

## The Gherkin Tower - London, UK



A prominent curved, tapering, 41-story high-rise in London's central business district, Gherkin Tower is the city's most widely recognized contemporary architectural structure. Extraordinarily embraced by the public, the progressive designed building set the standard for future buildings in one of the world's oldest financial centers.

# The Gherkin Tower | 30 St. Mary Axe, London, UK

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## Architecture & Design Features

- ◇ Structural Expressionism Architectural Style.
  - ◇ The Gherkin name was established based on the unique shape of the building.
    - ◇ The tower's uppermost dome, known as the "lens" symbolizes a glass dome that covered part of the ground floor of the Baltic Exchange Building, previously located at The Gherkin Tower project site.
    - ◇ Diagonal bracing structure provide many benefits including natural ventilated internal spaces and ample protected public space at the ground level.
    - ◇ The tower is aerodynamically designed to reduce wind load on the structure.
      - ◇ Each level is rotated for each successive floor.
    - ◇ The building's HVAC system passes air through the façade cavity, extracting warm air trapped between the exterior glass panels and interior Building Automation System (BAS)-controlled, customized blinds.
  - ◇ Lightwells, which penetrate deep into the tower's interior, significantly reduce the need for electrical lighting, resulting in reductions in energy and related costs.
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# The Gherkin Tower

## PROJECT SUMMARY

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|------------------------|---|
| Project Description    | Original plans were for Millennium Tower, a 92-story, 386-meter (1,266 ft.) building with more than 1.5M SF of office space, apartments, shops, restaurants and gardens. This plan was dropped as it was considered out of scale in the City of London and potentially disruption to aircraft flight paths to London City and London Heathrow airports. The building stands at the former site of the Baltic Exchange which was the headquarters of a global marketplace for shipping freight contracts and also soft commodities, and the Chamber of Shipping. The iconic property's outdoor plaza is full of people in the summer, food markets, city events, and a dynamic arts program. |
| Official Building Name | 30 St. Mary Axe   |
| Other Building Names   | The Gherkin   Swiss Re Building   |
| Location               | Primary Financial District   London, UK   |
| Address                | 300 St. Mary Axe, London, UK  |
| Construction           | Commenced - 2001   Completed December 2003   Occupied April 2004  |
| Occupancy   Use        | Office  |

## PROJECT DESIGN & CONSTRUCTION

|                     |   |
|---------------------|---|
| Developer           | Swiss Re  |
| Architect           | Norman Foster and Partners  |
| Structural Engineer | Arup Group  |
| Main Contractor     | Skanska   |
| Owner   Manager     | Safra Group   CB Richard Ellis  |
| Façade              | All-glass façade, elliptical-shaped, tapered as it rises towards the top floors and base, in a spiraling design. The tower's exterior cladding consists of approximately 5,500 flat rectangular, diamond-shaped glass panels. The active façade is ventilated, comprising a low-emissivity, double-glazed clear external panels to the outside and single-pane interior glazing units, separated by an interior cavity. |
| Structure           | Aerodynamic, elliptical-shaped building, with tapered form and diagonal bracing and column-free floor plates. The geometry of the tower required an innovative design for the fabrication of individual exterior glazed panels.   |

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## **BUILDING CONSTRUCTION SUMMARY**

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|---------------------|--|
| Size   Category     | 694,000 GSF   64,000 GSM   Class A Office + Retail Amenities |
| Height Rankings     | #10 in London, UK   #84 tallest in Europe                    |
| Height Details      | Tip: 591 feet   180 meters                                   |
| Number of Floors    | 41 Above Ground   1 Below Ground                             |
| # Elevators   Speed | 24 Elevators   6 meters per second                           |
| # Parking Spaces    | 272  |

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## NOTABLE FACTS

- ◇ Helped to define a modern, open, and progressive image, with architectural quality, for one of the world's oldest financial centers.
- ◇ Previously, at this development site, on April 10, 1992 the Provisional IRA detonated a bomb close to the Exchange, causing extensive damage to the historic building and surrounding structures.
- ◇ The building design has been the recipient of numerous architecture awards.
- ◇ Britain's most expensive office building, the property was sold for £630 million in 2007.
- ◇ Floors 38-40 comprise a restaurant, private dining and bar establishment.
- ◇ The tower's sustainability design results in an estimated 50% less energy consumption than comparable sized office buildings.



The Gherkin Tower  
London's Tower Bridge and City Skyline