

Third Bosphorus Bridge-An Overview

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Abstract

The Third Bosphorus, a stiffened suspension bridge with a main span of 1408m, overall length 2250m and width 59.4m, is believed to be the first of its type. The innovative hybrid suspension-stay cable supported deck is designed and constructed to carry 8 lanes of road traffic and twin track heavy rail, all on the same deck level.

The bridge is situated in a seismic region and exposed to a severe wind climate. The bridge was required to be constructed to a tight timeframe. These factors posed technical and planning challenges. The technical innovations featured in the paper include tower saddles, dehumidification, and structural health monitoring system.

From a Lenders' Technical Advisor perspective, this paper gives an overview of the technical challenges and how these were successfully addressed in bringing to fruition this truly unique crossing by the design.

Keywords:

stiffened suspension; cable stay; seismic; aerodynamics; hybrid; heavy rail; tower saddles; Pendle bearings; dehumidification; structural health monitoring.