



MEVA

Guide to Formwork



MEVA

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MEVA System Benefits at a Glance



MEVA benefit: simple connections

Achieve safe and secure attachments of all parts with just two parts: the MEVA clamp and the flange screw.



MEVA benefit: safety

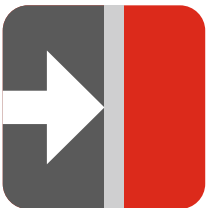
The basic principle of all MEVA formwork systems is safety in detail and as a whole. Avoiding mistakes in assembly and operation is designed into the system. Avoiding safety risks likewise.

- All MEVA panelised formwork systems have no protruding parts that could lead to injury.
- MevaDec primary beams are locked to the drop head and cannot fall or slide out.
- The safe and secure connection of frames to MEP props when setting up a shoring tower is visible by the horizontal position of the locking lever. Instable connections are thus discovered immediately.
- The automatic reset into safety position in the SAS quick lowering function on MEP props ensures that safety errors are avoided.
- The attachment of walkway brackets with flange nuts ensures that they cannot shift or slide out during crane lifts.



MEVA benefit: labour and cost saving

Using only a few and always the same parts makes setting up, assembly and handling quicker and easier. Design features for easier handling reduce effort, simplify logistics and and save time. Saving time means saving money, on every site.



MEVA benefit: concrete pressure

Thanks to their static stability, all MEVA formwork systems have a high capacity to cope with concrete pressure – to the limits of technical feasibility.



MEVA benefit: simple assembly

Set up MEVA systems with standard building site tools, quickly and safely, wherever possible on the ground. Assembly steps are kept simple. Systems are pre-assembled to the greatest possible degree. This makes work simpler and safer.



MEVA benefit: load bearing capacity

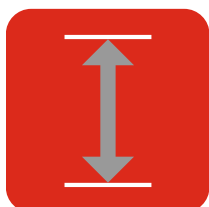
The same static stability in wall formwork applies to MEVA props, shoring systems, towers and slab formwork.



MEVA benefit: easier handling

Often design details make a big difference when it comes to handling equipment on site, adding to safety and time-saving:

- The hand-set systems AluFix, AluStar and MevaDec have an ergonomic grip profile which makes it easier and safer to move the panels, even in wet conditions.
- Large panels of the Mammut 350 wall formwork system have a bump notch which makes it easier to position them.
- The closed hollow profile reduced concrete adhesion and makes cleaning easier and faster.


MEVA benefit: flexible heights

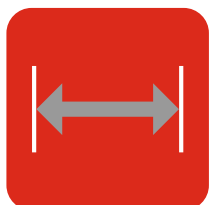
Intelligent sorting of panel heights, easy ganging to achieve greater heights and systems designed for high formwork setups: MEVA formwork systems are strong on high structures.


MEVA benefit: flexible forming methods

The MevaDec slab system covers three forming methods in one and the same system, using only a few and always the same parts to make work easier, safer and more flexible.


MEVA benefit: special designs

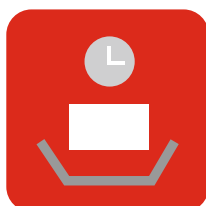
It is not merely achieving unique geometries in concrete that require special designs – it is often the search for a technically viable and cost-effective solution that lead MEVA engineers to special designs. For instance, when a large number of columns with specially shaped heads need to be poured. Here a small series of special forms made of steel and re-used many times may be more effective and economical than site-built column heads.


MEVA benefits: flexible widths

The same applies to widths, achieved with clever arrangement of panel sizes, for instance when ganging panels to pour large wall sections.


MEVA benefit: drop head lowering by 19 cm

MevaDec allows early stripping of the equipment and simplifies taking out the panels by lowering the drop head by a full 19 cm. This is a noticeable advantage when working above head level.


MEVA benefit: early stripping

Save up to 40 % of equipment inventory needed to complete slab pours by stripping panels and beams early and moving them to the next pour. Less inventory means less handling, less space needed and less rental costs.

Our innovative, top quality products and comprehensive services for contractors set standards on the world market. They **accelerate and simplify** the building process and provide for **improved safety** on the construction site. MEVA Mission.



The closed hollow profile is robust and stable. What's more, concrete does not get trapped inside. The clamp with no losable parts aligns and joins with just a few hammer blows. And it fits anywhere on the frame. The articulated flange nut makes tying easier and caters for a 5° tilt of the formwork panel.

Better beats Good

From the Black Forest to the world

MEVA is a family-owned and managed formwork manufacturer based in Haiterbach in Germany's Black Forest. The company serves 40 locations on five continents.

Setting the pace in the formwork industry

Since day 1 in 1970, better beats good has been our philosophy. MEVA inventions have become standard in the industry. We invented the closed hollow profile and the clamp with no losable parts. We came up with the first aluminium frame and replaced plywood with an all-plastic, 100 % wood-free facing.

No. 1 in quality and service

MEVA supplies top quality products and solutions that save time and money. Taking a closer look and going the extra mile make the difference. The Austrian trade magazine SOLID has confirmed this by ranking MEVA at No. 1 position for client service and quality.

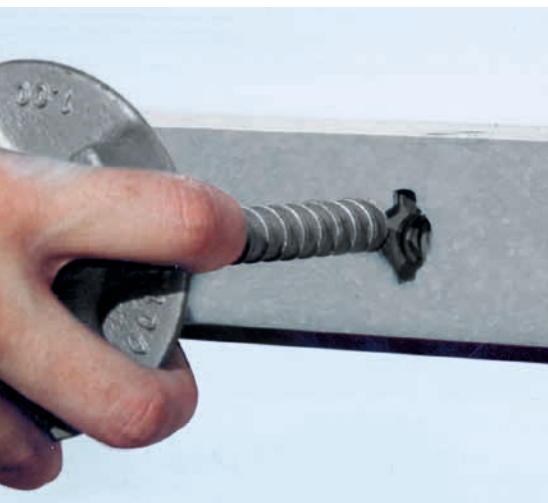


We are the worldwide, innovative solution provider and pioneer for safe and efficient forming solutions in concrete construction.

MEVA Mission



The pioneering aluminium formwork system AluStar is best in class in terms of its weight/performance ratio – to this day.



All accessories are screwed to the multi-function profile using the same parts and identical technique (DW tie rod and articulated flange nut). The scaffolding bracket has a unique safety latch. The Caro-Falt column formwork is easy to handle. The size of the cross section can be selected and set in increments of 5 cm using the perforated strip.

Alignment rails are attached using the same flange screw – as are all accessories. This makes assembly simpler, safer and faster.

Advancing know-how

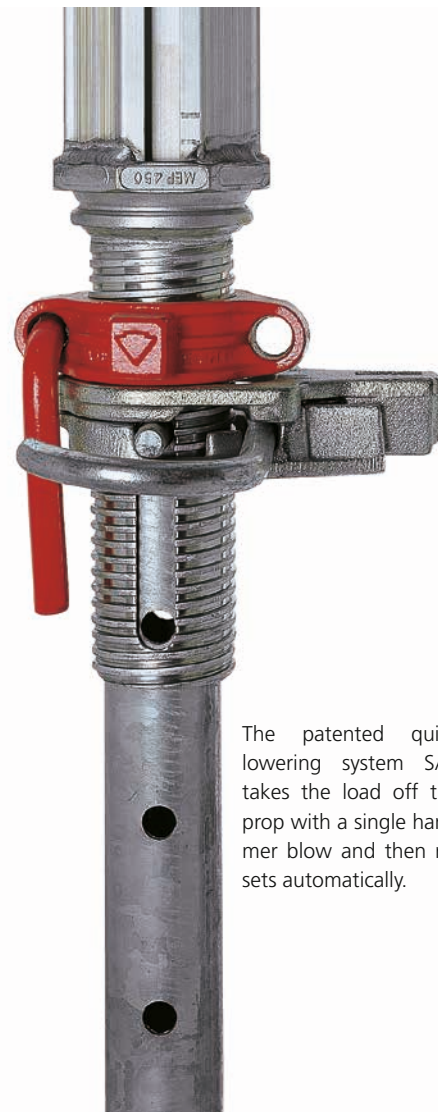
MEVA is active in industry organisations that further concrete know-how. We are founder member of the European control board for formwork quality GSV and head its technical committee. MEVA is a member of the American Concrete Institute ACI and the driving force behind the new guide to formed concrete surfaces. Concrete pressure standards for flowable and self-compacting concrete mixtures carry our signature and we provide know how in such fields as compacting, release agent, early stripping, back-propping and reshoring.



American Concrete Institute

The Mammut 350 is best in class when it comes to its load capacity of 100 kN/m²

The MEP shoring tower combines load bearing capacity and safety at great heights.



The patented quick lowering system SAS takes the load off the prop with a single hammer blow and then re-sets automatically.

2



Top Quality in Production

Quality from the idea to series production

Manufacturing expertise on-board and in-house production stand for continuous, top-notch performance from the idea to series production. All MEVA locations across the world are audited according to the European standard DIN ISO 9001 and offer our clients consistently high quality.



Management
System
ISO 9001:2008



www.tuv.com
ID 0091004339

1 MEVA's panel frame is based on the unique closed hollow profile which is statically stable and easier to clean since no concrete can creep inside.

2 The MEVA multi-function-profile has welded-in Dywidag threaded nuts for quick, easy and uniform attachment of all accessories. Conical tie hole sleeves, welded-in from both sides, enable you to tie panels even when tilted.

3 Panel frames for hand-set systems are equipped with special grip profiles that allow for an easy, safe and fast handling, even when wet.

4 The all-plastic facing alkus is fitted into the frame with an unmatched precision of only 1 mm. This ensures the panel sits flush even after hundreds of pours.

3



1



4





The 100 % Wood-Free, All-Plastic Facing

The all-plastic facing puts an end to plywood waste in formwork

The world's first 100 % wood-free facing has a spotless track record since the year 2000 – all over the world. MEVA is the first formwork supplier to employ this new technology in all of its products.

The facing lasts as long as the frame:

The end of re-facing costs

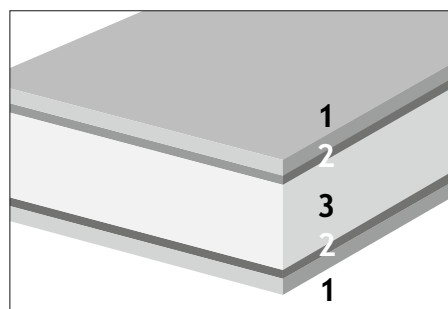
Replacing worn-out plywood sheets is now a thing of the past. No more dangerous waste because the all-plastic facing can be repaired with the identical material it is made of. This saves time and money.

The advantages at a glance

- No swelling and shrinking
- Nailable like plywood
- No re-facing – no hidden costs
- Easy and quick to clean
- Repairable using the same material
- Better concrete finish

Better and more cost-effective

All these benefits add up to a huge advantage on site. What's more, the facing needs less release agent, reducing the use of chemicals. It achieves a superior concrete finish first time, every time.



The patented all-plastic facing is a polypropylene sandwich construction (layer 1 and 3) reinforced by a thin aluminium foil (layer 2). The facing is resistant to UV rays, climatic influences, on-site chemicals, swelling or shrinking. It does not rot and cannot decay. It is repairable and completely recyclable.





Wall formwork

The modular hand-set system: EcoAs

The light-weight system: AluFix

The multi-purpose system: AluStarTec

The 100 kN/m² heavy-duty system: Mammut 350

The circular system: Radius



Vertical support

Push-pull props

Heavy duty braces: Triplex

Column formwork

Circular column formwork: Circo

Column formwork: CaroFalt

Shoring tower: Space

Single-sided solutions

Concrete beam formwork: Trestle UZ 40/30

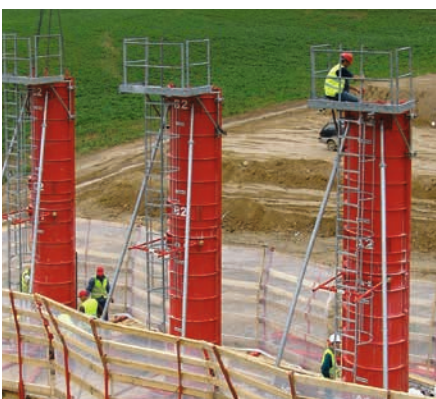
Support frame: STB 300

Support frame: STB 450

Anchoring: FormSet

Our **comprehensive product**

portfolio ranging from handset, crane-independent formwork to fully automatic climbing systems and flexible shoring solutions, all the way to engineering services and extensive site support, cover the requirements of every building project, all over the world. MEVA Mission





Slab formwork

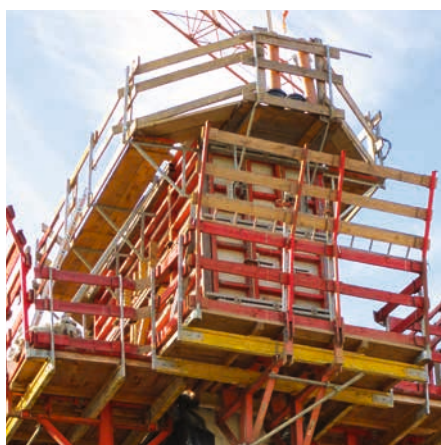
Slab formwork system: MevaDec
Girder slab formwork: MevaFlex

Props and shoring

Props: EuMax
Shoring system: MEP
Shoring system: MT 60

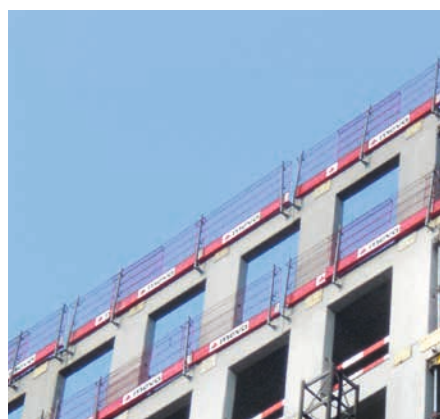
Working platforms

Working platform: LAB 130
Foldable platform: KAB 190
Foldable access platform: BKB 125



MEVA climbing systems

Climbing platform: KLK 230
Automatic climbing system: MAC
Guided climbing system: MGC
Guided screens: MGS



Safety systems

Stair tower: MTT
Wall safety system: Securit Basic
Wall safety system: StarTec-Securit
Edge protection system: FormSet
Fall protection system: SpanSet



Special designs

Special designs for architectural concrete
Special designs in wood
Small series and special forms

Accessories

Formwork accessories
Loading and transport tools
alkus repair kit
Facing and beams
Release agent and sprayer

Engineering: Making the Impossible Work



Being special makes them special. Their size or span, their height or volume: Large industrial facilities, bridges, tunnels, reservoirs, waterworks or power plants. The engineer's challenge is to find the technically feasible, economically viable and practically sensible solution.

Know-how and services

- Engineering services and formwork design
- Support in structural planning
- Special and customised designs
- Calculation of concrete pressure & pour rates
- Production of single and small series

Site support

- Assembly service and support
- Supervision and training of forming teams
- Support in supervising work flow
- Support during critical concrete pours



Egbert Balagtas,
Engineering



Volker Götz,
Formwork design



Josef Goletzko,
Engineering



Fejér Gábor,
Engineering

Above: Bridge construction in Békéscsaba, Hungary, with top safety standards and tight schedules when climbing 40 m high concrete piers. Below: The hydro power plant project Linthal 2015 progressing under extreme conditions in the Swiss Alps.





Sabrina Vargas Colina
Engineering

Residential Construction: Building Proud

In commercial and residential construction, cost-effectiveness, speed and safety count and functionality dominates over prestige. MEVA understands work flow and provides the contractor with clever solutions so that even the hundredth pour delivers the finish required.

Project support

- Engineering and technical consulting
- Work flow concepts and planning
- Support for architectural concrete
- Optimised inventory and material logistics
- Rental and service packages

On-site support

- Supervision, assembly support
- Training for formwork teams
- Work flow support, pour cycles and early stripping

Above: The light-weight, hand-set formwork system AluFix on a mass housing project in Cibu, Philippines. Below: Logistics challenge on a mid-city construction site in Winterthur, Switzerland. Safety, architectural finish and fast pours being mastered.



High-Rise Construction: Climbing Safe & Fast

Where crane time is limited, space is cramped and work flow is tight, it's the clever solution that makes the difference. How you work determines success, not with what. MEVA offers the know-how and support to make your project a success from A to Z.

- Formwork design and planning
- Work flow (cores, walls, slabs)
- Safety planning and implementation
- On-site assembly support
- Project engineering on site
- Training and supervision
- Technical documentation
- Consultation with safety authorities

Right: The City of Dreams Hotel Tower in Macau: combined climbing and safety solution for walls and cores with the automatic and rail-guided systems MAC and MGC. Below: The Limmat tower in Dietikon, Switzerland: complex footprints mastered with the guided climbing system MGC.



Alois Teufel,
Engineering



Martin Gärtner,
Engineering



Stefan Kappler,
Engineering



Bacskey Tamas,
Formwork design



Peter Ummenhofer,
Head of Engineering



Engineering the Exceptional

New concrete mixtures, additives, high concrete pressure; slim building geometries, irregular, rounded, bent, curved and slanted! As architecture discovers concrete as design material, formwork engineers are key figures in the construction team. And: There are virtually no limits to shaping concrete when using the alkus facing.

Know-how und Dienstleistungen

- Consulting in architectural project teams
- Special formwork designs
- Tooling, production of single and small-series
- Engineering consultation
- Production of specially shaped facing

On-site support

- Assembly service and support
- Support for test pours
- Consulting: fresh concrete pressure, release agent, compacting
- Supervision and training of forming teams

Right: The centennial University of Economics and Business in Vienna, designed by Zaha Hadid, taking special designs and the all-plastic facing alkus to the limit. Below: The 700 m² bus terminal roof in Merseburg, Germany, without a single joint imprint in the concrete. Achieved using alkus sheets welded together.



Jochen Stoß
Engineering





Our fervent team spirit and passionate search for the best solution help us to overcome the limits of technical feasibility through the power of new ideas and the thrust of innovation. This allows us to meet and fulfill our customers' requirements in the best way possible and bring projects to successful completion in a spirit of sustained partnership. MEVA Mission

Services from A to Z...

Our civil engineers, formwork designers, technicians and consultants are personally committed and work in strong teams to make your project a success.

Find out more about MEVA's services portfolio in the Guide to Services. Go online, select WEB SERVICES and go to services to be updated on www.meva-international.com

Technical support for your success

Benefit from the experience and expertise of MEVA in all safety and work flow challenges on site. Consult with us early on in your projects and involve the know-how our engineers, sales teams and designers.

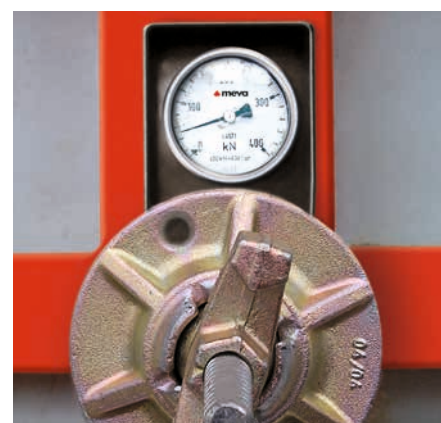
- On-site support
- Technical consultation
- Qualification and training

Services for your formwork fleet

- Sales consultation
- Safety check-up
- Cleaning and repair
- Regeneration
- Re-facing

Working tools for safety and efficiency

- Productfinder – online
- Pressure gauge for monitoring concrete pressure (available as rental equipment)



Gabor Fejér,
Engineering



Botond Lachmann,
Design Team



Bernd Schuon,
Engineering



Steffen Pippig,
Key Account Service

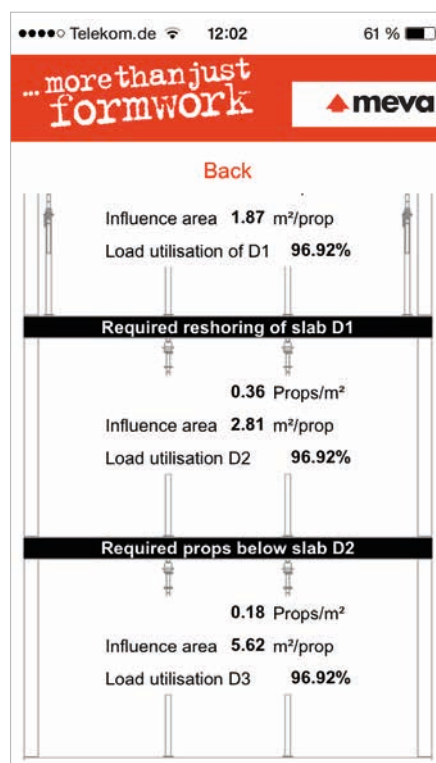


René Fouquet,
Engineering & Sales



... for Quality, Safety, Cost-Effectiveness

- SolidCheck measuring device for concrete setting. Available as rental equipment and with on-site support.
- Formwork Navigator for slabs – online
- Formwork Navigator for walls – online
- Reshoring calculator
- Calculation for fresh concrete pressure and pour speed
- MEVA Calc: Calculation tool for mobile use (I-Phone/smartphone) on site



meva

Frischbetondruck- und Steiggeschwindigkeits-Rechner

Bitte beachten Sie unbedingt die Nutzungsbedingungen für den Frischbetondruck- und Steiggeschwindigkeitsrechner unter:
<http://m.meva.de/de/betondruckrechner/nutzungsbedingungen.php>

Ihre Berechnung

Konsistenzklasse:	F3
Erstarrungszeit $t_{s, \text{bet}}$:	7,0 h
Betonierhöhe H :	9,0 m
Referenztemperatur $T_{c, \text{ref}}$:	15 °C
Einbauteperatur $T_{c, \text{einba}}$:	20 °C
Umgebungstemperatur $T_{c, \text{umg}}$:	15 °C
Besondere Bedingungen:	3a
Gedämmte Schalung:	Nein
$T_{\text{amb}} < T_{c, \text{max}}$ => Frischbetondruckzunahme, wenn	
Einsatz von LH Zement:	3a
Frischbetonrohrweite v_{st} :	25 kN/m
MEVA System:	Marmm
Ebenheit Zelle 7 nach DIN 18202, Tab. 31	
max. Frischbetondruck σ_{max} :	100 kN/m ²
Steiggeschwindigkeit v :	5,05 m/h
MEVA Schalungs-Systeme GmbH	
Industriestraße 5 D-72221 Hattenbach Deutschland	
Telefon: +49 7456 992-01 Telefax: +49 7456 992-66 E-Mail: info@meva.de	

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Flexible Service Packages for Rental Formwork

RentalPlus: Rental with no subsequent costs

RentalPlus is a comprehensive insurance package that covers follow-up costs incurred after rented equipment is returned. A monthly or flat rate covers all cleaning and repairs. Only irreparable damages and losses are invoiced. The site no longer has to allocate time, labour and space to check and clean equipment prior to returning it. Expensive re-facing is redundant, cleaning and repair of the alkus facing is included.

This service package saves rental customers

- Uncertainties when planning and budgeting
- Labour and cost, space and crane time
- Delays and interruptions on site
- Rental time and cost
- Negotiating time and effort checking and documenting returns
- Unnecessary invoicing

Rental service packages

Services required when a rental project comes to a close can be covered by simple, cost-effective flats. This allows you to calculate safely and avoid surprises afterwards, saving rental time and reducing costs, for instance with:

- Service flat for cleaning
- Service flat for cleaning and small repairs



MEVA Original Used Formwork

The MEVA Original Used Formwork brand gives you the assurance of highest MEVA quality standards. The formwork is checked and approved in MEVA facilities, certified to the ISO 9001:2008.

Double Warranty from the Manufacturer

As a formwork manufacturer, we give you a double warranty on full functionality and on the all-plastic facing panel in all MEVA Original Used Formwork panels. We're able to do so because we stand behind our products 100 %. And because we made them in the first place. The original. Period!

Choose between two options

1. Economy: all functions factory checked with fully intact all-plastic facing alkus, or
2. Premium: fully regenerated with upgraded all-plastic facing alkus.

Check-Up und Regeneration

We check, repair and regenerate your formwork equipment made by MEVA and other manufacturers. This includes replacing used and worn-out plywood facing with the alkus all-plastic facing. Choose from a selection of attractive repair and regeneration packages to ensure your equipment stays up to standard and ready for safe use.

MEVA Regeneration

MEVA regeneration facilities offer quality-controlled industrial regeneration of formwork equipment ranging from cleaning, repair and rejuvenation all the way to re-facing, quoted according to effort. The five major stations of this process are shown below.

