Olympic Velodrome, Athens, Greece

Wind Engineering Study

Client	Structural Engineer	Architect
Athens Olympic Committee (ATHOC)	Santiago Calatrava S.A.	Santiago Calatrava S.A.
Height	**Year Tested**	**Model Scale**
150m x 110m	2003	1:300

The Project

The Olympic Velodrome is a stadium which was built in 1991 for the Mediterranean Games. It was extensively refurbished in order to host track cycling for the 2004 Summer Olympic Games. The stadium can hold 5,250 spectators under a unique roof design by Calatrava. The roof structure is supported by cables suspended from two main arches. This is similar to the approach developed for the main Olympic Stadium which is located near the velodrome.

The Wind Tunnel Studies

The wind engineering studies included a study of the differential local cladding pressure loads and structural loads and responses of the roof.

The study of wind-induced cladding pressures was carried out using 240 pressure measurement locations distributed over the roof on both the upper and lower surfaces. The pressure measurements were integrated over the surface of the roof to determine the overall forces as well as selected structural responses including deflections and forces in individual members at sensitive locations.

The Boundary Layer Wind Tunnel Laboratory

Western

The Boundary Layer Wind Tunnel Laboratory
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FSTB/ 321 /January 2009 /RTE
Last Printed: February 06, 2009