The Modern Concrete Skyscraper at The Skyscraper Museum

Open through October 2025

The Modern Concrete Skyscraper, a new exhibition at The Skyscraper Museum in New York City, NY, USA, retells the history of the high-rise through the lens of reinforced concrete. Over the past five decades, reinforced concrete has become a material of choice for tall buildings worldwide. Reinforced concrete skyscrapers evolved in several stages and from many influences, including architectural aspirations; engineering innovations; and advances in the strength of materials, wind engineering, and computer-assisted design. While most of those changes were hidden from view, this exhibition exposes the material concept and process in multiple structural models, construction views, and videos.

The exhibition begins with a 30 ft (9.1 m)-long graphic mural timeline, organized into eight panels that present significant chapters in the evolution of concrete skyscrapers. The panels showcase the use of concrete from ancient Rome to today. Illustrating the rise of concrete skyscrapers over more than a century—both the ascent in height and in market dominance—the panels underscore the expanding prevalence of the material in the structure and construction of tall buildings worldwide.

The main gallery exhibits the second half of the twentieth century to the present day. The highlighted buildings are "case studies" that represent both the importance of key designers—generally the collaborations of architects and engineers—and the impact of new technologies in materials and advances in construction that, from the 1980s, enabled greater heights, slenderness, and formal expression.

One of the most revealing images, created for the show from the Museum's research, is the graphic of "World's Tallest Concrete Skyscrapers" that illustrates skyscrapers throughout the years from the 1903 Ingalls Building in Cincinnati, OH, USA, to the 2010 Burj Khalifa in Dubai, UAE. The chart and chronology illuminate key eras of innovation in the 1960s and 1990s, and then the

The Modern Concrete Skyscraper exhibition at The Skyscraper Museum in New York City, NY *(photo courtesy of The Skyscraper Museum)*

The 30 ft (9.1 m)-long timeline presenting significant chapters or periods in the evolution of concrete skyscrapers *(photo courtesy of The Skyscraper Museum)*

extraordinary leap in height with the Burj Khalifa.

Starting with the 1960s, a period marked by an explosion of interest and innovations in concrete skyscrapers, the exhibition features several buildings, including Marina City in Chicago, IL, USA, designed by Bertrand Goldberg; the Skidmore, Owings & Merrill (SOM) Dewitt Chestnut apartments, also in Chicago, where engineer Fazlur Khan pioneered "tube" structures; the CBS Building, "Black Rock," in New York City, designed by Eero Saarinen; and Australia Square in Sydney, NSW, Australia, by architect Harry Seidler and engineer Pier Luigi Nervi.

In the 1980s and 1990s, key advances raised the height of concrete towers to 300 and 400 m (984 and 1312 ft). These advances were mostly "internal," structured around a massive concrete core and disguised behind a wide range of curtain walls. The scalloped, stainless steel-banded windows of the Petronas Twin Towers in Kuala Lumpur, Malaysia, belied the construction with concrete. A model of the Petronas Twin Towers and a video slideshow of dozens of construction views taken by the architectural team document the project.

Increasingly high-strength mixtures of concrete allowed supertalls to soar. By 2010, the Burj Khalifa took the title of world's tallest building. Its structure and skin are represented in the exhibition. A 1:500 structural model made by SOM illustrates the innovative "buttressed core" with its compact concrete core, walls, and floors. A photograph of the tower—completed to nearly 100 stories, but without a pane of glass—conveys the importance of concrete at 1:1 scale, while another "hero shot" presents the reflective glass façade of the finished tower.

The competition for height—decisively won by Burj Khalifa but now being challenged by the 1000+ m (3281+ ft) Jeddah Tower in Jeddah, Saudi Arabia, which is reported to have resumed construction after a 7-year pause—is only one aspect of the rise of concrete as a preeminent material for skyscrapers. The strength and moldability of concrete into any form has enabled bold experiments in forms, inside and out, as can be seen in the atriums of John Portman's architecture, the open core of SOM's Jin Mao tower in Shanghai, China, or Zaha Hadid's One Thousand Museum in Miami, FL, USA.

Another advantage of high-strength concrete is the stiffness it affords slender buildings such as the "pencil towers" of Manhattan's Billionaires' Row, including 432 Park Avenue in New York City, a model of which the show features. The show also highlights many historic photographs and construction views, films, and models, both original and made for the exhibition.

The exhibition will be on display in The Skyscraper Museum's gallery until the end of October 2025. An extensive online version of the exhibition with full text, illustrations, installation views, and related lectures on video is available at **https://skyscraper.org/the-modern-concrete-skyscraper**.

Selected for reader interest by the editors.

The main gallery features historic photographs and construction views, films, and models *(photo courtesy of The Skyscraper Museum)*

Installation views from left: Marina City in Chicago, IL; One Shell Plaza in Houston, TX; and The CBS Building, "Black Rock," in New York City *(photo courtesy of The Skyscraper Museum)*

Burj Khalifa under construction in Dubai, UAE *(photo courtesy of SOM)*

One Thousand Museum under construction in Miami, FL *(photo courtesy of DeSimone Consulting Engineering)*