

TATA STEEL



ComFlor® case study

Burj Khalifa, Dubai, United Arab Emirates

Architect: Skidmore, Owings and Merrill

Main contractors: Samsung Eng. & Construction
/Besix/Arabtec

Consulting engineers: Hyder Consulting and GHD

Steel subcontractor: Eversendai Engineering

Decking system: ComFlor® 80

More than 4000m² of ComFlor® 80 composite floor decking was installed at the very top of Burj Khalifa, Dubai, officially the world's tallest building!

At the peak of construction, over 12,000 workers and contractors were on site every day. The project took 22 million man hours to complete.

The statistics of Burj Khalifa are truly awe-inspiring. It holds many different world records.

ComFlor® 80 has played its part in the creation of a strong and efficient solution for this monumental and iconic structure, which is over 828 metres (2,716.5 ft) tall.



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The World's Tallest Buildings



Key

A. Burj Khalifa, Dubai, UAE (828m/2716.5ft)
 B. CN Tower, Toronto, Canada (553m/1815 ft)
 C. Sears Tower, Chicago, USA (527m/1730 ft)
 D. Taipei 101, Taipei, Taiwan (509m/1671 ft)
 E. Petronas Towers, Kuala Lumpur, Malaysia (452m/1483 ft)
 F. Empire State Building, New York, USA (443m/1454 ft)
 G. Jin Mao Building, Shanghai, China (421m/1380 ft)

H. International Finance Center, Hong Kong (416m/1364 ft)
 I. Citic Plaza, Guangzhou, China (391m/1283 ft)
 J. Shun Hing Square, Shenzhen, China (384 m/1260 ft)
 K. Central Plaza, Hong Kong (374m/1227 ft)
 L. Tuntex Sky Tower, Kaohsiung, Taiwan (370m/1220 ft)
 M. Bank of China, Hong Kong (369m/1209 ft)
 N. Emirates Office Tower, Dubai, UAE (355m/1163 ft)

O. Aon Center, Chicago, USA (346m/1136 ft)
 P. The Center, Hong Kong (346m/1136 ft)
 Q. John Hancock Center, Chicago, USA (344m/1127 ft)
 R. Shimao International Plaza, Shanghai (333m/1093 ft)
 S. Minsheng Bank Building, Wuhan, China (331m/1087 ft)
 T. Ryugyong Hotel, Pyongyang, North Korea (330m/1083 ft)

By a considerable margin, Dubai's Burj Khalifa is the tallest structure ever to be made by man.

It officially became the tallest building in the world during construction, when it passed the height of Taipei 101, the previous record holder.

Built by Emaar Properties, the completed building is over 828 metres (2,716.5 ft) tall. With corporate suites, restaurants, an Armani hotel and 900 residences, it is surrounded by a stunning 1.2 million sq.ft. man-made park, overlooking six beautiful water features.

Over 45,000 m³ of concrete, weighing more than 110,000 tonnes, were used to construct the concrete and steel foundation, which features 192 piles buried more than 50 metres (164 ft) deep.

Burj Khalifa's construction used a total of 330,000 m³ of concrete and 39,000 tonnes of steel rebar.

At the peak of construction, over 12,000 workers and contractors were on site everyday, representing more than 100 nationalities. The project took 22 million man hours to complete.

The statistics of Burj Khalifa are truly awe-inspiring. It holds many different world records, including: -

- Tallest building.
- Tallest free-standing structure.
- Highest number of storeys.
- Highest occupied floor.
- Highest outdoor observation deck.
- Elevator with the longest travel distance.
- Tallest service elevator.

More than 4,000m² of the composite flooring system, ComFlor® 80, were supplied to provide the very top of the 828 metre spiral structure.

Lubna Karim, Contracts Manager (Building Systems) at Tata Steel Middle East commented: "Originally, a 76mm deep deck was specified for the job but after highlighting the benefits of ComFlor® 80, the client specification soon changed.

"In addition to its high quality, the long span capabilities of ComFlor® 80, reduce the number of structural steel components and so generates savings in the overall construction cost.

"ComFlor® 80 is tested by Tata Steel for both composite action and fire resistance for full floor slab assembly to ensure that it meets all international standards."

Haydar Ibrahim, General Manager of Business Development and Technical Marketing at Tata Steel Middle East, added: "Tata Steel prides itself on its technical expertise.

"We were able to work closely with both the fabricator (Eversendai Engineering) and the consulting engineers to ensure that the ambitious decking arrangements could be realised.

"Imaginative design solutions were produced that enabled the installer to start laying the decking, floor by floor, at such a considerable height. We are delighted to have played a part in such an iconic project."

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