

# SAFETY FIRST

# ADJUSTABLE FORMS INC.

A CHICAGO-BASED CONCRETE CONSTRUCTION COMPANY

Safety is everybody's job and the growing partnership between Adjustable Forms, Inc. of Lombard, Illinois and EFCO of Des Moines, Iowa is a perfect example of two construction industry leaders taking the issues of jobsite safety by the horns and together developing an Edge Protection System to keep workers safe on high-rise construction.

In today's construction market, margins are extremely limited and everywhere the pressure is on to cut costs. In response to this, EFCO is looking to provide cost effective solutions with value-added engineering and support to allow contractors to adhere to the required safety and quality specifications while maintaining healthy profitability through efficient use of our products. Our customers are looking to use a supplier they can trust to deliver the right product with the right support the first time and one who can respond quickly to changing designs and site conditions. At EFCO, we understand that there is no room for inefficient systems, poor non-specific design and wasted time.



At EFCO®, our employees are our most valuable assets. We share this ideology with our customers in that they, too, recognize the value of their employees and the direct impact they have on the business.

EFCO demonstrates our commitment to safety with an Awards Program and publishes the winner of the EFCO Safety Award in each issue of FORM MARKS® magazine.

- Al Jennings • Chairman and CEO

## EDGE PROTECTION SYSTEM SUCCESSFUL ON THREE CHICAGO HIGH RISES

by Eric Lindquist  
Adjustable Forms Inc.

### Safety is Everybody's Job

Adjustable Forms, Inc. has strived to create a working environment where the well being of our employees is our first and foremost priority. The strength and solidarity of our safety program is synonymous with our growth and success as a company. Completing eight high rises in excess of 25 stories over the past year and a half exemplifies the success and growth of our company, and emphasizes the importance of instilling a culture of safety.

During preconstruction planning, safety-conscious **General Contractor Bovis Lend Lease** expressed a desire to implement an edge protection safety system on future high rises. Adjustable Forms and EFCO have worked together to develop a system that provides genuine safety benefits to both on site operations, as well as the project's

surroundings. The **EFCO Power Shield Edge Protection System** is another tool that has allowed us to maintain a safety driven and successful organization. The following three Adjustable Forms – Bovis Lend Lease projects utilized the EFCO Power Shield system, each presenting unique challenges:

### Project 1: One Museum Park West

Rising 620 feet over 54 stories, One Museum Park West was the first application of the EFCO Power Shield Edge Protection System. For the last few years, the Museum Park and Central Station neighborhoods on Chicago's South Side have been some of the hottest areas for high-rise residential construction. With unobstructed winds coming from Lake Michigan and a location well south of the city's largest structures, they have also been some of the most vulnerable to severe weather.



We protect our workers, our neighbors, our project completion schedule and the bottom line.

The EFCO Power Shield allowed Adjustable Forms to pour each 12,000 sq. ft. radiused post tensioned deck on a three day pour cycle with 100% enclosure over 5 levels. On one particular evening during construction, wind gusts were reported to reach as high as 90 mph. Even in this extreme environment, EFCO's Edge Protection System kept materials and equipment on the working deck. The neighboring building, One Museum Park East Tower suffered from over twice as many wind related delays; a testament to the effectiveness of the system.

Especially advantageous to the system was the ability to install permanent perimeter OSHA cables and netting while still within the enclosure of the EFCO system. As the system is raised, the perimeter directly below the system is already fully enclosed and available to other trades.



### Project 2: 505 N. State St.

The second application of the EFCO Power Shield, 505 N. State St. presented another challenge. The 36 story high rise, in the heart of downtown, features both a hotel and condominium-spec rental units. At level 19, the floor plate reduces and steps back for the remainder of the structure. Of particular importance to the project was its proximity to Chicago's busy State Street and the glass atrium of the adjacent AMA Building. Enclosing the perimeter at these facades allowed Adjustable to minimize falling debris and material hazards.

Substantial time was invested in ensuring the system could deliver in our particular applications. One of the limitations of competing

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systems is their inability to protect operations during all phases of the three day cycle. On the afternoon of a pour, other systems leave vertical forming and decking work exposed to the perimeter until the system can catch up. While working with EFCO to develop the system, Adjustable made clear the importance of extending the vertical cantilever framing five feet above decking on the floor above the cast deck, for a total cantilevered length of 25 feet. Often times as much as half of the next deck can be framed the afternoon of a pour. Having both a secure tie off point and a perimeter enclosure to deck into provides great savings both in time and safety.

### Project 3: Walton on the Park

At Walton on the Park, a 32 story condominium high-rise in Chicago's Gold Coast neighborhood, the EFCO Power Shield was installed in 9 days

beginning on level 12. Workers benefited from secure tie-off points around the entire perimeter, decreased exposure to the elements, and most importantly zero exposure to perimeter falls.

Another benefit lies in the material and stair lookout platforms. By integrating these platforms into the system, crane time dedicated to cycling the platforms from floor to floor was substantially decreased. Additionally, utilizing stair towers to access the four enclosed levels allowed Adjustable to minimize use of ladders. One of the most hazardous aspects our operations, stripping and clearing equipment on the wrecking floor, was made safer by allowing full enclosure with **abundant natural light**. The system's polycarbonate ribbon windows allowed greater light for workers, reduced the need for temporary lighting, and made no sacrifices in terms of protection.

One of the limitations of other edge protection system designs has been the inability to protect post tensioned slabs. The stressing ends of each tendon protrude at the slab edge enough to provide issues with other system's enclosure. EFCO worked with Adjustable to develop a platform that can **easily accommodate post tensioning**. Due to the proximity to the edge of the floor plate, the high risks typically associated with stressing can be minimized with the full enclosure.

### Conclusion

Upon completing three challenging high rises, over 1,300 vertical feet, and 123 stories, Adjustable Forms has found the **ideal balance between safety and efficiency**. The Power Shield has helped us maintain the absolute safest jobsites possible. Through close collaboration with EFCO's engineers and solid feedback from our

team, we were able to take a **team approach** in fulfilling our goal. We are truly appreciative of the investment Bovis has made on the safety of these three project, and of EFCO's ability to meet our strict safety requirements.

EFCO's engineering, feedback, and design has been an asset to our success with the **EFCO Power Shield System** over the past year and Adjustable Forms looks forward to working with EFCO in the future.

**Think Safety  
Work Safely**