FormworkPress

Professional Formwork News **IV/2021**

Quick and simply good

The new MevaDec generation – page 16

Contents

Imprint

Site photos show situations which do not always depict the final assembly of formwork with regard to safety regulations. Imprint: Edition IV/2021. Circulation: 2600 copies. Publisher: MEVA Schalungs-Systeme GmbH, Industriestr. 5, D-72221 Haiterbach. Layout: MEVA. Print: C. Maurer Druck + Verlag, D-73312 Geislingen/Steige.

"Flexibility is not about tacking on expensively procured systems and components. Smart, versatile concepts like MevaDec do the job better – and faster."

Florian F. Dingler,
Owner and Managing Director
of MEVA Schalungs-Systeme GmbH

Dear Reader

In the FormworkPress issue at the end of 2019, we promised you massive time savings through the use of our Mammut XT wall formwork system. Countless users now confirm that we have honoured this promise. Feedback from everyday site practice has validated the measurements originally published by the independent izb (Institute for Time Management and Business Consulting in Construction). It has unequivocally quantified the competitive edge offered by our formwork with the unique combi tie hole.

And now, tests conducted by the izb on our new MevaDec generation have given us even more cause to rejoice. You guessed it – the numbers are once again highly promising. First users have already expressed their delight at the quickest slab formwork system with drop head on the market.

Thoroughgoing refinement of our slab formwork has enabled us to make an outstanding and highly successful product even better – as always, with the goal of providing you with the most cost-effective and best possible technical solution. MevaDec is now even lighter and easier to handle, thus guaranteeing efficient, non-strenuous working. Apart from speeding up site operations, it also increases safety at work.

MevaDec, like Mammut XT, offers a high degree of flexibility in that it caters for three slab-forming methods. The drop-head-beam-panel method is perfectly geared to early stripping. The primary-and-secondary-beam method is also based on this simply smart idea while the traditional panel method has its own particular merits. If MevaDec proves anything, it is this: Flexibility is not about tacking on expensively procured systems and components. Smart, versatile concepts like MevaDec do the job better – and faster.

But MEVA is not just about speed. It is also about aesthetic quality. A stunning testament to this is the new extension of the Kunsthaus Zürich museum with its opulent architectural concrete. The Terrace on the Spree waterfront in Berlin – a project built using the aforementioned Mammut XT system – similarly shows how the visual appeal of even stairwells and lift shafts can be enhanced.

I hope you enjoy your read.

News

Information about MEVA

MEVA expansion in Dubai

In 2006, MEVA set up a site in Dubai, the largest city in the United Arab Emirates. This served as the base for supplying formwork systems from Haiterbach for construction of the Burj Khalifa, which to this day remains the world's tallest building. 15 years after this milestone in the company's history, its offices and facilities in the city's Al Quoz district have become far too small. This has prompted the team to relocate to a more spacious, 20,000 m² site with new offices, sheds and logistics spaces in Dubai's National Industries Park. Spanning some 21 km², the modern industrial estate lies close to the Expo 2020 Center, the Jebel Ali Port and Al Maktoum International Airport.

The buildings and facilities have been equipped to cater for expansion in the Middle East. A growing team will now set about optimising the supply and support services offered to customers in the region. The new site will also act as the main hub for the entire Gulf region. MEVA already operates in Qatar and is currently stepping up its sales activities in Saudi Arabia.

Climbing downwards in Manila

A roughly 40-year-old bank building in Makati, the financial district of the Philippines' capital Manila, no longer offers sufficient floorspace for staff and is to be replaced by a new skyscraper. However, the site's location in the densely developed inner-city area has necessitated special demolition measures involving the use of MGS (MEVA guided screen), which is widely used in Manila for high-rise construction – albeit with one particular feature: instead of climbing upwards storey by storey in the normal manner, the rail-guided system is working in the opposite direction.

In doing so, it fulfils two functions: avoiding hazards from falling debris and dust while simultaneously attenuating noise emissions from the demolition equipment. For this purpose, a special nonwoven fabric was fitted as a noise barrier to the MGS units. The full-perimeter enclosure at the slab edges was initially installed around the existing building's top storeys and is now gradually climbing downwards as demolition work proceeds.

BIM²form update available

A few weeks ago, MEVA's software partner BIM² comprehensively updated its software BIM²form. BIM²form is an add-in for Autodesk® Revit® that enables automated digital formwork planning in partial steps and thus offers a new level of efficiency in model-oriented planning.

The update means that BIM²form is now available for the Revit versions 2019, 2020 and 2021. The entire user interface was redesigned in order to optimise its use and also to provide a neutral platform. The Wall, Slab and Manage features were extended. In addition, a storage manager was integrated as the first step towards storage-based planning, a large number of new parts and parametrically nested families were added, and additional functions were included.

BIM²form is available in a free 30-day test version. This can be simply requested via the website www.bim2.eu. Further information is also available on the website.

ACROPOL
A meva BRAND

MEVA acquires Acropol Group

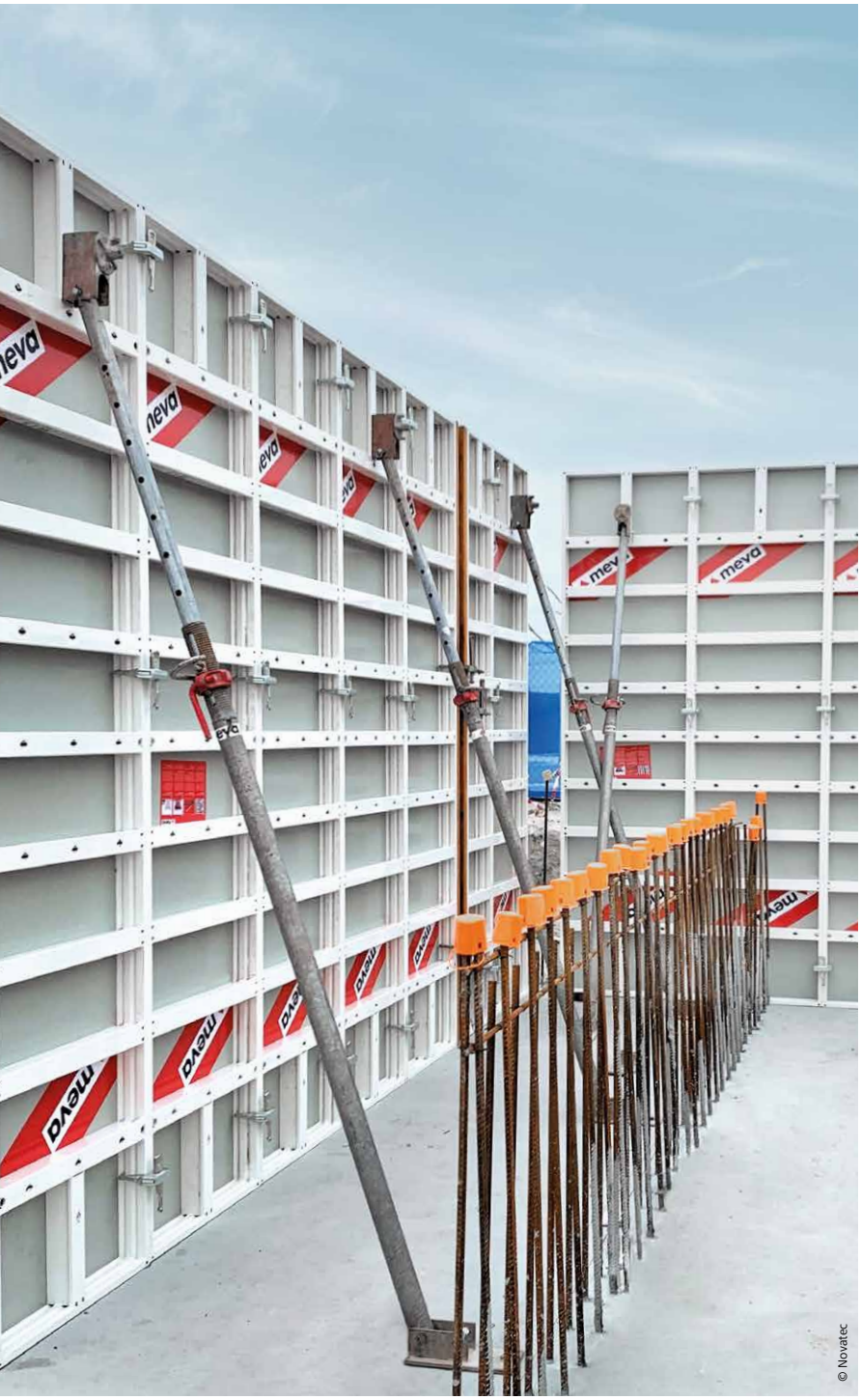
Through its purchase of the Acropol Group, MEVA is strengthening its presence in Belgium and Luxembourg. The takeover of the formwork and shoring tower rental company with a 25-strong staff encompasses the sites at Landen/Belgium and Rodange/Luxembourg. With a succession plan in place, the previous owner family handed over the business to their partner of choice.

