



Bridge over Picassent Ravine

Picassent, Valencia, Spain / 2010

Owner
Scope

Ayuntamiento de Picassent
detailed design and construction support



The arch bridge over Picassent Gorge consists of a single steel arch of 51,50 m span with a composite deck connected to the arch by means of steel hangers.

The steel arch is circular and its transversal section quadrilateral of variable sides, both in elevation and plan. The connection of arch and deck is achieved by means of seven hangers, in only one central plan, at every 6.30 m. These hangers are made up of closed triple Z cables with a nominal diameter of 58 mm.

The sag of the arch at the centre of the span is of approximately 8.60 m. Its sag/span ratio is $L/6$.

The transversal section of the deck consists of a triangular steel box of variable depth, from 1.10 m at the axis of the structure to 0.10 m at the extremes. This box is divided into six cells per vertical webs. The section is completed with a 0,18 m thick concrete slab. The total depth amounts to 1,28 m. Its depth/span ratio is $L/40$.

Transversal diaphragms are attached at every 3.15 m, coinciding with the supporting axes at the abutments, with each hanger and at the intermediate points between every second hanger.

Each stub-abutment is founded with four circular piles of 1.25 m diameter.



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