

Qatar National Convention Centre

Doha, Qatar

Client

Qatar Foundation
Baytur

Concept Architects

Arata Isozaki

Production Architects

Yamasaki

Completion Date

2011

Construction Cost

\$580 million

Total Area

200,000 m²



Thornton Tomasetti provided structural engineering design services through design development for the largest convention center in the Middle East. In addition to hosting conferences and exhibitions, the center will be a venue for music, art and cultural events. Located near the region's elite universities and the research and technology institutions in Education City, the structure is positioned to become the new global hub of ideas and innovation.

The LEED Gold-certified convention center is a four-story building with a 250-meter by 115-meter footprint on top of a one-story 420-meter by 175-meter podium. It accommodates 10 conference and performance venues; a 2,300-seat, multilevel theater; three additional tiered auditoriums; a 40,000-square-meter exhibition space and pre-function exhibition foyers; banquet facilities for up to 10,000 people; 57 meeting rooms; and hospitality suites and lounges.

The roof for the main auditorium is supported by two main 45-meter transfer trusses. The stage area is constructed using steel construction and precast hollow-core slabs, and is acoustically isolated from the rest of the building. The theatre itself is designed as a box within a box to isolate exterior interference. The main convention center features an immense floor-to-ceiling height of 35 meters and column-free spaces of 50 meters by 85 meters stacked on top of each other. The main auditorium is constructed with 14 radial frames sitting on two concentric concrete shells. Their complex geometries made standard form casting impossible. The Thornton Tomasetti team recommended short crete, a sprayed concrete alternative, that allowed the design to move forward and also resulted in cost savings for the client.

The project is the first LEED-certified project on the Qatar Foundation's Education City campus. The facility operates on renewable energy source including photovoltaic panels. The construction uses reclaimed finish materials and locally-manufactured materials.