For MEVA, the acquisition will open up new sales opportunities in the neighbouring countries. Benelux customers can now fully capitalise on MEVA's comprehensive product portfolio while contractors in north-eastern France and western Germany will enjoy quicker and more flexible deliveries from the nearby sites. Alongside the rental business, the focus will now be on formwork sales and service offerings.

The Landen site comprises a 3,000 m² shed, modern offices, training and showroom facilities plus an approx. 20,000 m² outdoor area.

Inspiring all-rounder

Perth Formworks uses AluFix hand-set formwork for walls and slabs



© Novatec

Already a staple product since its recent acquisition and first use on construction sites, the lightweight, crane-independent AluFix hand-set formwork has met with an enthuastic response from the building contractor Troy Dott at Perth Formworks, a long-time customer of Novatec Formwork Systems.

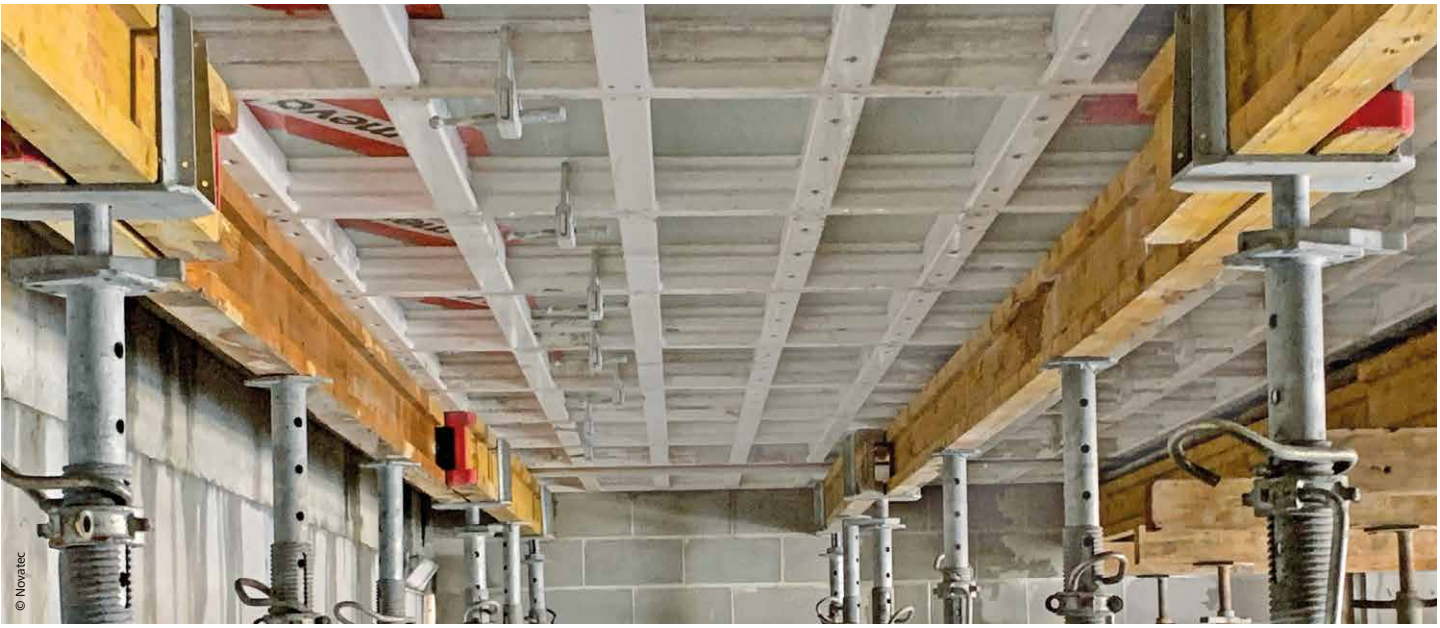
In 2019, the company from Australia's west coast expanded its portfolio with the lightweight AluFix hand-set formwork – and is then as now completely convinced. "AluFix is now used in most of our projects and has completely changed our method of construction. What a great product," Troy Dott states.

"Our most versatile formwork system is AluFix as it can be used in walls and slabs. It is a great product to work with."
Troy Dott, building contractor, Perth Formworks.

The easy manual handling, quick assembly and easy transport have impressed Troy and his team. Above all, the standard alkus all-plastic panel – durable, repairable, nailable. It does not swell or shrink. This allows the user to achieve excellent results and meet exposed concrete requirements even after 1,000 uses. Troy Dott: "This system has cut costs compared to our conventional timber and plywood."

Trouble-free corner solutions
The wide element range, with heights from 350 to 135 cm and six widths, is designed to meet the world's individual requirements and provides trouble-free corner solutions for any wall thickness. Fast concreting is made possible with the high full-surface fresh concrete pressure absorption of 50 kN/m².

The lightweight elements with ergonomic grip profiles ensure strength-saving working, crane-free transport and fast construction progress. The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robust, closed aluminium profile has a high-grade powder-coated finish, making it impact- and scratch-resistant and easy to clean due to low concrete adhesion. Accessories such as brackets, push-pull props and alignment rails are simply attached to the functional struts with welded-in DW-15 nuts using the MEVA flange screw.

AluFix is a real all-rounder in residential construction, commercial construction, civil engineering, urban and infrastructure construction, gardening and landscaping. The experienced building contractor Troy Dott summarises the advantages as well as the practical experiences on construction sites: “Our most versatile formwork system is AluFix as it can be used in walls and slabs. It is a great product to work with.”


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Stairwell as an eye-catcher

Class SB3 architectural concrete with Mammut XT and alkus all-plastic facing

Lift shafts and stairwells can be more than just a means to an end. In an office building in Berlin they serve as an eye-catcher in SB3 architectural-concrete quality. ANES Bauausführungen Berlin relied on material from MEVA – not only in this area.

