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30 St Mary Axe

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Height: To Tip
179.8 m / 590 ft

Height: Architectural
179.8 m / 590 ft
Height: Occupied
167 m / 548 ft

Floors Above Ground
40

Floors Below Ground
1

of Elevators
24

Top Elevator Speed
6 m/s

Tower GFA
64,470 m² / 693,949 ft²

of Parking Spaces
272

Facts

Official Name	30 St Mary Axe
Other Names	The Gherkin, Swiss Re Tower
Structure Type	Building
Status	Completed
Country	United Kingdom
City	London
Street Address & Map	30 St. Mary Axe
Postal Code	EC3A 8BF
Building Function	office
Structural Material	steel
Proposed	1997
Construction Start	2000
Completion	2004
Official Website	30 St Mary Axe

Rankings

Click arrows to view the next taller/shorter buildings

Regional Ranking	#86 Tallest in Europe	⬆️ ⬇️
National Ranking	#10 Tallest in United Kingdom	⬆️ ⬇️
City Ranking	#10 Tallest in London	⬆️ ⬇️

Companies Involved

Owner	<ul style="list-style-type: none"> Current: J. Safra Sarasin Group Past: Evans Randall; IVG; Swiss Re
Developer	Swiss Re
Architect	<ul style="list-style-type: none"> Design: Foster + Partners
Structural Engineer	<ul style="list-style-type: none"> Design: Ove Arup & Partners Peer Review: BuroHappold Engineering
MEP Engineer	<ul style="list-style-type: none"> Design: Hilson Moran Partnership Ltd.
Project Manager	RWG Associates
Main Contractor	Skanska
Other Consultant	<ul style="list-style-type: none"> Environmental: BDSP Partnership Marketing: Wordsearch Property Management: CBRE Wind: RWDI
Material Supplier	<ul style="list-style-type: none"> Aluminium: POHL Group Ceiling: Siderise Cladding: Lindner Group Elevator: KONE Paint/Coating: AkzoNobel Sealants: Sika Services AG

About 30 St Mary Axe

The inaugural winner of the CTBUH 10 Year award, 30 St Mary Axe (The Gherkin), helped to define a modern, open, and progressive image for one of the world's oldest financial centers and set a benchmark in architectural quality for a new generation of tall buildings. The Gherkin has also been extraordinarily embraced by the public. In 2012, 3,000 people attended the Open City event to look inside, some queuing from 2am, with twice that number turned away. As well as appearing on a first-class stamp, the tower has been used extensively in the promotion of London through advertising, notably as the symbol of London on Olympic bid posters. The building is not only a cultural success, but a commercial one, consistently commanding higher rents than its peers in the City. Thus, the Gherkin more than satisfies the conditions for

â€œcontribution to culture / iconography.â€

Under the engineering performance heading, the buildingâ€™s tapering form and diagonal bracing structure have afforded numerous benefits that continue today: programmatic flexibility, naturally ventilated internal social spaces, and ample, protected public space at the ground level. The Gherkin has performed exceptionally well in high winds â€” its robust aerodynamic form counteracts the movement that would otherwise be felt in a building of its height. Environmentally, this form, which slims toward the base and the apex, creates external pressure differentials that are exploited to drive a system of natural ventilation during the summer months, and enabled the creation of a generous, comfortable plaza at street level, protected from high winds by the towerâ€™s form.

The Gherkinâ€™s accommodating structure has had follow-on benefits in the internal environment and occupant satisfaction category. Column-free floor plates, and a fully glazed facade open the building to light and views. Atria between the radiating fingers of each floor link vertically to form a series of informal break-out spaces that spiral up the building. As the occupancy has shifted from sole tenant to more than 14 firms, these â€œgreen lungsâ€ have continued to provide valuable internal social space within the dense medieval street pattern of London. Six radial fingers of accommodation on each floor, with light wells between, combine the benefits of both curvilinear and rectilinear configurations, maximizing the proportion of naturally lit office space.

The geometry of the tower demanded an innovative system for the fabrication of individual cladding panels, due to the high level of variation. The 3D computer model of the system was linked directly to the production line, with major implications for the subsequent construction of complex buildings around the world.

The design placed a high priority on flexibility. Every possible configuration within the building, from cellular offices to entirely open plan floors, persists today. The widening and slimming profile generates a variety of floor plates that can respond to different sectors and markets.

The building is exemplary in terms of environmental and energy performance. The natural ventilation system operates by importing external air into the building through building management system (BMS)-controlled, motorized perimeter windows placed in each of the six lightwells. The adoption of natural ventilation varies, depending on tenant layout and requirements. Approximately 50 percent of occupants currently use the system.

An active, ventilated facade is used across the whole building. This comprises a low-emissivity, double-glazed clear external unit to the outside and a single-pane interior glass, separated by a ventilated cavity. Within the cavity are solar control blinds operated by the BMS. A proportion of office extract air is passed through the facade cavity, which takes the intercepted heat reflected by the blinds from the facade back to the outside via on-floor air handling units. This minimizes solar gain in the offices and makes the facade effectively part of the office extract system.

The pitch angle of the blinds is fixed by individual, BMS-controlled dedicated motors to an optimum position to reduce solar gain within the office spaces at all times, while maximizing light transmission through the gaps in the blinds. Ten years on, this system is operational and effective in providing user comfort, while reducing energy demand.

The Gherkin is not just an icon; it also provides a contribution to the urban realm beyond itself. The outdoor space is another great success of the project, where the buildingâ€™s contribution to the city has been most evident: the plaza is full of people in the summer, with food markets, city events and a dynamic arts program illustrating its success.

30 St Mary Axe

CTBUH Initiatives

Canada Event Considers â€œThe Story of Marketing Tall Buildingsâ€

20 Jun 2017 – Event Report

Ken Shuttleworth: A Journey of Design and Discovery

17 Aug 2016 – Event Report

Warm Weather Spaces Walking Tours 2015

17 Sep 2015 – Tour Report

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Research Papers

Life Cycle Analysis: Load-Bearing Structures Of High-Rise Buildings in Western Europe

Jul 2019 – CTBUH Journal Issue III

An Overview of Structural & Aesthetic Developments in Tall Buildings Using Exterior Bracing & Diagrid Systems

1 Dec 2016 – International Journal of High-Rise Buildings Volume 5 Number 4

The Emergence of the Diagrid - Itâ€™s All About the Node

1 Dec 2016 – International Journal of High-Rise Buildings Volume 5 Number 4

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Videos

Quay Quarter Tower: Humanizing the High-Rise

30 Oct 2017 – Kim Nielsen, 3XN

From San Diego to Guangzhou: The Story of Marketing Tall Buildings

19 Oct 2016 – William Murray, Wordsearch

Interview: Cormac MacCrann

27 Oct 2015 – Cormac MacCrann, Canary Wharf Group

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