

Abeno Harukas

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Height: To Tip

300 m / 984 ft

Height:

Architectural

300 m / 984 ft

Height: Occupied

287.6 m / 944 ft

Height: Observatory

287.6 m / 944 ft

Height: Helipad

300 m / 984 ft

Floors Above Ground

60

Floors Below Ground

5

of Elevators

56

Top Elevator Speed

6 m/s

Tower GFA

212,000 m² / 2,281,949 ft²

Development GFA

306,000 m² / 3,293,757 ft²

of Hotel Rooms

360

of Parking Spaces

190

Facts

| | |
|----------------------|-------------------------------|
| Official Name | Abeno Harukas |
| Other Names | Abenobashi Terminal Tower |
| Structure Type | Building |
| Status | Completed |
| Country | Japan |
| City | Osaka |
| Street Address & Map | 1-1-43 Abenosuji, Abeno-ku |
| Postal Code | 545-6016 |
| Building Function | hotel / office / retail |
| Structural Material | steel |
| Construction Start | 2010 |
| Completion | 2014 |
| Official Website | Abeno Harukas |

Rankings

Click arrows to view the next taller/shorter buildings

| | |
|------------------|---|
| Global Ranking | #148 Tallest in the World |
| Regional Ranking | #86 Tallest in Asia |
| National Ranking | #1 Tallest in Japan |
| City Ranking | #1 Tallest in Osaka |



Companies Involved

| | |
|---------------------|---|
| Owner/Developer | Kintetsu Corporation |
| Architect | <ul style="list-style-type: none"> Design: Takenaka Corporation |
| Structural Engineer | <ul style="list-style-type: none"> Design: Takenaka Corporation |
| MEP Engineer | <ul style="list-style-type: none"> Design: Takenaka Corporation |
| Main Contractor | Takenaka Corporation ; Okumura Corporation ; Obayashi Corporation ; Dai Nippon Construction ; The Zenitaka Corporation |
| Other Consultant | <ul style="list-style-type: none"> Facade: Pelli Clarke Pelli Architects; Takenaka Corporation Interiors: Infix Design Inc.; Kanko Kikaku Sekkeisha; Kinso; Nihon Sekkei Landscape: Studio on Site Lighting: Bonbori Lighting Architect & Associates, Inc. Way Finding: Hiromura Design Office |
| Material Supplier | <ul style="list-style-type: none"> Cladding: LIXIL Corporation Elevator: Hitachi, Ltd.; Mitsubishi Elevator and Escalator; Toshiba Elevator and Building Systems Corporation (TELC) Steel: JFE Steel Corporation; Kobe Steel, Ltd; Nippon Steel & Sumitomo Metal Corporation |

About Abeno Harukas

Abeno Harukas' significance extends to its anchoring role in the urban core of one of the country's great cities, and for its novel use of greenery.

Abeno -Tennoji railway station, which occupies the podium of the building, is a high-density hub where the number of passengers exceeds 70,000 a day. Abeno Harukas connects the metropolitan railway network to a high-density urban complex, incorporating a department store, art museum, school, hospital, office, hotel, observatory, and rooftop gardens. This multi-purpose network of services maximizes the performance of each function, and connects these programs with various vertical and horizontal circulation paths. In this compact and dense complex, the varied activities of 110,000 people energize not only this area, but also the metropolitan area along the railway network extending from the tower.

Sited in a high-density urban area, the shape of the large volumes comprising the tower were determined through various factors, such as impact of wind on the surrounding area, relation to the scale of the surrounding neighborhood, and circulation of occupants. The asymmetric structural megatruss, optimized to the program of the building, forms the void spaces, which offer space for vertical transportation as well as air circulation.

Three volumes with different floor areas are shifted and stacked, drawing sunlight and wind to the center void between offices, creating three-dimensional, cascading gardens. Further gardens placed on rooftop setbacks reconcile the vertical urban landscape with an adjacent park, while the semi-public gardens at the top of each volume are visible through the glass façade, forming a psychological connection to the ecology of the city. The diverse urban activities generated by the confluence of various functions inside transmit to the exterior through the transparent curtain wall. The scale of the tower is related to the existing micro-urban tissue through the use of public pedestrian paths on various floor levels.

Programmatic, structural, and environmental imperatives all intersect productively in this design. The truss frame installed on the upper levels, inspired by the central pillar design of traditional Japanese pagodas, also stabilizes the tower to withstand a 2,000-year earthquake. The voids inside the building are useful for ventilation and heat exchange. The department store's void channels waste heat inside ceilings and sends the cooled exhaust air to the upper floor's cooling tower by way of a buoyancy ventilation system. Voids in the office area intake natural light and wind to the central core section and render perimeter hallways as portico-like spaces. At night, cool fresh air is taken into a cool storage system, while hot air is purged.

Single-use buildings usually concentrate energy consumption during certain hours of the day. However, the multifunctional design of Abeno Harukas improves thermal efficiency and equalizes overall energy consumption, contributing to a significant reduction in CO2 emissions. The building's multi-use design facilitates the incorporation of expansive energy-saving technologies. Waste heat generated throughout the year by air conditioning, essential to department store operations, is reused to produce hot water for the hotel above. Garbage from the restaurants and hotel facilities is effectively used for bio-gas power generation. As a result, CO2 emissions will be reduced by 35% compared with comparable buildings.

Abeno Harukas

CTBUH Initiatives

CTBUH Study Examines Tallest Buildings with Dampers

22 Aug 2018 – CTBUH Research

Seven Cities Winter Spaces Walking Tour

29 Jan 2015 – Tour Report

International Journal of High-Rise Buildings Vol. 3 No. 1

Mar 2014 – CTBUH Publication

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Apr 2019 – CTBUH Journal 2019 Issue II

The Other Side of Tall Buildings: The Urban Habitat

Feb 2016 – CTBUH Journal, 2016 Issue I

Construction of a 300-Meter Vertical City: Abeno Harukas

1 Sep 2015 – International Journal of High-Rise Buildings Volume 4 Number 3

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