

# Doka Xpress

Issue 2 Vol 17

## Special Edition **COCOONS**



Xbright Protection Screen in use at New York's Hudson Yards, the largest private real estate development in the history of the United States.

The Formwork Experts.

**doka**

## Editorial



### #MoreThanFormwork, Safety

Every year, the U.S. Bureau of Labor Statistics summarizes fatal and non-fatal injuries among key occupations . . .and every year a range of construction-related occupations make the most dangerous list including roofers, steel workers, carpenters, plumbers and laborers. In fact, recent reports found that fatal injuries among construction professions rose. The leading cause of fatalities and injuries are falls, followed by struck by object, electrocution and caught-in/between— mishaps, otherwise known as the Fatal Four. Safety is every contractors' number one priority. That's why we at Doka continue to advance our formwork and protection solutions to deliver safer work environments for those on the jobsite. We believe that it's our job to make sure construction crews are cocooned in safety.

It's why we continually innovate our climbing formwork and protection solutions to include features such as adaptable loading platforms, stair towers for safe and fast access, automatic climbing system and built-in walkways. All our solutions are designed to provide a safe work environment for crews, eliminate flying debris off worksites, reduce insurance costs and in busy urban environments and to protect the public. Our advanced climbers and protection systems are put to work on some of the most challenging high-rise commercial and residential projects across North America. As you'll read in this issue, contractors working on four building in the New York City's Hudson Yards project, the largest private real-estate development in the country, are deploying full perimeter protection on multiple high rises, as are contractors on the \$160 million 414 Light Street glass tower in Baltimore, Maryland and multiple high-rise projects in Chicago.

Remember, investments in workplace safety enable an estimated return of \$2.20 on every single dollar spent on workplace prevention per employee per year. Doka's safety solutions can help every contractor deliver a safer jobsite, with a wide range of products and services, and also with great know-how combined with an understanding of your specific savings potential. Give us a call and let us help your project teams rise to the top in a safe working environment.

Andrew Mair  
Director  
Doka Americas

## Contents

One Bennett Park, Chicago	03
1136 S. Wabash, Chicago	06
Central Park Tower, New York	09
414 Light Street, Baltimore	12
Hudson Yards, New York	14
One Dalton, Boston	18

## News from DOKA



### ◀ Vista Tower, McHugh Construction, Chicago, IL

McHugh construction and Doka team up to form this 96-story tower - one of the largest concrete projects in the Midwest.



### Ritz-Carlton Residences, Sunny Isles Beach, FL▶

Formwork and protection screen holds up strong during Hurricane Irma.



### ◀ Be Grand I Alto Pedregal

Doka's protection screen Xclimb 60 is in use for the first time in Mexico City on this 29 floor building surrounded by a school, main road, and a few restaurants.



## The Facts

**Project Name:** One Bennett Park  
**Location:** 451 E. Grand Ave., Chicago, IL  
**General Contractor:** Lendlease  
**Concrete Contractor:** Goebel Forming  
**Architect:** GREC Architects, LLC  
**Developer:** RMW Streeterville, LLC  
**Type of structure:** Residential  
**Height:** 843 feet  
**Stories:** 69  
**Cycle time:** 3 days  
**Sq. ft.:** 786,191  
**Construction time:** 15 months



### The Professional

**“We have 500 ft. of perimeter to protect with multiple ins and outs and special wind requirements associated with being within 500 ft. off lake Michigan shoreline. Doka engineers worked with us to cut the amount of picks from 33 to 26 by creating larger screens than normal, while staying within crane capacity.”**

**Sam Starceovich Sr.,  
Project Manager, Goebel Forming**

# One Bennett Park

When complete in 2019, One Bennett Park will take its place in Chicago’s captivating skyline as one of the city’s most luxurious residential towers. Envisioned by world-renowned architect Robert A.M. Stern, this elegant residential tower is situated on the lakefront in Chicago’s Streeterville neighborhood.



