

CASE STUDY



BURJ DUBAI | TALL BUILDINGS



fds consult

## CASE STUDY - BURJ DUBAI | TALL BUILDINGS

The Burj Dubai is a wide ranging development incorporating numerous high rise towers. To help address the challenges of developing a fire strategy for such a unique site, international tall buildings experts, FDS Consult, were brought in to take a creative approach to devising a fire strategy that would address key issues such as means of escape.

The FDS Consult team based the fire strategy on both British and American Fire Regulations but also applied the consultancy's innovative, problem-solving approach to ensure that a programmable elevator was fully protected, allowing an acceptable means of escape for disabled occupants. The expert FDS Consult team achieved this by working closely with the municipality and developing a hybrid pressurisation system based on British and American standards that successfully protected the elevator whilst simultaneously de-pressurising the common corridors. This innovative solution enabled the FDS Consult team to justify extended travel distances and reduce the number of staircases in the buildings to just two per tower. The team took the same solutions-driven approach to rationalising the whole evacuation philosophy, minimising building interruption for fires in different building locations.

In the residential areas of the buildings, a design emphasis on open plan living challenged FDS Consult to find a way of justifying increased internal travel distances and reduced compartmentation. Thanks to the expertise of the FDS team, this was achieved by:

- Specifying sprinklers throughout the residential element of the building
- Specifying the use of an advanced smoke detection system linked to the sprinkler system to avoid false alarms whilst maintaining safety levels.

The resulting fire strategy delivered total cost savings of £5 million thanks to the removal of the staircases, removal of a large-scale smoke venting system, reduced compartmentation and reduced fire rating and increased travel distances in the car park. Because of FDS Consult's expert knowledge, the project not only benefitted from a more creative approach to the fire strategy and considerable cost savings but the ongoing management of the building was simplified too, due to the inclusion of a pressure relief system in the common areas.

Type of project:  
New Build Mixed Use Tall Building

Client:  
EMAAR

Architect:  
Kohn Pedersen Fox Associates