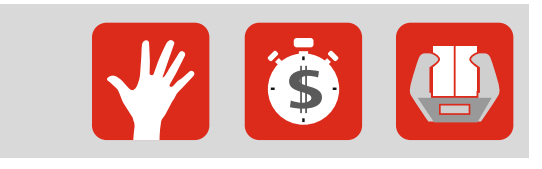


Regeneration encompasses:

- ① Check of all functions for safety and smooth operation
- ② Refurbishing of panel frames with steel ball blasting

- ③ Re-coating of the frames with annealed plastic coating
- ④ Upgrading a used all-plastic facing panel
- ⑤ Top quality MEVA Original Used Formwork equipment is on its way to you!





EcoAs: Modular, Hand-Set

The modular System for simple setup by hand
EcoAs is a sturdy, fast and flexible hand-set formwork system for small and medium-sized concrete jobs ❶ without the need for a crane. The steel panels can all be set up by one worker ❷. The EcoAs system is 100 % compatible with the sister hand-set system AluFix ❸.

EcoAs panel sizes					
Widths (cm)	Heights (cm)				
	80	120	160	240	300
	160				
					100
		80	80	80	80
					75
			55	55	55
		50	50	50	50
	40	40	40	40	
		30			30
		25	25	25	25



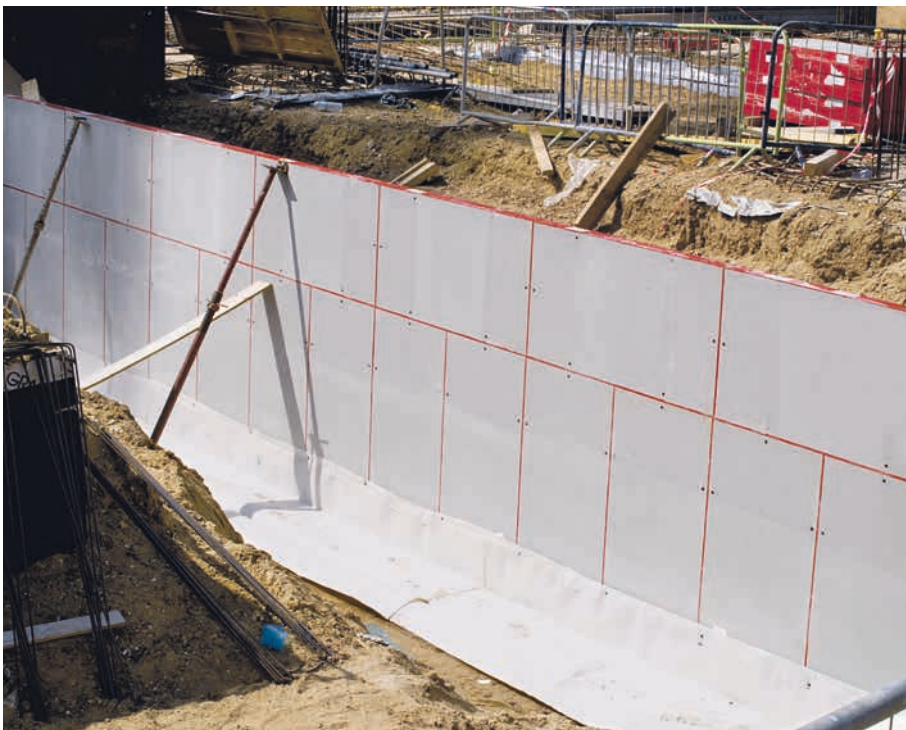
Hand-Set Formwork



Facing

EcoAs panels deliver a smooth, clean, consistent and even concrete finish from the first pour to the last. The all-plastic 100 % wood-free polypropylene facing lasts as long as the frame and does away with plywood waste and refacing costs.

- No swelling or shrinking
- Nailable like wood
- Immune to moisture
- Easy to clean and repair, even on site



7 Year Long Term Warranty

- No rotting
- No rippings
- No discolouration
- No loss of flexural rigidity
- Resistant to UV rays

Versatile in Small-Scale Construction

Project Profile

Time and labour saving concrete pours, especially versatile on irregular layouts and complex small structures. The load capacity of 50 kN/m² can be used fully and safely for:

- Foundations
- Light shafts
- Concrete beams
- Stair wells
- Garden walls
- Canalisation shafts

→ Thanks to their standard all-plastic, 100 % wood-free alkus facing, the EcoAs panels handle jobs with high demands on the concrete finish with ease.

↓ EcoAs is ideal as a flexible panel option on foundations, starter walls and floor slabs.



Hand-Set Formwork



Irregular and complex small concrete structures are home ground for EcoAs wall formwork.



Modular and Time-Saving

Panel connection

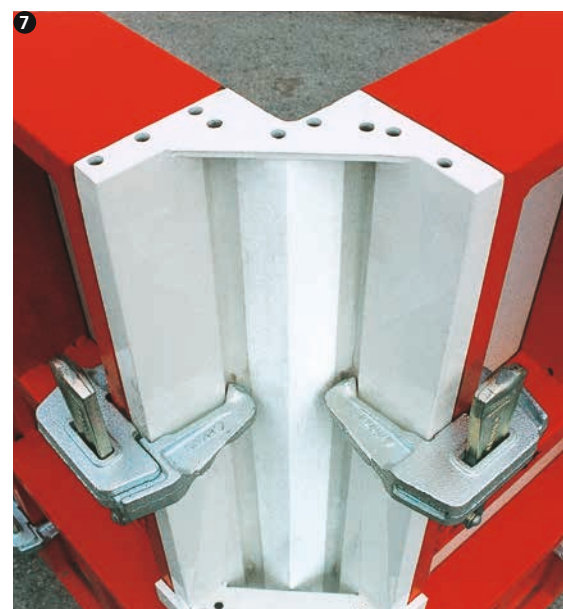
The MEVA clamp **1** joins and aligns panels with just a few hammer blows. It provides a safe, stable panel connection, fits anywhere on the frame and is light and easy to handle.

Attachments

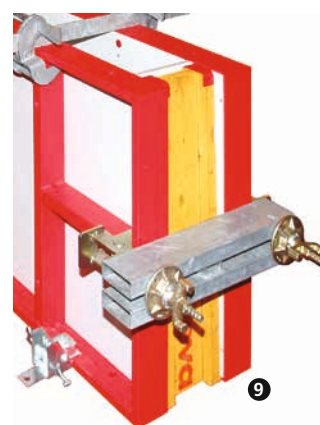
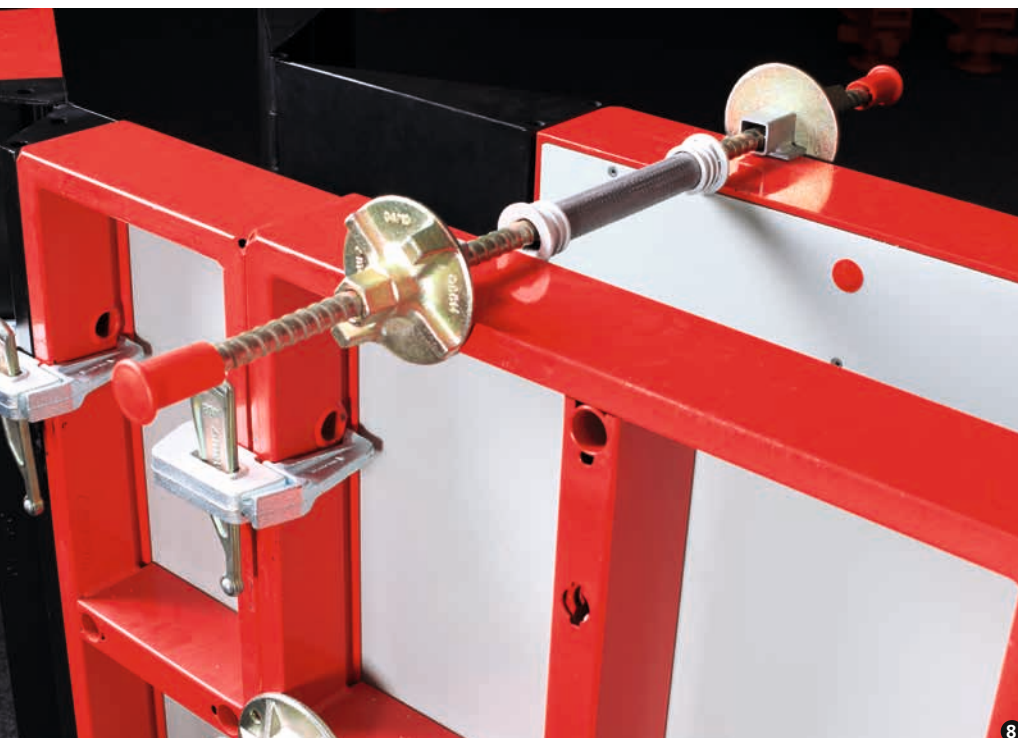
All accessories such as push-pull props, working platforms and accessories are attached with a flange screw **6** to the welded-in DW thread in the multi-function profile **2**. Walkway brackets have a pin **3** which fits into the same DW thread and automatically locks into safe position. No additional parts are needed, reducing inventory and effort in handling and moving equipment.

Corners

All corners from 0° to 180° are covered by inside **5**, outside **7** and hinged **4** corners.



Hand-Set Formwork

**Dry ties**

Foundations and small walls (e.g. for canals, swimming pools) can be formed with dry ties using a foundation tape and foundation tensioner below plus the push-pull strut 23 to replace the top tie ⑧.

Stop ends

save parts, reduce effort and save time using the stop end bracket 23/60 ⑨. You simply fit it, tie the formwork – done!

Alignment rails

are attached with flange screws 18 to the multi-function profile ⑩.

Filler areas

Compensating filler areas is simple: up to 16 cm a filler timber and Uni clamp ⑪ are the only parts that are needed. Excess forming area is always smaller than 40 cm thanks to the panel size range. Filler areas are thus minimised, allowing optimum adaptation to the building layout.

Advantages: save on parts, reduce effort, simplify handling, save time on money.





The Hand-Set Champion

AluFix is the definitive light, high-performance, hand-set **2** wall and slab system. Its cost-performance ratio and technical features make it the perfect choice for the quality-conscious contractor.

- Closed hollow aluminium profile
- Sturdy, torsion-free frame
- Multi-function profile with welded-in DW nut for simple attachment of all parts with the flange screw **1**
- The MEVA clamp **3** joins and aligns the panels with just a few hammer blows

AluFix panel sizes				
Widths(cm)	Heights (cm)			
	132	150	264	300
	75	75	75	75
	60	60	60	60
		55		
	50		50	50
	45	45	45	45
	40	40	40	40
	30	30	30	30
	25	25	25	25





Facing

AluFix panels deliver a smooth, clean, consistent and even concrete finish from the first pour to the last. The all-plastic 100 % wood-free polypropylene facing lasts as long as the frame and does away with plywood waste and refacing costs.

- No swelling or shrinking
- Nailable like wood
- Immune to moisture
- Easy to clean and repair, even on site.



7 Year Long Term Warranty

- No rotting
- No rippings
- No discolouration
- No loss of flexural rigidity
- Resistant to UV rays



The Light-Weight Solution in General Construction

State-of-the-art technology

With its sturdy aluminium frame and all-plastic facing, AluFix is the star in the league of light-weight hand-set formwork systems. When crane time is not available and working space limited, AluFix helps achieve high-quality concrete pours with high labour and cost saving.

Optimum panel size range

Hand-set panels up to a height of 3 m identify AluFix as the premier solution in

- residential construction
- commercial buildings
- small-scale civil engineering projects
- public and infrastructure projects
- garden and landscape projects

→ The all-plastic facing alkus is standard in all MEVA formwork systems and contributes to a superior concrete finish on all formed concrete surfaces, irrespective of the number of pours.



Win on Safety. Save on Labour.

Easy handling

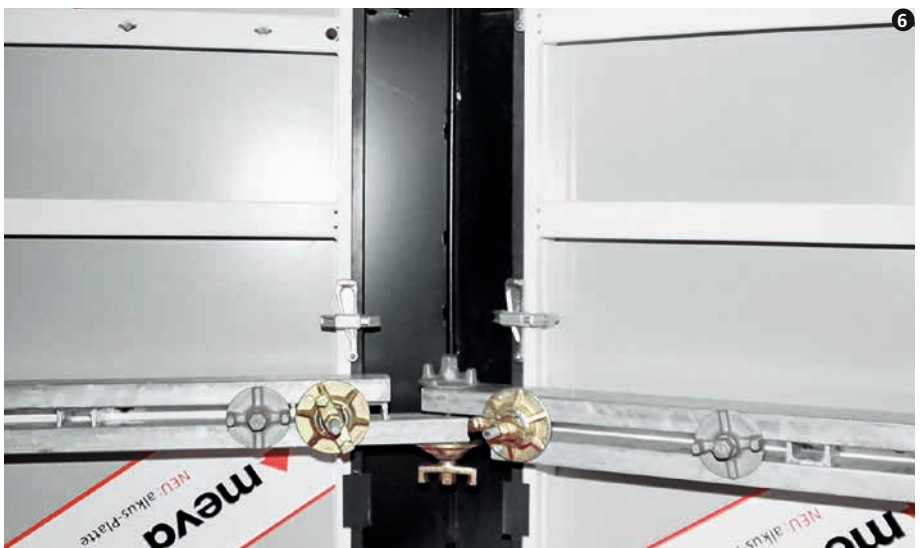
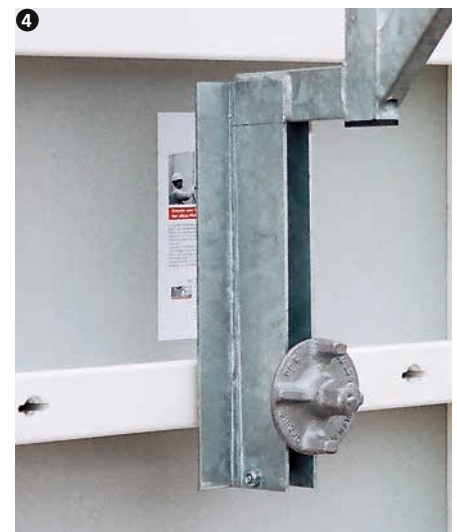
AluFix cross stiffeners feature a unique, ergonomic grip edge. Panels are easier to handle, lift and move, even when wet **1**.

Attachments

All accessories such as push-pull props, working platforms and accessories are attached with a flange screw to the welded-in DW thread in the multi-function profile. No nuts and bolts are needed and all attachments are safe and firm. Walkway brackets have a pin which fits into the same DW thread and automatically locks into safe position. No additional parts are needed and nothing can slip out **2, 3, 4**.

Corners

All corners from 0° to 180° are covered by the system and need no site-built parts. A hinged corner provides additional flexibility. Inside corners are equipped with an all-plastic facing that allows bowouts to be fastened with little effort **5, 6**.



Hand-Set Formwork



Filler areas

Compensating filler areas is simple within the AluFix system: up to 16 cm a filler timber and Uni clamp are the only parts that are needed. Excess forming area is always smaller than 40 cm thanks to the panel size range. Filler areas are thus minimised, allowing optimum adaptation to the building layout **7**.

Stop ends

Save parts, reduce effort and save time using the stop end bracket 23/60 for all stop ends. You simply fit it, tie the formwork – done!

Dry ties

Foundations and small walls (e.g. for canals, swimming pools) can be formed with dry ties using a foundation tape and foundation tensioner below plus the push-pull strut 23 to replace the top tie **8**.

Advantages: Save on parts, reduce effort, simplify handling, save time on money.

Safety

Safe, fixed ladder access on AluFix panels achieved with a ladder holder **9**.



The Labour-Saving System

AluStarTec is a true multi-purpose formwork system comprising a light-weight aluminium panel family (closed hollow profile, powder coated, white) and a large-format panel range (closed hollow steel profile, galvanised).

Fresh concrete pressure

60 kN/m² load capacity. This permit pours of any speed up a height of 2.70 m without considering concrete mixture or ambient temperature.

Panel sizes

Panel heights of 330, 270, 135 and 90 cm allow a combination in heights that limits overstand to 45 cm even when ganging. The smaller panel groups are in aluminium and can be set by hand, without the need for crane time.

AluStarTec panel sizes

	Heights (cm)			
	90	135	270	330
Widths (cm)			240	
		135	135	135
	90	90	90	90
	75	75	75	75
	55	55	55	55
	45	45	45	45
	30	30	30	30



Multi-Purpose Wall Formwork



Facing

As with all MEVA formwork systems, the system is equipped with an all-plastic facing that lasts as long as the frame and makes re-facing redundant. Also, it delivers a superior concrete finish on all formed concrete surfaces.

- No shrinking or swelling
- Nailable like wood
- Easy to clean, even on site
- Repairable using the same material
- Less release agent
- Saves time and labour



7 Year Long Time Warranty

- No rotting
- No warping
- No discolouration
- No loss of flexural rigidity
- Resistance to UV rays

System safety

Comprehensive safety equipment is available for the Mammut 350 system. Refer also to the Guide to Safety for more information. References are to other chapters in this guide:

- Modular safety system SecuritBasic (p. 102)
- Safety access
- Light working platform LAB 130 (p. 80)
- Foldable working platform KAB 190 (p. 82)
- Foldable working platform BKB (p. 84)
- Fall protection, walkway brackets, guard railing posts, safety mesh (p. 85)





Versatile and Flexible

Project profile

High, fast pours thanks to the concrete load capacity of 60 kN/m², large forming areas thanks to large size panels, crane-independent work with small panel range. Efficient work flow for:

- Commercial construction
- Residential construction
- Small and medium scale industrial projects
- Administration, public and government jobs
- Renovation

System benefits

Flexible work flow planning and labour saving on:

- Formed concrete surfaces with high demand on the finish
- Large wall sections
- Columns with multi-purpose panels
- Rounded walls with radius panels
- Shafts



Multi-Purpose Wall Formwork



Round buildings such as containers, silos or tanks can be formed by using narrow AluStarTec standard and radius panels.

A typical scenario in residential construction: large wall sections are ganged with larger format panels, the smaller sections are formed without crane and set up by hand.

High, fast concrete pours with AluStarTec panels ganged to achieve large wall heights and equipped with the safety system SecuritBasic for safe, fast, cost-efficient work.





Saving Time, Saving Labour

System benefit: simple planning, easy logistics, fewer parts, simplified handling, less space for storage and no time wasted looking for parts.

Panel connection

Panels are joined and aligned using the MEVA clamp (assembly lock) ①. It firmly connects the panels on 5 pressure points and aligns them with just a few hammer blows. It fits anywhere on the frame, allowing the site to compensate uneven ground. It has no losable parts.

Attachments

Walkways brackets and working platforms are attached with the same flange screw addressing the welded-in DW thread on the multi-function profile ②. The walkway bracket has a pin that fits into the same thread and automatically locks into safe position ③. Push-pull props ④ are attached in an identical manner, saving parts and simplifying handling.

Corners

Inside and outside corners plus hinged corners cover all corners above 60° within the system and without any additional parts ⑤, ⑥.



Multi-Purpose Wall Formwork



Compensation areas

Fillers up to 16 cm are covered by the system without the need for any site-built solutions. Simply add a filler piece and connect it using the Uni clamp **7**. All outer and inner corners come with an all-plastic facing which allows boxouts to be attached easily even in the corner **9**. Large fillers areas can be bridged with timber and alignment rails attached to the multi-function profile. **10**.

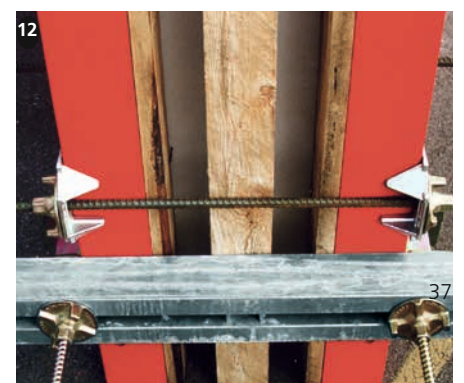
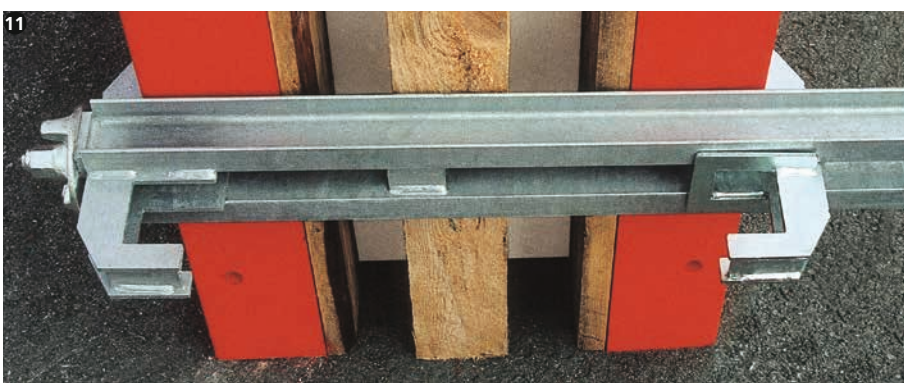
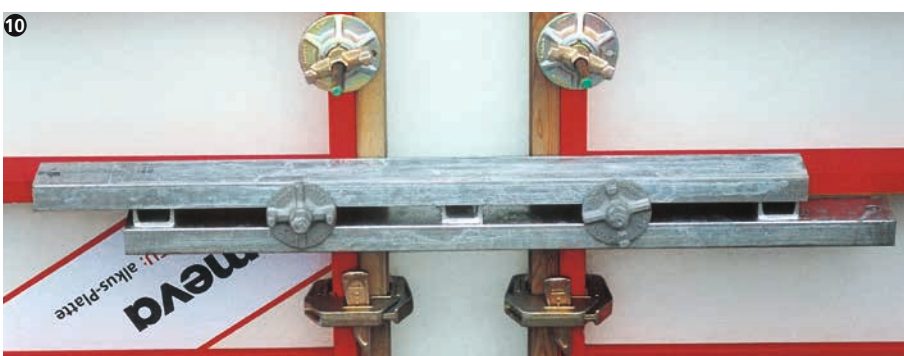
Stop end bracket:

Quick and easy method of finishing stop ends within the system and with few parts **11**, **12**. Or use Uni-tie claws, alignment rails, tie rods and flange nuts.

AluStarTec stripping corner **8** :

Efficient solution for shafts

Safe transport on site using the lifting hook **14** and crane hook **13**





Mammut 350: Heavy Duty

Mammut 350 has redefined standards in wall formwork, including the largest panel on the market ($2.50 \times 3.50 \text{ m} = 8.75 \text{ m}^2$) and the highest concrete load capacity of 100 kN/m^2 throughout the system.

Unlimited pour speed up to 4 m

This allows for any rate of pouring up to a height of 4 m – irrespective of ambient temperature, concrete recipe or behaviour. Exceptionally fast pours are possible even on very high structures, making very fast cycles possible. This makes

the Mammut 350 ideal for working with self-compacting and flowable concrete types.

The Formwork for architectural concrete

The absolutely symmetrical alignment of tie holes and joints ensures an even joint pattern of the concrete surface. This is ideal for architectural projects with high demands on the exposed concrete finish. The all-plastic facing alkus, standard in all Mammut 350 panels, delivers a smooth, clean, consistent and even concrete finish from the first pour to the last.

Mammut 350 panel sizes				
Widths (cm)	Heights (cm)			
	125	250	300	350
			250	250
	125	125	125	125
	100	100	100	100
	75	75	75	75
	55	55	55	55
	50	50	50	50
	45	45	45	45
	30	30	30	30
	25	25	25	25





Facing

All-plastic 100% wood-free polypropylene facing which lasts as long as the frame and does away with plywood waste and refacing costs. The concrete finish is superior from the first pour to the last, first time, every time.