Doka's Xbright protection screen ensures ultimate safety for both construction crews and pedestrians below.

**The Challenge**

- 3-day cycle for typical floors
- Strict perimeter safety requirements
- Limited space on ground for staging material
- Adjacent construction of precast garage



▲ The 8-foot-tall protection screen on the top floor protects workers preparing for the next concrete floor pour as well as the four working levels below.

**The Solution**

- Full perimeter protection with Doka's Xbright protection screen for 4.5 working levels of construction, which allowed for increased safety and productivity.
- Dokaflex slab formwork for fast cycling and flexibility to accommodate the changing floor plan geometry which provided an increase in productivity.
- Folding Xclimb 60 lookout platforms allow cranes to reach adjacent precast construction
- Frami modular formwork for odd shape and variable height shear walls, which increased productivity.



▲ Perimeter protection keeps Goebel workers safe during their staircase forming operations.



▲ Laying down rebar on the slab floor boosts production thanks to a secure slab edge and perimeter protection.



▲ Foldable lookout platforms allow precast panels to be installed on floors below. Platforms are integrated into the protection screen and lifted together as one unit with a crane.



▲ Goebel Forming cycling material from floor - floor in a completely enclosed environment thanks to the screen protection and use of the integrated platforms for rolling material in and out.



▲ The simplicity and flexibility of Dokaflex S provided Goebel Forming with an easy set-and-strip shoring system.



**“There are seven configuration changes that have been engineered into the screen design so that we can maintain 3-day pour cycles. The other unique feature is the three material platforms have a drawbridge section that allows a pennant line to pass thru to set precast below our operation. They are lifted and lowered in minutes.”**

**Sam Starcevich Sr.,  
Project Manager, Goebel Forming**

#### **Products used**

- Facade: Protection Screen **Xclimb 60** with **Xbright** sheeting
- Reshoring: Supporting **Eurex** Props
- Shoring: **Dokaflex**
- Columns: **Frami Xlife** handset wall formwork

#### **Why was Doka selected as the formwork supplier?**

- Proven track record on previous projects
- Personnel and systems that provide solutions that the client needs
- Economical and practical solutions

◀ Besides formwork, Goebel Forming relied on Doka on-site field services, engineering, and account management.

## The Facts

**Project Name:** 1136 S. Wabash

**Location:** Chicago, IL

**GC/Concrete Contractor:** Pepper Construction

**Architect:** Solomon Cordwell Buenz

**Type of structure:** Condominium

**Height:** 297 feet

**Stories:** 26

**Cycle Time:** 3 days

**Sq. ft.:** 20,240 (screen area)

**Construction Time:** 8 months

## The Challenge

- Limited space on site, proximity of adjacent buildings
- Schedule, 3-day cycle for typical floors
- Downtown location
- GC safety demands



## The Professional

**“Doka’s screens are very easy and quick to jump. It takes 4-6 minutes to raise each screen, and about 1 hour 15 minutes for the entire perimeter to be completed. The system provides extra safety and eliminates the need for handrails. The integrated stair towers provides easy access to all the decks.”**

**Ramiro Huijon Perez,  
Project Manager,  
Pepper Construction**



# 1136 S. Wabash, Chicago

At 26 stories, the new tower at 1136 S. Wabash Ave. will have 320 units, 9,000 sq. ft. of retail, and 143 spaces for vehicle parking. The building, a joint venture between CA Residential and developer Keith Giles, will include 320 rental apartments and 5,000 sq. ft. of ground level commercial space. The project is expected to be completed and units delivered by 2018.



### The Solution

- Super Climber SCP that allows the core and placing boom to climb automatically
- Protection screens with built-in lookouts and integrated stair towers



▲ Lightweight, pre-assembled aluminum stair units meet OSHA requirements and are constructed with non-slip grooved treads for safe and fast assembly. Safe lifting by crane in large units without disassembly is possible.

