



Pavilion-Bridge over the Ebro River for the World Exhibition in 2008

Structural Type	Composite bridge of two spans.
Location	Zaragoza (Spain).
Opening Date	2008.
Property	The Towncouncil of Zaragoza.
Construction	DRAGADOS.
Professional Services	Construction Project and Technical Assistance to the Building firm

The Pavilion-Bridge for the 2008 World Exhibition in Zaragoza is a structure over the Ebro River and constitutes both the entrance bridge of the exhibition and an exhibition surface space of approximately 7000m².

On the bridge, the exhibition area is divided into three modules: the main one which runs from the beginning to the end and two lateral ones placed at each side of the main one.

Putting it simply, in this case a continuous two-span beam with spans of approximately 100.00 m and 150.00 m is concerned.

The structure of the bridge is composed of four main structural elements: the box, the upper chords, the façade and the ribs.

The steel box of curvilinear plan has a variable width between 12.00 m and 29.00 m and a variable depth between 3.30 m y 5.55 m. For architectural reasons, its exterior is covered with a 6 cm thick shotcrete layer. There are diaphragms placed inside at every 3.60 m.

The upper steel chords are placed on each one of the three modules. The ribs as well as the inner diaphragms of the box are based on parallel plans at 3.60 m from each other and delimit every single module.

The façade is composed of panels put between every two ribs in the longitudinal direction. Each panel consists of two orthogonal groups of rectangular steel profiles of 160 x 80 mm.

In adapting the behaviour of the bridge to that of a beam, the box plays the role of the inferior head, that is, tensioned at mid-spans and compressed on the central support. The upper chords fulfil the function of the superior head, that is, compressed at mid-spans and tensioned on the central support. The façade, in charge of transferring shear forces, works as a web.