- No swelling or shrinking
- Nailable like wood
- Immune to moisture
- Easy to clean and repair, even on site

7 Year Long Term Warranty

- No rotting
- No ripples
- No discolouration
- No loss of flexural rigidity
- Resistant to UV rays

System safety

Comprehensive safety equipment is available for the Mammut 350 system. Refer also to the Guide to Safety for more information. References are to other chapters in this guide:

- Modular safety system SecuritBasic (p. 102)
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- Foldable working platform KAB 190 (p. 82)
- Foldable working platform BKB (p. 84)
- Fall protection, walkway brackets, guard railing posts, safety mesh (p. 85)



Heavy Duty Formwork for Civil Engineering

Project Profile

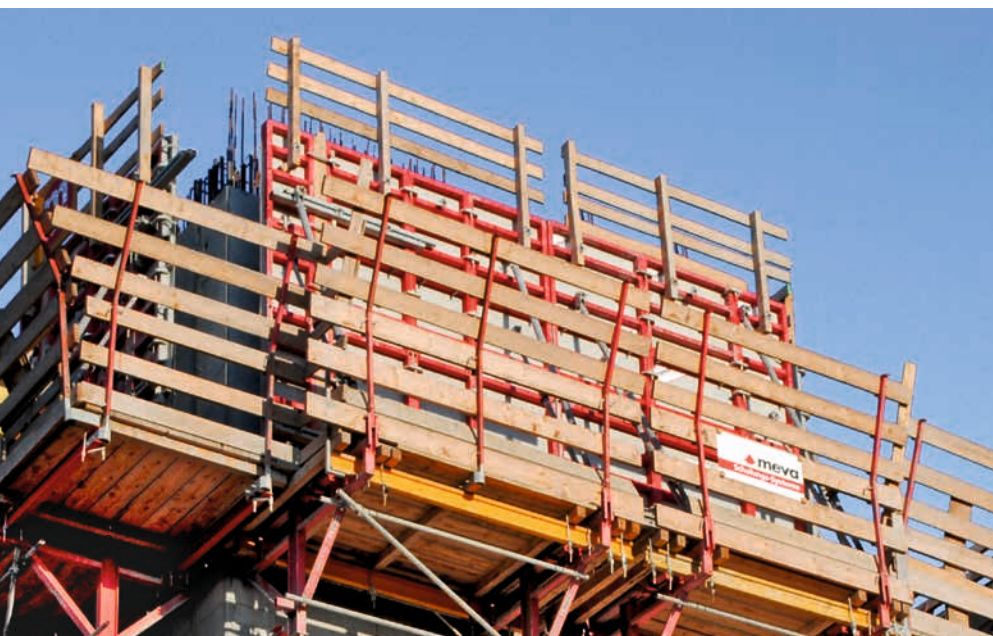
Fast, high pours thanks to the load capacity of 100 kN/m² for

- Civil engineering
- Infrastructure
- Industrial construction
- Architectural construction

Building types

Flexible, time and labour saving work with efficient, large pour cycles and high pour speeds for

- Bridges
- Tunnels
- Water works
- Power plants
- Industrial facilities

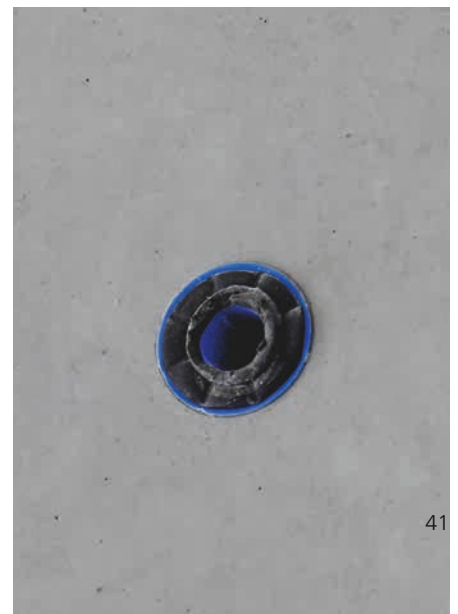


Mammut 350

The 100 kN/m² Wall Formwork



Thanks to its all-plastic, 100 % wood-free facing and its symmetric tie-hole and joint imprint, the Mammut 350 system is ideal for projects with high demands on the concrete surface finish.





Saving Time, Saving Money

Your advantage: fewer parts, no unnecessary looking for parts saves time and thus money.

Attachments

All attachments of parts are achieved using the same flange screw addressing the welded-in DW thread on the multi-function profile. Walkway brackets are equipped with a pin which attaches to the same thread and automatically locks in safe position **1**. Safety accessories such as walkway brackets and working platforms stay in position, safely and firmly attached, even when ganged units are moved.

Panel connection

Panels are aligned and joined firmly with the MEVA clamp, closed by just a few hammer blows.

The clamp fits anywhere on the frame, thus enabling safe tying even in offset position. It has no losable parts **2**.

Easy corners

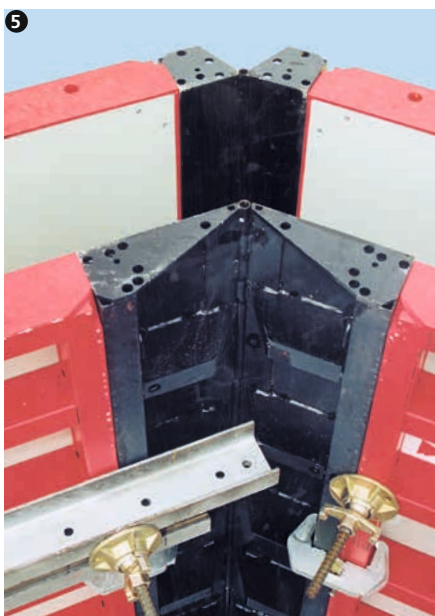
All corner above 60° are achieved with inside, outside and hinged corners **4, 5, 6**.

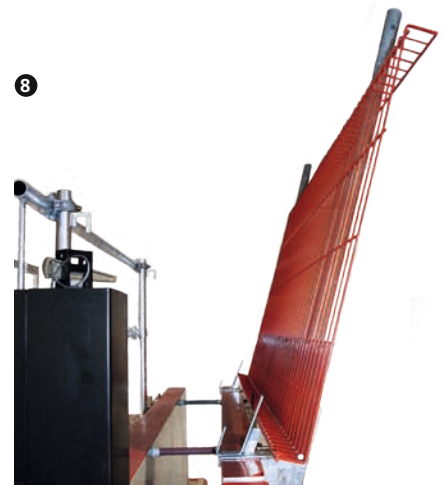
Fillers

are handled easily and efficiently up to 16 cm with filler timber plus Uni clamp **7**. Even faster: the 5 cm aluminium filler strip **9**.

Stop ends

can be done with alignment rails and tie rods **10** using a total of 10 parts, or with just one part: the stop-end bracket 40/60 **11**: Place, tie it, done!





Alignment

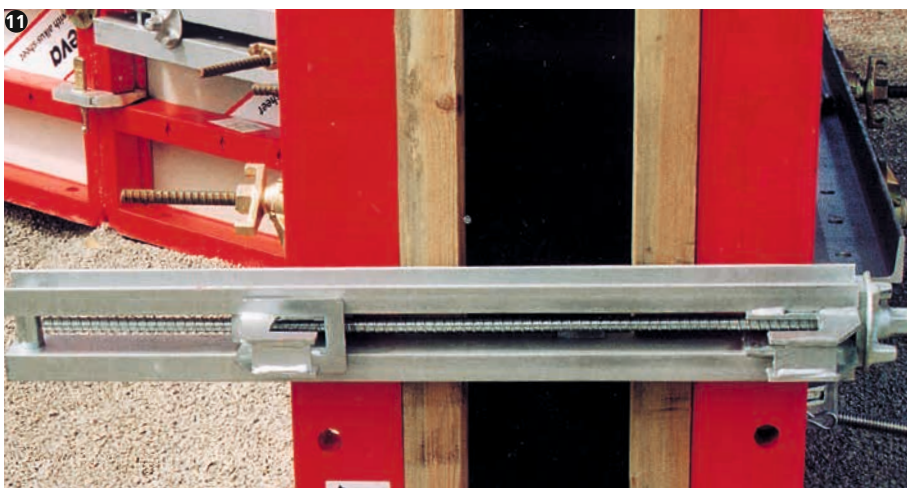
of panels is simple using a crow bar on the bump notch ⑬ which all 250 cm and 125 cm panels are equipped with.

Safe transport

Two transport holes on each side of the panel profile allow for an easy and safe lifting of single panels or panel stacks ⑫.

Cost-effective safety solution

Support 800 takes up a guard railing post and a safety mesh in a slanted position which enables you to complete the pour even with big concrete buckets. This is a cost-effective fall protection for the side of the formwork facing the working platform ⑧.





Radius: The Fast Circular Solution

Compatible mit Mammut 350

The new MEVA circular formwork Radius is a complete system for all round walls from a radius of 250 cm and compatible with the wall formwork Mammut 350. The panels are joined in the same, well-known manner with just a few hammer blows using the clamp (M-assembly lock) ①.

- Easy follow on to straight walls.
- Same method of working, simple logistics.
- Fast, efficient assembly.

Concrete load capacity 60 kN/m²

The formwork's load capacity of 60 kN/m² enables Radius to be used for high walls, fast pours and fast pour cycles.

Only 0.53 ties per m²

The use of Dywidag 20 ties and walers to take up concrete pressure allows for a very economic ratio of only 0.53 ties/m².

Radius sizes			
Widths (cm)	Heights (cm)		
	150	300	350
	250	250	250
	125	125	125
	240	240	240
	120	120	120





Coated steel facing

Steel sheet as forming face has established itself in circular formwork systems all over the world as a reliable, robust solution. It delivers a superior concrete finish and avoids unnecessary subsequent costs, e.g. for replacing worn-out plywood facing ②.

Efficient transport

The Radius panels are delivered to the site flat, making transport by truck simple and space-saving ③.



Circular Formwork for Civil Engineering

Project profile

Round and rounded building parts in

- Civil engineering
- Infrastructure
- Industrial construction
- Architectural construction

Building types

Flexible, labour optimised and cost-saving solution for large, high pours and high pour speeds for

- Tanks
- Silos
- Enclosing walls
- Power plants
- Water works
- Entrance rampe

Radius: predestined for architectural jobs

The high-quality, coated steel facing delivers a smooth concrete finish with a symmetrical tie-hole and joint imprint on the concrete ①.





Precise setting with spindles

The desired radius is set by operating integrated spindles with a normal ratchet spanner. The setting is done on the ground and accurate to the millimetre **2**.

Pressure gauge

Critical pours that go to the limit of the formwork's concrete load capacity are best accompanied by pressure gauges that monitor fresh concrete pressure on the tie. A big plus in terms of pour safety **3**.



Simple tying

The shoe through which the tie rod is set is simple to click into place. No special tools are needed **4**!





Systematic Labour Saving

Easy reinforcement and stop ends

are set up in the same way as with MEVA wall formwork. Push-pull props and walkway brackets are attached to the welded-in DW nuts with a flange screw **1**. The offset typical with circular formwork is handled with the Radius tie-off clamp RS **2** using a DW tie rod and alignment rails.

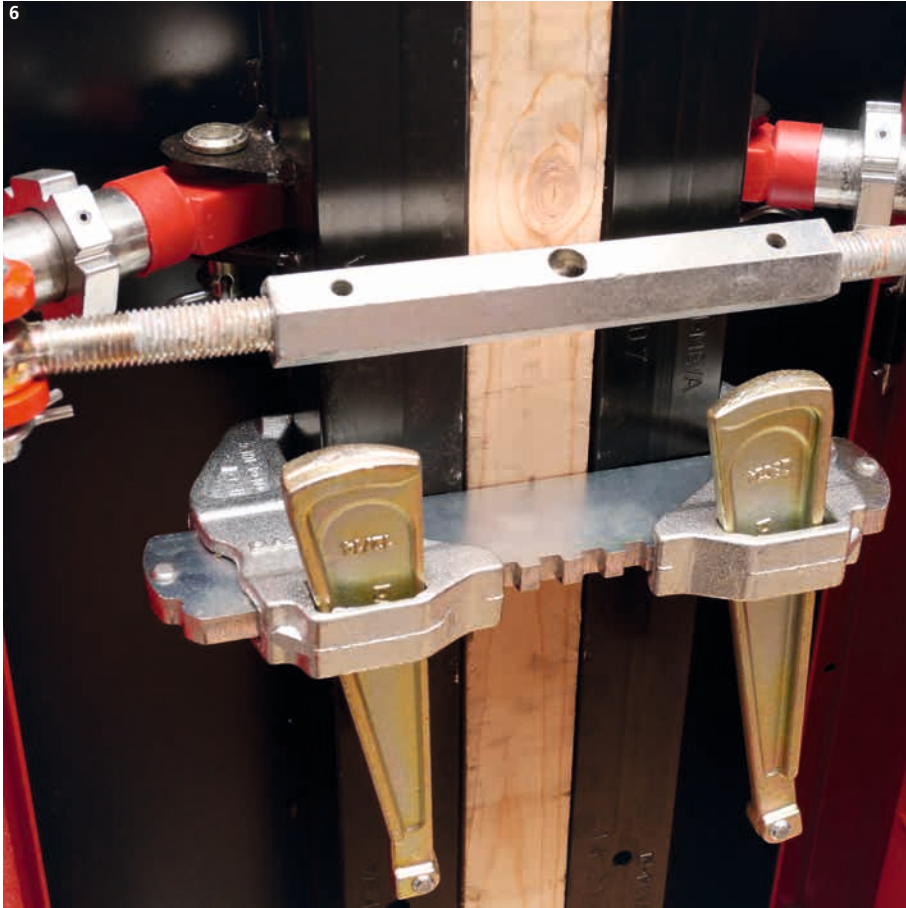


Simple attachment of boxouts with magnets

The use of high-performance magnets **3** to attach boxouts on steel facing has a long tradition on construction sites all over the world. It has proved to be reliable and quick. The magnets used in the Radius circular formwork system hold firm **4** even with high concrete pressure and very fast pours. The same is true of strips **5**.



Circular Formwork



Fillers

Simple, accurate compensation up to 16 cm with filler timber and Uni clamps **6**.

Built-in crane hook

for fast, safe lifting of the formwork using a standard crane hook **7**.

Simple height adjustment

via spindle to even out uneven ground **8**.





Push-pull props and braces

Push-pull props R

to align and prop formwork panels, used with foot plate and connecting parts

Benefits

- High push-pull load capacity
- Standard connection with the flange nut 18, no additional parts needed.
- Flexible, but always identical connection to the multi-function profile on all MEVA wall formwork panels.

Braces SRL

with right-hand and left-hand turning spindle and revolving middle part, for easy and safe aligning and propping of wall formwork panels.

- Brace SRL 120 (90-150 cm)
- Brace SRL 170 (120-220 cm)
- Brace SRL 245 (220-290 cm)

Brace frame 250

comprising a push-pull prop R 250 (190-320), a brace SRL 120 (90-150 cm) and a double hinged foot plate. Attached to the multi-function profile's welded-in DW nut using connector joint and flange nut 18 ①.





Triplex: Heavy-Duty Braces

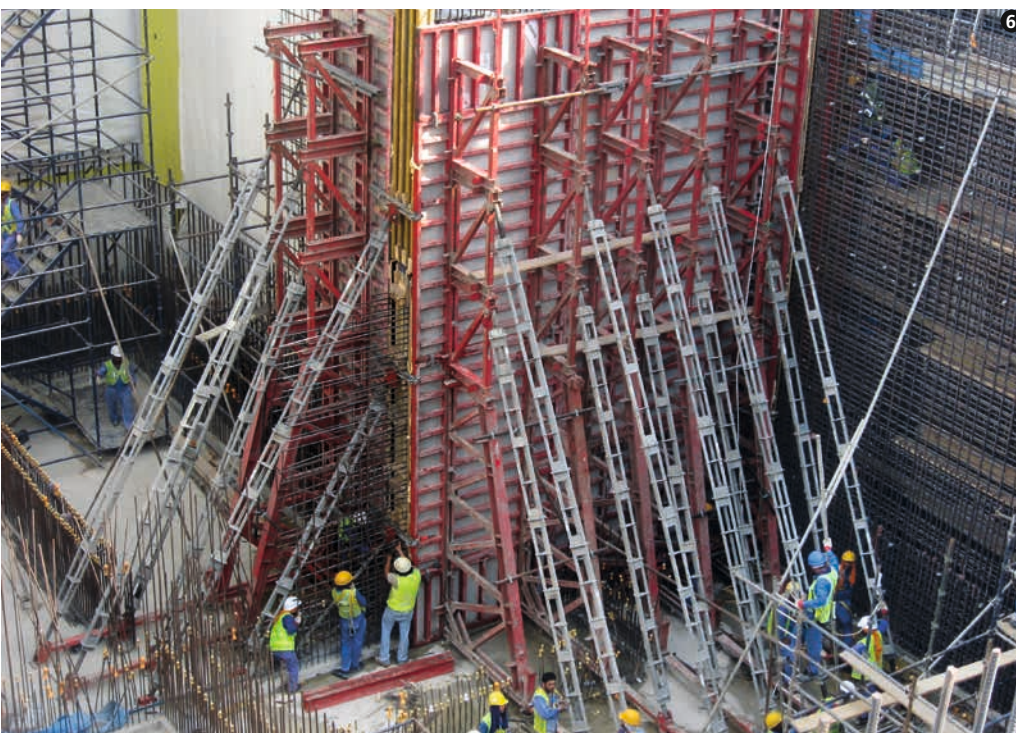
Heavy duty bracing and propping system for high setups beyond 6 m and between formwork **2**, for very high walls or standing building parts **3**, for cantilevering slabs **4** or floating balconies **5**.

Modular system: prop lengths can be adapted by combining parts of the system to the desired length.

Triplex R is designed for wall formwork and SB for additional loads that arise when support frames STB 450 and extensions STB 150 are used **6**.

Benefits

- Sturdy and robust for absolute safety at great heights.
- Combined flexibly.
- Cost-effective and fast to assemble.
- Can be used both for vertical and horizontal propping.



Circo: Round Perfection

Circular column formwork Circo

Circular columns are a prominent architectural feature in structural and civil engineering projects. Since concrete cosmetics are rarely admitted, the demands on the concrete finish (architectural concrete) of circular columns are high.

System benefits

- 300 cm basic units and 100 and 50 cm extensions cater for all column height in 50 cm steps.
- Coated steel facing for a perfect concrete finish.
- Only one part needed to close the forms: the MEVA clamp.
- Accurate ganging thanks to turned connecting flange.
- Used with MEVA wall formwork Mammut 350, Circo is perfect for rounded wall ends.
- Diameters in 5 cm steps from 25 to 80 cm.
- Easy attachment of push-pull props.

Integrated safety

- Working platform with safety hatch.
- Integrated safety ladder access.

Circo unit sizes			
Diameters (cm)	Heights (cm)		
	50	100	300
	25	25	25
	30	30	30
	35	35	35
	40	40	40
	45	45	45
	50	50	50
	55	55	55
	60	60	60
	65	65	65
	70	70	70
	75	75	75
	80	80	80



Circular Column Formwork



Simple, fast assembly

Circo comes to the site in two half shells which are closed using the MEVA clamp.

- Easy to join to straight walls.
- Same connecting method, identical parts.
- Simplified logistics, no special tools.





CaroFalt: Fold it, Wheel it, Done.

Safety for high column pours

CaroFalt is a foldable and movable column formwork with access platform, integrated ladders and safety cages that comply with international safety standards.

Efficient design

CaroFalt consists of four identical hinged panels like wind mill vanes. This makes assembly very simple.

CaroFalt can be used with or without Chamfer strips to form either sharp or exactly beveled edges. This way, the access platform and ladder do not have to be assembled and dismantled again and again. Once attached, all accessories remain at their position.

System benefits

- Height extensions added from below saves dismantling and re-fitting safety gear.
- Fixed working platform with safety access.
- Close and open panels with a spanner.
- All-plastic facing alkus for superior concrete finish for all pours.
- Easy closing and joining units with the MEVA clamp.

Roll on wheels to the next pour

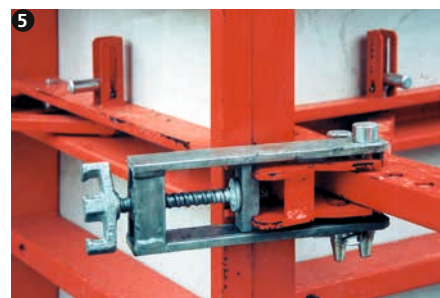
The complete unit can be wheeled to the next pour by adding on wheels. The complete unit is moved to the next level in a single crane lift.



Heights

	Basic units	
	270	360
	60	60
	120	120

Column Formwork



Fresh concrete pressure 100 kN/m²
for fast, high concrete pours and column cross-sections from 20 to 60 cm.

Easy height adaptation

Working platform and safety access remain in place on the basic unit **1**. Basic units 270 and 360 cm high **2**. Height adaptation through extensions added from below **3**. No dismantling and re-fitting. Extensions in 60 cm and 120 cm heights allow for column heights in 30 cm steps. Join basic unit and extensions easily and quickly with the MEVA clamp.

Setting the cross section

The tape allows setting the column square or rectangular cross section in 5 cm steps **4**.

Easy-to-use spanner

for time-saving and simple opening and closing of the column formwork **5** even from the ladder access.

Superior concrete finish

thanks to the all-plastic facing alkus suited for architectural specifications **6**.

Edges

Sharp or bevelled edges are achievable using chamfer strips.



Space: Efficient and Safe at Great Heights

Very high vertical building parts like piers or columns call for a safe and cost-effective alternative to conventional shoring systems. MEVA's shoring tower Space does the job. The tower units have a square footprint of 480 cm, which makes the shoring tower very stable at any height. The units are pre-assembled and bolted together at ground level. The tower is built from 300 cm high units which can be extended by 50 cm and 100 cm extension units. Space provides the necessary formwork bracing with just a few standard parts and, at the same time, serves as a working platform for rebar or concrete pours at heights above 35 m.

System benefits

- Planking with access hatches.
- Large working and storage space.
- Align and prop the formwork inside the shoring tower, additional propping not required.
- The shoring tower is safe for high wind loads.
- Suited for columns or piers beyond 35 m.
- Height extensions are simple and easy.





Space

Shoring Tower

Simple assembly

on the ground in safe conditions. The shoring tower can be moved as a complete unit or in sections to the next pour, allowing for efficient pour cycles and reduced inventory.

Propping

inside the shoring tower.

Integrated safety

All-round worker protection on each working platform, integrated safety ladder and access hatch.



Single-Sided Solutions from 30 cm to 13.50 m

Wherever foundation plates, slab edges, cantilevering slabs or beams for slab edges need to be poured or single-sided walls ask for cost-effective solutions, MEVA offers a comprehensive portfolio of products and technologies covering heights from a few centimetres to 13.50 m. Safe, fast work, high quality and stability and a superior concrete finish are your major benefits.

The product range:

- Trestle for beams UZ 30/40
- Stop-end rail MFS
- Stop-end bracket MFS
- Brace bracket SK 80
- Brace bracket SK 150
- Support frame STB 300
- Support frame STB 450

Walls up to 13,50 m high

The STB 300 support frame is usable for pouring heights up to 3,30 m. The larger STB 450 support frame allows for pour heights up to 5 m and can be flexibly extended in increments of 150 cm for heights up to 13.50 m. No time-consuming assembly and disassembly is required for height extensions.

Fits on any truck

Being only 245 cm deep, the STB 450 is ideal in confined spaces and fits on any standard truck.

STB 300: Horizontal use for cantilevers

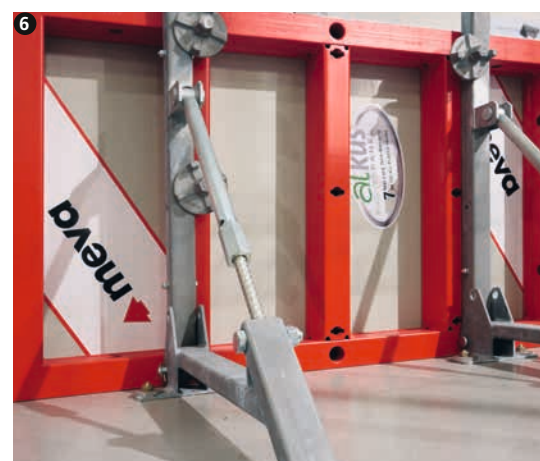
The support frame STB 300 can also be used in a horizontal position to support cantilevers.

Brace brackets SK

The SK 150 brace bracket is used to form floor slabs up to 150 cm strong – also on sloped ground. The SK 80 brace bracket can be used for heights up to 80 cm.

① Large, ganged Mammut 350 panels, supported by support frame STB 450 plus 150 cm extensions and Triplex heavy duty props ②. STB 300 for pour heights up to 3.30 m ③, or in horizontal position for cantilevering building parts ④. Brace brackets SK 150 ⑤ and SK 80 ⑥ for small walls and foundation slabs.







