

## Alto de Santo Domingo

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 805.00m long structure with spans of 125-3 185-125m. The deck is 25.00m wide which allows a dual carriageway 10.50m wide in both directions. A 3.00m central reservation will grant widening of the motorway in case of future needs.

It's a hollow box haunched girder, thus of variable depth running from 8.75m at piers to 3.50m at span centers. Its transversal cantilevers have a length of 8.00m and are supported on transversal ribs placed every 5.00m. The piers, with a maximum height of 80.00m are composed of two parallel diaphragm walls embedded in the deck, with an H-shaped section of variable depth in the longitudinal direction of the bridge. This typology has a series of advantages:

- The shape of these elements provides the piers with optimal structural functionality since it grants high

transversal stiffness and resistance needed in order to withstand wind loads, whilst minimizing both stiffness in the longitudinal direction and the effect of imposed deformations such as creep, shrinkage and temperature.

- From a constructional point of view the formwork required is simple, with no need for interior walls.

- and from an aesthetical point of view 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 450.00m in length and with a span distribution of 42-2 52-3 70-52-42m. 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 box girder has a cross section which is 2.80m deep. Likewise, its cantilevers are the same 8.00m long and equally supported by transversal ribs placed every 5.00m.



### Spain /2005 Project data

Structural type:  
Cantilever bridge construction  
(Barbantiño) and box girder bridge  
on self-supporting scaffolding (Miño)  
Location:  
Orense (Galicia)  
Completion Date:  
February 2005  
Layout project:  
CIISA-G.O.C.  
Proprietor:  
ACEOUSA  
Scope of Works:  
Construction Project