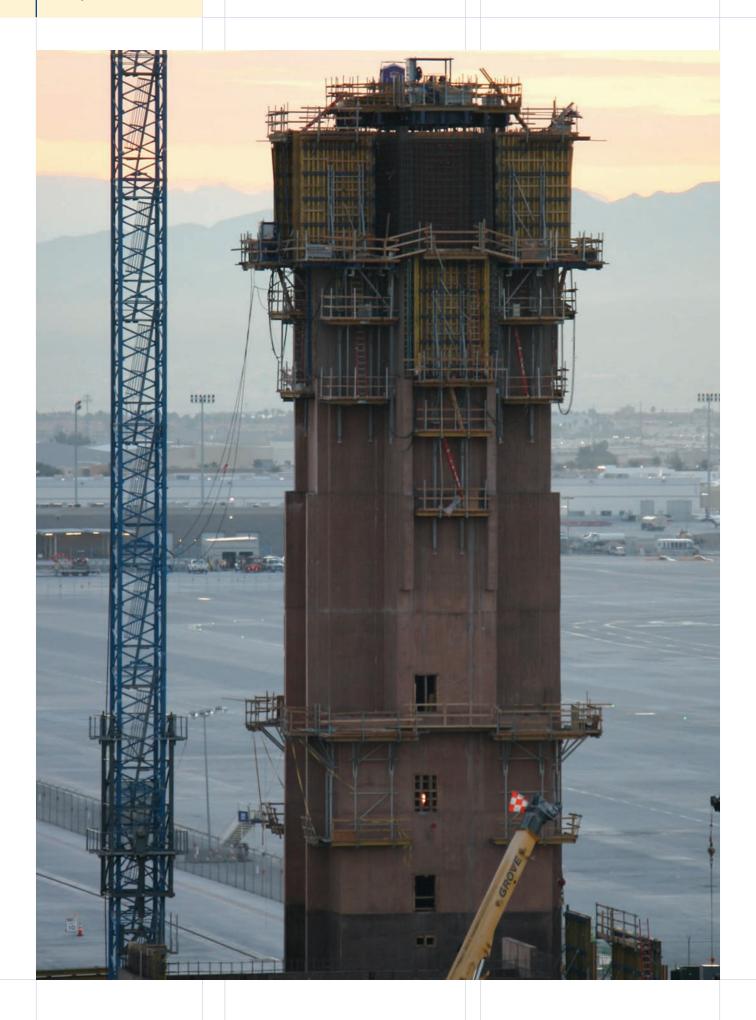
ground. Only requiring about a 13'-0" starter wall to install the complete system is a huge advantage the SCP has over other systems, as the work can be completed safely and faster off the ground. The contractor was able to complete the installation of the Super Climber system and make their first climb in about one week after initial installation began. Another deciding factor in using the Super Climber system is that all platforms +1, 0 & -1 climb up at the same time eliminating safety hazards other climbing system face with various levels of platforms climbed ahead while other platforms are not climbed.

Since everything is raised by single stroke hydraulic cylinders, the system cycles and is ready for concrete much faster than other available systems on the market. Being able to achieve and maintain a 2-day cycle throughout this project allowed them to top off the core one month ahead of schedule. The core on this project was 50'-0" x 30'-0" and had two cells inside. It was designed using six cylinders and one hydraulic unit.

Located at 656 Washington Street, the 27-story, 488,000 sq. ft. building is Boston's newest residential tower.



▲ Plan layout of the SCP Super Climber system including the bracket locations, gantry steel layout, suspended platforms and integrated framed wall formwork Framax Xlife.







▲ Large area Top 50 formwork together with self-climbing SKE 50 plus, used on the extior walls, and the Super Climber system, used on the interior walls, provided a fast cycle with a superior architectural concrete finish.

Las Vegas Control Tower

The McCarran International Airport is the primary commercial airport serving Las Vegas and Clark County, Nevada.

In 2010, the airport recorded an estimated 39 million passengers passing through the terminal. With the growing need for expansion, the McCarran Airport Authority devised a plan for a new air traffic control tower to accommodate a terminal radar approach control (TRACON).

Rising for Efficiency

Doka's formwork solutions were chosen for the construction of the air traffic control tower because of their ability to provide efficiency and safety. Having previously used the Super Climber on an 800,000-sq. ft. condo project in Chicago, Ill., the contractor felt the Super Climber would be a good fit,

in combination with Doka's SKE 50 Plus.

Doka's Super Climber system, in use on the interior walls, is supporting high live loads on the main work deck. By raising the entire working deck and formwork from floor to floor with a push of a button, the Super Climber allows fast and safe construction. A hanging stair tower is also integrated into the Super Climber. This five-story stair tower was built with Doka's Staxo 100 to allow the carpenter safe access to the top of the forms and climbing system.

