



Mühlhausen im Täle

Filstal railway overpass

Data and facts

Company	ARGE EÜ Filstal PORR/Max Bögl
Type	Bridge construction
Runtime	12.2013 - 09.2023
Principal	Max Bögl Stiftung GmbH &Co. KG

[Project report online](#)

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Crossing the Filstal Valley by ICE in 7 seconds

The concrete bridge spans the Filstal Valley at a height of up to 85m and crosses the BAB8, the L1200 state road and the Fils River, as well as a local road and several paths. As the tracks in the tunnels are 30m apart, two separate load-bearing structures were built – 485m long towards Ulm and 472m long towards Stuttgart. The superstructure is 8.40m wide and executed as a six-span prestressed concrete box girder. Narrow, Y-shaped piers minimise the visual impact on the landscape and give the new gateway to the upper Filstal Valley a light and elegant touch.

Tunnel – bridge – tunnel: an unusual combination

In addition to the planning and construction of the two railway overpasses, various ancillary structures such as portal hoods, engineering buildings, pumping stations, tanks for extinguishing water, staircases, retaining walls, emergency access drives, roads and paths were realised.

At peak times, there was a team of 200 people working to complete the carcass on schedule – with active support from PORR Polska and the Berlin branch. Teamwork and trust were the key to success. This engineering masterpiece would not have been possible without the trust and cooperation of everyone involved in the project.

It is impossible to imagine the complex design behind this light and graceful bridge, or the challenges involved in its construction, starting with access to the construction site in drinking water protection zones and on steep slopes. To avoid wear and maintenance costs caused by bridge bearings, the Filstal bridges were designed largely as semi-integral structures; the columns and box girder superstructure were connected to each other monolithically and without seams, and a semi-elastic system of spring lamellas was used to connect them to the abutments in front of the Bossler tunnel. The only place where the superstructure is still moveable is at the portal of the Steinbühl tunnel. Loads are transferred via a combination of piled raft foundations and shallow foundations; the northern abutments are additionally anchored back into the slope. The bridge itself was built with the aid of an 800-tonne overhead feed scaffold and steel auxiliary towers. The superstructure was shuttered, reinforced and concreted in 10 sections in each direction and in the final stage, the superstructure and pier struts were friction-locked together.

Impressions



Image notes

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Filstal railway overpass, Mühlhausen im Täle

The Filstal Bridge is located on the new Wendingen-Ulm railway line, a section of the major Stuttgart21 project.

Do you have questions about the project or would you like to learn more? Feel free to contact us for further information.

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