Stop-end bracket

Features

- Continuous height adjustment and easy adaptation to the formwork
- Off center diagonal: possible to use longer tie-rods without sawing them off

- Plug-on for guard railing posts and safety mesh (worker safety)
- Simple anchoring with MFS anchor sleeves for DW 15 tie-rods and nail-on plug

Stop-end Rail

Features

- Robust and stable
- Continuous, easy adjustment to formwork
- Plug-on for guard rail posts (worker safety)
- Simple anchoring with MFS anchor sleeves for DW 15 tie-rods and nail-on plug



Refer to p. 66 for more information on FormSet anchoring products.



Trestle for beams UZ 40/30

Sturdy stop-end trestle UZ 40/30 for beams, independent of forming used. Suitable for precast or integrated concrete beams up to 75 cm. The trestle can be nailed to H20 beams, attached with H20 wedge clamps or attached to the beams using a tensioning device, retaining rail and height extension for larger beams.



Brace bracket SK 80

Ideal and proven as a stop-end on vertical or slanted foundation slabs edges up to a height of 80 cm. Easy to adjust, robust design.

- For panels with height 80 cm
- Plastic nailing bar
- For slab edges or foundation slabs
- Adjustable to the exact mm for slanted edges up to $\pm 15^\circ$



Brace bracket SK 150

Ideal and proven as a stop-end on vertical or slanted foundation slabs edges up to a height of 150 cm, for tunnel construction and very heavy foundation slabs. The positioning support SK makes it simple to adjust, level and position the stop end even on a sloped surface. The brace bracket is used with push-pull props SRL 120 or SRL 170.



The STB 300 support frame is used vertically to pour a wall against rock.

Support Frame STB 300

Used in single-sided applications for walls up to 330 cm with standard or special formwork, or horizontally as an abutment support.

Features

- Achievable heights 220 or 300 cm for single-sided walls up to 330 cm
- Sturdy, robust steel design
- Quick, easy attachment of formwork panels using a fixing nut through the tie-hole or a flange nut on the multi-function profile
- Flexible transport to the next pour, either by crane or on the floor using a pulley when no crane is available (e.g. in tunnel projects)

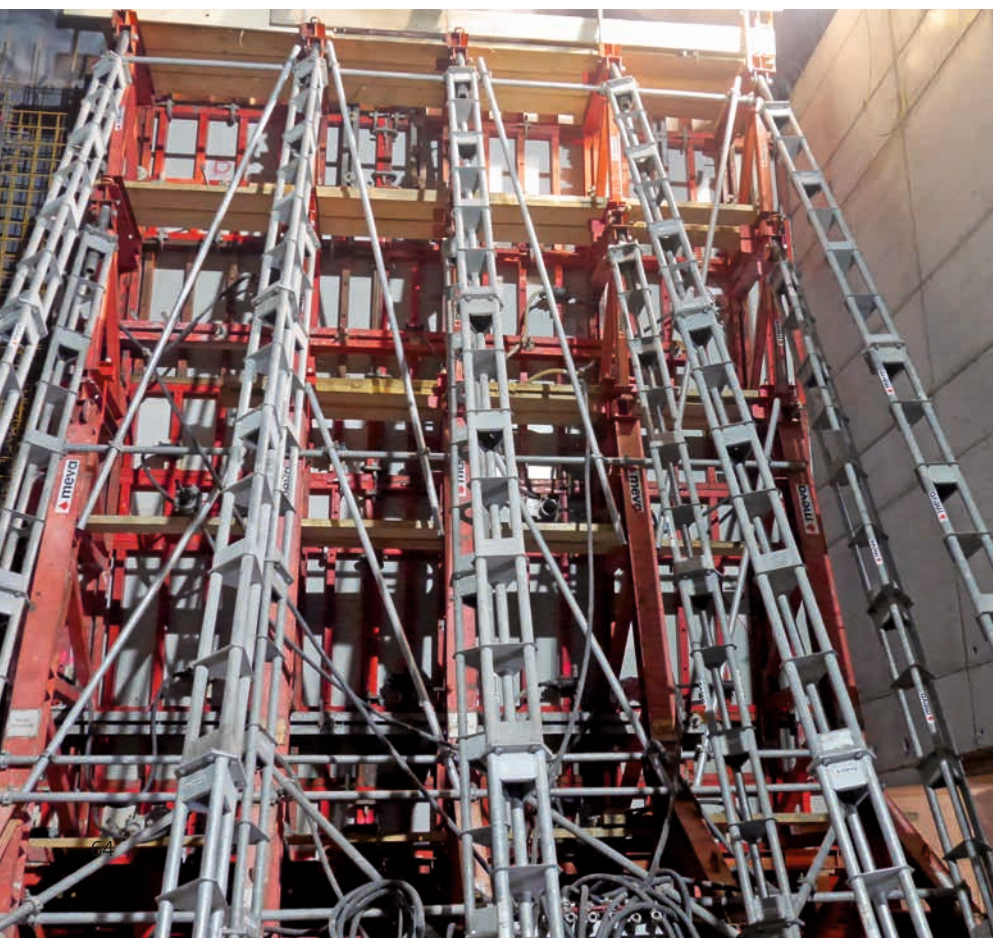
Sizes STB 300 and STB 450				
Heights (cm)	Product		Sizes (cm)	Pour heights
	STB	300	300 x 200 (HxD)	up to 3,30 m
	STB	450	450 x 245 (HxD)	up to 5,00 m
	Extension	150	150 x 111 (HxD)	> 12,00 m



Horizontal application: Suspended from the top of a tower the support frame STB 300 carries the load of a cantilevering construction. Extension rails are attached for a safe working platform.

This dam wall along the Danube river required a forming solution for a 4.50 m high, 1 m thick wall without ties.





Support frame STB 450 und Mammut 350 wall formwork on a single-sided pour against bed-rock for a sloping canal and flood protection dam wall.

Jungbach power station in the Swiss alps: high walls poured using self-compacting concrete in very cramped conditions. The support frame was extended three times to achieve the 9 m height.

Support Frame STB 450

For single-sided pours up to 13.50 m

Modular design with simple 150 cm extensions. Heights beyond 650 cm require the use of heavy duty braces Triplex to support the frame.

Heights

- Support frame STB 450: 450 cm
- STB extension 150: 150 cm
- Up to 500 cm – STB 450
- Up to 650 cm – STB 450 + 1 extension 150
- Up 800 cm – STB 450 + 2 extensions
- Up 950 cm – STB 450 + 3 extensions
- Up to 11 m – STB 450 + 4 extensions
- Up to 12.50 m – STB 450 + 5 extensions
- Up to 13.50 m – STB 450 + 6 extensions

Features

- Base depth of only 245 cm: the support frame fits on any truck, is easy to transport or use in confined building spaces
- Sturdy heavy-duty steel frame
- Movable with crane or trolley as a complete, assembled unit
- Stop end bracket SB 110 allows a adjustment for walls up to 110 cm thickness
- Easy to use planking for working platform.





FormSet spiral anchor

Anchoring in floor or slab

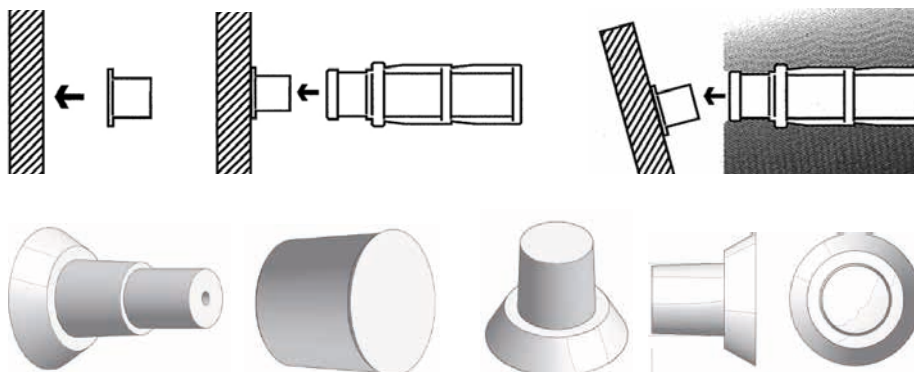
The spiral anchor is pushed into the freshly poured concrete of a floor or slab. Once set, the anchor takes a normal DW tie rod to safely fix the MFS shoe which takes guard railing post and safety mesh.



The plastic anchor sleeve

No rust. Easy to place, easy to use.

The anchor sleeve makes attaching the stop-end rail or bracket safe and fast. It is rust-free and made of high-density plastic. The first 2 cm are unthreaded, so the tie rod can be aligned easily. A nail holder helps attach it to the facing. It also automatically removes the nail when pulled out.



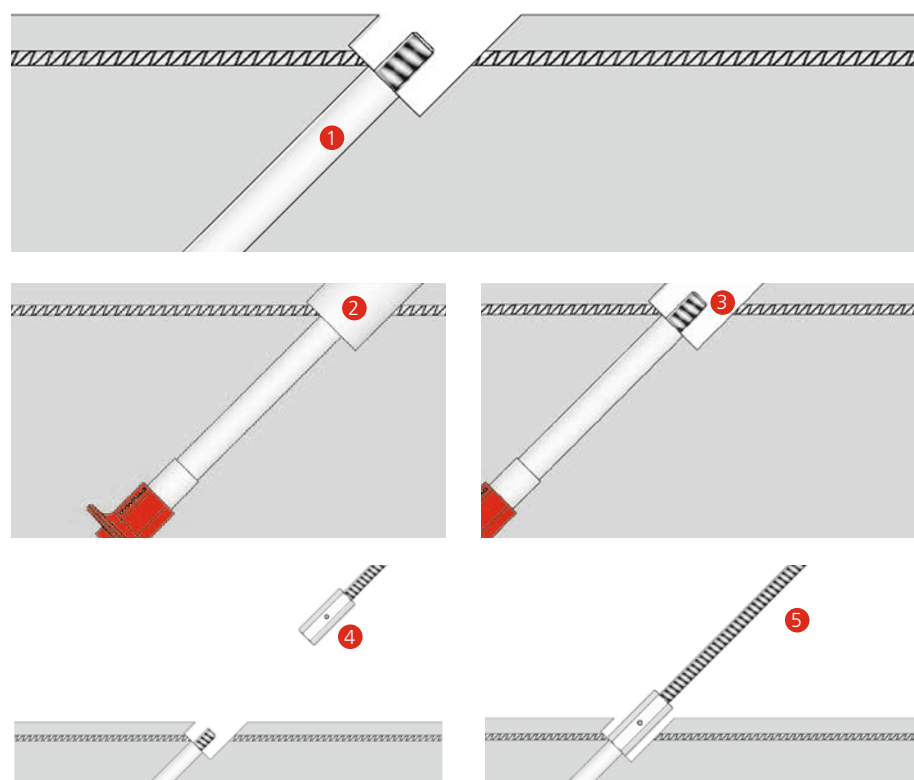
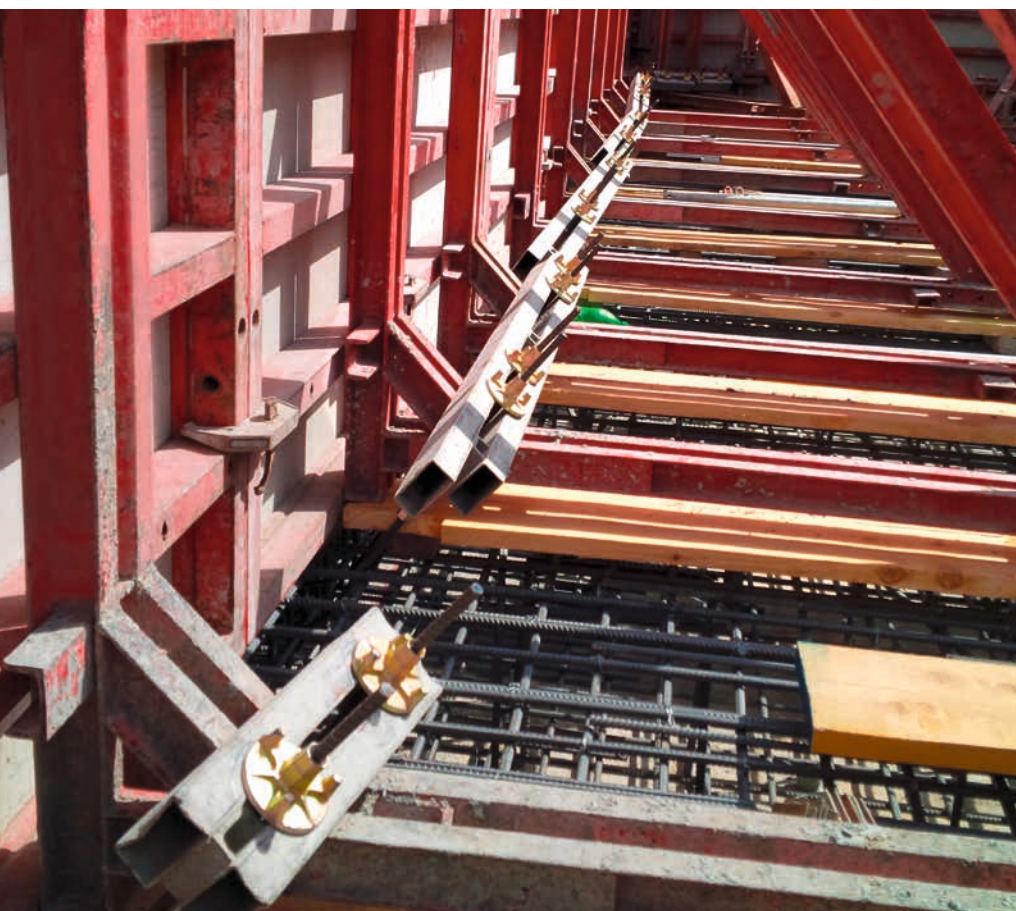
Anchoring range for single-sided formwork

Single and double anchors from the MEVA Form-Set range serve to anchor support frames to the floor slab at a 45° angle. The anchors are attached to the lower rebar in the foundation or floor slab.

A DW fixed anchor holds the tie rods in the concrete with anchor holders. Anchor holders are bent by 45°. A plastic sleeve allows the tie rod to be removed from the concrete and re-used.

Intelligent solution with planing cap

The planing cap leaves behind a smooth surface when anchoring single-sided formwork. If an anchor sleeve is also used, the tie rod is not lost but can be regained and re-used. Using planing caps and anchor sleeves saves time, work and money.



- ❶ The anchor sleeve protects the anchor.
- ❷ The planing cap is placed onto the end of the anchor thread before the pour.
- ❸ During the concrete pour, the planing cap simulates a flush surface and leaves an even surface without protruding tie rods that hinder work.
- ❹ After the pour, the planing cap is removed and the tie rod attached with a union nut to the anchor.
- ❺ Anchoring for the support frame is ready.

MevaDec: The Labour Saver

Flexible in all directions

MevaDec offers a flexible answer to nearly any slab task in one system, even for slab thicknesses of well over 30 cm. The system parts can be carried by one worker by hand with ease. The sturdy aluminium panel frame and all-plastic facing alkus are easy to handle and deliver a superior concrete finish.

No fixed grid

The system has no fixed grid, the free directional positioning of beams and panels and the ability to slide the panels over and beyond the prop head reduce filler areas and on-site efforts to a minimum, saving time and money.

Quick, simple and safe assembly

Panels with widths of 40, 60, 80 and 160 cm and lengths of 80 and 160 cm ensure that filler areas are always smaller than 20 cm. Easy handling comes thanks to the system's stability when setting up the panels in the primary beams. Assembly is possible from below or above.

MevaDec sizes: panels				
	Lengths (cm)			
Widths (cm)	40	60	80	160
	80	80	80	
	160	160	160	160

MevaDec sizes: beams				
	Lengths (cm)			
Primary beam	80	160	210	270
Secondary beam	80	160		





For all Slab Thicknesses in Construction

System benefits

- Light and sturdy aluminium panel frame.
- All-plastic facing alkus GM gives the panel additional stability.
- Assemble and strip by hand.
- Easy, safe assembly from below or above.
- Only two prop heads for all slab methods: patented drop-head for early stripping and the MD prop.
- No fixed grid: reduces filler areas.
- Change forming direction to adapt to slab layout.
- 3 methods in one system, either with facing integrated in panel or separate facing.
- Safety: the number and position of props is determined by the system.





3 Methods in One System

Three slab forming methods are covered by MevaDec and can be switched and combined without limitations:

1 Drop-head-beam-panel method: This method uses primary beams, props with drop heads and panels with integrated facing. Grid-free and easy adaptation to building layout. Fast assembly and disassembly. Early stripping possible.

2 Primary-and-secondary-beam method. Primary and secondary beams, props with drop head and separate facing. This method is ideal when the slab formwork and facing need to be adapted to varying geometries. Early stripping possible.

3 Panel method with only 2 components: panels with integrated facing and props with prop head. No early stripping. Ideal method for small slab areas where early stripping is no benefit.

The site can switch from one method to the other, combining them freely, depending on the requirements.

↓ Drop head for early stripping. The patented drop head lowers the primary and secondary beams by 19 cm. Beams and panels (or separate facing) are removed and used for the next pour.





7 Year Long-Term Warranty on the all-plastic facing alkus

- No rotting
- No warping
- No discolourations
- No loss of flexural rigidity
- Resistant to UV rays



Flexibility at its best. Fewer filler areas save time. Even irregular slab edges are achievable with few compensation areas. Less on-site effort saves time and money. Clear to see: the simple connection with conventionally formed slab areas.



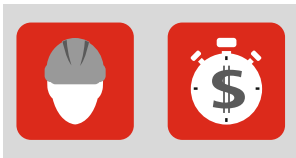
Safety First

Simple, effective edge fall protection

A guard railing post is fitted to the panel or the beam with a simple clamp device. It takes up the protective mesh which is a simple but effective fall protection on MevaDec.

Working from above for better ergonomics

Sliding in MevaDec panels from above rather than above head is an effort and time saving method. Labour is reduced by up to 20 %. The MEVA SpanSet fall protection is linked to two concrete blocks which are attached on top of the MevaDec panels. The European safety authority DEKRA confirms that this method works safely only on the all-plastic facing alkus that is standard in all MevaDec panels. Refer to page 108.



Saving Labour

Easy handling

The panel all have an ergonomic grip profile, making it easy to pick up and carry them, even when wet. Shown here, the large format 160 x 160 cm panel.

40 % less inventory

Fewer parts and early stripping can reduce formwork inventory by up to 40 %. This saves time and labour for handling and logistics



Carriage for moving MEP shoring towers under very high slabs.

Simple, effective solution for filler areas and beams. Comprehensive solutions for all slabs available from the MEVA prop range, shoring systems, load towers and safety access.

MevaDec requires only two prop heads for all three methods: the patented drop head and the prop head.





MevaFlex: The Proven Single Part Method

MevaFlex is a conventional and versatile girder slab forming method using a separate facing (e.g. 3S plywood facing, alkus all-plastic or another facing) that is placed on H20 beams supported by props or shoring towers.

The position of girders and props is not fixed as with a slab formwork system but needs to be detailed and then verified on site. The system's key benefit is its easy adaptation to different and varying layouts, especially in the case of irregular geometries, specific load cases and varying slab thicknesses. For further details including assembly and calculation examples go to www.meva-international.com.

MEVA 3S plywood facing

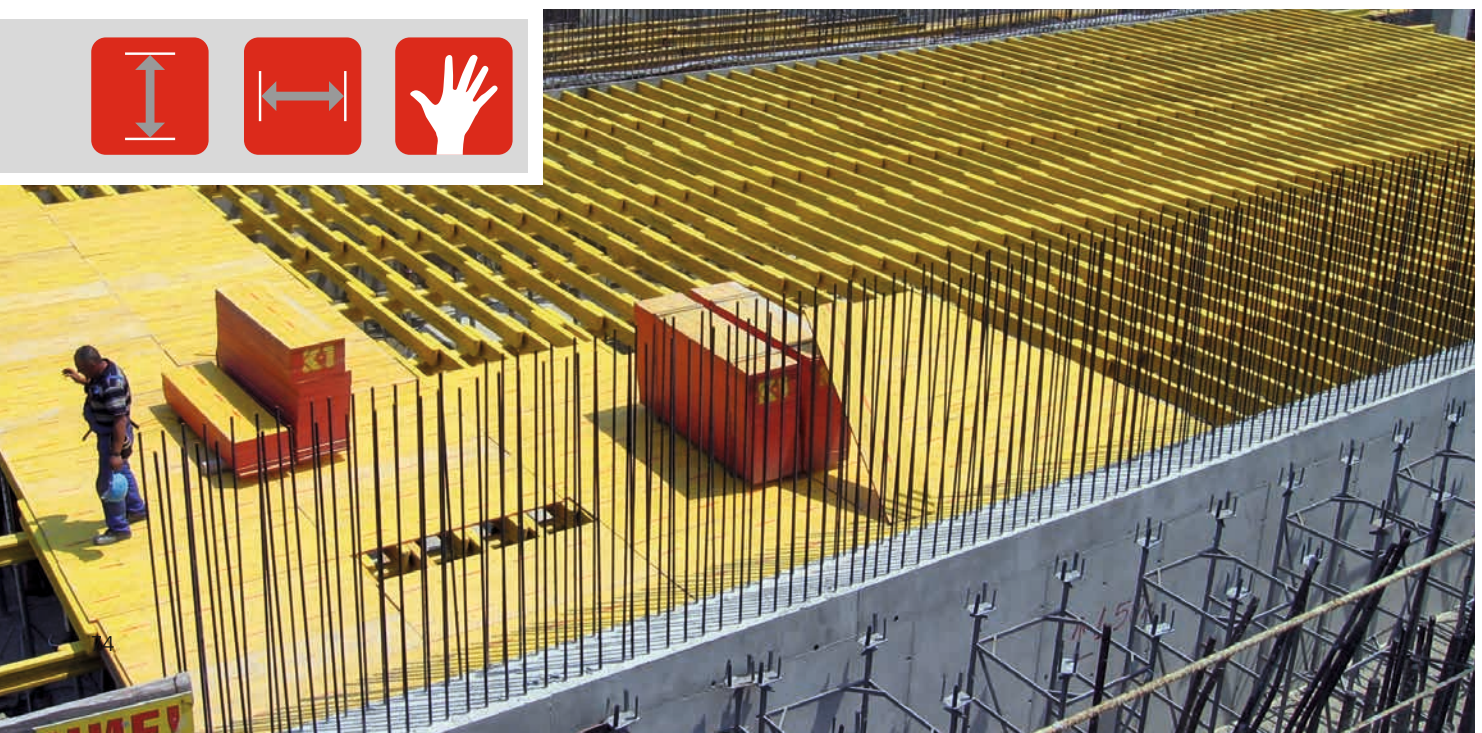
The 21 and 27 mm thick plywood sheets consist of three layers of plywood glued together and coated on both sides with water-repellant phenolic resin. Edges and sides are sealed throughout. The sheets offer good stability and a smooth, absorbent forming surface.

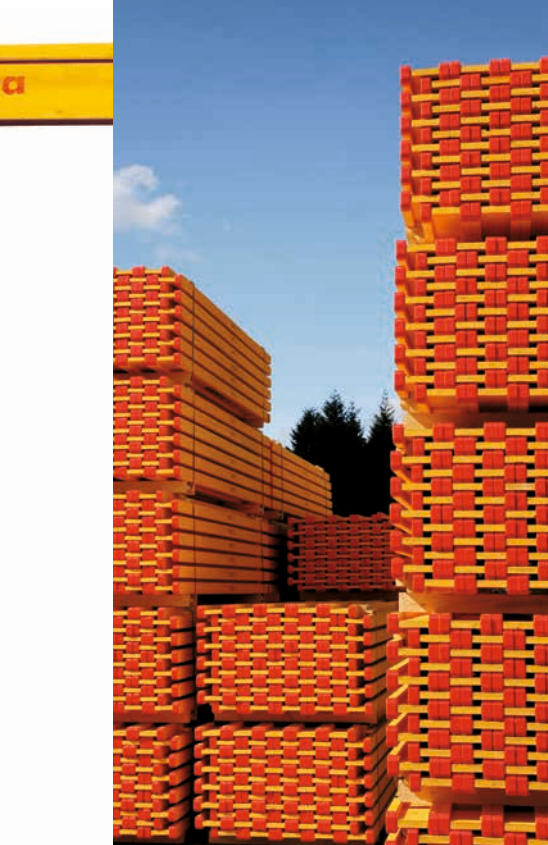
- 21 mm sheet: 10.0 kg/m²
Flexural rigidity: 40 N/mm²
- 27 mm sheet: 12.5 kg/m²
Flexural rigidity: 35 N/mm²
- Adhesive bond: glued crosswise, deck and inner layers glued, no concealed edge bands, longitudinal edges do not break.
- Edges and sides sealed, coated to repel water.
- Phenolic resin coating: 130 g/m².
- Elasticity module (median): 10,000 N/mm².