Directly on the bank of the Spreebogen where the River Spree meanders through the vibrant district of Charlottenburg, a stepped building, The Terrace, is coming into being. The office building in a prime location, with a slightly kinked, rectangular floor plan, consists of an underground garage, a ground floor with a food service area and seven upper floors with a height of 3.48 metres each. Large terraces and all-round, overhanging balconies serve as viewing platforms. Due to the stepped storeys, office space ranging from 200 to 700 m² is available from top to bottom. The stairwells and lift shafts in attractive SB3 architectural concrete nicely fit in with the pleasing overall appearance.

The project team relied on the cost-effective Mammut XT wall formwork to build on a large scale, with forming areas up to 8.75 m² (350 x 250 cm). This is a convincing system solution, not only due to its high capacity for rapid concreting processes. The symmetrical, internal layout of the tie holes produces a completely homogeneous, uniform tie hole and joint pattern – whether for vertical, horizontal or combined applications. The selection of panels with heights from 350 to 125 cm and widths from 250 to 25 cm allows the formwork to be adapted to the geometry of different floor plans while also minimising the filler areas. Through meticulous work, experience and carefully selected formwork material, ANES foreman Frank Bartl created the walls in optimum SB3 architectural-concrete quality that did justice to this challenging project.

In Berlin the Mammut XT formwork demonstrated its flexibility and comfortable handling properties to the full. The clever multi-function profile made of closed steel profile with welded-in Dywidag nuts allowed attachment of all accessories such as scaffold brackets, push-pull props and alignment rails with only one single part, the flange screw. The alkus all-plastic facing fitted as standard does not absorb water, and does not swell or shrink. It can be nailed, is easy to clean and guarantees top-class concrete quality even after more than 1,000 applications. The hot-dip galvanised, closed steel profile and the clever facing are easy to clean and are quickly ready for the

next cycle. A further advantage of Mammut XT is the unique combination tie hole integrated into the frame. It makes it possible to comfortably select between three tying methods in one system with a flick of the wrist.

On this construction site the single-sided tying method with XT taper ties without plastic tube was employed primarily to ensure rapid progress of the construction work with minimum manpower. It is particularly suitable for walls with uniform thickness. There was no need to use flange nuts, plastic tubes, tools and scaffolds on the initial-formwork side. It was only necessary to quickly change over to two-sided tying with DW 20 tie rod and plastic tube in corners and other constrained areas.

The underground garage was formed against the earth wall using tried-and-tested Mammut panels, partly by means of single-sided formwork. The walls were braced using STB 300 support frames. In addition, ANES used the modular Triplex SB braces for vertical load transfer. The underground garage's entry ramps were quickly formed using the flexible Radius circular formwork. The Circo column formwork proved its worth when forming individual columns and wall closures. The easily assembled CaroFalt came into play as column formwork.

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Project data

→ **Project**
- The Terrace, Berlin (DE)

→ **Principal**
- ANH Hausbesitz GmbH & Co. KG, Arnsberg (DE)

→ **Architects**
- AHM Architekten BDA, Berlin

→ **Contractor**
- ANES Bauausführungen Berlin GmbH

→ **MEVA systems**
- Mammut XT wall formwork
- STB 300 support frame
- Triplex heavy-duty brace
- Radius circular formwork
- Circo column formwork
- CaroFalt column formwork

→ **Engineering and support**
- MEVA Schalungs-Systeme GmbH, Berlin office

Living space arises out of a problem zone

Walls and shaft built in confined space on arterial road in Paris

The construction company COLAS Génie Civil solved a congestion hotspot problem in Paris by means of MEVA technology. Mammut 350, STB support frames and SecuritBasic were used for the single-sided formwork.

Paris is worth a visit – for tourists, bohemians and lovers. Motorists, on the other hand, need a lot of patience. For example, on the route départementale RD1 that meanders along the Seine like a constricted artery. Where the Quai Charles Pasqua meets the Quai de Clichy and another endless stream of traffic rolls in from the Pont d'Asnières bridge, the result was generally total gridlock: traffic jams and stress, and no room for cyclists, pedestrians and local residents. But now people in the Clichy and Levallois-Perret districts are breathing a sigh of relief.

Reconstruction measures bringing relief

A 1.2 km section was extensively modernised by the construction company COLAS Génie Civil. After two and a half years of construction work, new roads at ground level and a roundabout have got things moving again. In the spring of 2021 a new underpass built below the newly developed

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Project data

→ **Project**
- Upgrade of Quai Clichy / Charles Pasqua, Paris (FR)

→ **Contractor**
- COLAS Génie Civil, Saint-Denis (FR)

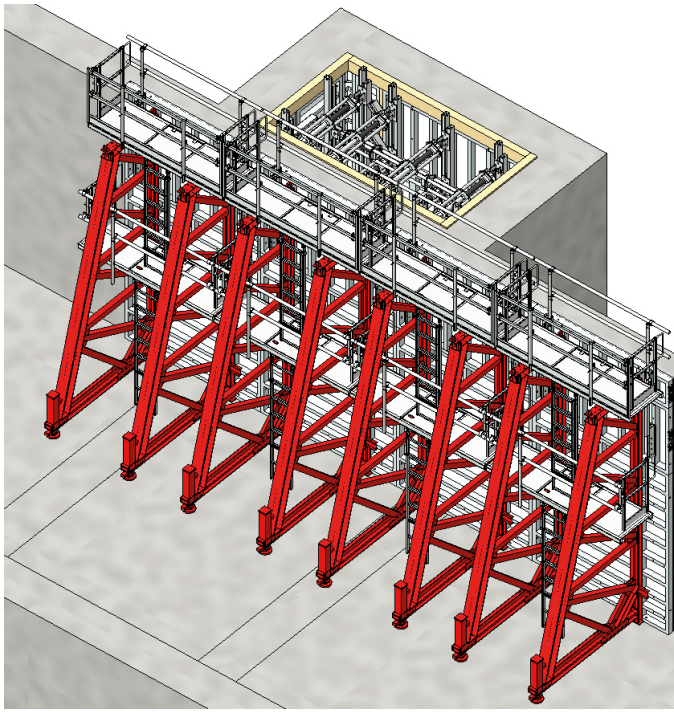
→ **MEVA systems**
- Mammut 350 wall formwork
- STB 450 support frame
- SecuritBasic safety system
- Triplex heavy-duty brace

→ **Engineering and support**
- MEVA Systèmes de Coffrage SNC, France

area will relieve the congestion even further. To successfully implement at times complex tasks in a confined space, the COLAS project team relied on MEVA systems for the single-sided wall formwork. The robust Mammut 350 panels, the compact but nevertheless strong STB 450 support frames as well as the SecuritBasic safety system with convenient assembly and access platforms were assembled to form stable units. The constructions transfer the fresh-concrete pressure of approximately 50 to 75 kN/m² from the formwork into the foundations via the support frames. After completion of each section, the entire units were relocated by crane to the next point of use. Due to the inclinations and curved routing involved, every joint between the formwork panels had to be individually adapted. Four outer walls were formed with lengths ranging from 32 to 37 metres and heights from 1 to 4.50 metres, and also two inner walls with lengths of 62 and 64 metres and a height of 4.50 m, with wall thicknesses of 70 cm.