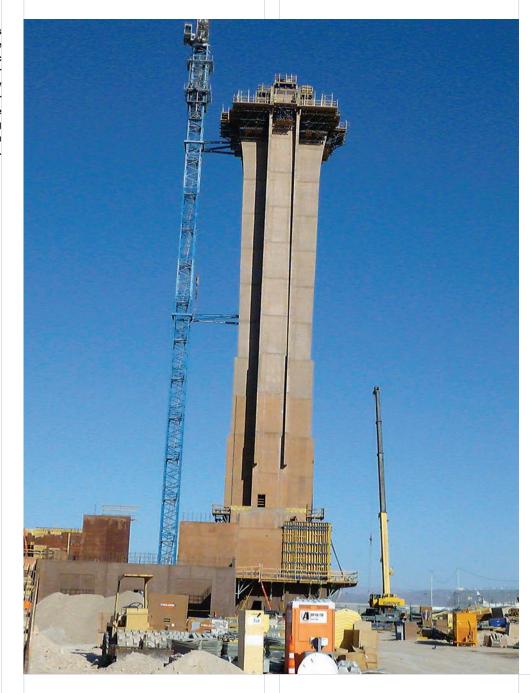
Introducing SKE 50 plus

Climbing the outside walls, Doka's SKE 50



▲ At 354 ft. high, the control tower is expected to be completed in 2014.

▶ Doka's formwork solutions were chosen for the construction of the air traffic control tower because of their ability to provide efficiency and safety. Doka's Super Climber system, in use on the interior walls, is supporting high live loads on the main work deck.





The Professional

Doka was selected for this project because of the contractor's experience with our solution and the variety of self-climbing products offered. Doka's ability to supply not only the formwork, but also the formliner and installation, was another benefit we offered."

Plus provided a versatile solution. The SKE 50 Plus is a new system and is being used for the first time in the U.S. on the McCarran Airport project. With features including automatic brakes and a spring loaded suspension wedge to eliminate manual placements on the climbing shoe, faster completion time and maximum safety are possible in all phases of the project.

The exterior walls feature an architectural finish that varies at random plank depths, uses fair-faced formliner concrete, and will change colors three times. The special pattern formliners were supplied by Doka and attached to the Top 50 formwork. Pour

heights reached about 19 ft. high with the system.

For each lift on this project, more than 12,000 sq. ft. of formwork is in use. Changing conditions will require the SKE 50 plus to be removed at level 14 because of a slab projection, but the interior core will remain intact. With 23 lifts on the project, there is an overall height of 354 ft. In addition, the unique design of the flared wing walls, on all four sides, not only made this a challenging formwork job, but it will help make the air traffic control tower at McCarran one of the most modern looking towers in the country.





Super Climber Takes Off in Chicago

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. The Super Climber system, Doka's newest member of their multiple climbing formwork systems, meets

▲ Raising all wall formwork from one level to the next, with a push of a button, the Doka Super Climber is a modular, all-in-one system for high-rise structures.

Together with the working platforms, timberbeam or framed formwork can be raised to the next casting section in a single lift by powerful hydraulic cylinders — completely eliminating the crane.

The Solution

A single stroke cylinder on the Super Climber system moves the forms, placing boom, and all level work platforms onto the next level. Formwork for an entire story is raised completely independent of the crane, allowing climbing

single smooth movement and

to be completed in one

keep a one-day cycle.

enabling the contractor to

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 hand-set system and 72,000 sq. ft. of reshoring materials.

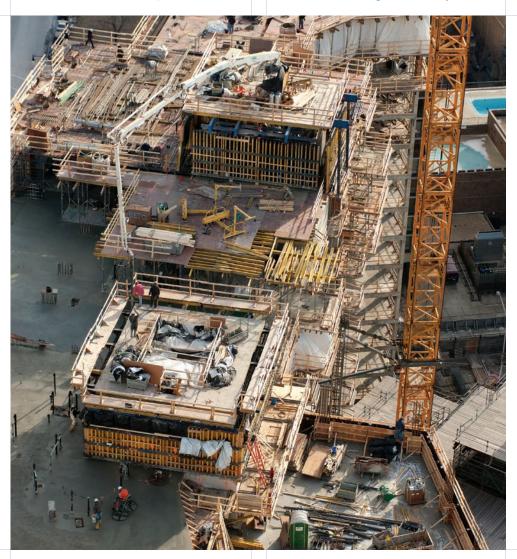
The Super Climber self-climbing core system offers faster cycle times. The system allows the inside and outside forms to be hung from the gantry, which allows the contractor to roll forms, while erecting and stripping. All of the formwork for an entire story is raised independently of the crane. Minimum 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.

Because the climbing formwork system is



The Professional

The Super Climber was chosen because of its simple anchoring application and the ease of a component bracket base setup. The high load-bearing rigid super structure is engineered for a mounted concrete placing boom, and the impressive hydraulic climbing cylinders and pump provide us with a safe, fast and efficient lift from floor to floor."

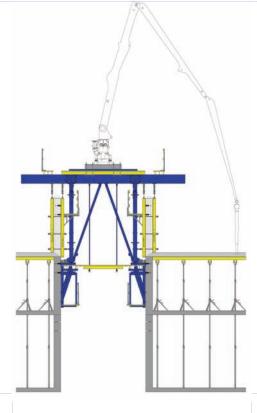




anchored to the concrete at all times, all operations can be carried out safely and quickly on Doka's Super Climber's large, fully enclosed workspace. All wall forms are repositioned hydraulically with just one lift. The Super Climber is a safe and efficient way to construct high-rise cores. It has room 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.