MEVA H20 beams

Robust multi-purpose wooden beams that are used as main and cross girders. They can be cut to any size and supported as required. The MEVA H20 beams offer a high load capacity and weigh only 4.6 kg/m. Plastic caps protect the ends.

- Solid 3-layer wood for load-bearing support in outside areas. Deck and inner layers glued, standing annual rings.
- Wood moisture: from +12 % to – 3%.
- Adhesive bond: Adhesive I based on phenolic resin, solid wood, finger-jointed and glued according to DIN 68140-1.
- Sorted, class S10 according to DIN 4074
- Cut and planed (left beam edge), edges bevelled to approx. 4 mm.
- Impregnated with water-resistant varnish.





MevaFlex

Girder Slab Formwork



The beam connector H20 is a gentle, fast and safe method of connecting H20 beams without using nails.

MEVA EuMax props

Comprehensive range of props with lengths from 150 to 550 cm for universal applications. Quality certified according to DIN ISO 9001. High-quality galvanized finish. Load capacity specifications according to European standard DIN EN 1065, classes D and E. Load specifications see page 77.

The MEP shoring system

is a modular system and used to support the MevaFlex slab system in great heights up to 21 m. The MEP shoring towers can be equipped with planks, ladder access and access hatches for safe working conditions even at great heights. Refer to page 78.

Triplex heavy duty props

can be used as a modular, vertical propping solution for heavy loads and great heights. Refer to page 51.



EuMax Prop Range from 90 cm to 550 cm



Comprehensive range of props from 90 to 550 cm for universal use. Quality certified according to DIN ISO 9001. Galvanized finish.

Safety certified

Load capacity specifications according to the European standard DIN EN 1065, class D and E. Admissible loads vary depending on extension. Maximum load capacity for class D at any extension is 20 kN, for class E it is 30 kN. Higher loads according to type certifications are possible, refer to the table.

Load capacity for any extension

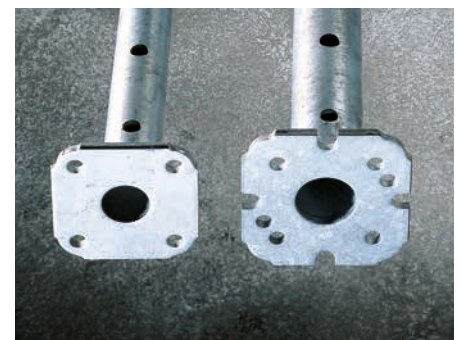
- 150 cm EuMax prop 30/150 with 30 kN
- 250 cm EuMax prop 30/250 with 30 kN
- 300 cm EuMax prop 20/300 with 20 kN
- 350 cm EuMax prop 30/350 with 30 kN
- 400 cm EuMax prop 20/400 with 20 kN
- 450 cm EuMax prop 30/450 with 30 kN
- 550 cm EuMax prop 20/550 with 20 kN

System benefits

- Hand injury protection thanks to the inner tube stopping 10 cm short of the outer tube
- Self-cleaning outer thread
- Large range for fine-setting
- Setting ring (nut) in steel
- Inner tube protected from sliding out

← The MEVA prop range EuMax with 150, 250, 300, 350, 400, 450 und 550 cm.

↓ Foot plates show load group specification (class D and E) and avoid assembly errors.





Ref. No.	Product	Description	Extension	Load capacity, full extension		Load capacity/extension (max)	Weight
				Outer tube on ground	Inner tube on ground		
	Prop class E						
29-907-46	EuMax prop 30/150	Galvanized. Complies with European Standard EN 1065, class E. Load capacity is 30 kN for all extensions.	90 – 150 cm	37.0 kN	37.0 kN	37.0 kN / 150 cm	10.4 kg
29-907-51	EuMax prop 30/250		152 – 250 cm	47.0 kN	47.0 kN	47.0 kN / 250 cm	18.1 kg
29-907-61	EuMax prop 30/350		202 – 350 cm	31.2 kN	33.4 kN	47.0 kN / 290 cm	23.0 kg
29-907-62	EuMax prop 30/450		252 – 450 cm	31.5 kN	34.3 kN	41.3 kN / 420 cm	32.4 kg
	Prop class D						
29-907-36	EuMax prop 20/300	Galvanized. Complies with European Standard EN 1065, class D. Load capacity is 20 kN for all extensions.	177 – 300 cm	20.6 kN	23.6 kN	39.8 kN / 200 cm	16.9 kg
29-907-41	EuMax prop 20/400		232 – 400 cm	21.2 kN	25.0 kN	37.0 kN / 340 cm	23.8 kg
29-907-45	EuMax prop 20/550		302 – 550 cm	21.8 kN	23.9 kN	41.3 kN / 450 cm	38.0 kg
	Accessories						
29-206-40	Forked prop head 20	Galvanized. Supports formwork girders H20					3 kg
29-905-52	Tripod 120	Galvanized, 120 cm high. Stabilizes props Ø 48 to 80 mm. Ideal for high props. The turnable legs allow for position along walls or in corners.					17.7 kg
29-905-50	Tripod	Galvanized. Stabilizes props Ø 48 to 80 mm. The turnable legs allow for position along walls or in corners.					12.2 kg
29-907-00	H20 beam clamp	Galvanized. For intermediate props under H20 girders. Attach to MD or ME props with pin 14/90.					0.8 kg

Depending on the use of MEVA formwork systems, the load capacities specified in the Technical Instruction Manuals must be observed.



MEP: The Safe, Fast, Labour Optimised, Modular

The solution for shoring at height. Avoids forests of props. Makes work simple and safe using fewer and always the same parts. Safe and fast with the patented MEVA quick-lowering system SAS.

Single props can be linked up to form a sturdy, flexible shoring tower. Easy height adaptations to

- support slab formwork at any height
- support slab tables
- support beams, balconies, cantilevering building parts and prefabricated units.

System benefits

- All slab heights from 1,85 m to 21 m supported with just two prop types.
- Few basic parts, less inventory, simplified logistics: prop, extension and frame.
- Proven adjustment system for prop heights: peg and pin the approximate height, fine-tune with setting ring on the outer prop thread.
- Optimised in terms of labour and effort: labourious spindling avoided.
- Easy to draw in the prop to the pegged pin position, e.g. when using a carriage to move an MEP tower underneath high beams.
- Variable diagonal crosses available for prop spacings from 90 to 300 cm: simple size adaptation.
- Tube coupling can be attached anywhere on the MEP profile, scaffolding tubes Ø 48 mm attachable anywhere.
- System planking available with automatic safety setting for safe working conditions at any height.
- Safety access available.
- Carriage option for moving large MEP tower units without a crane.



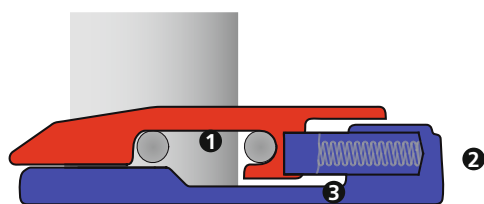


Shoring System

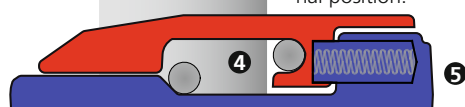
Patented Quick-Lowering System SAS

takes the load off the prop with only one single hammer blow:

- Labour optimised: no spindling under load.
- Reduced effort.
- Inner tube on every prop easily adjustable to compensate for uneven ground.
- Attachment to reinforcing frame with rapid connector that is operated by hammer.
- Safe connection visible at a glance: the pin's horizontal position shows safe connection.



Inner tube with holes for rough adjustment via G-hook (1), setting ring for fine-tuning. Load taken off prop (4) with one hammer blow. (2) When removed, the prop automatically (5) resets (3) and locks in original position.





LAB 130: The Fast Working Platform

Safety has top priority when a scaffold for masonry works is erected. Other demands are

- fast to use
- efficient transport
- compact storage
- few platform types for different building geometries

The working scaffold LAB 130 meets all these requirements. It is a practical working and safety scaffold which is delivered in stacks and ready to use. The LAB 130 complies with the German standard DIN 4420 and has an admissible load capacity of 300 kg/m².

System benefits

- Read to use from the stack: Fold up guard rail, lift by crane, lower platform, pull up, mount the platform. Ready to go.
- Built-in stacking device and slide protection for easy transport.
- The working platform LAB 130/240 and connecting platform fit crosswise on any truck, the stacking height is only 30 cm
- Platform lengths of 340 and 240 cm; variable crescent corner platforms.
- Choose between scaffolding shoe, sling or tube assembly.
- Working platform with slip-protection aluminium corrugated sheet on galvanized steel frame.
- Protective mesh integrated in guard railing for worker safety.
- Extensions available for guard railing post with protective mesh – safety for roof works.
- Connecting platform 240 for compensation areas of up to 200 cm.
- Crescent-shaped corner platform caters for all building angles.

↓ Easy, safe solution for all building corners and angles: the crescent-shaped corner platform.



LAB 130

Working Platform



→ The FT adapter allows the LAB 130 to be used as a safe working platform on prefabricated building parts.

→→ Guard railing post extensions enable the LAB 130 to be used as a safe working scaffold for roof works.



The Fast, Light Safety Platform

Safety is a key factor on every building site and especially so for working scaffolds. However, modern scaffolding systems also have to fulfil the demands for efficient transport and rapid on-site handling. The working platform KAB 190 is a practical working and safety scaffold with fold-up guard railing and integrated planking. It complies with DIN standard 4420. The working platform KAB 190 can be used as a working scaffold or, with formwork set up, as a climber.

System benefits

- Fold up the guard railing and start the crane lift: the automatic gravity setting ensures safe set up when bringing the platform into position.
- No assembly on site: Lift from the stack and move into working position.
- No nuts and bolts, no losable parts.
- 190 cm wide working platform for comfortable work and space for formwork.
- Sling attachmend for working loads up to 3 kN/m²: simple attachment when used as a working platform.
- Climbing cone used for working loads up to 3 kN/m²: functions as a climbing scaffold with formwork up to 4.25 m high.
- Only 25 cm high when folded: easy, space-saving transport and fast handling: 8 platforms and up to 28 m ready-to-use scaffold per truckload.
- Functions as a safety and fall protection scaffold on roof works with suspension attachment 100
- Platform lengths of 350 and 225 cm plus corner platforms cater for every building and angle.





Every KAB platform has an integrated attachment rail with 4 DW threads for setting up push-pull props: safe and fast connection with the standard flange nut.

The platform width of 190 cm offers sufficient space for safe work, even with formwork assembled. The corner platforms cater for any building angle.





Everyday Safety Equipment

MEVA foldable working platforms, walkway brackets and scaffold carriages add safe working conditions to the formwork setup.

Working scaffolds come as pre-assembled units or are assembled on site. They are grouped into working scaffolds that are mounted on the formwork, working scaffolds attached to the building itself and movable scaffold carriages. They all provide safe working conditions for formwork

assembly, rebar works and concrete pours. It may be necessary to mount scaffolds on more than one level on the formwork.

Foldable working platform BKB 125

MEVA working platform for safe work, simply hooks on to the AluStarTec or Mammut/Mammut 350 panels.

Foldable working platform BKB 125/140

for inside corners and compensation areas. A BKB 125 guard rail and 2 flange nuts 18 are the only parts required for a safe setup.

Guard rail BKB 125

functions as a simple, effective front protection on all working platforms or as a back fall protection on the BKB 125/140. It is fitted to the BKB with 2 flange nuts.



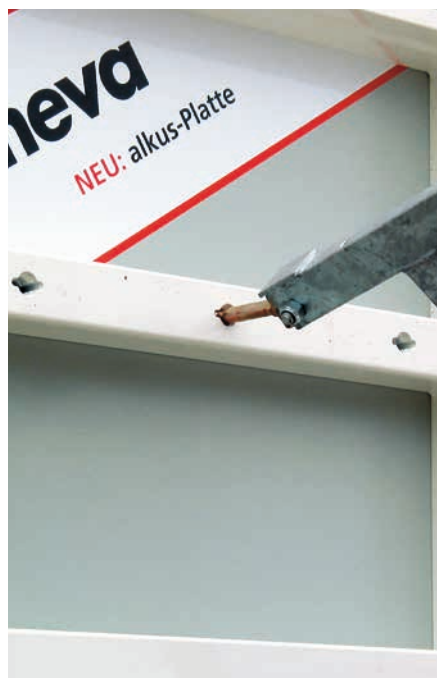
Walkway bracket

is used to mount a working and safety setup to the formwork. Its safety pin simply plugs into the welded-in DW nut on the multi-function profile and automatically locks. The bracket is then firmly attached to the lower multi-function profile. Planking is fitted onto the walkway bracket. Working areas of 90 cm and 125 cm are available. A guard railing post fits onto the bracket for the protective mesh.



Cost-effective fall protection

The special adapter 800 holds the protective mesh in a slanted position, allowing sufficient space for pours with large concrete buckets. It is a simple, but effective fall protection solution on the side opposite the working platform.



Alu carriage scaffold

A foldable aluminium carriage that serves as a safe, flexible working scaffold. It takes a load of 1 kN/m² (100 kg/m²) including the person working on it and measures 180 x 80 cm.



KLK 230: Multifunctional Safety Solution

The climbing scaffold has one major task: allow the advantages of large-format formwork to be used in great heights without any safety hazards. To achieve this, the formwork is attached to the climbing scaffold. A secondary platform can be attached below the climbing scaffold and formwork. The climbing scaffold KLK 230 consists of climbing brackets, wall struts, platform and guard-railing. It serves as a support platform for wall formwork.

KLK 230 project profile

- industrial and civil engineering
- high-rise buildings
- bridge and infrastructure projects

Multifunctional climbing solution

MEVA's climbing scaffold KLK 230 combines several functions in one system:

- Safe working scaffold
- Support platform for wall formwork
- Tiltable climbing formwork
- Climbing solution for formwork with a slide carriage
- Climbing solution for single-sided formwork

A slide carriage allows the formwork to be moved back from the poured wall. The platform and the formwork remain connected to each other. The platform is 230 cm wide and offers sufficient working space even when a slide carriage is installed and used.

System benefits

- Working platform with 230 cm wide working area for safe work in great heights.
- Sturdy design, can be ganged for large climbing units, saving crane time.
- Climbing shoe with +/- 3 cm leverage for easy and safe assembly.
- Working platform with integrated support shoe for free standing formwork; safe assembly of panels with MEVA clamp.
- Climbing scaffold with fixed tiltable formwork
- Formwork mounted on a fixed carriage with a movable path of 70 cm: easy movement of formwork and large working space for formwork and rebar works, working platform and formwork moved together in a single lift





The climbing platform KLK 230 consists of climbing brackets, wall struts, platform and guard-railing with fall protection. The wall formwork is assembled on the climbing platform.



MAC: Automatic Climbing

Fast, Precise and Safe

MAC stands for automatic, crane-independent climbing technology in high-rise construction. In combination with the guided screens system MGS for subsequent slab works, MAC is a high-profile safety solution with worker safety guaranteed by its completely closed housing on every working platform. MAC is distinguished by extreme safety requirements and resistance to very high wind velocities, proven on landmark high-rise projects such as the City of Dreams, Macau, the Roche Tower in Switzerland and the World One Hotel in Singapore.

MAC combines safety and speed with precise adjustment.

The system's inner and outer formwork comprises pre-assembled panels. A three-way adjustment allows for a completely independent adjustment of the panels in each direction, ensuring greatest possible accuracy. The suspended panels can be moved and adjusted by hand.

Fast cycles: steel concrete works + 1 day

The lift of 4 m takes only about 60 minutes. This results in fast cycles with a „steel concrete works plus one day“ schedule, the system can be operated by small teams. The MAC's long-stroke and heavy-duty hydraulic system is equipped with safety features such as a non-return ratchet that locks on each cylinder and avoids hazards during the lifting process.

MAC Project profile

- Shafts and cores in high-rise construction
- Combined climbing of shafts and walls, following up with the guided screens system MGS for subsequent slab works.
- Great heights and high wind velocities.
- Strict safety specifications.
- Ambitious building schedules.



MEVA Automatic Climbing

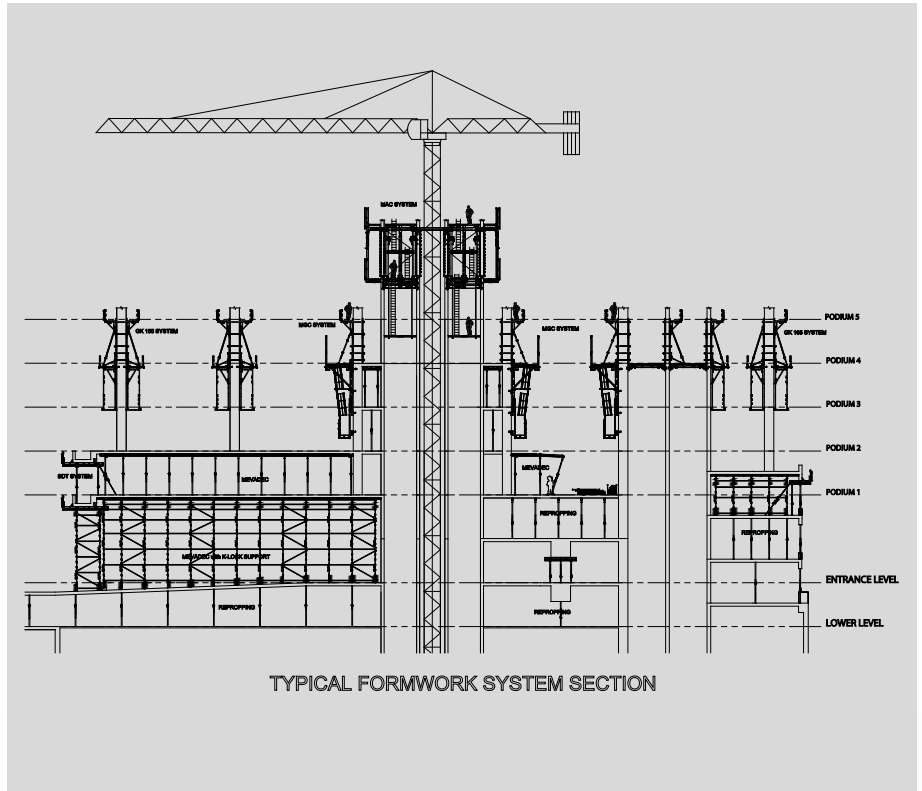


The hotel tower City of Dreams in Macau, China, designed by internationally renowned architect Zaha Hadid climbing on schedule to the day. The completely enclosed working platform is visible.

The hydraulic lift system is simple to operate with only small building teams.

System benefits

- Crane-independent climbing, no crane time and capacity required.
- Independent of weather conditions.
- Parallel works for tight scheduling.
- Fast work flow: concrete works plus one day per level.
- Top level is free of climbing gantries: improved safety, better utilisation of space.
- Manually retractable facing shutters: easy, fast opening of formwork by hand and without special tools.
- 3-way adjustment of shutters for top accurate setting.
- High-performance hydraulic ram enables 4 m lift (20 t per cylinder) for one pour cycle per level, fast work progress
- Safety valve on each cylinder for safe hydraulic lift operation.
- Pockets for climbing beams can be re-used: cost effective.
- Climbing beam rests in concrete that has already set: added safety feature.
- Working platform with safety access: safe, comfortable access area for workers and material.
- Completely enclosed working platform for worker safety, sight and weather protection.



TYPICAL FORMWORK SYSTEM SECTION



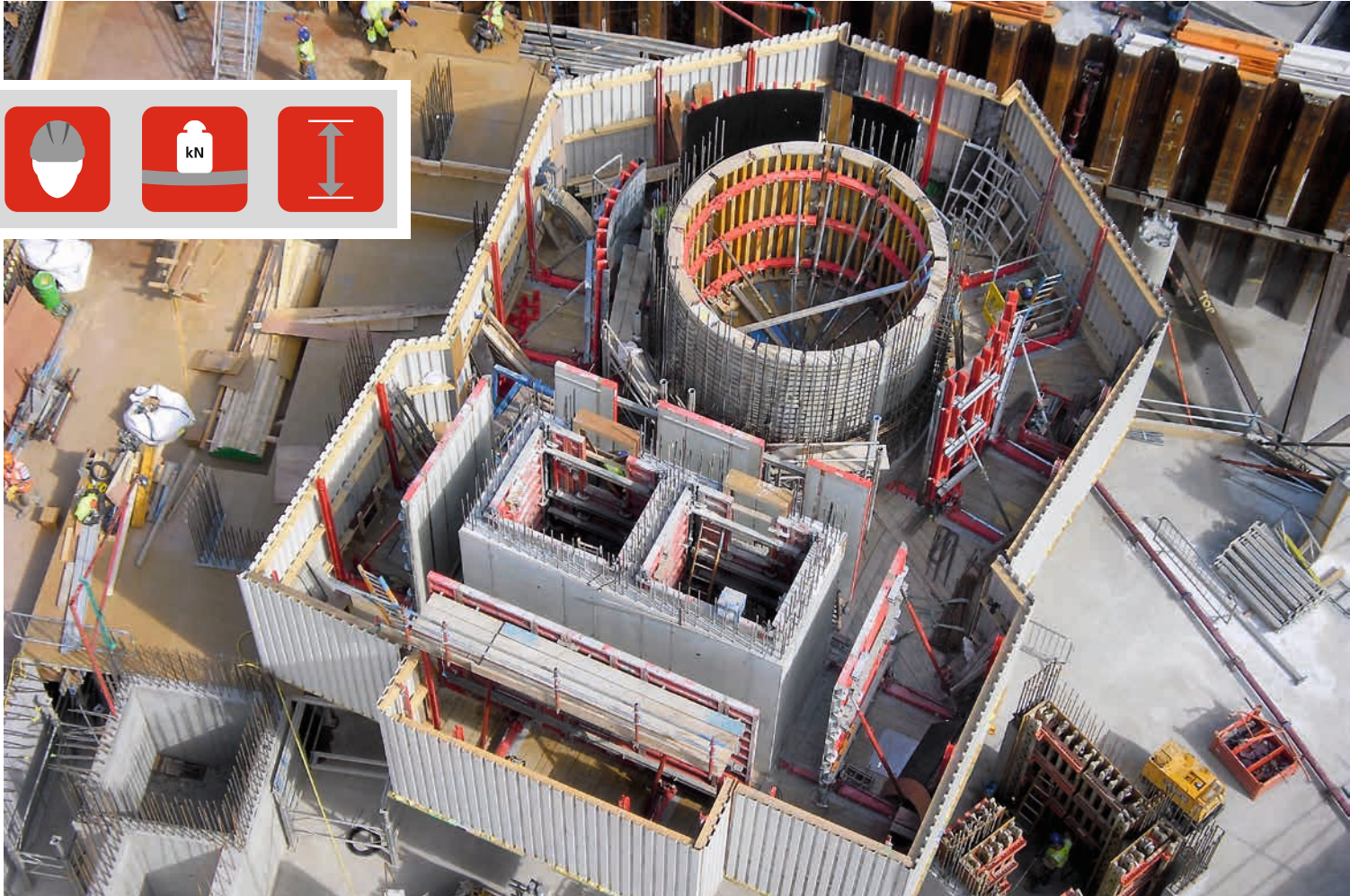
MEVA Automatic Climbing



References

**Projects with MEVA automatic climbing
MAC:**

- WINX The Riverside Tower, Frankfurt, Germany, BAM International
- Roche Tower, Basel, Switzerland, Marti Bauunternehmen
- City of Dreams, Macau, China, Bouygues/Dragages
- Ardmore Park, Singapore, Dragages Bouygues Batimat International
- The Al Manara Tower, Dubai, United Arab Emirates, Al Nekhreh Contracting Co. LLC
- Burswood Tower, Perth, Australia, Crown Construction (Pty) Ltd.
- Maze Tower, Dubai, United Arab Emirates, Al Rostamani Pegel
- Capital Square Tower, Perth, Australia, Brookfield Multiplex
- King Square 4, Perth, Australia, ProBuild
- Grass Tower, Quezon City, Philippines, Megawide Construction Corporation
- The International Quarter, Stratford, Great Britain, Byrne Bros. Limited
- Al Attar Tower, Dubai, United Arab Emirates, Al Fara'a Construction
- 50th Flinder's Street, Adelaide, Australia, Yuncken Hansen



MGC: Rail Guided Climbing. Hydraulic or Crane Lift. Safe. Fast. Flexible.