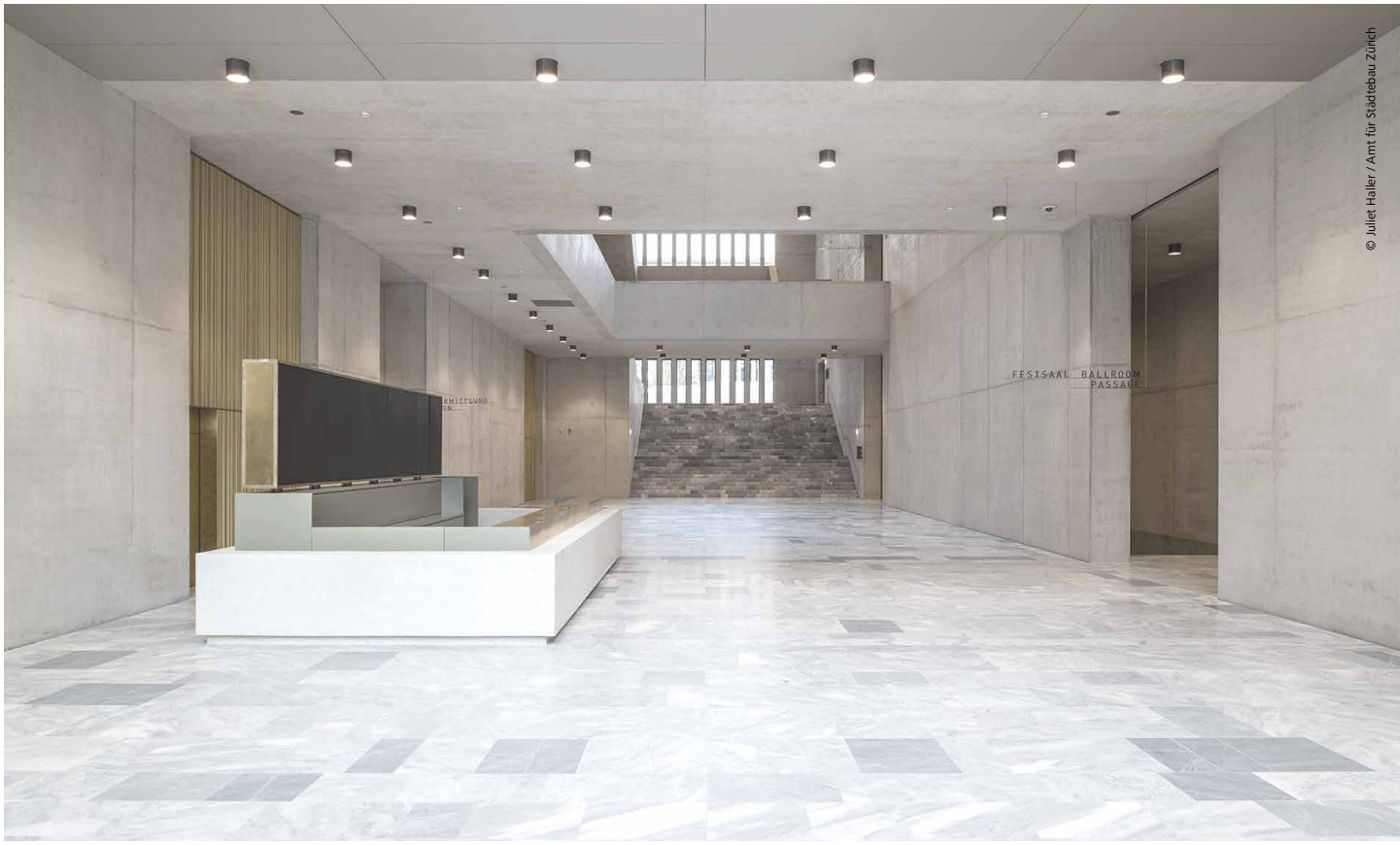
Particularly challenging was a 9-metre-deep shaft with even thicker walls, which served to access the water tank and equipment room below the road. Here, surface water runoff is collected and pumped off. After forming the floor slab, the construction work proceeded swiftly up to street level: one cycle up to 4.50 metres and a second up to the surface. So far, so good. However, it was not possible to anchor the walls, as there was a risk of damaging the sealing. There was also insufficient space to use support frames for single-sided tying in the shaft, which measured only 3.50 x 2.00 m. Thus, the COLAS team led by construction manager Francis Barth placed Triplex heavy-duty brace modules horizontally between the Mammut 350 formwork panels. To guarantee stability, all four sides were poured at the same time. Die Revit 3D depictions from MEVA proved to be very useful during the construction work.

The first objectives have been achieved: traffic flowing, reduced noise pollution and optimum development of the urban districts. Wide pavements and cycle paths are now being prepared with green areas and a promenade along the bank of the Seine. The erstwhile problem zone is turning into living space. Construction manager Francis Barth is satisfied with the progress of the project: “The MEVA equipment is fantastic. Mammut 350 and the STB support frames – this is my favourite combination for single-sided wall formwork: solid, strong, practical and unyielding.”



The 3D depiction clearly shows the single-sided formwork of a wall and the shaft.

The combination of STB 450 support frames, Mammut 350 wall formwork and SecuritBasic access platform enables rapid construction progress and safe working practices.



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A masterpiece made of architectural concrete

Extension of Kunsthaus Zürich places great demands on master builders

Based on a design by star architect David Chipperfield, an open, light-flooded, cuboid-shaped building has been erected in the Swiss city of Zürich. The construction company Marti AG took on the architectural and structural engineering challenges together with MEVA and created a structure that resembles a concrete sculpture.

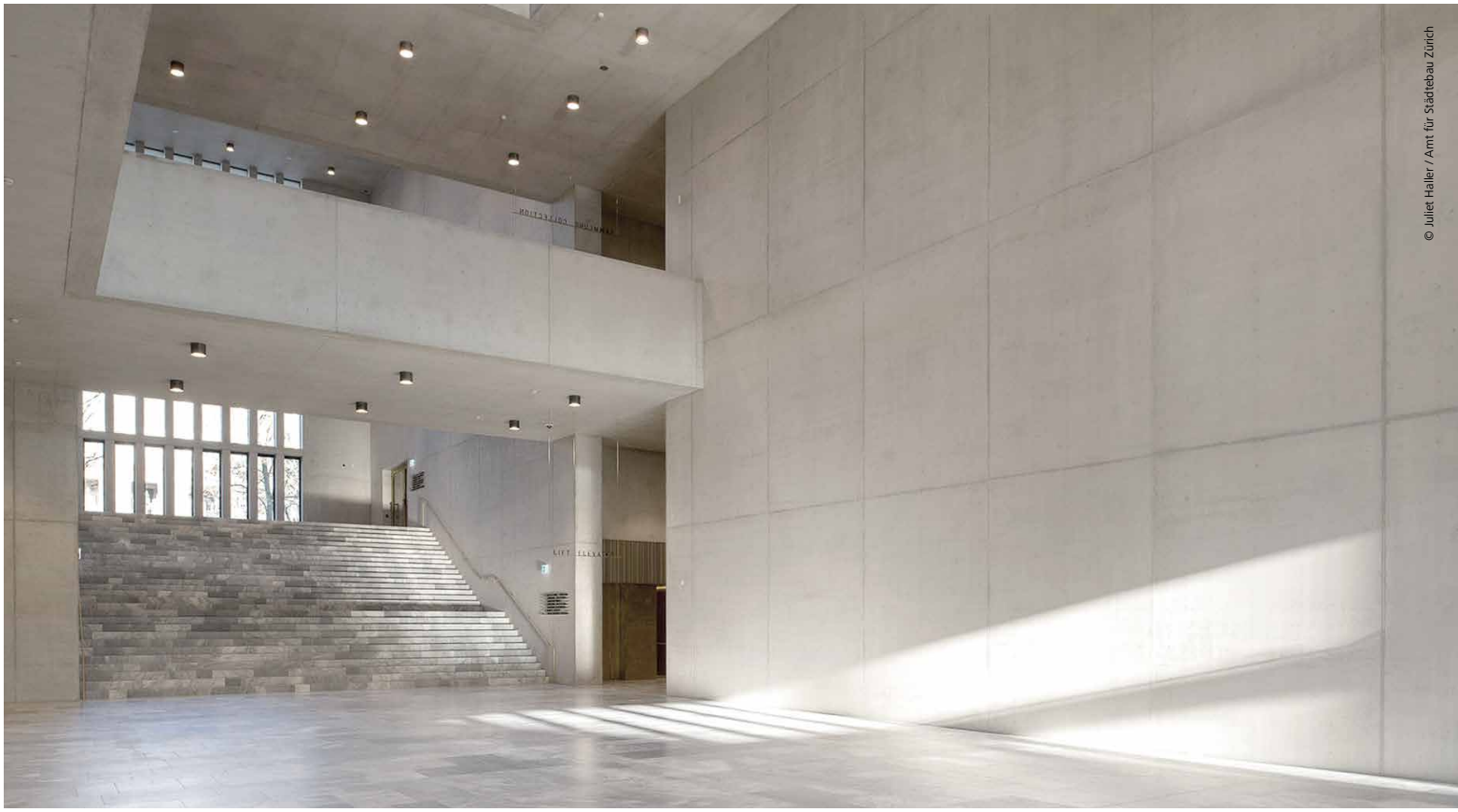
Approximately two years after the start of construction, Marti AG completed the building shell according to plan. In the meantime, the extension of the art museum has become a resplendent eye-catcher in the centre of Zürich. As of this October, art lovers from around the world will be able to wander around the superb new building. Carefully located height differences between the rooms create a pleasant atmosphere. The clear geometrical concept and large-format architectural-concrete surfaces offer the perfect setting for numerous works of art.

