

PRESS INFORMATION

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Special formwork employed during tunnel construction for BUGA 23

alkus® SF Flex formwork panel used for tunnel construction at BUGA 23 site in Mannheim

As part of the preparations for the German national garden show, Mannheim has seen the construction of a bicycle highway – and a key feature along the route is the "Am Aubuckel" bicycle tunnel, designed to withstand a daily traffic load of up to 20,000 vehicles. Reif Bauunternehmung was contracted to provide construction-engineering services on the BUGA tunnel. The distinguishing characteristic of this project lies in the concave shape and the trumpet-shaped curves of the underpass. This was a particular challenge for Kiefer Schalungsbau, which was responsible for constructing the special formwork. Implementation of the distinctive curves was achieved by employing the flexible alkus® SF Flex formwork panel.

alkus® SF Flex for special formwork applications

The purely architectural requirement of a concave shape for the 40-metre-long underpass definitely posed a challenge. The coated multi-layer plywood panels commonly used in special formwork projects failed to meet the demands of this particular task. To achieve the desired special curves, a tight bending radius was essential, thereby surpassing the flexibility limitations of plywood panels. The special formwork contractor Kiefer Schalungsbau therefore decided in favour of alkus® SF Flex. "An enormous advantage of alkus® SF in comparison to multi-layer plywood panels is its remarkable ability to be bent almost limitlessly, making it significantly easier to shape," explains Arnold Kiefer of Kiefer Schalungsbau. "The water resistance of alkus® is yet another noteworthy benefit." This was particularly beneficial during the project, as there was a gap of several weeks between installation of the special formwork and concreting, during which the solid plastic panel was exposed to moisture and wet conditions. Due to its non-swelling properties, the panel could be utilised outdoors for weeks without adversely affecting the concreting result.

Smooth surfaces without gaps and holes

"alkus® SF Flex was purposefully designed to meet the unique demands of highly challenging special formwork projects. Thanks to its remarkable flexibility, it does not crack and leave marks on the formed surface, not even during extreme bending," says Michael Tschenett, CEO of alkus AG. "This ensures a smooth surface finish with SF Flex."

alkus® SF Flex is available in thicknesses of 3, 4 and 5 millimetres. In collaboration with Kiefer Schalungsbau, alkus AG developed the 4-millimetre-thick SF Flex specifically to meet the requirements of the BUGA tunnel construction project. The availability of the panel in a large format was also a crucial factor for the special formwork contractor. alkus® SF Flex is available in a size of 4 x 1.5 metres. Kiefer Schalungsbau obtained the flexible alkus® formwork panel from the long-term alkus partner MEVA Schalungs-Systeme GmbH. Further, to accomplish the external formwork of the structure, the MEVA Mammut 350 system (panel formwork), equipped with 20-millimetre-thick alkus® AL formwork panels, was used. The MEVA formwork system is employed for both underground engineering and the construction of residential towers. It boasts an innovative combination tie system that allows flexible switching between three different tying methods, resulting in a 30 percent reduction in switching time.

Highly reliable

The alkus® SF Flex panel is similar to multi-layer plywood panels in terms of its shape, durability, price and ease of installation. But besides its enhanced flexibility, it also presents a range of other advantages when compared to plywood panels. "Multi-layer plywood panels are typically imported, which can give rise to quality defects or delivery issues depending on the country of origin. Widely varying prices are not uncommon either. alkus® in contrast is produced exclusively in Europe, thereby avoiding these factors," claims CEO Michael Tschenett. "The SF Flex panel is thus highly reliable in addition to its exceptional properties."

About alkus AG

alkus AG, based in Vaduz (Liechtenstein), markets the alkus® solid plastic panel together with specially adapted accessories and offers its customers technical support. The alkus® solid plastic panel is principally used as a formwork panel in the construction industry where it has proven successful due to its economic and practical advantages over plywood panels. It fits into every frame and can, due to its stability and flexibility, also be used for tunnel construction and special formwork systems as well as the construction of precast concrete units.

www.alkus.com

About Kiefer Schalungsbau GmbH

Kiefer Schalungsbau GmbH, based in Durbach (Germany), produces formwork for concrete construction as well as for all related ancillary businesses. The company specialises in the field of ribbed slab formwork, bridge superstructure formwork and, in particular, special formwork.

