

## Makkah Royal Clock Tower

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Height: To Tip  
601 m / 1,972 ft

Height:  
Architectural  
601 m / 1,972 ft

Height: Occupied  
494.4 m / 1,622 ft

Height: Observatory  
484.4 m / 1,589 ft

Floors Above Ground  
120

Floors Below Ground  
3

# of Elevators  
96

Top Elevator Speed  
6 m/s

Tower GFA  
310,638 m<sup>2</sup> / 3,343,680 ft<sup>2</sup>

Development GFA  
1,575,820 m<sup>2</sup> / 16,961,985 ft<sup>2</sup>

# of Hotel Rooms  
858

### Facts

Official Name	Makkah Royal Clock Tower
Name of Complex	Abraj Al-Bait Endowment
Other Names	King Abdul Aziz Endowment Tower, Makkah Royal Clock Tower Hotel
Structure Type	Building
Status	Completed
Country	Saudi Arabia
City	Mecca
Street Address & Map	Makkah Haram
Building Function	other / hotel
Structural Material	steel/concrete
Proposed	2002
Construction Start	2002
Completion	2012

### Rankings

Click arrows to view the next taller/shorter buildings

Global Ranking	#3 Tallest in the <a href="#">World</a>
Regional Ranking	#2 Tallest in <a href="#">Middle East</a>
National Ranking	#1 Tallest in <a href="#">Saudi Arabia</a>
City Ranking	#1 Tallest in <a href="#">Mecca</a>



### Companies Involved

Developer	Saudi Bin Laden Group
Architect	<ul style="list-style-type: none"> <li>Design: <a href="#">Dar al-Handasah Shair &amp; Partners</a>; <a href="#">SL Rasch</a></li> </ul>
Structural Engineer	<ul style="list-style-type: none"> <li>Design: <a href="#">Dar al-Handasah Shair &amp; Partners</a>; <a href="#">SL Rasch</a></li> <li>Peer Review: <a href="#">BuroHappold Engineering</a></li> </ul>
MEP Engineer	<ul style="list-style-type: none"> <li>Design: <a href="#">Dar al-Handasah Shair &amp; Partners</a></li> </ul>
Project Manager	<a href="#">Turner International LLC</a>
Main Contractor	Saudi Bin Laden Group
Other Consultant	<ul style="list-style-type: none"> <li>Façade: <a href="#">Curtain Wall Design and Consulting, Inc.</a></li> <li>Lighting: <a href="#">Bartenbach</a>; <a href="#">Har Hollands Lichtarchitect</a></li> <li>Wind: <a href="#">Alan G. Davenport Wind Engineering Group</a>; <a href="#">Wacker Ingenieure</a></li> </ul>

### Material Supplier

Cladding	<a href="#">Gurit</a> ; <a href="#">GUTMANN AG</a>
Construction Hoists	<a href="#">Alimak Hek</a>
Crane	<a href="#">STAHL CraneSystems GmbH</a>
Elevator	<a href="#">KONE</a>
Paint/Coating	<a href="#">Jotun</a>
Sealants	<a href="#">Dow Corning Corporation</a>

### About Makkah Royal Clock Tower

At the heart of the holiest Islamic city, Makkah Royal Clock Tower brings an air of modernization to the bustling historic center of Mecca. The tower was developed as a component of the King Abdulaziz Endowment Project and provides comfortable accommodations for devout Muslims that make the journey to the city every year during the Hajj period. It is conveniently located adjacent to the Grand Mosque, which can accommodate up to two million worshippers over the course of the event.

The clock tower stands in the center of a high-rise complex called Abraj Al-Bait. Six smaller high-rises surround it at heights varying and accommodate both residential and hotel uses. True to its name, four colossal clock faces are mounted near the top of the tower. These clocks hold the record for both the largest and highest in the world. At night, the clock faces are illuminated by one million LED lights that transform the tower into a green and white beacon. Writing is inscribed above each clock, with the words "God is the Greatest" on the north and south sides, while the Koran adorns the east and west sides. The spire of the tower features a spherical observation center at its base. The spire is capped with a shining mosaic gold crescent that weighs 35 metric tons. A number of cultural amenities are present in the upper levels

of the tower, including a center for lunar observation and a cosmology museum.

Since a great deal of residents and guests in the tower perform prayers five times a day, innovative solutions were provided in the elevator systems that transport people in a smooth and efficient manner. Group control systems were implemented that adapt to the travel patterns of passengers, intelligently anticipating their general location and destination. Using this technology, up to 75,000 people can exit all seven buildings without issue.

## Makkah Royal Clock Tower

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12 Sep 2017 – CTBUH Research

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Oct 2011 – Stefan Kratzmeir, FOGTEC Fire Protection

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