Dubai Airport Control Tower, Dubai, UAE

Wind Engineering Study

Control Tower

Force Balance Model

Pressure Model

Client	*Structural Engineer*	*Owner*
Bechtel Corporation, San Francisco	Bechtel Corporation, San Francisco	Dubai Government
Height	*Year Tested*	*Model Scale*
77.4 meters	1998	1:400

The Project

The new control tower was part of the Dubai International Airport Concourse 1 expansion which was also studied. The tower is located at the southeast end of Concourse 1, rising out of a 19 meter base building.

The Wind Tunnel Studies

The wind engineering studies for the control tower included a study of the wind-induced structural loads and responses and local cladding pressure.

The study of overall structural loads and responses was determined for the tower using the force balance technique in which a light weight stiff geometrical representation of the tower was constructed to measure steady and unsteady forces acting in the fundamental sway and torsional modes of vibration.

The study of wind-induced cladding pressures was carried out for 14 measurement locations and four tests were carried out using provided symmetry results for 56 locations distributed over the tower.

The Boundary Layer Wind Tunnel Laboratory

Western

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