www.kiefer-schalungsbau.de

About REIF Bauunternehmung GmbH & Co. KG

REIF Bauunternehmung GmbH & Co. KG, based in Rastatt (Germany), is a construction company specialising in road construction and civil engineering. The range of services also includes structural, civil engineering, road and bridge construction. The company implements construction projects for the public sector, industry, commercial and private construction.

www.reif-bau.de

About MEVA Schalungs-Systeme GmbH

MEVA Schalungs-Systeme GmbH, based in Haiterbach (Germany), is a globally active formwork manufacturer. The company develops and manufactures complex and technically sophisticated formwork systems for the complete range of wall/ceiling/supporting scaffolding applications.

www.meva.net

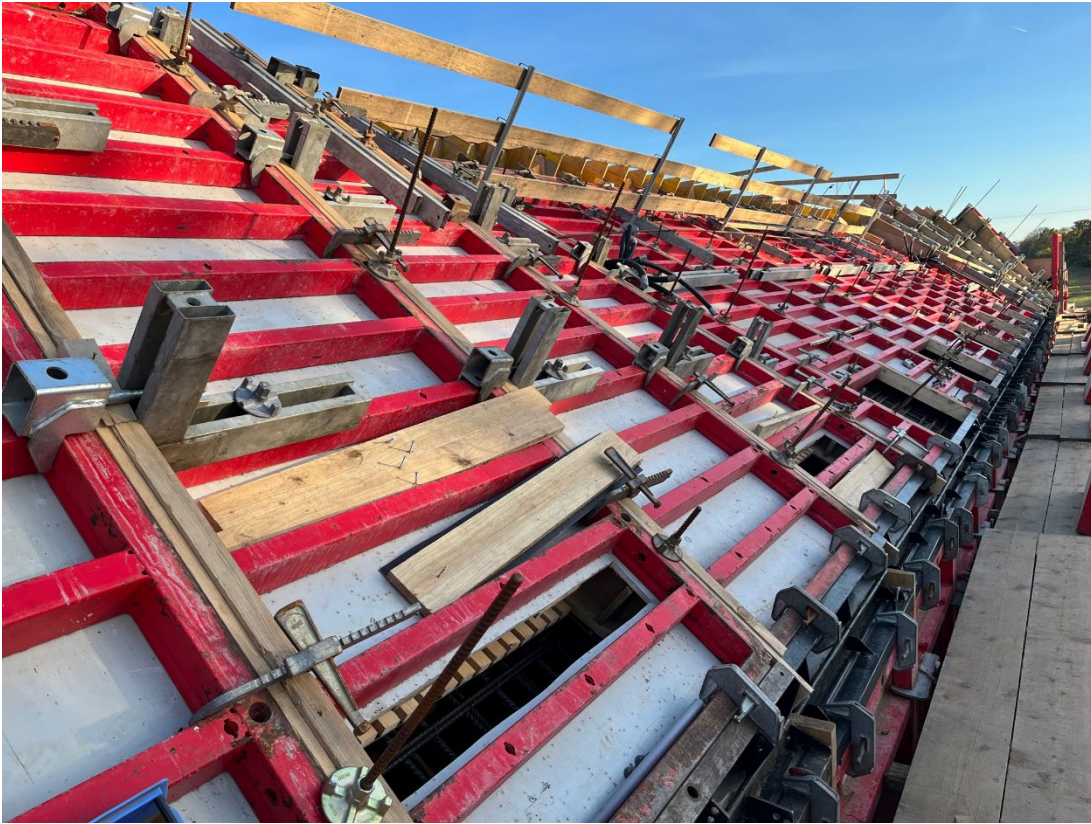
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alkus[®] SF Flex in use – it is ideal for particularly challenging special formwork projects and is available in thicknesses of 3, 4 and 5 millimetres. | © Kiefer Schalungsbau GmbH



To accomplish the unique trumpet-shaped curves of the bicycle highway tunnel in Mannheim, the 4-millimetre-thick alkus[®] SF Flex formwork panel was used for the internal formwork (special formwork). | © Kiefer Schalungsbau GmbH



The external formwork (countering formwork) of the BUGA tunnel was accomplished with the MEVA Mammut 350 system (panel formwork), equipped with 20-millimetre-thick alkus[®] AL formwork panels. | © Kiefer Schalungsbau GmbH



The 40-metre-long tunnel above the bicycle highway on the BUGA 23 site was designed as an open-cut construction. | © Kiefer Schalungsbau GmbH



Thanks to its remarkable flexibility, alkus[®] SF Flex does not crack and leave visible marks on the concrete surface. | © Kiefer Schalungsbau GmbH

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