### Products used

- Core: **Super Climber SCP**
- Facade: **Xbright** protection screen
- Reshoring: Supporting **Eurex** props
- Shoring: **Dokadek / Dokaflex** / Load-bearing tower **Staxo 100**
- Other: **Frami Xlife / Framax Xlife** / Shaft Platforms / Platform K

### Why was Doka selected as the formwork supplier?

- With Doka's wide range of products and solutions they were able to design and supply all formwork required for the project.



▲ Doka's protection screen at the re-shoring level, with an integrated stair tower for easy deck access. Light can easily pass through the solid screen material which provided protection against falls and weather.



▲ Slab and columns poured at the same time. Frami Xlife was used to hand set the column formwork.



One cost saving advantage of the protection screen is this built-in walkway, which eliminates the need for cantilever shoring at the slab edge and supports a 3-day cycle schedule.



# Forming the World's Tallest Residential Building

Tall, taller, tallest – in New York City's district of Manhattan, work on a super-highrise is well under way. At 1,550 ft., the Central Park Tower will rank as the world's tallest residential building. It will take over as number one from 432 Park Avenue, also in New York City. The Central Park Tower will also be the second tallest building in the metropolis. Only One World Trade Center stands taller, at a roof height of 1,776 ft.

## The Facts

**Project:** Central Park Tower (formerly: Nordstrom Tower)

**Location:** 217 West 57th Street, Manhattan, New York City

**Type of structure:** Residential

**Architecture:** Adrian Smith + Gordon Gill Architecture

**Developer:** Extell Development

**General contractors:** Lendlease

**Construction work by:** Pinnacle Industries

**Height:** 1,550 feet

**Stories:** 99

**Scheduled completion:** 2020

## The Challenge

- Complex steel and concrete structure
- Unusual room heights
- Concrete core advances ahead of the floor slabs, a feature uncommon in NYC skyscraper construction
- Lead contractor Lendlease insists on the highest levels of site safety on all its construction projects.

## The Solution

- Super Climber SCP for the core and Xclimb 60 climbing the exterior of the building's core up to the 12th floor where Doka's Xclimb protection screen with Xbright mesh and solid panels.
- The adaptable SCP facilitates the safe placement of concrete. Since the structure's building method transitions from core to pouring, the adaptable SCP facilitates the safe placement of the concrete even without the slabs.
- The speed and simplicity of the Super Climber SCP enable the crew to focus on other aspects of the project, such as the steel supports for connecting the steel girders to the core up to the 12th floor or approximately 295 feet.
- Doka's outstanding technical know-how, services and systems were the crunch factors in Pinnacle Industries' considerations.

## Formwork Technology:

- Core: Automatic climbing formwork **Super Climber SCP**
- Façade: 62 brackets of the Automatic climbing formwork **Xclimb 60**, Folding platform K, Large-area formwork **Top 50**, Framed formwork **Frami Xlife**.
- Other: Protection screen **Xbright**, **Xclimb 60** extending platform, **Table Lifting System TLS**, stair towers



