

THE CHANTADA VIADUCT OVER THE MIÑO RIVER (LUGO)

Main data:

- ✓ Location: LU-533 (Lugo)
- ✓ Scope of works: Detailed Designed Project and Direction of the Works
- ✓ Structural type: Five span continuous haunched box girder, fixed at the central piers
- ✓ Construction process: Balanced cantilever
- ✓ Overall length: 394,0 m
- ✓ Spans: 51,0+88,0+116,0+88,0+51,0 m
- ✓ Deck width: 12,0 m
- ✓ Deck maximum height: 92,0 m

Summary:

The Chantada viaduct, which crosses over the Miño River, is part of the LU-533 road between Monforte de Lemos and Lalín.

The horizontal alignment is straight, except for the final sections on both sides, which are clothoid curves.

The deck is a continuous prestressed concrete box girder. The depth varies from 6,0 m at the piers to 2,70 m at the middle of the span and the lateral spans. The width of the deck is 6,0 m, and there are two lateral transverse cantilevers 2,55 m long.

The piers are made of reinforced concrete with a hollow box section. The heads of the two central piers are 3,80x6,50 m and the walls are 0,30 m thick. The dimensions increase 1,5% (longitudinally) and 2,0 % (transversely). Their two main piers are 86,0 and 70,0 m high and they are fixed to the deck. The lateral piers, 26,5 and 35 m high, support the deck using sliding bearings. All the foundations of the piers are shallow foundations, except one of the central piers, which has a deep foundation, using Ø 2,10 m concrete piles.

The structure was built as a balanced cantilever using movable scaffolding, except the last 20,40 m of the lateral spans, which were built using conventional falsework. The problem of overcoming instability moments at the lateral piers during the balanced cantilever construction, was solved by making a temporary fixed connection between them and the deck. The closing segments were cast first leaving the final segment of the central span as the last one to be poured. The typical lengths of the segments were 4,50 m.

The piers were built using self-climbing formwork with 5 m high stages.