Walsh has been extremely pleased with the Super Climber system and used the system next on the McCarran Airport.

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. Work on 2520 North Lakeview began in August 2010 and completed in July 2011.



Matt Code, General Carpenter Foreman, Walsh

The Professional

I would highly recommend the Super Climber system. It's efficient, low maintenance and we also have a low amount of man power to run it."

■ A concrete placing boom can be integrated into the formwork and raised with the Doka Super Climber.

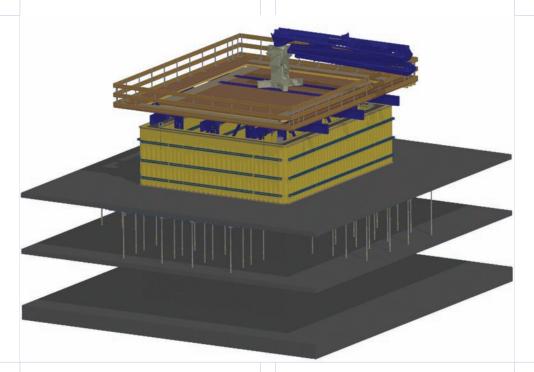


Expanding San Francisco Upward

In scenic San Francisco, a 52 story condominium building is currently rising to the sky to provide additional housing to the rapidly expanding area.

One Rincon Hill Phase II is a 299-unit residential development in San Francisco's South of Market (SoMa) District. The Phase II project, which is designed to achieve LEED certification, is a companion to the existing 64-story Phase I tower.

Working with the self performing, general contractor Webcor Builders, Doka had several challenges to face. The buildings typical floor profile includes a 40' radius slab that uses Doka's Xclimb 60 perimeter screen system for protection. The concrete slab requires a



◀ The Super Climber system is designed with single-stroke cylinders that support and climb all formwork, platforms, as well as the placing boom.

post tensioned application and the contractor needed extra space to tension the strands at the slab edge. According to Enrique Uribe, FarWest Account Manager, Doka USA, they were able to maximize the walkway area on the Xclimb 60 system allowing the much needed clearance for the contractor to pull the post tension strands.

Due to the heavy seismic activity in California, the rebar is extremely dense and offers very little space for embedments and form ties, let alone Doka's Super Climber SCP overhead gantry beams. This created a huge interference issue and at the request of the contractor, Doka re-evaluated the initial Super Climber proposal and concluded with the revised solution that would no longer interfere with the dense rebar and keep them on schedule.

Doka combined two systems — the Automatic Climbing Formwork SKE and the Super Climber system — for use on the structure's elevator core walls. The SKE 50 system is designed to be used on the outside perimeter of the core walls and offers trailing access to the previous level. The most innovative solution in this project was the use of the Doka Super Climber system. As designed for this project, it allows for a single stroke lift of the entire interior wall forms, including several levels of walkway, the concrete placing boom, storage areas, and a three level trailing stair tower. The Super Climber system is designed with single-stroke cylinders that support and climb all formwork, platforms, as well as the placing boom.

Automatic Climbing formwork SKE 50 provides for maximum safety in all phases of the

operation, including the climbing scaffold is always anchored to the concrete, Short stroke lifting cylinders, coupled with continuous locking devices, assure complete safety at all times during a lift, and the platforms are uncluttered. The hydraulic system uses a ring line instead of individual hoses to each cylinder.

Additional innovative techniques on the job is the ability of Doka to provide additional wall form clearance and hinged wall forms for accessing the wall anchors placement/removal and rebar placement.

"With the challenging space limitations for this project, we immediately analyzed the site conditions and thoroughly communicated the features and benefits of Doka's pre-assembly services to Webcor." said Uribe.

Since Doka fully designed and engineered the climbing system with the wall forms, the contractor moved forward with Doka's yard assembly options. This ultimately eliminates onsite assembly risk and significantly decreases the hours of labor on the jobsite for erecting the system components and the potential learning curve. The contractor had many choices; they had used several other hydraulic climbing systems in the past, but Doka was able to engineer systems that will allow Webcor to keep within their efficient and quick floor turn-around schedule. The tight jobsite condition favored using Doka's preassembly options and services.

The concrete part of the construction is scheduled to begin in September 2012 and end in October 2013.



The Professional

Doka's engineering team has been very helpful and innovative throughout the engineering process. They took a lot of abnormal and extraordinary requests in stride and were able to offer multiple solutions to all of our challenges."

Doka in the US and Canada

news, dates, media, awards

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SUPER CLIMBER CUSTOMER TESTIMONIAL

VIDEO Hear what contractors at Walsh construction are saying on their Super Climber experience on the 2550 project in Chicago.

Scan code or visit

www.youtube.com/DokaNorthAmerica >





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In some cases the site photos show the situation during formwork assembly and are therefore not always complete from the point of view of safety.

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