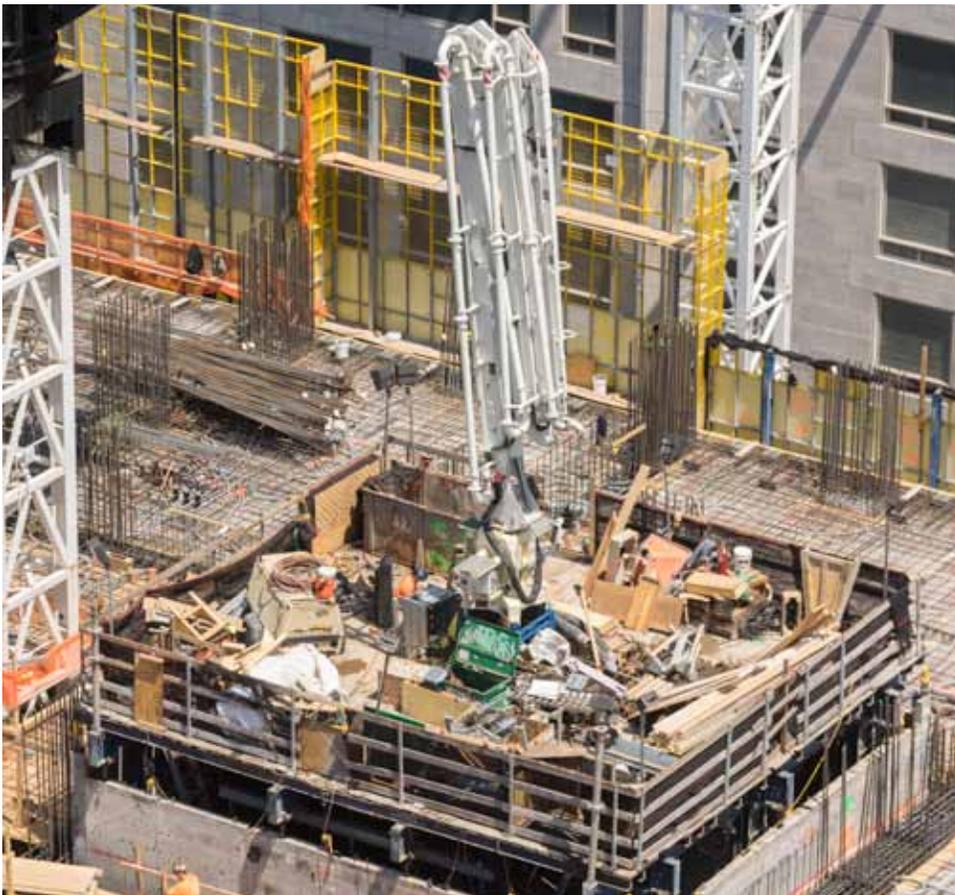
▲ The Framed enclosure Xbright is a fully rentable protection-screen system that can be fitted with either a translucent wind-impermeable and non-see-through polycarbonate inlay, or with a mesh inlay.



▲ The large framed panels, and the simple panel connection process, keep site erection times short.



▲ The translucent polycarbonate inlay provides natural lighting of the enclosed work-deck levels across the whole area of the enclosure. The inlay is wind impermeable and non see through, which gives the site crew a much greater feeling of safety and boosts productivity.



▲ When completed, the Central Park Tower will offer more than 1.2 million sq. ft. of prime real-estate floorspace, most of which will be residential.



**The Professional**

**“The Super Climber SCP is a great system. But it’s not just the formwork engineering from Doka that’s so good, it’s also the support and the engineering services. Everyone is really helpful. Doka is always right there when you need something.”**

**Justin Meyer, General Carpenter Foreman, Pinnacle Industries**

▲ At the touch of a button, the hydraulic system climbs the platform with all the formwork, the material containers, tools, workers rest area or shanty’s, and the concrete placing boom to the next concreting section in a single lift.

## The Facts

**Project Name:** 414 Light St.  
**Location:** Inner Harbor Baltimore, MD  
**General Contractor:** LendLease  
**Concrete Contractor:** Schuster Concrete Construction  
**Architect:** Solomen Cordwell Buenz  
**Developer:** Questar Builders Inc.  
**Type of structure:** Residential  
**Height:** 484 feet  
**Stories:** 44  
**Cycle time:** 4 Days  
**Construction time:** August 2016-November 2017 (Concrete)

### The Challenge

- Limited crane time
- Safety protection at the perimeter of the building
- Limited lay down area

### The Solution

- Hydraulically climbed core solution freed up crane time for other operations.
- Due to the high traffic/high visibility area, the construction manager required the safety benefits of screen protection.
- Pre-assembled units delivered ready to go on a site with limited lay down space.



# 414 Light Street, Baltimore

### Why was Doka selected as the formwork supplier?

- Best solutions for the scenarios on site.
- Close proximity of the yard to the job site.

