



Stretch: Aboño-Sotiello By-pass

Ferrol-Gijón Railway, Asturias, Spain / 2009

Structural type
 Characteristics
 Owner
 Client
 Constructor
 Scope

viaducts 1&2, composite structures, 2 lateral steel variable depth girders
 55.00 m maximum span
 dirección general de ferrocarriles. ministerio de fomento
 OHL
 OHL
 detailed design and construction support



Viaduct Stretch 1

Twin girder composite structure with the peculiarity that the upper boom plates of the girders are situated above the level of the track, this means that the deck needs to take on a U-shape cross-section. The deck width between lateral beam centers is 5.90m as well as two 1.23m wide exterior walkways, therefore giving a total width of 8.36m.

The total length of the bridge, measured on the axis layout, is 265.0m. This is distributed along 7 span lengths of 25-48, 5-31, 5-37, 5-37, and 5-55-30metres.

The lateral steel girders have a double-T cross section and taper between 2.70m and 5.50m. The girders are connected via transversal double-T 60cm-deep steel beams and are equally spaced each 2.50m. A 27cm-deep reinforced concrete slab is placed upon these beams. The web of the lateral beams has been stiffened transversally, so as to coincide with the transversal beams, so creating U-shaped transversal frames. The exterior walkway employs a 'Tramex' grill which rests upon steel tapered ribs which coincide with the transversal frames.

Viaduct Stretch 2.

Twin girder composite structure with the peculiarity that the upper boom plates of the girders are situated above the level of the track, this means that the deck needs to take on a U-shape cross-section. The deck width between lateral beam centers is 5.30m as well as two 1.23m wide exterior walkways, therefore giving a total width of 6.83m.

The structure is isostatic and applied to both axes. The total length of the bridge, measured on the axis layout, is 38.66m. The right-hand girder is 35.16m long whilst the left-hand one is 42.96m.

The lateral steel girders have a double-T cross section and taper between 1.85m and 3.50m. The girders are connected via transversal double-T 54cm-deep steel beams. A 33cm-deep reinforced concrete slab is placed upon these beams. The web of the lateral beams has been stiffened transversally, so as to coincide with the transversal beams, so creating U-shaped transversal frames. The exterior walkway employs a 'Tramex' grill which rests upon steel tapered ribs which coincide with the transversal frames.



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