

“Ferrari World”, passion for structural and cladding engineering

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Sergio De Gaetano, born 1973, is a chartered building engineer. He is currently Associate Director at Ramboll, a large multidisciplinary and international engineering consultancy firm that employs more than 8,000 experts worldwide. His main area of research is related to façade and roof engineering.

Summary

This paper presents the structural and roof design philosophy for the large canopy designed in the style of a classic double-curve body shell of a Ferrari GT car. This project has been driven by its fast track design, environmental constraints and tight site construction programme. Using our Ramboll network of teams and offices around the world, we developed a flexible and sustainable approach to the structural and façade engineering that enabled us to meet the all the design challenges and site constraints.

Keywords: large structures, roof engineering, façade engineering, environmental challenges.

1. Introduction

“Ferrari World” in Abu Dhabi (UAE) is set to be the world’s largest indoor theme park, sitting under a roof that aims to translate the speed, passion and extreme technology of Ferrari racing and road cars. This venue is part of the YAS Island development which has hosted the first Formula 1 Abu Dhabi G.P. in 2009 and will provide leisure and entertainment for visitors to experience the story and history of Ferrari.

The building is exposed on all sides to extreme temperatures and harsh site conditions such as airborne salt and sand/dust, mixed with high humidity most of the year (close to 100% some of the time) . The climate played a key role in the initial consideration of orientation, choice of material, finishes and solar control.

