



Bridge over Rambla del Cura

Roquetas de Mar, Almeria, Spain / 2007

Structural type
Owner
Constructor
Scope

double arch of 60.35m span and intermediate composite deck
Ayuntamiento de Roquetas de Mar
Jarquil
detailed design



The bridge over the Cañuelo river valley comprises a double steel arch with an intermediate deck, made up of two longitudinal steel beams, transversal composite ones and two accompanying spans of reinforced concrete slabs. The central statically determined circle-shaped double arch is of 60.35 m span and maximum rise of 8.60m, which provides a rise/span relation of 1/7. The deck width equals 25.00m, divided into four lanes of 3.50m and two pavements.

The transversal section of the arches is trapezoidal with a linear variation of the width and depth. In order to prevent instability phenomena of the arch, in its crown area it was necessary to provide it with major inertia about its vertical axis which resulted in its greater horizontal than vertical dimension. On the contrary, due to bending in its spring area, it was necessary to provide it with major inertia about its horizontal axis which led to greater vertical dimension.

The arch and the deck are connected by means of two vertical hanger systems which link it to two lateral steel beams. Each hanger system consists of eleven hangers made of closed triple Z cables of nominal 50 mm diameter.

The two accompanying lateral access spans comprise two reinforced concrete slabs of 11.15 m span and variable depth, its smallest depth reaching 0.50 m at abutments.



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