Sharp edges

The extension with a usable area of approximately 18,700 m² houses numerous smaller rooms that are designed to offer the optimum conditions for the sometimes rotating exhibitions. “An important aspect of the planning and implementation in the entire building was the stipulation that all corners be sharp-edged,” explains Marti AG’s construction manager Franz Bütler. For this reason, the walls in the entire building were uniformly produced using the tried-and-tested wall formwork Mammut 350.

Due to the dimensional accuracy of the formwork and the high fresh-concrete pressure capacity of 100 kN/m², it was possible to pour concrete up to a height of 4 metres without taking the rate of placing into account, making things a lot easier for Marti’s building professionals, who always had to keep a close eye on the details during this project.

The slabs of the exhibition rooms were implemented using the standard slab formwork MevaDec. Due to the system’s arbitrary grid pattern, it was possible to freely select the beam orientation, thus reducing the number of compensations and making the work easier and quicker. In more spacious rooms the slabs were formed using the MevaFlex slab formwork supported by the flexible MEP shoring tower. Particular attention was also given to the atrium, which was constructed over five concreting



cycles. The oval recess in the building's ceiling was planned in three dimensions by the MEVA engineers and created using special formwork.

High-quality concrete finishes

The modern museum building stands out due to the excellent architectural-concrete finish on all surfaces. Particularly high requirements applied in the meeting rooms, the shop, and the cafeteria. To fulfil these uniformly, MEVA organised its own training course on-site with regard to the preparation and maintenance of the alkus all-plastic facings used. As the facing can be repaired using the same material, scratches and holes can be plugged flawlessly; at the same time, the facing retains its fundamental properties, preventing discolouration and enabling smooth, uniform surfaces to be achieved. The environmentally friendly all-plastic facing with its long service life is fitted as standard in MEVA's formwork systems. In many areas of the museum the joint pattern of the Mammut 350 wall formwork produced an extensive and wished-for pattern in the architectural concrete.

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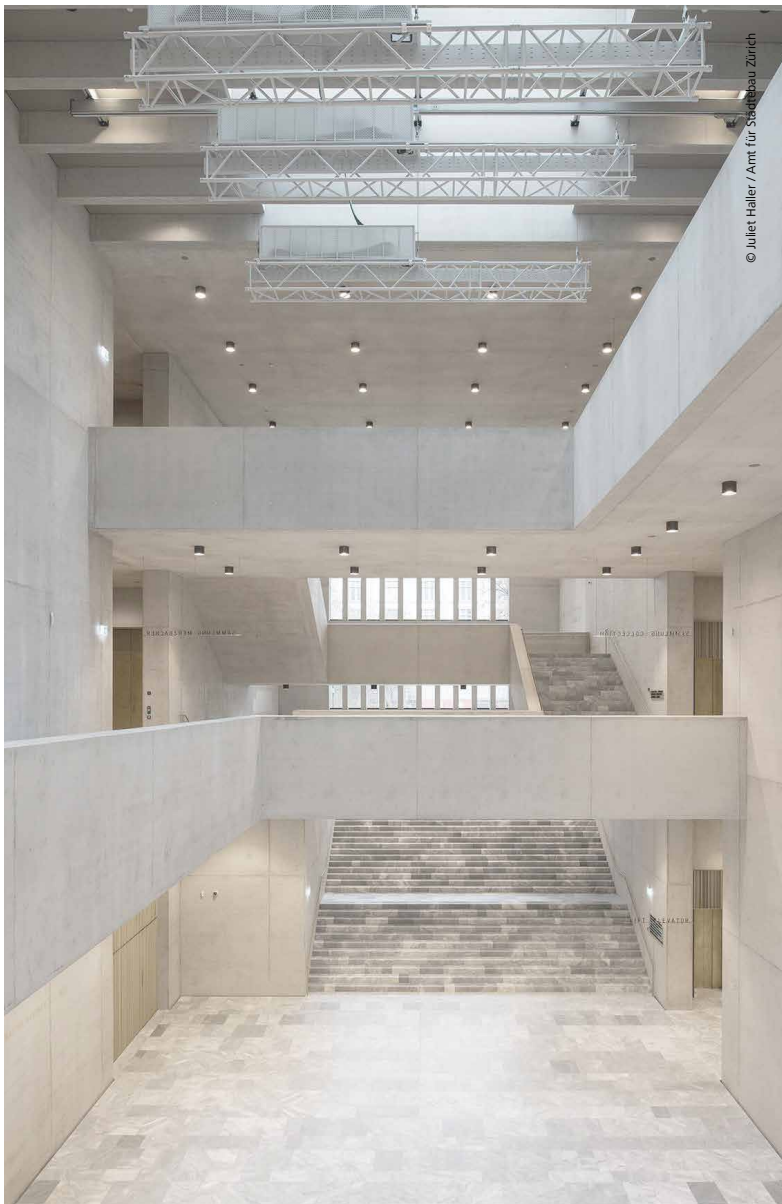

The KLK 230 climbing scaffold was used as a barrier-free working scaffold to enable the formwork to be precisely aligned.

Due to the dimensional accuracy and efficiency of the Mammut 350 formwork, it was possible to pour concrete up to a height of 4 metres without taking the rate of placing into account.

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With great care

The formwork engineers' masterpiece is, however, the new building's central hall. With its high atrium and all-round galleries, it enables the visitors to easily get their bearings in the four-storey building. When standing in the hall, the concept of the new building as a light-flooded cuboid can be easily perceived. And the Mammut 350 joint pattern is also visible here. "Alongside the high architectural-concrete quality, that was an important requirement for this project," says MEVA engineer Volker Götz, who supervised the project right from the start. "The architect drew inspiration from this pattern and specified it for the entire building," explains Volker Götz. "This was a significant challenge in the large hall. Despite openings and flights of stairs in various locations, the joint pattern had to extend precisely and without offsets over the entire height." Construction manager Franz Bütler adds: "The work required exact planning and had to be performed with great care, but together we managed to do a good job."