Once completed, the \$160-million glass tower located across from Inner Harbor will include 394 apartment units, 40,000 sq. ft. of outdoor and indoor amenity space, and retail space along the first floor. The LEED Silver Certified building was designed by Solomon Cordwell Buenz. Developer Questar Builders Inc., broke ground on the building in March 2016, with an anticipated opening in March 2018.



## Schuster Concrete Construction

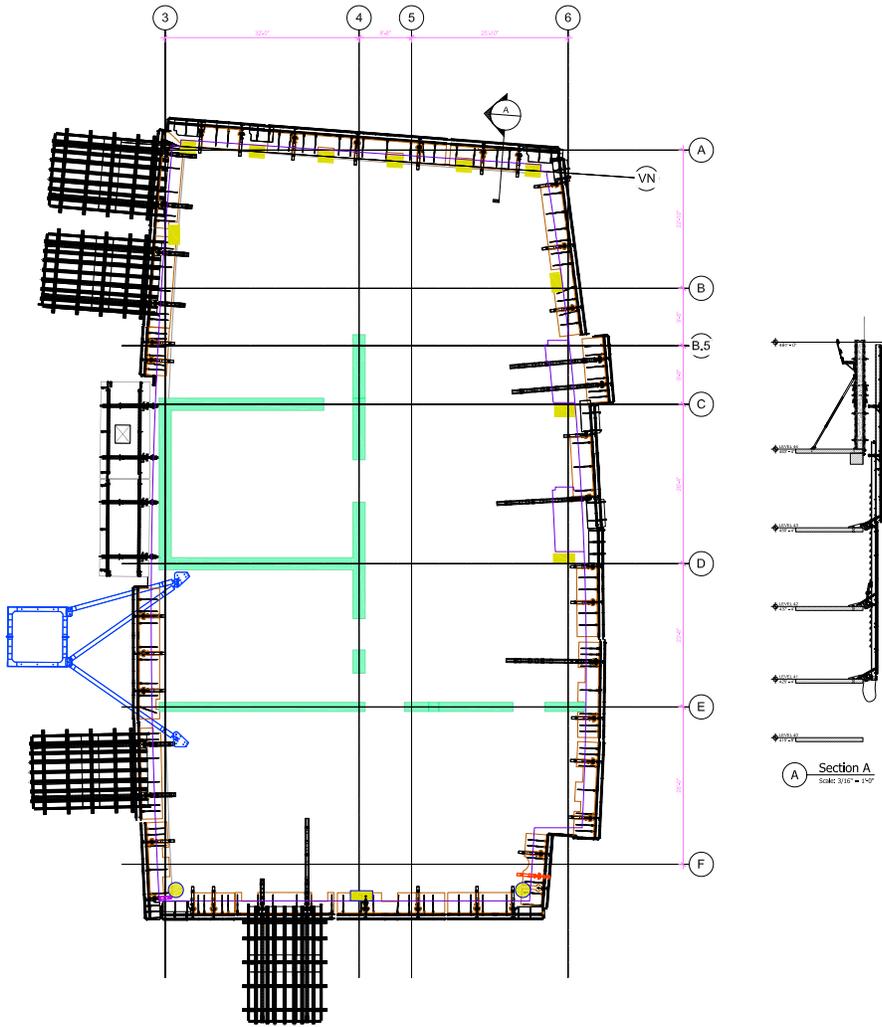
◀ Protection Screen Xclimb 60 provides continuous, safe, and fast climbing protection thanks to the rail-guided climbing technology. An integrated working platform provides access to the slab formwork.



### The Professional

“The Doka Cocoon System lets workers perform to their maximum potential, while feeling safe in the sky. The fear factor of our crew was at ease.”

Dale Sullivan, Superintendent.  
Schuster Concrete Construction



○ Plan View L44  
Scale: 3/32" = 1'-0"

▲ The versatility of the Protection Screen allowed the contractor to place platforms at varying elevations and to access formwork at an exposed wall at the roof level of the building.

