



HARBOUR RAIL BRIDGE HEILBRONN



Floating steel structure



New harbour rail bridge

The newly constructed harbour rail bridge replaces the existing single-span railroad bridge across the Altneckar in Heilbronn that had been built in 1955.

It consists of a single-track tied-arch bridge made of structural steel. The superstructure is made of two stiffening girders between which a structural steel deck is accommodated which consists of transverse girders arranged at a distance of 0.6 m from each other in longitudinal direction and the cover panel above them. The loads on the transverse girders are transferred to the stiffening girders which are connected to the arch every 7.5 m via a total of 12 round steel hangers. The arches are inclined by 5° in vertical direction and consist of welded box girders with a width of 80 cm and a height of 100 cm. Horizontal stabilization is achieved via 6 horizontal cross members with tubular cross sections.

The rail tracks are supported by a superstructure in accordance with RIL 804 with gravel bed.

The steel structure was manufactured by MCE Nyiregyhaza Kft. in Hungary and transported to the site via heavy-goods transport vehicles. At the preassembly site at the southern side of the river the entire superstructure was preassembled and placed on temporary props. After completing the assembly work the entire superstructure was moved towards the abutment of axis 10 using 2 SPMTs (self-propelled modular transporter). At that location the superstructure was moved from the front SPMT to one skidway for every main girder axis and shifted further towards the abutment of axis 20 across the Altneckar. Projecting by 30 m, the substructure was relocated to a pontoon unit and moved to its final location. Once the final location had been reached the superstructure was put on press packs and then lowered.

Work at the new bridge had to be carried out while largely maintaining the public transport, road, railroad and harbor traffic on the Altneckar.

Facts & Figures:

Steel weight:	868 t	Construction:	Single-track tied-arch bridge with suspended deck and transversal girder
Length:	105.00 m	Customer:	Stadtwerke Heilbronn
Width:	7.74 m	Construction period:	2011 - 2012
Steel quality:	S355 M		