The Mammut 350 wall formwork proved to be an absolute all-rounder in the entire hall. Thus, 3.50 m x 2.50 m panels were used horizontally in order to form the tall flights of stairs first of all and later on also the 2.50 m thick concrete beams under the roof of the large hall. The KLK 230 climbing scaffold was mounted on the wall to enable alignment of the formwork. Once again, the architectural-concrete quality was the top priority – and the uniform pattern even continued on the large concrete beams as if created by the Mammut 350 frame imprint.

The tried-and-tested MevaFlex slab formwork system was used to produce the slab at a height of 28 metres. Correspondingly dimensioned 3S shuttering panels were prepared in order to create the desired pattern as if it had been produced by the imprints left by Mammut 350 panels. The excellent results required were achieved using new shuttering panels. After first use, the panels were turned over so that the clean, unused side could be employed for the next cycle. It is also remarkable how regular the results are here. Not only does the pattern extend uniformly across the entire ceiling; the openings for the lamps are also always in the middle of the shuttering panel imprint.

Extraordinary precision

In other areas, the precise planning groundwork is less conspicuous. However, especially for the 1-metre-thick outer walls, it was necessary to work meticulously, as misalignment of the formwork

The oval recess in the ceiling above the atrium was created using special formwork.

joints was only permitted in a tolerance range of 1 to 2 mm. That corresponds to about one quarter of the dimensional tolerance specified in the SIA standard 414/1. The reason for this is the natural stone façade that was precisely designed in the vicinity of the high window façades and columns. A greater deviation would have caused the concrete wall to protrude underneath the façade. The requirement to achieve a 3.50 x 2.50 m frame imprint also applied indoors. The schedule required rapid progress of the construction work. Using two Mammut 350 formwork sets, the 28-metre-high walls were formed in four 7-metre cycles. The KLK 230 climbing scaffold was used to erect and precisely align the formwork. Reinforced with Triplex heavy-duty props, the KLK 230 served as a scaffold for the alignment of the high formwork units.

Reliable partnership

With the newly built extension, Zurich now has a new architectural eye-catcher and an outstanding port of call for art connoisseurs. Franz Bütler, construction manager at Marti AG, expressed his satisfaction with the project: "The art museum was a very interesting construction site. Thanks to reliable partners such as MEVA, we have done a really good job here."

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Project data

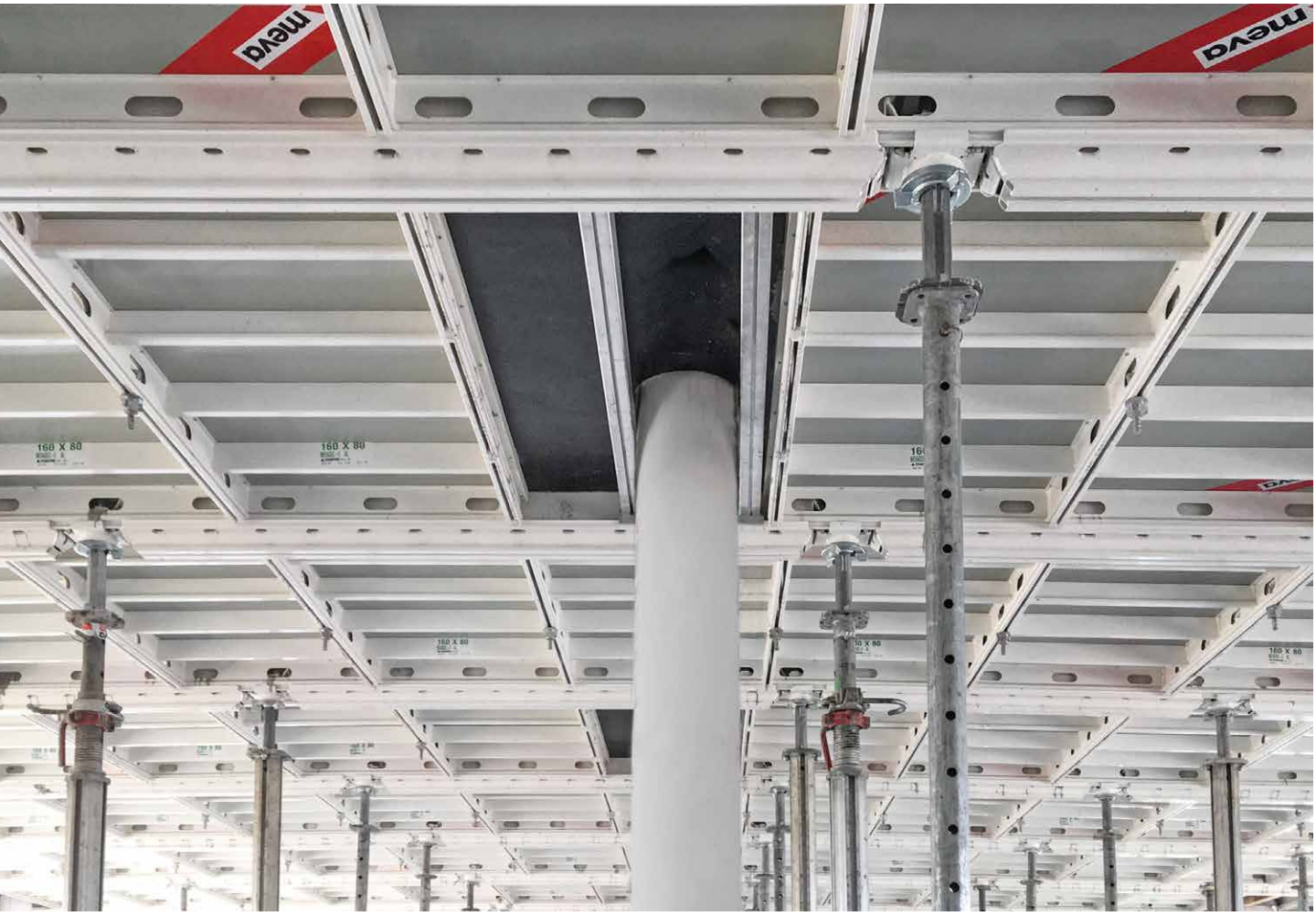
→ **Project**
- Extension of Zürich Art Museum, Zurich (CH)

→ **Project management / principle**
- Zürich, Amt für Hochbauten

→ **Contractor**
- Marti AG, construction company, Zurich

→ **MEVA systems**
- Mammut 350 wall formwork
- MevaDec slab formwork
- Special formwork
- KLK climbing system
- MEP shoring tower

→ **Engineering and support**
- MEVA Schalungs-Systeme AG Seon (CH)



The fastest slab formwork: MevaDec

Measurements performed by the independent izb confirm time advantage

Measurements performed by the izb (Institute for Time Management and Business Consulting in Construction) prove it in black and white: MevaDec is the fastest standard slab formwork with drop head available on the market.

Effortless and simple working practices reduce the time required and increase work safety. The new MevaDec generation offers excellent prerequisites for quicker and more comfortable assembly and stripping of the slab formwork. Extensively optimised, even lighter and more user friendly, it enables the use of three forming methods in one system:

- Drop-head-beam-panel method
- Panel method
- Primary-and-secondary-beam method

In each case, the user profits from a high level of flexibility and cost-effectiveness. Especially the drop-head-beam-panel method for early stripping with lowerable drop head speeds up construction work and reduces on-site material requirements.

