

The Gate Towers are located in The Gate District of Shams Abu Dhabi, the portion of Reem Island. The Gate towers development includes Tower1, Tower2, Tower3, The Arc Tower, one office tower, and a hotel.

Freyssinet's scope covered all post-tensioned elements including the suspended slabs of the towers, the transfer beams as well as the P/T cantilever walls. The project consists of 4 towers (62 Floors each) and a bridge connecting all towers. The bridge is supported on 2 post-tensioned cantilever walls resting on each tower. The B-range system (3B13 and 5B13) was used in the suspended slabs while and an array of multi-strand systems ranging from 13C15 to 37C15 were implemented in the transfer beams and cantilever walls.

The challenge was mainly associated with the cantilever walls on the 63rd floor which contained both multi-stand tendons as well as Freyssibars. The cantilever walls are 11.0m in length, 12.65m in depth and 1.1m in width. 10 tendons of 37C15 each were required in the walls to provide 77,422 kN to resist the applied gravity load 40,000 kN at the edge of the walls. In addition, 30 tons of 40mm dia Freyssibars were placed in both vertical and horizontal directions to resist the development of any possible cracks. The tendons in the walls are stressed in three stages due to the high variation of the applied loads during the construction stage. Project size is 250,000 m².

New structures

Gate District Towers

Shams Abu Dhabi - UAE



Client

Sorouh Real Estate PJSC and
Tameer Holdings JV

Consultant

Khatib and Alami

Contractor

Arabian Construction Co.

Construction

2009 - 2012