Climb with hydraulic or crane lift

MGC is the rail-guided climbing system set out for hydraulic lifts as well as conventional crane lifts.

Safe and fast assembly on the ground

MGC is safe and quickly assembled on ground level under safe and time-saving conditions. It is lifted into the rail from below and remains firmly fixed to the building throughout the building and climbing process, safe for all wind velocities and at great heights.

Climbing unit, working platform and formwork setup form a single unit

The MGC system offers a completely enclosed working platform and safe working conditions. The working platform, climber and the formwork form a single unit which climbs in one go. No separate climbing lifts are necessary.

Extensions and trailing working platforms lifted in from below

Extensions and trailing platforms for subsequent works are lifted into the rail-guided system from below. This increases flexibility and safety during assembly.

Fields of application

- Wall and shafts in high-rise construction
- Combined shaft, wall and slab works in conjunction with the sister safety system, MEVA guided screens MGS.
- Great heights and high wind velocities.
- Jobs with strict safety specifications.
- Complex building layouts



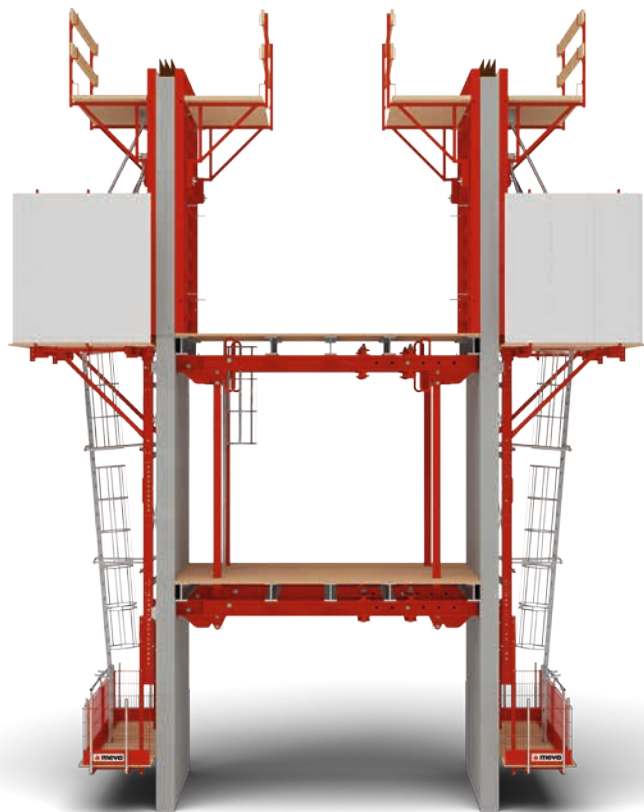
Completely enclosed working platforms offer all-round worker protection, independent of height and weather conditions.

Complex geometries with varying and offset building layouts are mastered with the rail-guided climbing system MGC, as seen here on the Limmat Tower project in Dietikon, Switzerland.



System benefits

- Climbing lift by hydraulic ram or crane lift as a cost-effective, safe climbing solution.
- Building schedule independent of weather, parallel works for on-schedule progress.
- All-round safety through closed housing on the working platform.
- Sister system MGS guided screens available for slab works.
- Modular twin system MGC and MGS: simplified logistics, easy handling.
- Always mounted to the building, fulfills strict safety specifications on all counts.
- Simple extension through trailing platforms for subsequent works.
- Integrated safety access system with fixed ladders – no second access system required.
- Safety and easy assembly on the ground.
- Starter of only 3,25 m required.
- Flexible adaptation to building layout and geometry.
- Safe work even with high wind velocities.



In combination with the shaft platform, the MGC system offers a perfect setup for climbing concrete works on walls and shafts in all high-rise construction projects. The lift is hydraulic or by crane. Trailing working platforms for subsequent works can be added in from below.





Single-sided climbing is also possible with the guided climbing system MGC, as shown here on the Liantang Tunnel project in Hong Kong.

References

Projects successfully completed with the MEVA guided climbing system MGC:

- Vue Appartments, Trinity Beach, Queensland, Australia, Novatec
- Liantang Tunnel Project, Hong Kong, Dragages Hong Kong Ltd.
- Roche Tower, Basel, Schweiz, Marti Bauunternehmen
- City of Dreams, Macau, China, Bouygues/Dragages
- Saifee Burhani Park, Mumbai, India, Noor Enterprises
- Main Pumping Station for Saadiyat Island, Abu Dhabi, United Arab Emirates, Kharafi National LLC and Al Nasr Contracting Company
- Maze Tower, Dubai, United Arab Emirates, Al Rostamani Pegel
- Limmat Tower, Dietikon, Switzerland, BAM Swiss AG, Basel
- Discovery Primea, Makati, Philippines, Datem
- Grass Tower, Quezon City, Philippines, Megawide Construction Corporation
- Palais Royale, Mumbai, India, Noor Enterprises



MGS: All-Round Protection in High Rise. Rail-Guided Automatic or Crane Lift.

Climbing by hydraulic lift or by crane

MGS is a rail-guided climbing system which is lifted from one level to the next by hydraulic ram or by crane, providing all-round worker safety during slab and subsequent works.

Safe and fast assembly on the ground

MGS is assembled easily and quickly on the ground in safe conditions. The units are then firmly attached to the building with their guiding profiles and remain safely attached to the building during the entire building and climbing phases.

Fields of application

- Safety system in high-rise construction.
- Edge fall protection during slab works.
- High wind velocities and great building heights.

System benefits

- Hydraulic or crane lifting option, depending on site and building requirements.
- Construction schedule independent of weather conditions.
- All-round safety through closed housing.

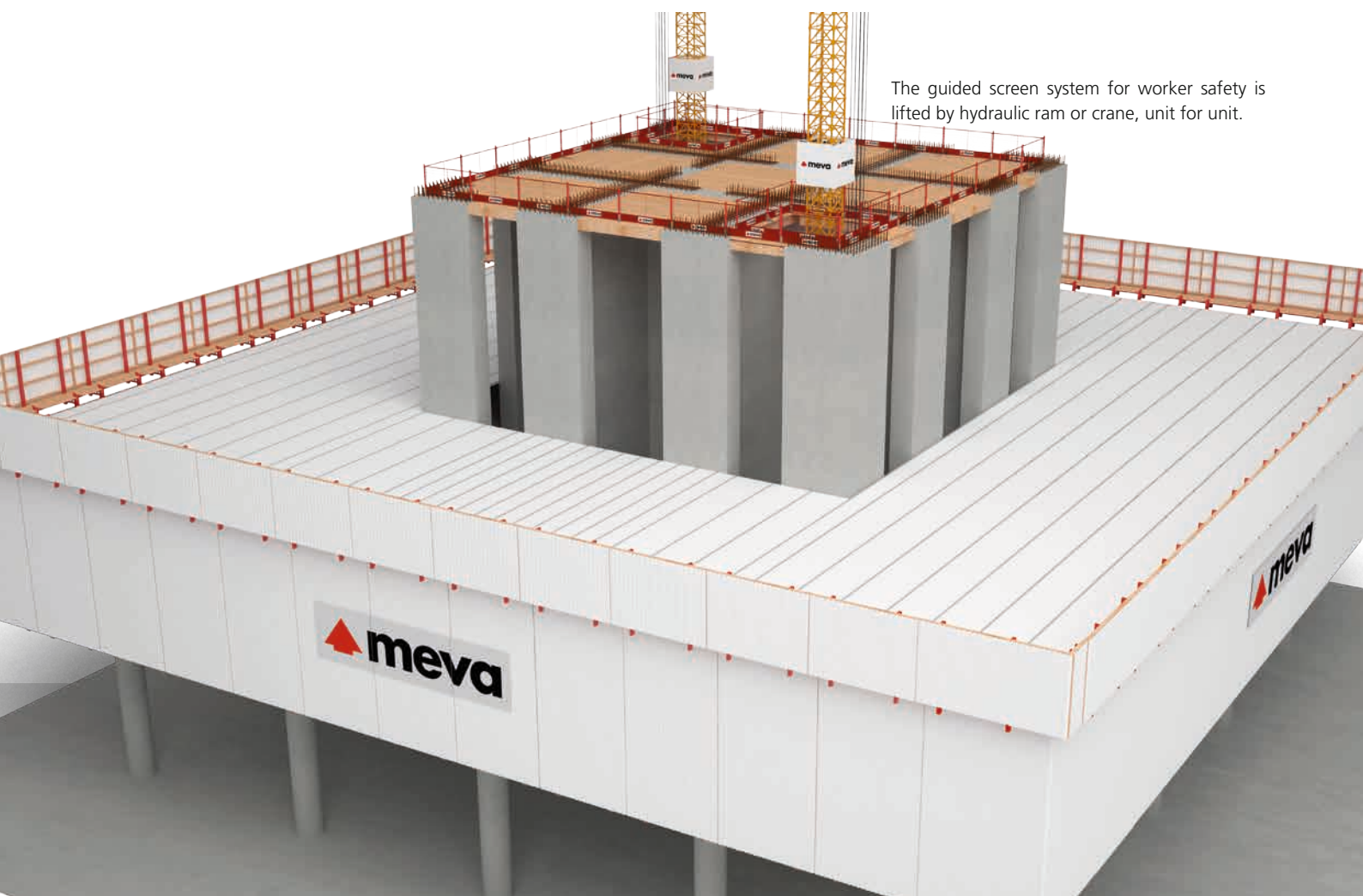
- Same climbing system as MEVA Guided Climbing for walls: simplified logistics.
- Attached to the building, complies with highest safety specifications.
- Safe and fast assembly, climbing units added from below.
- Starter of only 7.75 m required
- Free positioning of climbing rails, up to 3.60 m apart.
- Easy adaptation to building layouts.
- Safe working conditions even with high wind velocities.





The cores of the Roche Towers in Basle were climbed using the automatic climbing system MAC, while subsequent slab works were protected by MGS guided screens.





The guided screen system for worker safety is lifted by hydraulic ram or crane, unit for unit.

References

Projects successfully completed with MEVA guided screens system MGS:

- Vue Appartments, Trinity Beach, Queensland, Australia, Novatec
- Roche Tower, Basle, Switzerland, Marti Bauunternehmen
- Allianz Tower, Richti Areal, Wallisellen near Zürich, Switzerland, Allreal general contractors
- World Hotel & Residences, Manila, Philippines, Megawide
- Shang Salcedo Tower, Manila, Philippines, Megawide
- Araneta Center, Manila, Philippines, Megawide

The guide shoes are attached to the slab edge and can be adjusted. They take up the climbing rails. A check valve ensures safety during the lift.



Guided Screens



The adjustable guide shoe ensure simple threading in of the climbing rails. The exact position of the shoe is adjusted exact to the mm and can be adjusted while the lift is in progress.

Here, the guided screen system MGS is lifted unit after unit with the help of two hydraulic rams running in synch. After the lift, the hydraulic units are detached and wheeled into position for the next lift. Here, they are connected quickly and easily, so the next lift can proceed.



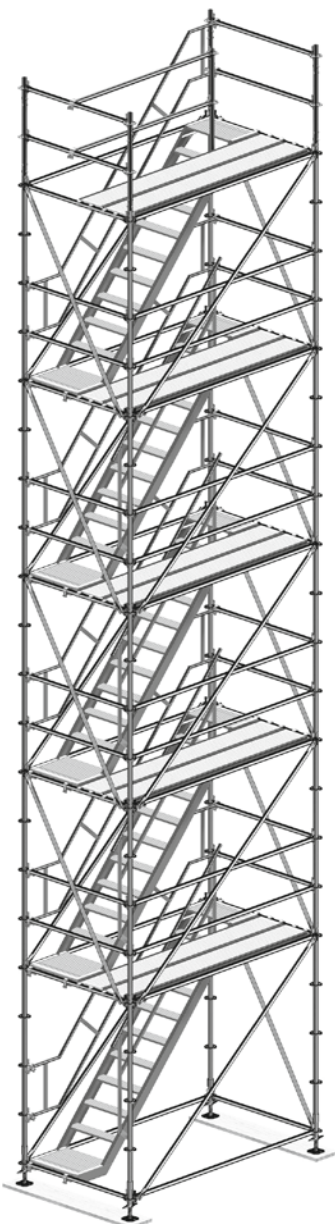


Safe Access up to 120 m

Comfortable, safe working conditions

Safe access for site staff to reach the actual working level is as important as safe working conditions themselves. If integrated safety equipment such as ladders with safety cage and fall protection on wall and column formwork is not sufficient to provide safe access, the MEVA stair tower offers a safe and yet cost-effective answer.

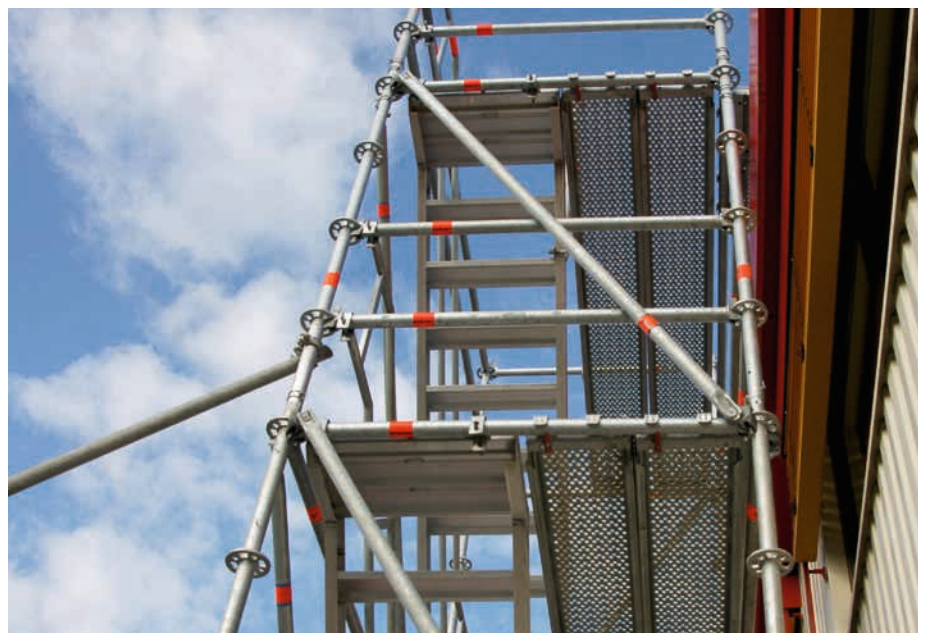
MTT is an all-in-one system for stationary access on any construction site. Its setup is flexible, easy and safe, it is assembled under safe conditions on the ground and can be extended to heights of up to 120 m without static calculation. The tower is assembled as a stand-alone solution and anchored to the building every 6 m.



System benefits

- Safe and simple assembly on the ground.
- Extendable to 120 m without static calculation.
- Identical step height, even on transition levels.
- Access on both side and front.
- Steel platforms 2.57 x 0.32 m with slip protection and integrated swing-open tilt and lift-off protection. The platforms comply with the specifications of European standard DIN EN 12811.
- Stair inside railing serves as integrated fall protection.
- Step height is 20 cm for safe, comfortable access for staff and materials.
- Load capacity: 200 kg/m².

The MTT legs have perforated discs every 50 cm to cater for 8 attachments each. Four small holes allow for attaching guard rails at right angles, four holes with larger diameters allow for attachments at any angle.





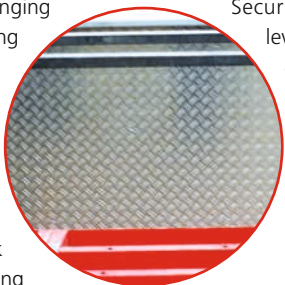
Safety per System

Comprehensive, modular safety system for MEVA wall formwork systems:

- AluStarTec
- Mammut
- Mammut 350

Four variations

SecuritBasic provides the complete worker safety set-up, put together according to the site's requirements. 4 options, ranging from simple wooden planking all the way to a slip protection aluminium working platform with automatic safety access hatch. Platform lengths from 1.25 to 2.50 m allow for an easy adaptation to the formwork setup. A 75 cm wide working platform provides safe and comfortable working conditions.



Modular System with

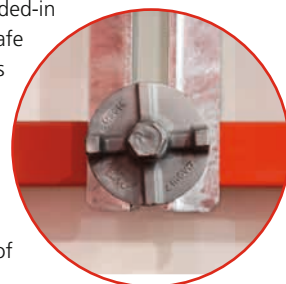
- Walkway bracket
- Telescopic access ladder
- Foldable side railing
- Front and back railing
- Corner and compensation platforms
- Aluminium platform with access hatch

Simple assembly

SecuritBasic is assembled safely on ground level and lifted by crane into position as a complete unit. A standard crane hook is all that is needed.

Attachment to multi-function profile

Like all MEVA accessories, SecuritBasic is fastened to the multi-function profile using a standard flange screw. The welded-in DW thread ensures safe attachment. No parts can slip out or slide away. No additional parts are needed. Assembly is easy and fast. Using the same parts reduces the risk of assembly errors.



Push-pull props attached to the back of the walkway bracket

A special feature of SecuritBasic is that no props protrude through or into the working surface: push-pull props are attached to the back of the walkways bracket. This contributes to safe working conditions without stumbling risks. In addition, multi-function profiles remain free for other tasks.



Plattform lengths SecuritBasic					
Widths	Lengths (cm)				
	75	250	240	135	125



System benefits

- Modular, comprehensive system from simple fall protection all the way to a maximum safety setup.
- Flexible safety equipment for MEVA wall formwork using identical attachment and assembly.
- Worker protection without any additional planning and logistics effort.
- Cost-effective all-in-one safety solution.
- Multi-function profiles remain free.
- No stumbling risks.
- The site complies with all international safety standards.

Securit stands for a comprehensive range of safety equipment for wall formwork. It comes as a modular kit (SecuritBasic) or as a complete, pre-assembled, all-in-one system (StarTec-Securit). All MEVA systems are distinguished by simple assembly, easy handling, standard safety features and safe, easy attachment of all accessories on the standard multi-function profile.





Safety All-In, Pre-Assembled

StarTec-Securit is an all-in-one safety system for StarTec wall formwork that fulfills strict safety standards.

It is delivered to the site pre-assembled and ready for use.

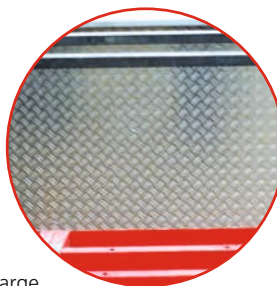
No assembly is necessary, significantly speeding up work flow and providing optimum worker protection. StarTec-Securit includes:

- Working platform
- All-round fall protection
- Aluminium slip protection platform
- Safety ladder access
- Access hatch



System benefits:

- When folded, StarTecSecurit has a height of less than 30 cm: more panels per truck, lower transport costs.
- Equipped with push-pull props plus double spindle (pus-pull prop SRL) for ganged units. Easy to align and set up.
- Access hatch closes automatically to prevent fall accidents.
- Slip-protection platform allows for safe, comfortable, working conditions.
- 90 cm wide platform allows for pours with large buckets.



- Foldable pull-up front safety railing allows for safe, fast movement.
- Front fall protection provides worker safety with single-sided formwork setup.
- Fully equipped StarTec panel 270/240 with StarTec-Securit weighs less than 700 kg: 30 % less than standard steel formwork.
- Large gangs possible with standard site lifting equipment.



Securit stands for a comprehensive range of safety equipment for wall formwork. It comes as a modular kit (SecuritBasic) or as a complete, pre-assembled all-in-one system (StarTec Securit). All MEVA systems are distinguished by simple assembly, easy handling, standard safety features and safe, easy attachment of all accessories on the standard multi-function profile.





The StarTec-Securit safety system is delivered to site pre-assembled and ready to use. Time-consuming assembly is not necessary. All safety equipment is integrated.

The formwork panel is unfolded with all safety equipment ready to use.

Folded, the panel has a height of less than 30 cm and is thus simple to stack and transport.





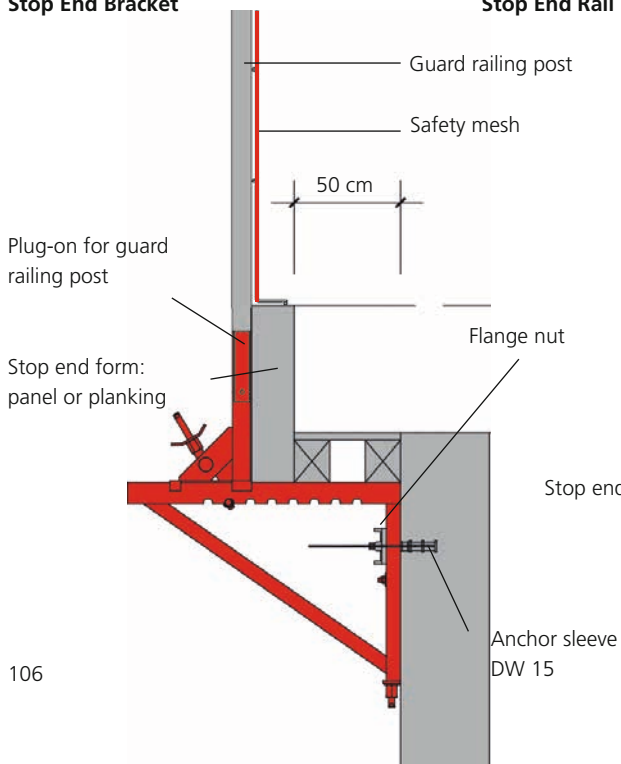
Simple, Effectice and Safe: MEVA FormSet Edge

The safety requirements for all slab works are clear: edge protection is mandatory and can be simple yet effective, as the MEVA FormSet options show.

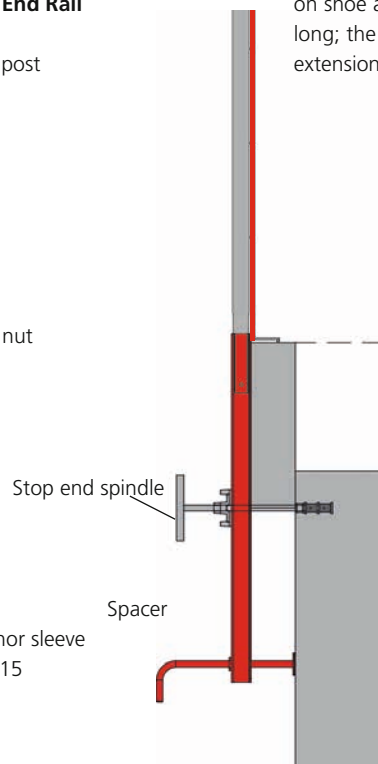
Stop ends at slab edges are formed using the stop end rail or bracket (for cantilevering slabs). Both are simple to equip with a safety mesh which complies with the European standard DIN 13374 and has an impact capacity of 500 kg. Assembly is simple and fast.



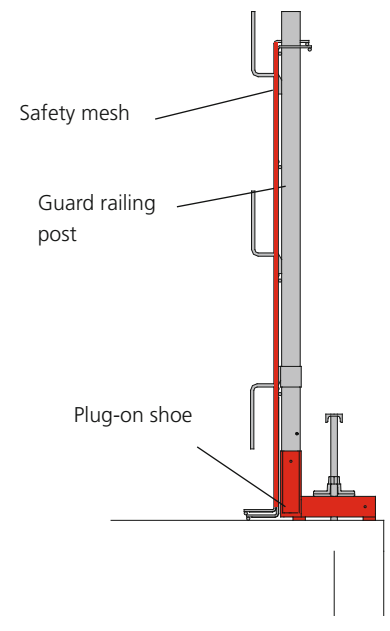
Stop End Bracket



Stop End Rail



MEVA guard railing post secured at the slab edge with plug-on shoe and equipped with safety mesh, 130 cm and 260 cm long; the basic height of 115 cm can be extended with 60 cm extension guards.