Verified by an independent body

The German Manual on Work Organisation for Construction Projects – Forming Work / Standard Slab Formwork published by the independent institute izb summarises the latest evaluations of the guideline values for required working time in building construction. To do this, three example floor plans that were the same for all systems were used and the guideline values for slab heights up to 5.50 m were calculated. For the new MevaDec generation with the drop-head-beam-panel method, the calculations were based on a working group with two skilled workers for both assembly and stripping. The system's advantages – and this is a special feature – enable assembly to be

performed by two workers, whereas stripping can be done by just one worker. These values can also be found in the manual and underline the practical advantage of using MevaDec.

28% quicker than average

The izb investigations illustrate that the new MevaDec offers clear benefits when used with the well-established and quick drop-head-beam-panel method. It is, on average, 10% faster than the strongest competitor. Compared to the average value for comparable competitive systems, the advantage for assembly and stripping performed by two skilled workers is actually about 28%. If stripping is performed by just one worker, his colleague can already prepare the next cycle.

Time saving of many hours

For formwork assembly and stripping for slabs in the floor plan, including cleaning and the application of release agent, 13:48 min/m² were required on average in Germany. Comparable competitive systems require an average of 16:48 min/m² (see pages 47-54 of the above-mentioned Manual, 2021 edition). Due to the saving of approx. 3 min /m², the working hours for a shell construction project with a forming area of 1,000 m² can be reduced by about 50 hours.

Simple handling right from the start

Only three main components are used for the drop-head-beam-panel method: formwork panels, primary beams and props with drop heads. As there are only a small number of parts and no additional tools are required, MevaDec can already be used after a short briefing and can be stripped by just one worker. With just a few blows with a hammer, the primary beams along with the panels can be lowered by 19 cm, easily lifted out, and prepared for the next cycle. The props and drop heads can then be used to reshore the poured slab. This allows the on-site material requirements to be significantly reduced and the logistics simplified. The 80 to 270 cm long primary beams can be hooked into the drop head from below and secured to prevent them coming loose and shifting unintentionally. The panels can be inserted both from below and from above and moved to any position in the primary beams.

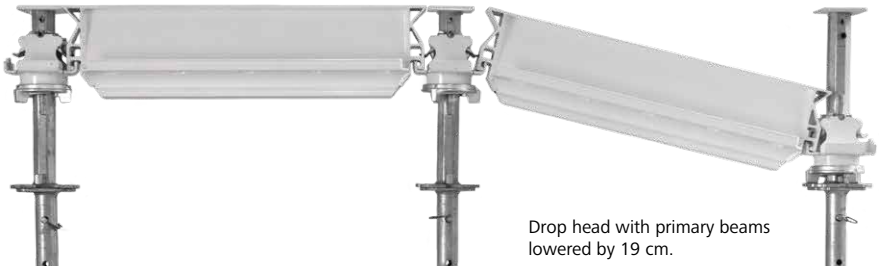
A system full of good ideas

The panels, primary beams and secondary beams are durable and easy to clean. The long-term 7-year warranty also apples to the alkus all-plastic facing. It can be nailed, is bendable but then retains it form, does not absorb water, and does not swell or shrink. Its surface finish guarantees top-class concrete quality even after hundreds of applications. Panel heights from 80 to 160 cm and widths from 40 to 160 cm are available. The 160/160 panel

The ergonomic grip profiles make it easier to insert the panels from below as well.

for efficient forming of large surfaces reduces the number of props required by 40% when using the panel method. The standard 160/80 panel of the new generation weighs only 16 kg/m². It covers almost every requirement. All panels have grip openings in the frame profile and ergonomically shaped cross-stiffeners for effortless and safe handling. Closed aluminium profiles and the drip edge on the frame reduce concrete adhesion. MevaDec can be used irrespective of the grid pattern thanks to free selection of the primary beam orientation. This reduces the number of compensations required and makes it possible to adapt the formwork easily to suit every building geometry.

The new MevaDec is, of course, compatible with the previous generation. All panels can be combined without any problem so that existing stock can be supplemented with the new version. The sum of these characteristics makes MevaDec the benchmark among modular slab formwork systems.



Drop head with primary beams lowered by 19 cm.

A winner right from the start

Quick and straightforward: slab formwork with MevaDec and props with drop heads

During its debut for a construction company in Austria, the new MevaDec proved convincing right from the start. After receiving direct support on-site during the first application, the construction workers then took over and formed the slabs without any problem and with minimum use of material.

Building the nursing and care home in a municipality between Salzburg and Linz was business as usual for the construction company in the GERSTL Group responsible. The walls and balconies were built using its own familiar material. What was new, however, was the first-time use of the MevaDec slab formwork.

The building to be erected had a surface area of 36 x 17 m, with a 3.25-metre-high ground floor, two upper floors each 2.78 metres high and a slab thickness of 22 cm. The engineers in the project team and MEVA's formwork planning experts relied on a clever system of weekly cycles: each floor slab was poured in two 300 m² cycles. 330 m² of the optimised, lightweight and easy-to-handle MEVA formwork MevaDec as well as a second set of props with drop heads were delivered to the construction site – sufficient to safely cater for the surfaces (including overhang) with a filler area proportion of less than 4%.

Simple handling and cleaning

A MEVA fitter was present on-site to provide support during the first-time use of the, as yet, unaccustomed system. However, the users quickly got the hang of the lightweight slab formwork, which can be cleaned quickly and easily thanks to its low concrete adhesion. As the foremen responsible said, "We now have several skilled workmen who, after the positive initial experiences, would happily work with MevaDec again in future."

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Project data

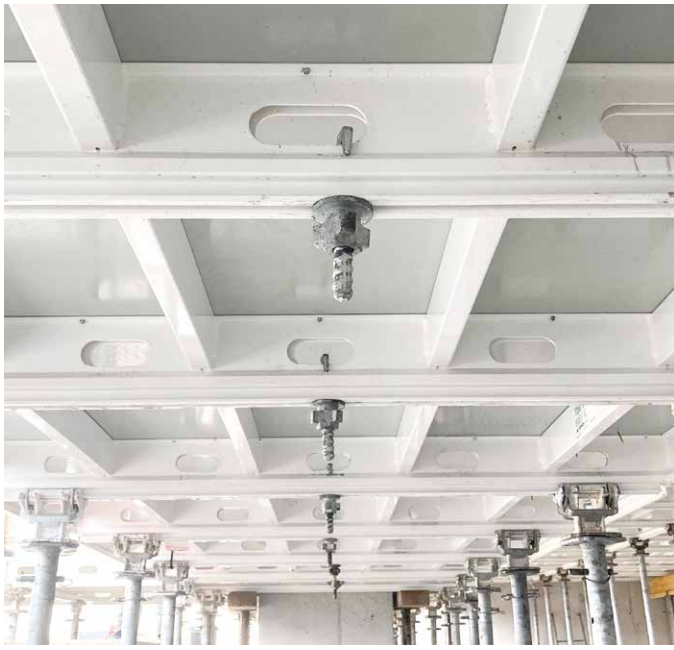
→ **Project**
- Construction of a new care home

→ **Principal**
- Oö. Landespflege- und Betreuungszentren GmbH, Wartberg (AT)

→ **Contractor**
- GERSTL Gruppe, Wels, (AT)

→ **MEVA systems**
- MevaDec slab formwork

→ **Engineering and support**
- MEVA Schalungs-Systeme Ges.mbH, Pfaffstätten, Austria



It couldn't be easier

Slab formwork with MevaDec and the tried-and-tested panel method

The optimised MevaDec offers three slab-forming methods in one system. Schröppel Bau relies on the classic panel method for simple handling and logistics.