### Products used

- Core: Frami Xlife, Super Climber SCP
- Façade: Protection screen Xclimb 60 with Xbright sheeting



### The Challenge

- Uncharacteristically large and high expansion project
- Advanced safety measures to protect construction workers from slips, trips, falls, and strong wind gusts exposed to extreme height conditions
- Protection of pedestrians below from falling debris

### The Facts

**Project Name:** 30 Hudson Yards  
**General Contractor:** W&W Steel  
**Height:** 92 stories, 1296 feet

### The Facts

**Project Name:** 55 Hudson Yards  
**General Contractor:** Cross Country Construction  
**Height:** 51 stories, 780 feet

### The Facts

**Project Name:** 35 Hudson Yards  
**General Contractor:** Roger & Sons Concrete  
**Height:** 79 floors, 1,000 feet



### The Professional

**“One of our challenges is working around the trades as we build up. Space is at a premium.”**

**Hugh McCallion, Foreman, Cross Country Construction**

## Forming NYC’s Skyline

The massive Hudson Yards urban development project in New York City has so far gained two titles: the nation’s largest private real estate development and the most complex construction project in the city’s history. The megaproject has essentially created 28 acres of new land in Manhattan by building on top of a large working rail yard. From this new land, several skyscrapers are rising to provide more than 1 million sq. ft. of high-end retail and mixed-use space and 18 million sq. ft. of amenity-packed commercial and residential space. When completed, the development also will include a cultural arts center, a public school and 14 acres of public open space.



Three contractors working on four Hudson Yards skyscrapers are providing their crews with full perimeter protection with Doka's Xclimb 60 automatic climbing formwork with Xbright protection screen system.

**The Facts**

**Project Name:** 15 Hudson Yards  
**General Contractor:** Cross Country Construction  
**Height:** 71 stories, 900 feet

**The Solution**

- The protection provided by Doka's **protection screen Xclimb 60 with framed enclosure Xbright** protects workers and equipment from all weather conditions, enabling all work to be carried out in complete safety. Additionally, the enclosure is added protection to prevent tools and materials from falling off the structure, protecting property, workers and any passersby below.
- **Integrated loading platforms** within the protection screen allow for straightforward, safe repositioning or cycling of slab shoring and wall formwork, tools and other materials. Loading platforms are also ideal for adding staging space to the work area.
- **Table Lifting System (TLS)** is an electric-powered lifting platform that can be easily integrated into Doka

protection screens to quickly and safely reposition floor-slab formwork, tools and other equipment—with no need for a crane. The lifting platform can be vertically repositioned in wind speeds up to 45 miles per hour.

- On most towers, the contractor used the next generation **Super Climber SCP** formwork technology. At the push of a button, all platforms, along with interior and exterior formwork for an entire floor, are raised in one single cylinder stroke.
- **#MoreThanFormwork, Teamwork**  
 Over 50 Doka Northeast branch team members supported this project from professional in-house engineers and technicians to field service, and account management.



▲ The large framed panels, and the simple method for connecting these together, keep site erection times short.



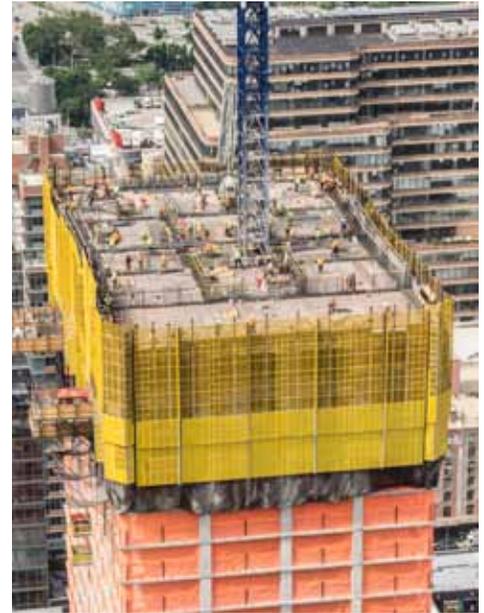
▲ The translucent polycarbonate inlay provides natural lighting of the enclosed work-deck levels across the whole area of the enclosure.



