



Bridges on Orense-Santiago highway

Alto de Santo Domingo, Orense, Spain / 2005

Owner
Scope

ACEOUSA
detailed design



The bridges over the Rivers Barbantiño and Miño are part of the toll motorway from Santiago to Orense, in the stretch from the Alto de Santo Domingo to the Rías Baixas motorway.

The Barbantiño Viaduct is an 805,00 m long structure with spans of 125-3 185-125 metres. The deck is 25,00 m wide which allows a two-lane motorway of 10,50 m width for both directions. In case of future need, a central reserve of 3,00 m will grant additional widening of the motorway.

Its girder consists of a hollow box cross section of variable depth from 8,75 m at piers to 3,50 m at span centres. Its transversal cantilevers have a length of 8,00 m and are supported on transversal ribs placed every 5,00 metres. The piers, with a maximum height of 80,00 m are composed of two parallel screens, fixed in the deck, with an H-shaped section of variable depth in the longitudinal direction of the bridge. This Structural Type has a series of advantages:

- The shape of these elements provides the piers with optimal structural functioning since it grants high stiffness and resistance transversally, needed in order to face wind loads, while minimizing both stiffness in the longitudinal direction and the effect of imposed deformations such as creep, shrinkage and temperature.
- Regarding construction, the framework required is simple with no need for interior walls.
- Regarding aesthetics, the wings of the H-shaped section provoke an intriguing variation of shades which produces a desirable effect on the concrete surface.

The bridge over the River Miño is a continuous structure of 450,00 m length and spans of 42-2 52-3 70-52-42 metres. Its transversal cross section has the same width as in the case of the Barbantiño Bridge (except for the last part of the bridge where its width is variable). Its girder box has a cross section which is 2,80 m deep. Its cantilevers are a same 8,00 m long and equally supported by transversal ribs placed every 5,00 metres



C/ Barquillo 23, 2º | 28004 Madrid | España
T. (+34) 917 014 460 | F. (+34) 915 327 864
www.fhecor.com | fhecor@fhecor.es