Milan Lombardi Government Centre, Milan, Italy

Wind Engineering Study

Image Credit: Pei Cobb Freed & Partners

Client	*Structural Engineer*	*Architect*
Pei Cobb Freed Architects	Thornton-Tomasetti Engineers	Pei Cobb Freed & Partners
Height	*Year Tested*	*Model Scale*
Office Tower – 160m Low-rise Office Complex - 38m	2005	1:400

The Project

The Lombardi Government Centre in Milan, Italy consists of a 43-storey office tower and an 8-storey low-rise complex. A piazza roof covers the open space between the low-rise structures. The site is located in downtown Milan, and is bounded by Pirelli St., Melchore St., and Pola St.

The office tower and low-rise office complex will have a floor area of approximately 114,500 m^2 and 26,000 m^2 of underground parking. The central piazza, with its curved glass roof, accommodates public amenities such as multi-use auditoriums, exhibition space, restaurants and retail spaces.

The Wind Tunnel Studies

The wind engineering studies for Milan Lombardi Government Centre included a study of the wind-induced structural loads and responses and local cladding pressure loads. Equivalent static loads on the glass roof over the piazza were determined using the local wind pressures on the roof surface.

The study of overall structural loads and responses was determined for the condominium tower using the force balance technique.

A study of wind-induced cladding pressures was carried out for 924 measurement locations distributed over the two towers and podium.

A flow visualization study was conducted to investigate the overall airflow characteristics and locate regions of flow separation, re-attachment and vortex formation.

The Boundary Layer Wind Tunnel Laboratory

Western

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