For the slab formwork of a multi-family house with a rectangular 480 m² floor plan and four storeys in Aalen in the south of Germany, the construction company chose the new MevaDec – "above all due to its simple handling," reports managing director Jürgen Schröppel. The use of the familiar panel method made the work even easier as the workers could almost do it with their eyes closed. The weight-optimised panels reduced fatigue and thus ensured rapid construction progress. Schröppel Bau also used the system to directly support the concrete beams.

Only two components are required for the panel method: panels and props with installed prop heads. Very simple. The combination of MevaDec and the panel method allows for clearly structured site logistics and is ideally suited for floor plans with small surface areas and to produce filler areas. The prop heads are either screwed onto the props or secured with a locking pin. The panels are simply hooked into the clever prop head from below and automatically secured to prevent them coming loose and shifting unintentionally. The EuMax prop's smooth-running thread makes it easy to set the height precisely to the nearest millimetre.

The new large MevaDec 160/160 panels were also tested at the construction site in Aalen – with positive results: "Their use during this construction project was exceedingly cost-effective," according to the feedback. They are suitable for slab thicknesses up to 34 cm – with additional support in the middle even up to 50 cm – and can be supported by 40% fewer props. Managing director Jürgen Schröppel sums up this project: "The entire process ran absolutely reliably and professionally."

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Project data

→ **Project**
- New multi-family house, Aalen (DE)

→ **Contractor**
- Schröppel Bau GmbH, Ederheim (DE)

→ **MEVA systems**
- MevaDec slab formwork
- EuMax prop

→ **Engineering and support**
- MEVA Schalungs-Systeme GmbH, Stuttgart office, Germany

Simply flexible with MevaDec

New slab formwork simplifies construction of a parking deck in Denmark

The new MevaDec generation stands out due to rapid reusability, simple handling, flexibility and optimised on-site material requirements. EMR Murer & Entreprenør A/S was convinced of these benefits during the construction of a parking deck.

The slab of the single-storey parking deck presented a number of challenges due to the limited space in the built-up area in the suburbs of Copenhagen. With numerous columns and inclined walls, a labyrinthine floor plan and, in some cases, sloping surfaces, this project was an ideal candidate to put the new slab formwork from MEVA through its paces. The 50 cm thick slab was poured in three cycles due to the partly sloping surfaces. Construction began with the sloping section of the slab, which dropped down from a height of 256 cm to 238 cm.

The weight-optimised MevaDec system with closed, robust aluminium profiles in conjunction with the new grip openings and the ergonomic design of the inner profiles provided for easy handling. The 160 x 80 cm panel mainly used on this construction site weighs only 16 kg/m². This contributed just as much to the low-fatigue and quick assembly as the option to install the panel from both above and below. In addition, the popular panel format covers almost all requirements.

MevaDec does not need to adhere to a fixed grid pattern. This makes it possible to adapt the formwork flexibly and smoothly to suit every building geometry and slab thickness. The assembly direction can be flexibly and easily changed by mounting one primary beam into another. An advantage that proved its worth due to the minimised filler areas involved in this project in Denmark with its irregular floor plan and many necessary columns. This resulted in time savings and the use of less material, thus lowering the costs. On the construction site in Copenhagen's Vanløse district, primary beams with a length of 210 cm were used. The high-quality, galvanized and robust EuMax props were used to guarantee safety and provide stability.

The system's predefined prop spacing ensures that the formwork can be installed safely and that no unnecessary props and system components need to be kept in stock and installed.

Although there was no time pressure between the individual pouring cycles, the EMR Murer & Entreprenør workers profited from the practical drop-head-beam-panel method for early stripping. Once the concrete had set, the primary beams and panels were easily lowered by 19 cm with just a few blows with a hammer, allowing stripping to be completed comfortably. Due to the high-quality cured powder-coated finish, the well-thought-out design and the durable alkus all-plastic facings with smooth surfaces fitted as standard, MevaDec offers convincingly low concrete adhesion. This also allowed the panels to be cleaned very quickly. The workers then loaded the formwork panels into MEVA transport angles – comfortably stacked for safe logistics and ready for the next application.

Project data

- **Project**
  - Apollovej parking deck, Vanløse (DK)
- **Contractor**
  - EMR Murer & Entreprenør A/S (DK)
- **MEVA systems**
  - MevaDec slab formwork
  - EuMax props
- **Engineering and support**
  - MEVA Denmark, Køge

Early stripping ups the tempo

MonoDec slab formwork used on commercial building project in Bolivia

The Attura office building scheme is currently on site in Cochabamba, Bolivia's fourth-biggest city. October 2020 saw completion of the structural works, on time and to the specified quality. Contractor Espinoza Construcciones managed to speed up site operations, among other things, by using the cost-effective MonoDec slab formwork system that offers time savings through early stripping.

Perched atop the San Pedro hill, a 40 m tall Christ statue – the Cristo de la Concordia – overlooks the "City of Gardens", as Cochabamba is often called due to its many parks. The new Attura office and commercial building that rises up from the Plaza Quintanilla boasts 14 storeys, each 2.8 m high with an over 800 m² floorplate.

Early stripping as a real time-saver

Espinoza Construcciones deployed some 900 m² of the MonoDec system. The slab formwork with aluminium profiles is not only easy to assemble and dismantle, but also provides for early stripping. Apart from accelerating progress on site, this also streamlines inventory management – all the more so as the system comprises only three components: panels, primary beams and props with drop head.

EuMax props, suitable for heights up to 5.5 m and with a high load capacity, provided support for constructing the building corners. Long pins were inserted to secure the connections with the primary beams. After concreting, a few hammer blows against the drop head wedge rings sufficed for early lowering of the primary beams and panels by 10 cm. This enabled their removal and immediate preparation for reassembly at another location. The props remained in place to reshore the freshly cast slabs.

Thanks to their low concrete adhesion, the MonoDec panels are quick and easy to clean. The generous standard (200 x 165 cm) spacing of the EuMax props below the slab formwork offered the additional advantage of providing the site operatives with ample circulation and working space.

Lightweights for heavy loads
Despite its low panel weight of only 19 kg/m², the aluminium MonoDec system makes no compromises in terms of robustness and is suitable for casting up to 44 cm thick slabs. The light metal is resistant to moisture, corrosion and fungal attack, thereby guaranteeing a long service life for the 100% recyclable formwork product. With a thickness of only 65 mm, the slim panels also simplify storage and logistics.

MonoDec's flexibility certainly paid dividends in Cochabamba. While the system was readily adaptable to all required geometries, the smooth form face delivered a high-quality surface finish for the beams and slabs. Apart from minimising fatigue during transportation, the standard 50 cm panel width facilitates handling and installation by a single operative.

Alongside the cost-effective MonoDec system, the contractor also deployed MEVA's AluFix wall formwork. The lightweight, crane-independent system similarly ensured quick and successful casting of the columns for the 14-storey Attura office building.

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Project data

→ **Project**
- Attura office building, Cochabamba, Bolivia

→ **Principal**
- Canedo Desarrolladores, Cochabamba

→ **Contractor**
- Espinoza Construcciones, Cochabamba

→ **MEVA systems**
- MonoDec slab formwork
- EuMax props
- AluFix wall formwork

→ **Engineering and support**
- MEVA Sistemas de Encofrado S.A.S., Bogotá, Columbia

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