

340 ON THE PARK CONDOMINIUMS

Record-Height of a Post-Tensioned Residential Building Another First for Chicago

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Fueled by Chicago's still-booming condominium market, industry awareness of the structural and economic benefits of post-tensioned concrete, use of post-tensioning is increasing dramatically among Midwest engineers and contractors. The Chicago skyline, once comprised exclusively of structural steel and conventionally-reinforced concrete structures. It now features a growing number of post-tensioned buildings, including a recently-completed high rise that ranks as both Chicago's tallest all-residential structure and the tallest post-tensioned structure in North America.

The 62-story, 975,000 sq. ft. structure contains 344 luxury units offering unprecedented and spectacular views of the city, Grant Park and Lake Michigan. Its cast-in-place, post-tensioned concrete frame was built via flying formwork at the rate of one floor every three days. The contractor used 8000 psi concrete to enable stressing within 24 hours. Additionally, extra material was kept onsite to avoid delays and shipments had to keep pace with the fast pour schedule. The building topped out in September 2006.

To maximize the development's competitive advantages, general contractor and structural engineer designed the structural frame in post-tensioned concrete at the outset of planning. "A key benefit of post-tensioning is a thinner slabs that enable increased floor-to-ceiling heights," said Ola Johansson, project manager for Magnusson Klemencic Associates, the designers of the project. "This is something a potential buyer would compare with another building." Post-tensioning also allows for longer spans between supports --the frame contains only one interior column.

In addition to setting the height record for local residential buildings, the 340 On the Park Condominium project in Chicago's East Loop is being hailed as the tallest post-tensioned building in North America. "If there is a taller one, I don't know what it is," says Ron Klemencic, the project's

structural engineer and board member of the Council on Tall Buildings and Urban Habitat, Chicago.

340 on the Park is the tallest residential tower in the Midwest to achieve a silver rating in the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system, which serves as a sort of Good Housekeeping Seal of Approval for environmentally friendly design. Silver is the third highest LEED rating after platinum and gold. LR Development's interior design group Synthesis Architecture & Design collaborated with Solomon Cordwell Buenz to develop what

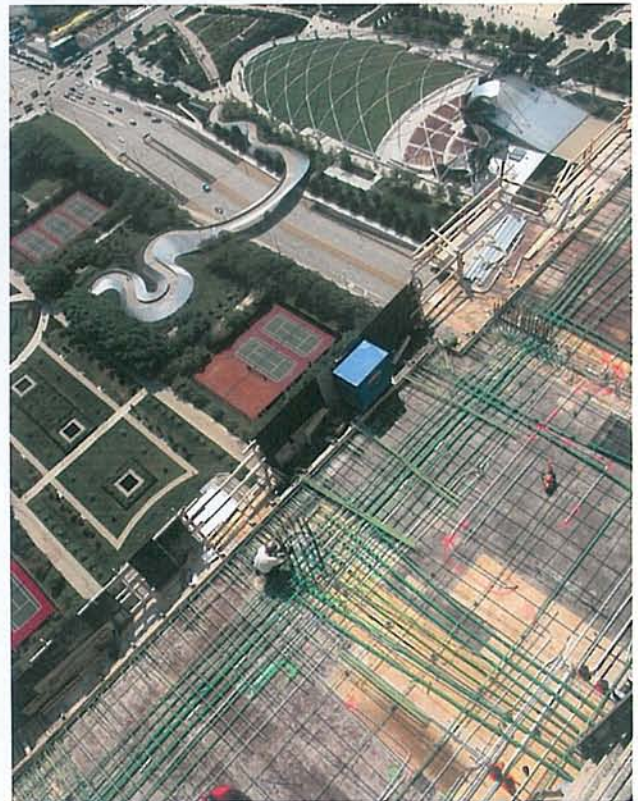


Fig. 1 - Post-tensioned flat plate construction used on 340 on the Park

they call "urban chick residential high rise." The effect is a truly unique modern building that incorporates energy efficient and environmentally sound features. Great care went into the design and construction of the building to achieve significant energy savings both during the construction and long term during the operations of the building.

Post-tensioning helped save almost 30% savings in concrete and steel. Renewable resource products such as bamboo flooring were used in the kitchens, living rooms and dining rooms. A rainwater collection system provides water for the interior Winter Garden. The building's exterior is sheathed in reflective glass so that it appears to simply be a natural part of the nearby Millennium and Grant Parks. It beautifully reflects the lush green of the surrounding acres and the vast blue of the overhead sky and nearby water. 340 on the Park blends in with its surroundings while retaining its unique contemporary feel.

KEY PLAYERS

Owner: 340 E. Randolph LLC, Chicago

Architect: Solomon, Cordwell, Buenz & Associates, Chicago

Structural Engineer: Magnusson Klemencic Associates, Chicago

Construction Manager: Bovis Lend-Lease Inc., Chicago

Contractor: McHugh Construction Co., Chicago

Post-Tensioning Supplier: AMSYSCO, Inc., Romeoville, IL



Fig. 2 – 340 on the Park awarded LEED™ Silver certification from USGBC