

PRESS INFORMATION

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Hünnebeck special formwork: pier manufacturing like on an assembly line

Ratingen/Neckarsulm, February 2021 More than one hundred bridge piers in exposed concrete quality are needed for the new construction of the 1.3 km long and 16 m high bridge in the Neckar valley near Heilbronn. Ready-to-use Hünnebeck special formwork shapes the geometrically complex pier shafts and heads and allows the construction team made up of HOCHTIEF Infrastructure and JOHANN BUNTE KG to make rapid progress.

A new bridge in the Neckar valley is being built near Heilbronn in the course of the six-lane expansion of Autobahn 6. The 1326 metre long structure spans the Neckar River, the Neckar Canal, the Neckar floodplain, two roads and a railway line near Neckarsulm. Currently, the traffic drives over the newly constructed northern bridge superstructure. It was approved in April 2019 but is not yet in its final location. In spring 2022, the entire bridge will be moved around 20 metres to its final position.

The southern half of the bridge and the auxiliary structure for the lateral shifting of the northern bridge superstructure are in the process of being erected. The construction team called in Hünnebeck's formwork specialists for help with this. A jointly agreed formwork concept ensures that all piers, abutments, foundations and also the auxiliary piers and shifting tracks/beams required for shifting are concreted on schedule.

Special formwork expertise

Hünnebeck has developed and manufactured special H 20 designs in its high-performance in-house special formwork construction department for the more than one hundred pier heads and shafts to be manufactured in exposed concrete quality. This was a technically-demanding task because, for example, the pier heads are chamfered at the top. The formwork builders designed this special area three-dimensionally and then manufactured it using a 5-axis milling machine with precision down to the nearest millimetre.

The Hünnebeck project manager in charge of construction explains: „We prepared the special formwork for the pier shafts and heads so that they were ready for use on site as far as possible and delivered them in transportable units. On site, the construction team merely assembles the reusable formwork units. This saves time and is highly efficient. „Hünnebeck manufactured a total of six special formwork units for the geometrically identical, approximately 5 m high pier heads. The formwork completes ten uses each and is then covered with a new formwork lining (board structure) in the Hünnebeck factory. The same applies to the approximately 8 m high shaft formwork (diameter: 2 m), each consisting of four elements.

Quick pace

The workflow for pillar manufacturing is always the same: First, the shaft is concreted and then a support structure with overlying platforms is erected to support the pier head formwork. To ensure a fast and safe workflow, the Hünnebeck engineers have designed the platforms as a special unit that can be moved by crane, including access to the next higher level (integrated fall protection).

Element formwork for huge abutments

During the construction of the two already completed large abutments (height approx. 10 m, width approx. 44 m), which were built in a total of four construction sections, the construction site team also relied on prefabrication of the required formwork units to the greatest possible extent: the ES 24 element formwork from Hünnebeck was used. The advantage of this adaptable and stable wooden beam formwork based on R 24 lattice beams is that it consists of pre-assembled elements (4 different widths and 3 heights) which can be optimally adapted to the desired ground plan layout through the object-related arrangement of the beams and anchor layers. The formwork offers concrete pressure absorption of up to 60 kN/m² and allows free choice of formwork lining. As a special construction, Hünnebeck also contributed a formwork unit made of nail plate trusses, which was used to create the rounded cantilevering at the abutments.

Powerful support

The Gass aluminium support system is used as a support structure to hold the pier head formwork and support the formwork for the shifting beams (Manto large frame formwork). Large quantities of these powerful support towers are needed on the bridge construction site. The construction team is very pleased with the particularly easy and safe assembly and disassembly processes: „The system is self-explanatory.“ It just consists of three basic components: support, centre piece and frame. It is lightweight (max. 22 kg) and powerful – each post can bear up to 140 kN. Another advantage is that the secured frames can be attached at any point on the support – no special tools are needed, just a hammer.

Satisfied construction site

In the meantime, almost all pier axes have been completed and the construction site, headed by senior site manager Sebastian Wollnik, is extremely satisfied with the formwork solutions provided by Hünnebeck: „The commitment of the formwork specialists and the considerable knowhow in the field of special solutions were already impressive during initial talks. Processes on the construction site have certainly confirmed this expertise – right up to the consistent on-time delivery.“

About Hünnebeck

The BrandSafway Group, headquartered in Kennesaw, GA, USA, is a leading global provider of a broad range of products and services for access solutions, specialized industrial services and formwork and support solutions for industrial, commercial and infrastructure applications. BrandSafway facilitates conversion and modernization measures as well as expansion and new construction programs using defined processes and with safety as its uppermost priority. As part of its global presence, BrandSafway serves more than 32,000 customers worldwide through a closely knit network of more than 38,000 employees at 350 locations in 30 countries.

The BrandSafway Group comprises a number of strong traditional brands that are among the market leaders in their respective segments and regions. Hünnebeck, headquartered in Europe, is part of this international group of companies – a name that dates back to 1929 and stands for formwork, scaffolding and safety equipment characterized by high quality, flexibility and cost-effectiveness. Hünnebeck also offers a broad spectrum of project-related services, ranging from engineering, site logistics, cleaning & repair services, user training and formwork services to complete project development. The BrandSafway formwork division also includes SGB (Middle East/Asia) and Aluma Systems (North and Latin America).

Further information about Hünnebeck is available at www.huennebeck.com

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Hünnebeck special formwork: pier manufacturing like on an assembly line



Motif DSC633720200916.jpg

More than one hundred bridge piers in exposed concrete quality are needed for the new construction of the 1.3 km long and 16 m high bridge in the Neckar valley near Heilbronn.

(Photo: Hünnebeck)

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Motif DSC630620200916.jpg

The workflow for pillar manufacturing is always the same: First, the shaft is concreted and then a support structure with overlying platforms is erected to support the pier head formwork.

(Photo: Hünnebeck)

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Motif DSC633420200916.jpg

Hünnebeck has developed and manufactured special H 20 designs in its high-performance in-house special formwork construction department for the more than one hundred pier heads and shafts to be manufactured in exposed concrete quality.

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Motif DSC629720200916.jpg

The Gass aluminium support system is used as a support structure to hold the pier head formwork.

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(Foto: Hünnebeck)