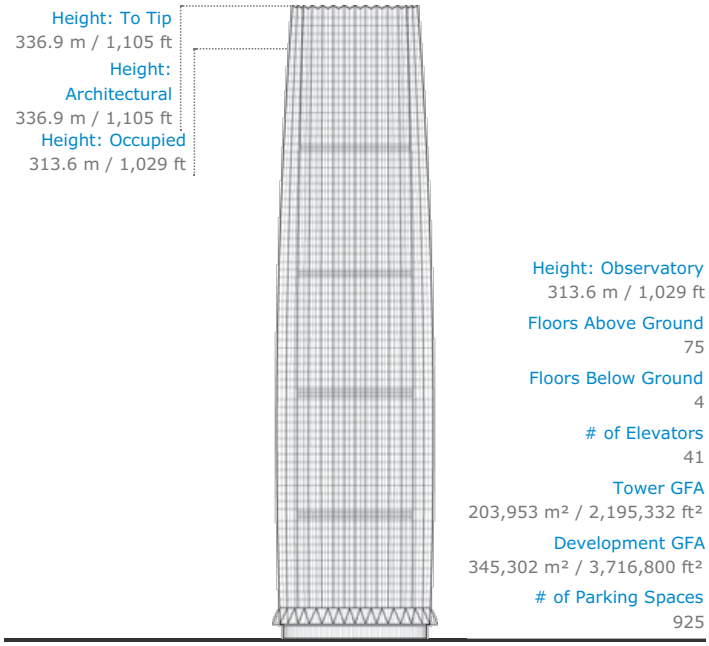
Tianjin World Financial Center

Click an image to view larger version.



Facts

Official Name	Tianjin World Financial Center
Other Names	Tianjin Jinta Tower, Global Financial Center
Structure Type	Building
Status	COM
Country	China
City	Tianjin
Street Address & Map	No. 2 Taku Road North, Heping District
Postal Code	300000
Building Function	office
Structural Material	composite • Core: Steel • Columns: Concrete Filled Steel • Floor Spanning: Steel
Proposed	2006
Construction Start	2007
Completion	2011

Companies Involved

Owner/Developer	Finance Street Tianjin Real Estate Co., Ltd.
Architect	
• Design	East China Architectural Design & Research Institute; Skidmore, Owings & Merrill LLP
Structural Engineer	
• Design	Skidmore, Owings & Merrill LLP
MEP Engineer	
• Design	Parsons Brinckerhoff Consultants Private Limited; WSP Flack + Kurtz
Main Contractor	China Construction First Group Construction & Development Co., Ltd.
Other Consultant	
• Quantity Surveyor	Davis Langdon
• Wind	BMT Fluid Mechanics Ltd.
Material Supplier	
• Cladding	Jangho Group Co., Ltd.
• Lighting	Beijing Fortune Lighting System Engineering Co., Ltd.

About Tianjin World Financial Center

The Tianjin World Financial Center in Tianjin is the iconic marker of the new Central Business District at the periphery of the historic city center. Sited in the prominent Haihe River, the building plan incorporates a riverwalk promenade, emphasizing the importance of the natural resource. Visible from all of Tianjin, the tower serves as the beginning of not only the master plan for the area, but for the modernization of the local economy and city in general.

The form of the tower was parametrically driven through the creation of a pleated paper-like façade, referencing ancient Chinese paper arts. The slightly curving folds of the tower create generous bays in the floor plates, providing a unique interior experience for the offices. In order to support this unique geometry, an innovative structural system had to be devised using steel plate shear walls, utilizing the local knowledge and labor of steel shipbuilding techniques. Hollow steel tubes were designed and filled with high-strength concrete to allow the minimum diameter columns, maintaining open spaces on the interior.

In a departure from the atypical high-rise floor plan, the tower features a slender framework that results in a height-to-width ratio of 1:8. The façade of the building is composed of a perforate series of fabricated steel panels and windows that visually obscure the tower's otherwise curvilinear form. Like many towers that utilize a tapering profile, each floor houses a slightly different program, providing a diverse selection of office space for prospective tenants.

In a city known for its intense seasonal winds, the narrow form of the building called for careful engineering considerations. After investigating

various structural solutions, the design team selected steel plate sheer walls (SPSW) as the most efficient and appropriate lateral load resisting system. As opposed to conventional sheer walls, this system is composed of large steel plate walls that are welded together and positioned between columns to counteract lateral loads, effectively transferring earthquake and wind forces down to the foundation. This system was preferred not only for its structural soundness, but for the availability of materials, as Tianjin boasts the third largest reserves of iron ore in China. Ultimately, this innovative structural system resulted in a material reduction of 20 to 25 percent over traditional steel systems.

Tianjin World Financial Center

CTBUH Initiatives

Top Company Rankings: The World's 100 Tallest Buildings
13 Oct 2016 – CTBUH Research

CTBUH Releases Year in Review: Tall Trends of 2011
Dec 2011 – CTBUH Journal Paper

Videos

Considering Place in an Integrated Approach to Tall
19 Sep 2012 – Brian Lee & William Baker, SOM

Research Papers

SOM and China: Evolving Skyscraper Design Amid Rapid Urban Growth
Oct 2016 – CTBUH Journal, 2016 Issue IV

Engineering China's Skylines
Aug 2016 – CTBUH Journal, 2016 Issue III

New Construction Technologies in Tianjin Jinta Mansion
Sep 2012 – CTBUH 2012 9th World Congress, Shanghai

More Papers ➔

Other Building Facts

The building has a height to width ration of 1:8.

To submit more information or donate images for this project, please use our submission portal.