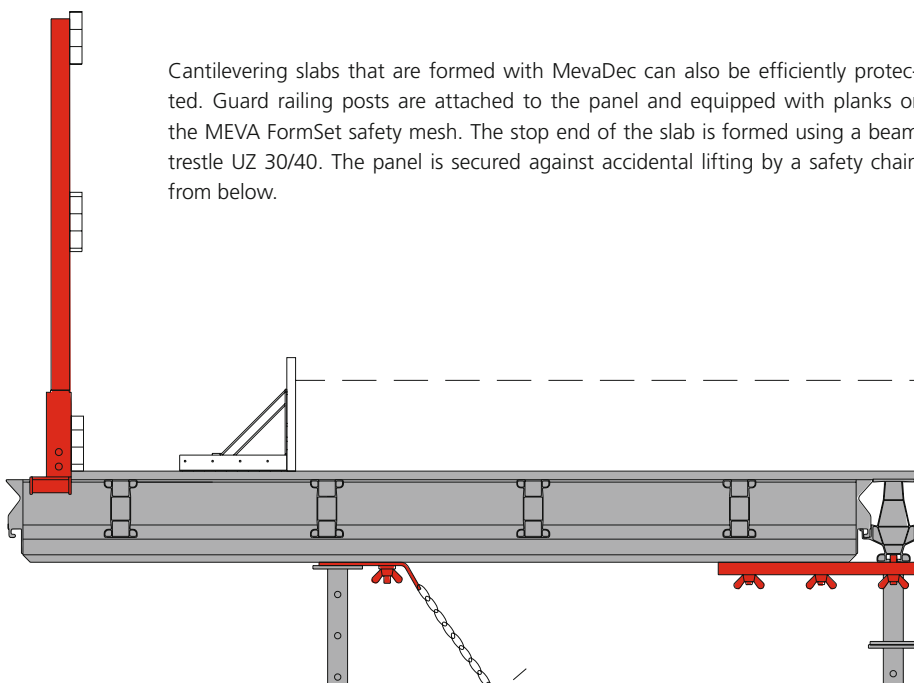




Protection with Safety Mesh

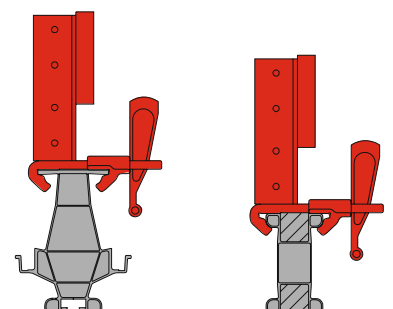


Standard edge protection with guard railing post on MevaDec slab formwork panels



Cantilevering slabs that are formed with MevaDec can also be efficiently protected. Guard railing posts are attached to the panel and equipped with planks or the MEVA FormSet safety mesh. The stop end of the slab is formed using a beam trestle UZ 30/40. The panel is secured against accidental lifting by a safety chain from below.

The adapter shoe allows guard railing posts to be attached to the MevaDec primary beam (left) or the secondary beam (right). Only a few steps are needed for edge protection with the sturdy MFS safety mesh .







Safe Work on MevaDec

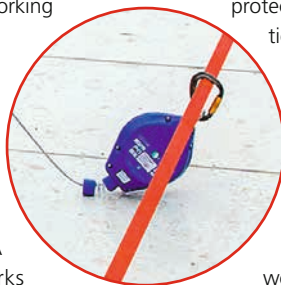
A safe, reliable fall protection system is mandatory when setting up MevaDec slab formwork from above. MEVA's fall protection system SpanSet enables you to work on top of MevaDec – safely and comfortably.

Better ergonomics

Sliding in MevaDec panels from above rather than above head is an effort and time saving method. Labour is reduced by up to 20 %. In addition, the site saves lifting devices and scaffolding that would be needed to ensure safe working conditions.

Only on MevaDec panels

The MEVA SpanSet fall protection is linked to two concrete blocks which are attached on top of the MevaDec panels. The European safety authority DEKRA confirms that this method works safely only on the all-plastic facing alkus that is standard in all MevaDec panels.



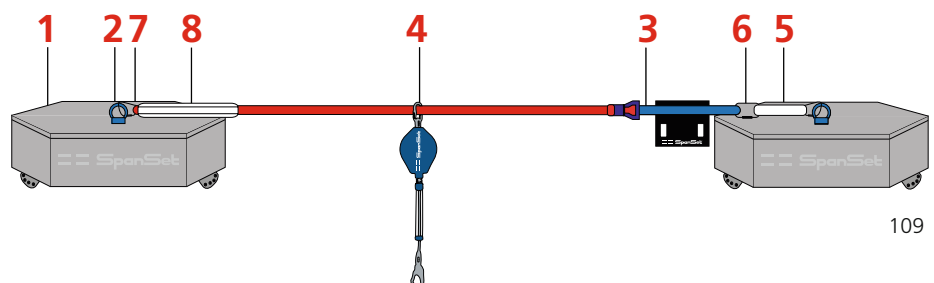
The SpanSet System

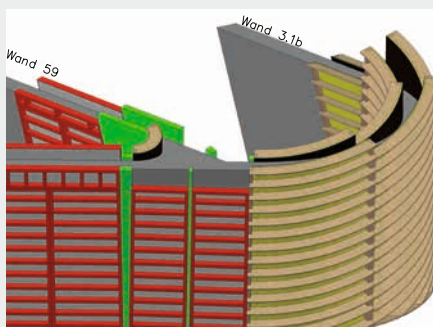
- 1: Attachment point for concrete block
- 2: Ring screw 4,0 t, M16, grade 100
- 3: Horizontal safety belt 16 m
- 4: Fall protection device
- 5: Fall dampener
- 6: Screw carabiner, galvanized steel
- 7: Locking screw carabiner, galvanized steel
- 8: Protective sheath

The worker is secured thanks to the PPE (personal protective equipment) and the fall protection device (4) locked to the horizontal safety belt (3) which is attached to the concrete block (1).

Safe work on large slab areas

The MEVA SpanSet fall protection system gives the worker a field of approximately 190 m², enabling safe work on large areas without having to move the concrete blocks.





MEVA runs a separate production facility for special designs and is specialised on designing, developing and manufacturing custom-built formwork for extraordinary geometries.

Planning of special designs in 2D und 3D

- Visualising complicated shapes and forms
- Isometric views
- Assembly plans
- Pour cycle plans

Your single source for top solutions



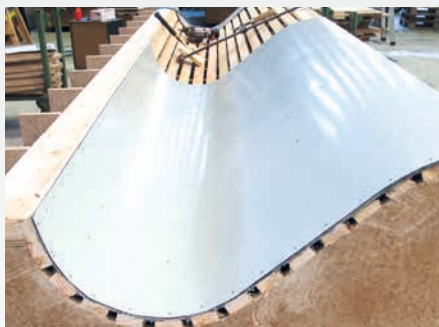
MEVA portfolio: your benefits

- Precision in planning and production
- Custom-built solutions, static calculation
- Planning and budgeting support
- On-site support
- Team and site supervision
- Support for quotations and tenders
- Know-How and expertise (release agent, compacting, concrete pressure, finish and architectural designs)

Special designs and facing from single source

Special forms can be developed in steel, wood and combinations thereof.

- Steel designs on the basis of the Mammut frame profile
- Special custom-built system parts such as Mammut wall panels, MevaDec slab panels or Circo circular formwork
- Facing with plywood
- Wooden plank facing
- All-plastic sheets welded together as a facing or double-up facing sheet
- Steel custom built designs



Special formwork aluminium, steel

The combination of system and custom-built parts or modification of system parts often proves a more cost-effective solution when the formwork is used only 3 to 5 times. The MEVA clamp as a connection between custom-built and system parts is a time- and labour saving advantage, e.g. for

- Small series for corners on waterworks
- Special parts for slanted and rounded walls
- Special parts for slabs
- Rectangular and circular formwork
- Custom-built solutions in steel for tunnels





2



3



4

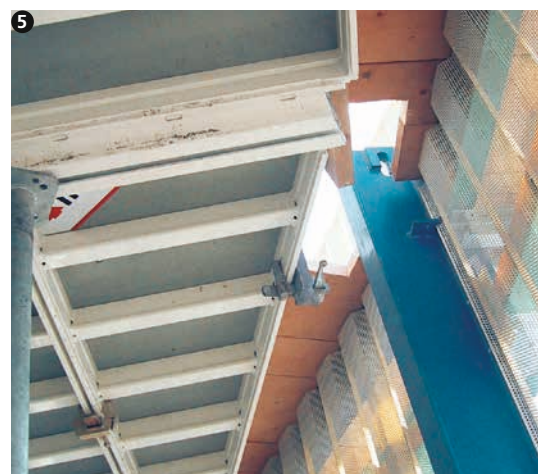
designs with system parts, and alkus

Facing portfolio

- System parts with 20 mm alkus facing
- Steel facing
- Wooden board or doubled-up moulds and stencils for special surface effects

The circular column formwork Circo provided the basis for custom-built forms to create slanted and rounded concrete shapes on the University of Economics and Business in Vienna 1, 2 and Holmfield bridge 8, 9.

Special formwork built in steel can optimise work flow. Even the Burj Khalifa in Dubai relied on 5 special MevaDec panels to achieve the asymmetric slab edge 5. Specially shaped column heads achieved cost-effectively and technically accurate using custom-built steel formwork 3 4 produced in small series. Photo 7 shows a special steel unit for window boxouts, saving labour and time on site. Photo 6 shows a special tunnel carriage for repeated pours.



5



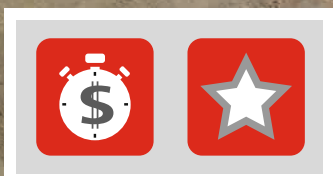
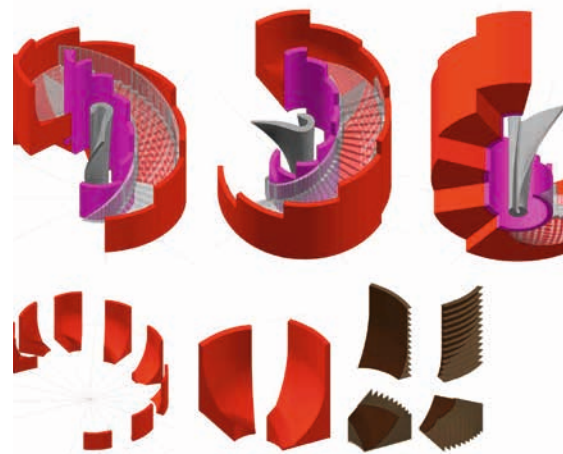
8



7



6



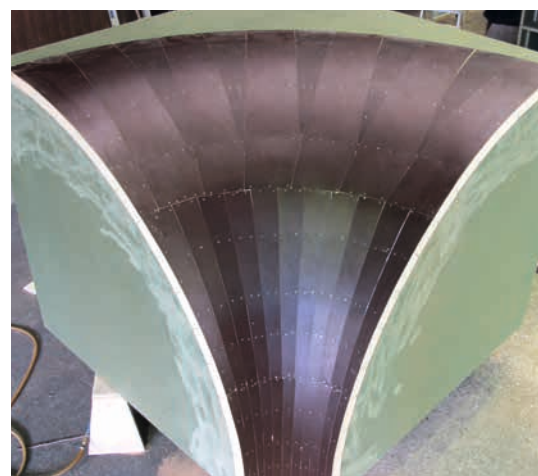


Special Formwork Designs with Wood

Special formwork made of wood can be technically and economically feasible when used for between one and five pours without re-facing. This often applies to very complex geometric shapes. The focus is on feasibility, buildability, cost-effectiveness, work flow and the desired concrete finish. MEVA specialists support you in all questions as to logistics, handling on site, pour work flow, static calculations and safety.

Facing portfolio

- Laminated plywood (21 mm) as facing
- Laminated plywood (8 mm) as facing sheet on wooden substructure
- alkus GM 6 as facing sheet on wooden substructure
- alkus 20 mm functioning as load bearing facing
- Boxouts of all kind
- Facing inlays





Special Designs with the alkus Facing

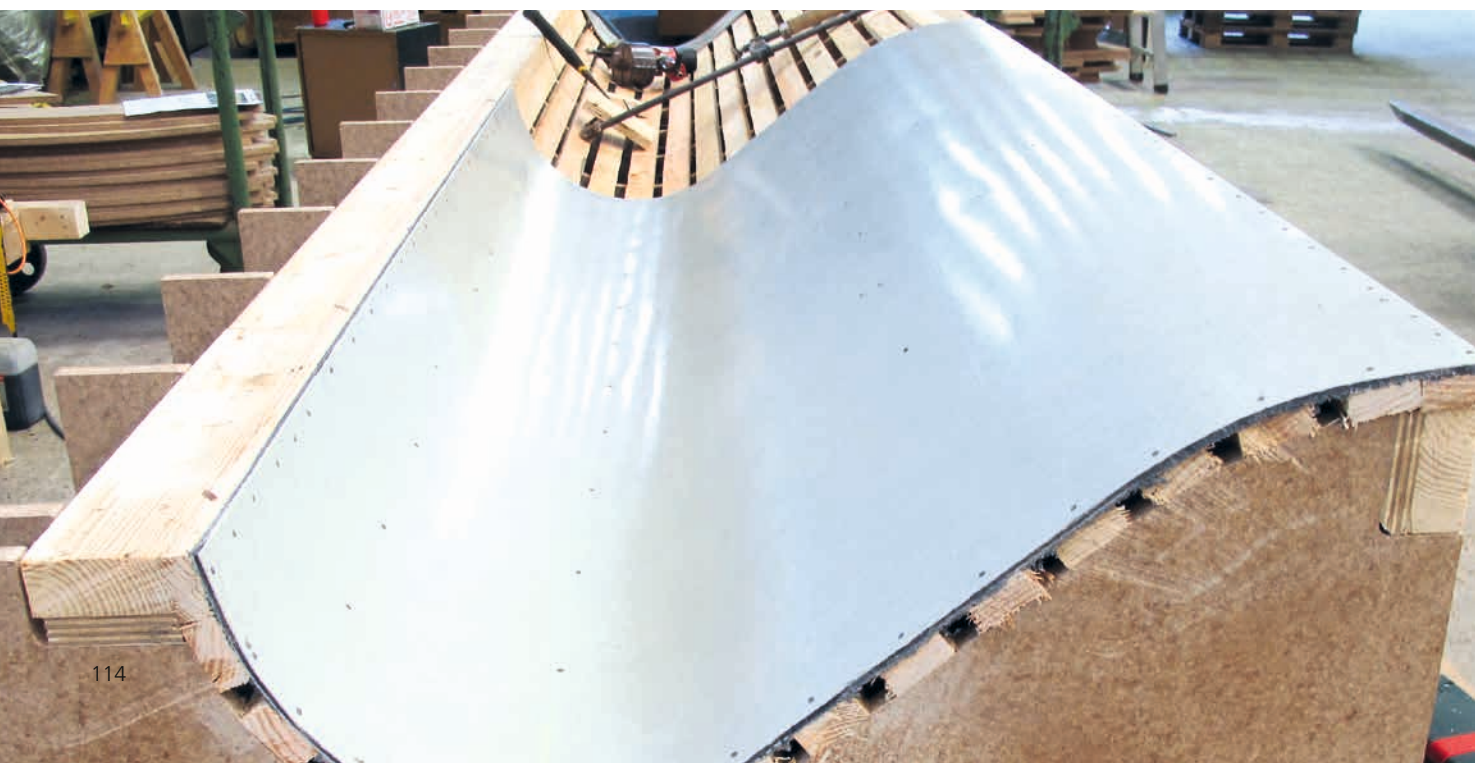
The all-plastic facing alkus can be formed and bent, pre-shaped and welded together. Concrete designs and finishes of any shape and type can be realised in this way, from sharp-angled parts to gently curved walls all the way to large concrete surfaces without a single mark, joint or other imprint. The thin version of the alkus facing, the 6 mm GM panel, can be fitted onto a wooden structure almost like a carpet.

Fields of application

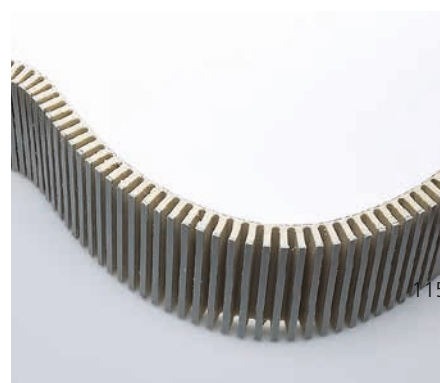
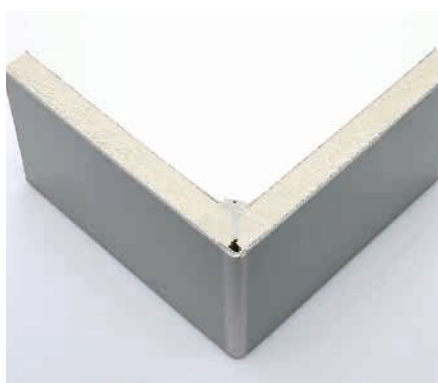
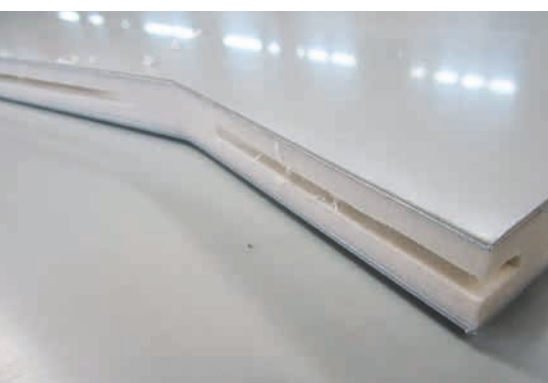
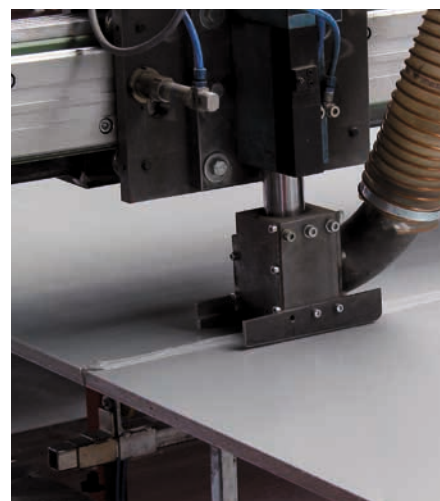
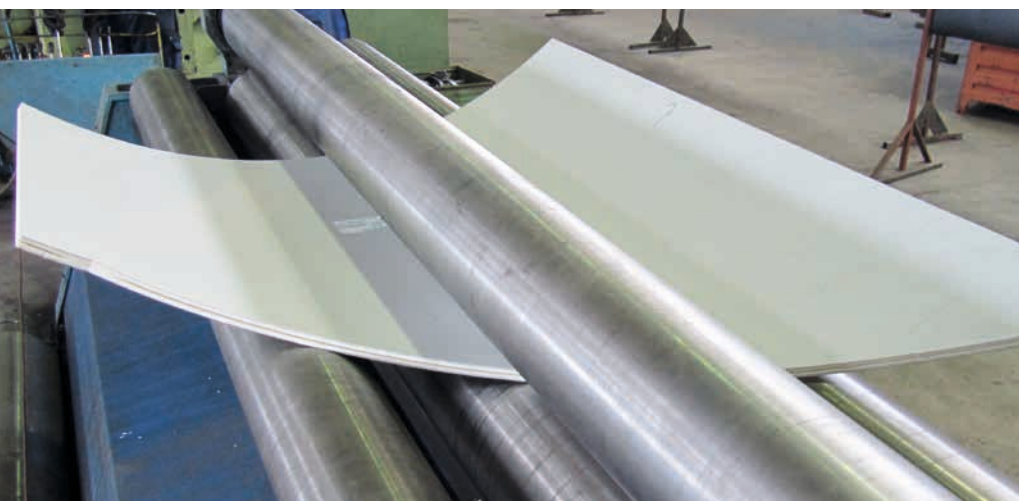
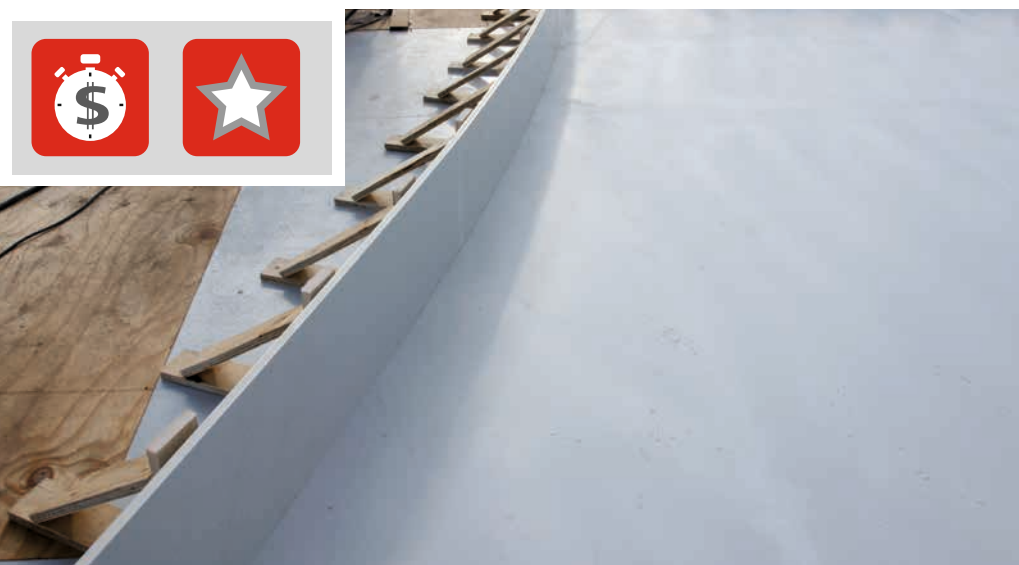
- High demands on concrete finish
- Specifications for constant, smooth and homogenous concrete surfaces
- Many and frequent re-uses or pours
- Pours in difficult weather conditions

Portfolio

- Panels welded together like steel
- Welded corners
- Sheets pre-bent and shaped on roller press
- alkus GM 6 laid on wooden substructure almost like a carpet
- Grinding and polishing the alkus surface for special effects
- Special decorative features milled onto the surface



Special Designs with All-Plastic Facing



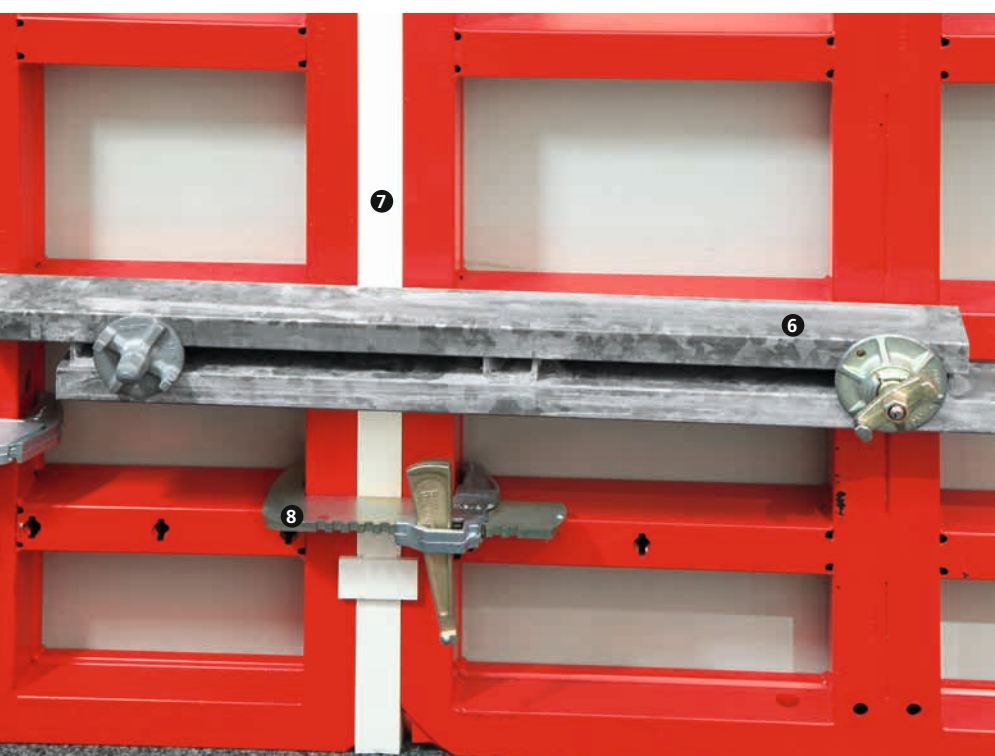


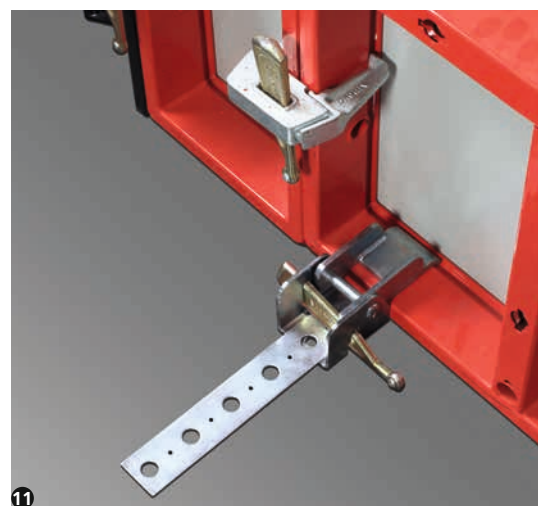
Working Smarter, not Harder

MEVA formwork accessories from Adapter to Z-connector. For smart, flexible, fast work.

