Fair Tower, Basel, Switzerland

Wind Engineering Study

Architect's Illustration

Wind Tunnel Model

Client	*Engineer*	*Architect*
WGG Schnetzer Puskas Engineering Ltd.	WGG Schnetzer Puskas Engineering Ltd.	Morger & Degelo, Marques
Height	*Year Tested*	*Model Scale*
105m	2000	1:400

The Project

This project consists of a 32-storey tower which, when constructed, was the tallest building in Switzerland. Its main feature is the cantilevered low-rise which extends unsupported for a maximum distance of approximately 22.3 meters.

Basel, Switzerland is located on the Rhine River valley and is surrounded by mountain ranges from the northeast through to the southwest. This has a significant effect on the wind climate experience in the region.

The Fair Tower, also known as the Basel Messeturm, is a combination hotel, office and retail tower located in the second largest city in Switzerland. Basel is noted as the financial centre of the region.

The Wind Tunnel Studies

A climatic study of the region was performed using available data from local weather stations The influence of the topography and roughness was recognized and a final climate was arrived at by merging data from three stations.

Information on structural loads, deflections and accelerations of the tower was provided using the pressure integration method to determine the mean and time-varying wind forces.

Information on local cladding pressures was provided based on measurements taken at 440 locations.

Pedestrian level wind speeds were examined at 23 locations, with emphasis on the main entrance and tower corner areas. Tests were made for two configurations of the site. The first was to establish present conditions. The second examined the same locations with the Fair Tower present. This allowed the developers to provide the city with the expected effect of the development on pedestrian comfort.

The Boundary Layer Wind Tunnel Laboratory

Western

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