**The Professional**

**“The goal is to be proud of the work we did—by building a strong, safe building that made our company money, and with no serious injuries”.**

**Greg Franzese, Superintendent, Roger & Sons Concrete**



▲ 30 Hudson Yards is the first steel-framed building in the United States to utilize protection screens in the United States. The Doka protection screens are specially engineered to climb the steel girders of the building rather than the traditional method of casting anchors into a concrete slab.

► Due to its strong and lightweight hand setting capabilities, Frami Xlife formwork was used on the towers interior walls.





## Doka In-house Engineering Team

“We have an extensive engineering department that includes several professional engineers, which allows us to do everything in-house and under one roof,” says Tom Ammiano Sr., P.E., a structural engineer with Doka



◀ Loading platform can be integrated into the protection screen for straightforward, safe repositioning or cycling of slab shoring and wall formwork, tools and other materials. Loading platforms are also ideal for adding staging space to the work area.



Read Full Story online:  
[https://www.doka.com/us/news/press/hudson\\_yards](https://www.doka.com/us/news/press/hudson_yards)



◀ Multi-trip packaging items such as containers, stacking pallets and skeleton transport boxes keep everything neat and clean on the jobsite, minimize the time wasted searching for parts and streamline the storage and transport of system components, small items and accessories.

## The Facts

**Project Name:** One Dalton Street  
**Location:** Dalton Street, Boston, MA  
**Developer:** Four Seasons Hotel & Private Residences  
**Concrete Contractor:** G&C Concrete Construction  
**Type of structure:** Hotel & Condominiums  
**Height:** 740 feet  
**Stories:** 61  
**Cycle time:** 4 day  
**Sq. ft.:** 11,000

## The Challenge

- 4-day cycle for advancing
- Restricted movement of shoring material throughout building due to shear wall construction
- Shear Wall construction restricts movement of shoring material through building
- Limited spaced on ground for staging and storage of material
- 10-foot deep transfer slab suspended 39 feet above floor

## Products used

- Core: **Super Climber SCP** and **Framax Xlife** wall formwork
- Facade: Automatic Climbing **SKE100 Plus**, **Xbright** protection screen, & **Frami Xlife** wall formwork on columns
- Other: **Table Lifting System TLS**

## Why was Doka selected as the formwork supplier?

- Proven track record on previous projects
- Engineering group's ability to incorporate customer ideas and requests into design
- Incredible site service staff
- Economical and practical solutions
- Pre-fabrication of panels
- Easy assembly and installation onsite