Safe work when setting up formwork, saving time throughout the job and making work easier and simpler are the basic principles of MEVA's accessory portfolio. Only three items are needed to set up formwork: the clamp **1**, the articulated flange nut **2**, the tie rod and flange screw **3**. You need no more. Working tools and accessories for a range of special tasks serve to make work as simple and safe as possible.

Find more information in MEVA's Order Catalogue and on the website at www.meva-international.com. Use the article finder to search in the comprehensive range of products.





MEVA clamp **1**, articulated flange nut **2**, MEVA flange screw 18 **3**. Use a normal hammer **4** or spanner SW 27 **5** to operate them. MEVA alignment rail **6**, 5 cm aluminium filler **7**, Uni tie claw **8**, tie claw 23 **9**, Uni clamp **10**, MEVA foundation tensioner and foundation tape **11**, pressure gauge **12**.



Safe and Efficient in Handling and Transport

Transport, handling and storage of formwork contribute markedly to smooth workflow and time-saving on site. And to safety. Using the right equipment will save time and money.

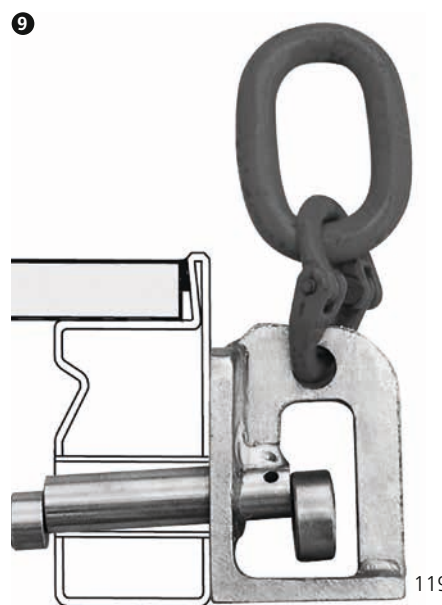
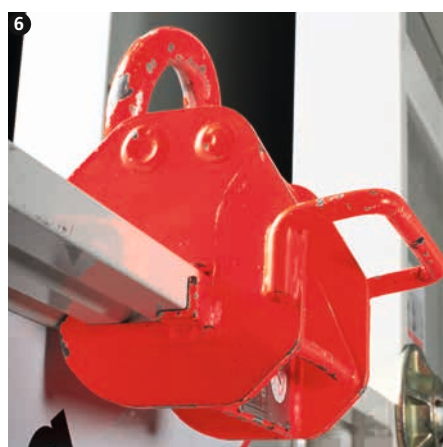
Safe and fast, tidy and clean

MEVA piling racks, small parts boxes, lifting devices, transport spreaders, load-bearing devices and lifting tools are designed to make handling

of equipment safe and fast. The lifting hook is a good example. It is plugged into the opening in the panel frame and secures automatically – the perfectly safe, fast preparation for each crane lift. Another is the small parts boxes. It saves time on site wasted looking for parts such as clamps, articulated flange nuts, flange screws and tie rods. They are safely and easily stored and moved around the site.

❶ Piling rack, ❷ MEVA small parts box, ❸ Transport angle for formwork panels, ❹ transport rack for MevaDec slab panels, ❺ safety bolt, ❻ crane hook, ❼ crane slings, ❽ crane sling Stapos, ❿ lifting hook with automatic safety setting.









Portable, Professional: The alkus Repair Set

The all-plastic facing is repairable using the identical polypropylene material. Surface damages, holes or scratches can be repaired on site to ensure a smooth facing surface and a superior concrete finish. That saves time and money.

The alkus repair set includes all tools and accessories needed for professional repair of the facing. It comes in a handy, sturdy aluminium case. A detailed instruction manual shows how to use it.

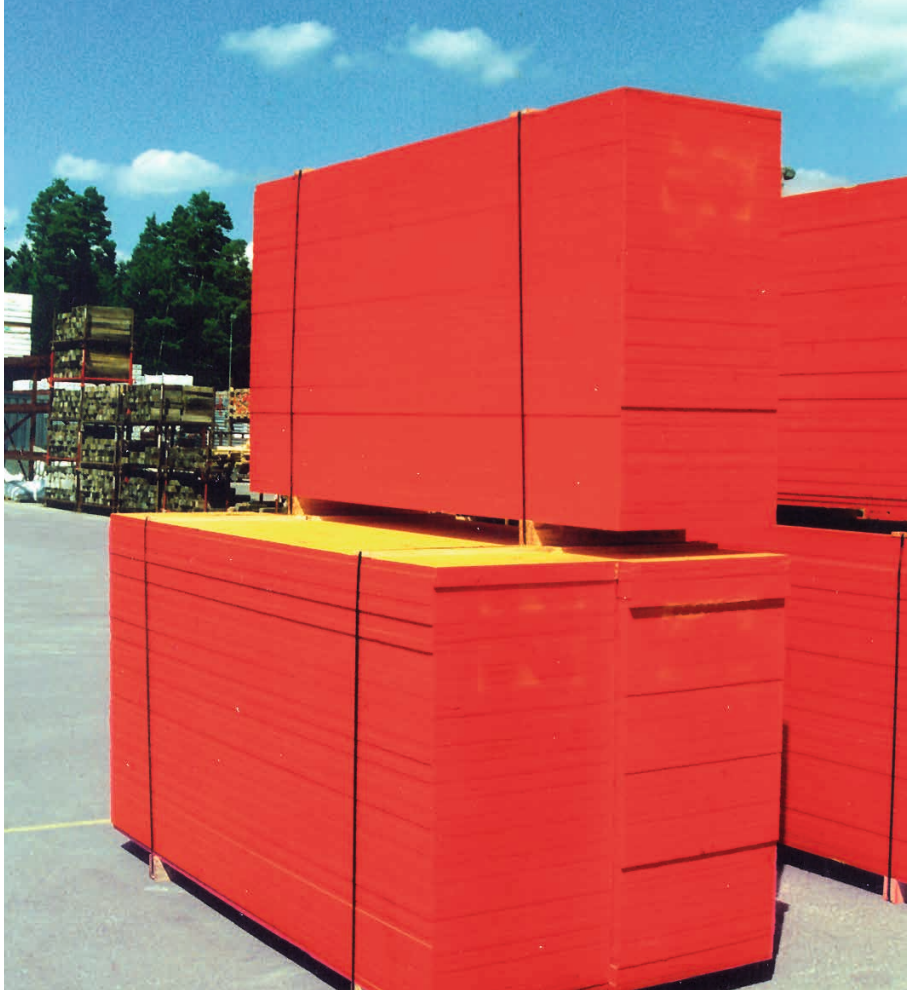
Contents of the repair set

- Hot air welder
- Quick-welding jet
- Paint stripper
- Spare blade for paint stripper
- Drilling machine
- Special step drill, Ø 35/25
- HM cylinder head drill Ø 35
- Paint scraper
- Side cutting pliers
- Depth gauge 6 mm
- Welding wire PP, 20 m
- Repair plug 23
- Repair plug 20
- Repair plug 17
- Repair patch D35
- Tool to remove rivets
- AS conical tube D29/24 L=103 mm
- Alu cone





The new beam connector H20 is a gentle, fast and safe method of connecting H20 beams without using nails.



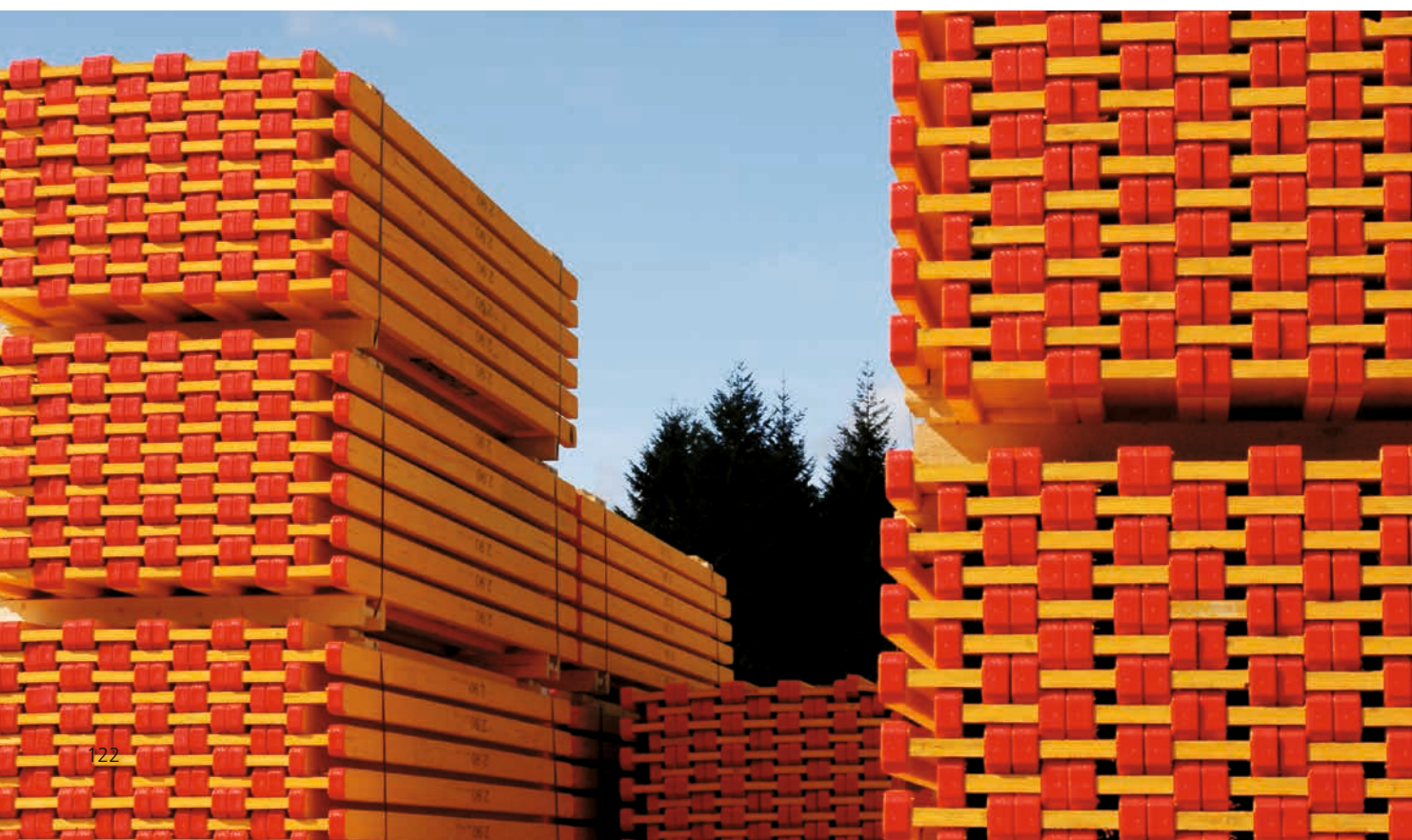
H20 Beams and Plywood Facing

MEVA 3S plywood facing

The 21 and 27 mm thick plywood sheets consist of three layers of plywood glued together and coated on both sides with water-repellant phenolic resin. Edges and sides are sealed throughout. The sheets offer good stability and a smooth, absorbent forming surface.

MEVA H20 beams

Robust multi-purpose wooden beams that are used as main and cross girders. They can be cut to any size and supported as required. The MEVA H20 beams offer a high load capacity and weigh only 4.6 kg/m. Plastic caps protect the ends.

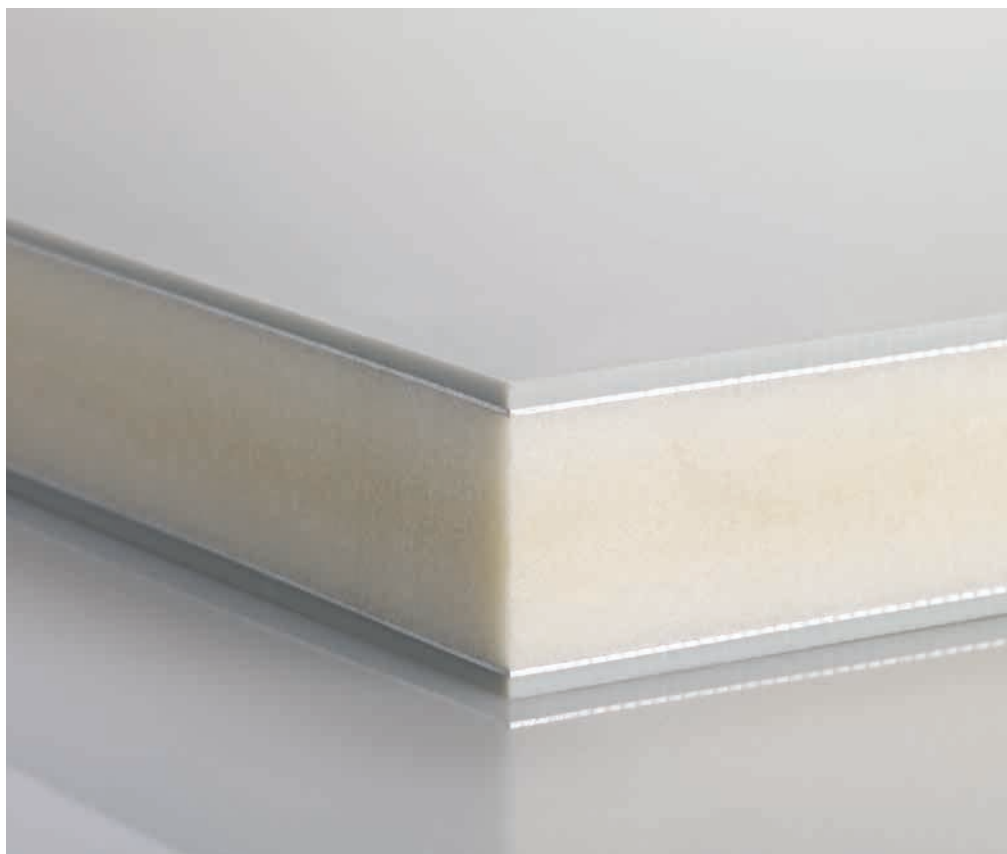


The All-Plastic Facing alkus

The alkus all-plastic facing can be cut like wood, formed, shaped, rounded and welded together to form large forming surfaces. Its special feature is the smooth, homogenous concrete finish the facing delivers for hundreds of pours.

The alkus AL polypropylene panel
reinforced with aluminium, 21 mm thick. Is used for wall forms and load-bearing special designs on account of its flexural rigidity.

The alkus GM polypropylene panel
with glass fibre reinforcement. Is used for slab formwork, circular forms and as a facing sheet fitted to custom-built substructures.



Professional Use of Release Agent

MevaTrenn sprayer : Apply Release Agent sparingly and easily

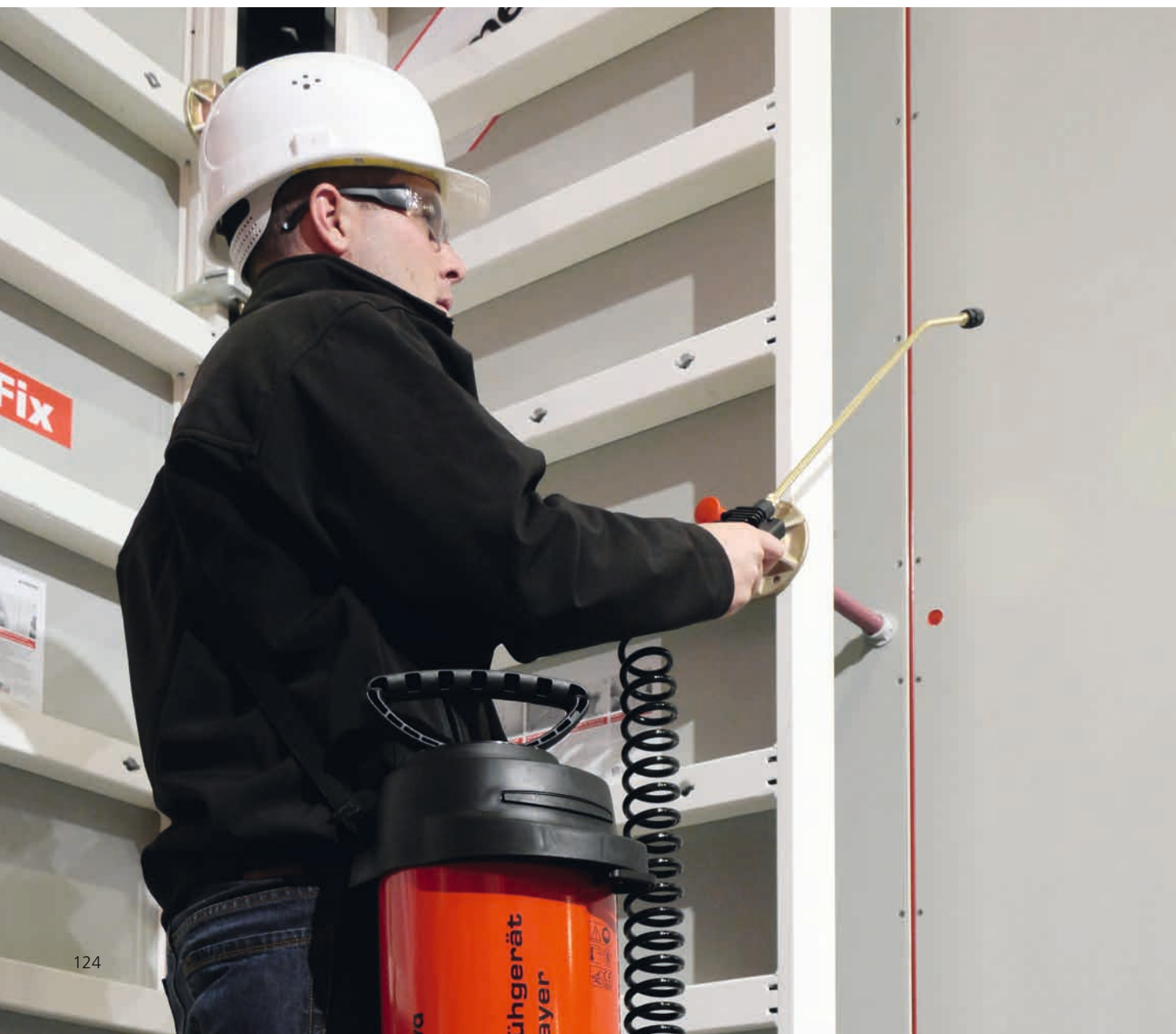
The all-plastic 100 % wood-free alkus facing, which is an integral part of all MEVA formwork panels, considerably reduces the required amount of release agent. The new MEVA sprayer is easy to use, helps slash the cost of consumables on site and enhances a good concrete pouring result.

The state-of-the-art device comprises a robust polyester-coated 6 litre steel tank. The sprayer issues a consistent, even and thin film of release

agent using 6 bar of pressure. Handling the sprayer is simple and fast, saving time and money. The device can be carried on the back or sideways and is compatible with the MevaTrenn nozzle. The sprayer's features:

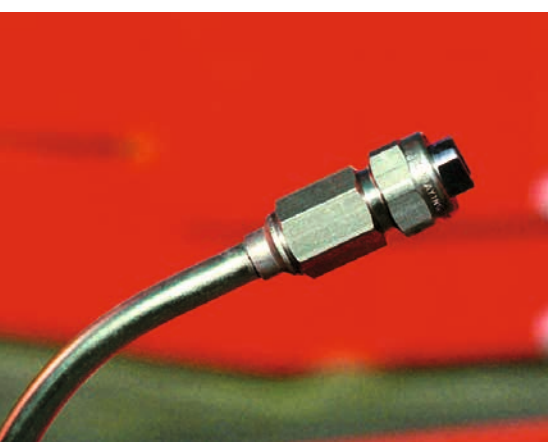
- Spiral tube, 2.5 m long, with safety valve
- Integrated funnel cap
- Large pour-in opening
- Park position for the extension tube
- Holder for the pump while refilling
- Large foot for a stable standing position

- Ergonomic pump handle
- Safety approved by German authorities
- 2 year manufacturer warranty excluding wear and tear or damage by force





This device allows for a simple and economic dosing of the MevaTrenn pro release agent.



Release Agent for Architectural Concrete: MevaTrenn pro

MevaTrenn pro is a special release agent for all absorbent and non-absorbent facing types including plywood, coated plywood, steel. It is ideal for use with the all-plastic 100 % wood-free alkus facing and suitable for high demands on the concrete finish (fair-faced and architectural concrete). Low consumption reduces costs for consumables.

Recommended quantity

1 l for 100 m² non-absorbent facing

Application and Benefits

- Suitable for all types of facing
- Ideal for use on all-plastic facing alkus
- Usable up to 100°C (facing temperature)
- Reduces porosity in the concrete finish
- Ideal for fair-faced and architectural concrete finish
- Contributes to an even concrete finish
- Can be used as a protective coating on mixers or other construction equipment
- Prevents discolouration on concrete
- Avoids concrete residues on the facing
- No impact on concrete setting
- Neutral odour
- Extremely low consumption
- Apply with a suitable sprayer



All-Purpose Release Agent MevaTrenn classic

MevaTrenn Classic is a universal release agent suitable for all formwork types. It is easily biodegradable and thus environmentally safe.

Recommended quantity

2.5 l for 100 m² non-absorbent facing

Benefits

- Very good concrete finish
- Avoids concrete residues on the facing
- No discolouration on concrete
- No impact on concrete setting
- Suitable for all formwork types
- Neutral odour
- Low consumption





Family owned and managed in the second generation, MEVA is based in Haiterbach in Germany's Black Forest region. The formwork manufacturer is represented through 40 locations on 5 continents.

MEVA has been a pioneer and innovator in formwork since 1970. Many MEVA inventions have become standard in the industry: modular panelised formwork systems, the multifunction profile, the formwork clamp and the closed

hollow profile. MEVA offers a comprehensive product range for every building project and any contractor from small to large, from foundation to high rise and from hand-set formwork all the way to fully automatic climbing systems.

Headquarters (Germany)

MEVA Schalungs-Systeme GmbH
Industriestrasse 5
D-72221 Haiterbach
Tel. +49 7456 692-01
Fax +49 7456 692-66
info@meva-international.com
www.meva-international.com

Formwork Centers

A-Pfaffstätt, Tel. +43 2252 20900-0
D-Berlin, Tel. +49 3375 9030-0
D-Haiterbach, Tel. +49 7456 692-01
D-Hannover, Tel. +49 511 94993-0
H-Budapest, Tel. +36 1 2722222
UAE-Dubai, Tel. +971 4 3411180
USA-Springfield, Tel. +1 937 3280022

International Sales & Service

A-Pfaffstätt, Tel. 02252 20900-0
AUS-Adelaide, Tel. 08 82634377
CDN-Toronto, Tel. 416 5766397
CH-Seon, Tel. 062 7697100
CO-Bogotá, Tel. 01 5204236
F-Sarreguemines, Tel. 0387 959938
GB-Tamworth, Tel. 01827 60217
H-Budapest, Tel. 01 2722222
IND-Mumbai, Tel. 022 27563430
MAL-Perak, Tel. 12 5209337
MX-México, Tel. +52 55 53114929
N-Oslo, Tel. 067 154200
NL-Gouda, Tel. 0182 570770
PA-Panama City 507 2372222
SGP-Singapore, Tel. 67354459
UAE-Dubai, Tel. 04 3411180
USA-Springfield, Tel. 937 3280022