



Railway viaducts of Leira and Pedro

HSR Madrid - Galicia. Stretch: Padornelo Tunnel - Lubian, Zamora,

Structural type
Characteristics
Owner
Client
Constructor
Scope

Post-tensioned box girder bridge
Viaducts of 280 m and 192 m with a maximum span of 60 m
ADIF
Ferrovial
Ferrovial
detailed design and construction support



The section Padornelo Tunnel -Lubian, located in the province of Zamora, is part of the High Speed North-Northwest corridor, of the High Speed Railway Line Madrid-Galicia and within it are Leira and Pedro viaducts whose construction project has been developed by Fhecor.

Both structures are bridges with single ballastless track consisting of a post-tensioned concrete box girder of 8.50 m in width.

The Leira viaduct is a 192 m long structure, distributed in 4 spans of 36.00 + 2 x 60.00 + 36.00 spans. The Pedro viaduct is a 280 m long structure, distributed in 6 spans of 30.00 + 50.00 + 2 x 60.00 + 50.00 + 30.00.

The deck has one fixed point, located in one of the abutments and a simple rail expansion joint located in other abutment.

Longitudinally the friction and braking loads are transmitted to one of the abutments, transversally the loads are transmitted through longitudinally guided unidirectional POT devices placed over the abutments and piers, the rest of the supports are multidirectional POT devices.

The piers consist of a rectangular box cross section with variable heights between 8.00 and 12.50 m for the Leira viaduct, and between 10.50 m and 18.00 m for the Pedro viaduct.

Both bridges are built by mean of a falsework system in progression from one of the abutments in sections of a total length equal to one span and the fifth of the following span.



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