# A New Height of Luxury

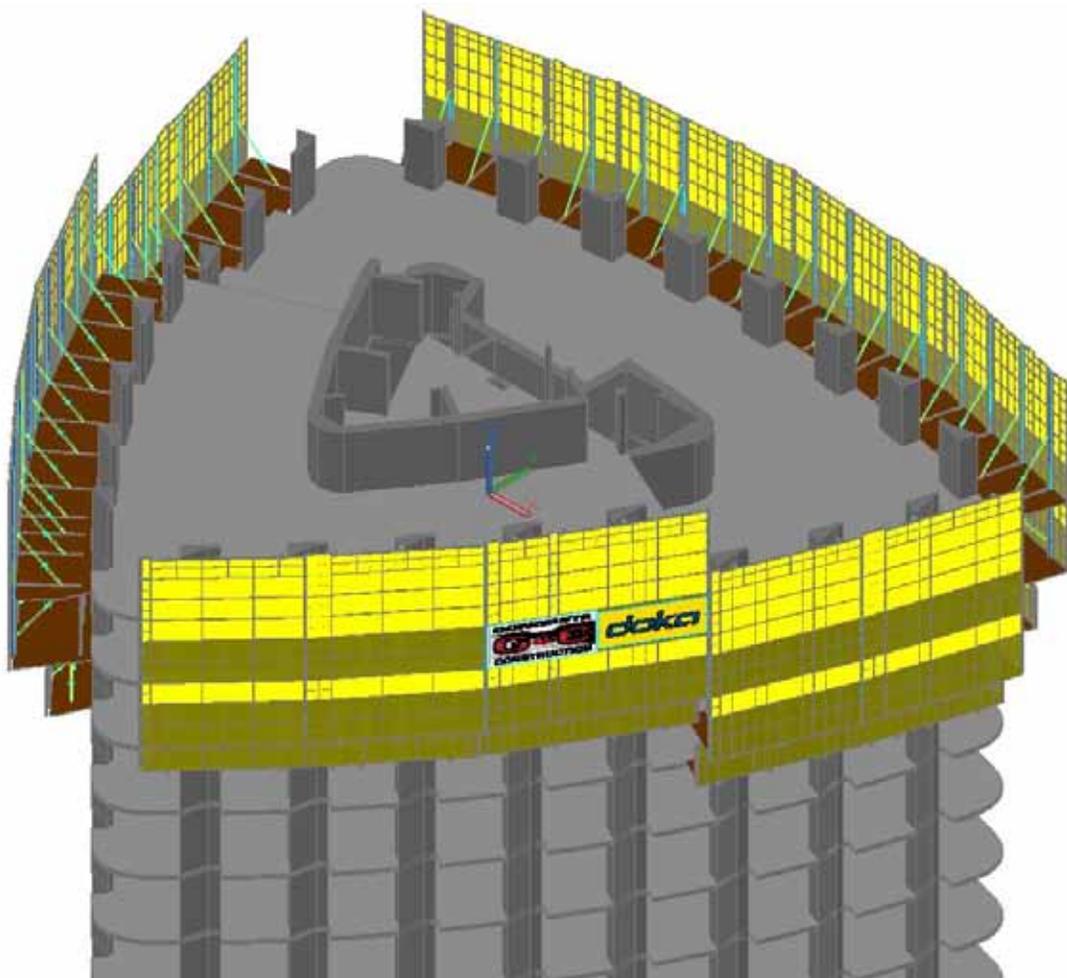
At 61 stories and over 740 ft., Four Seasons Hotel & Private Residences' One Dalton Street project in Boston, MA will become the city's tallest residential building when complete. Designed by world-renowned architect Henry N. Cobb, the all-glass tower is shaped as an equilateral triangle with rounded bays and floor-to-ceiling windows that feature wrapping views of the Back Bay skyline, the Charles River, Fenway Park, the South End neighborhood and beyond to Boston Harbor and the Blue Hills.



## The Solution

- Preassembled units unfold and pin together onsite for quick assembly and installation onsite
- Full perimeter protection at working level
- 16 foot projection from building to allow for large shoring tables to be easily cycled
- Windscreen platforms at slab working level which allows the shoring material to be rolled out onto working platform without use of crane.
- Stored wall forms one floor below working level to reduce crane time
- 7 fully loaded windscreens that are able to climb in a single lift
- Fast core and shear wall cycling with Framax stripping corner and quick clamps

▲ Doka's high performance TLS Table Lifting System (table hoist) provides a safe and highly efficient method of repositioning floor slab formwork, tools and other equipment without the use of a crane. Doka TLS can either be suspended from the structure or supplied as a 'self-climbing' system, and can be used with Doka protection screens.



▲ In-house Doka engineers supply G&C Concrete 3D design drawings to provide clients visual representation of the final product.

# In Brief

Video animation of protection screen Xclimb 60 with Xbright sheeting  
[https://www.youtube.com/watch?v=vMu-2N\\_dp4w](https://www.youtube.com/watch?v=vMu-2N_dp4w)



Be on the Safe Side with Doka. See what our Customers are saying:  
<https://www.youtube.com/watch?v=T2DK79wB8ski>



# #MoreThanFormwork, Safety



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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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