Espirito Santo Plaza, Miami, FL, USA

Wind Engineering Study

Illustration of Tower

Pressure Model

Client	Structural Engineer	Architect
Kohn Pedersen and Fox	Leslie E. Robertson Associates	Kohn Pedersen and Fox
Height	**Year Tested**	**Model Scale**
487 feet	1999	1:400

The Project

The Espirito Santo Plaza in Miami consists of a single tower rising 36 storeys above street level. The attached 12-storey parking garage has a pool, sundeck and tennis courts located on its roof. The tower is located on Brickell Ave.

The tower is home to the American headquarters for the Espirito Santo Bank and is a mixed-use tower also containing hotel and residential units. The 36-storey concave, gradually sloping arch on the front elevation of the tower symbolizes Miami as the gateway to Latin America.

The Wind Tunnel Studies

The wind engineering studies for Espirito Santo Plaza included a study of the wind-induced structural loads and responses for the tower, local cladding pressure loads and pedestrian level winds.

The study of overall structural loads and responses was determined for the tower using the pressure integration technique.

A study of wind-induced cladding pressures was carried out for 569 measurement locations distributed over the tower and parking garage.

The pedestrian level wind study examined 20 locations around the tower including the parking garage roof top pool area.

The Boundary Layer Wind Tunnel Laboratory

Western

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FSTB/ 263 /February 2007 /DG
Last Printed: March 19, 2009