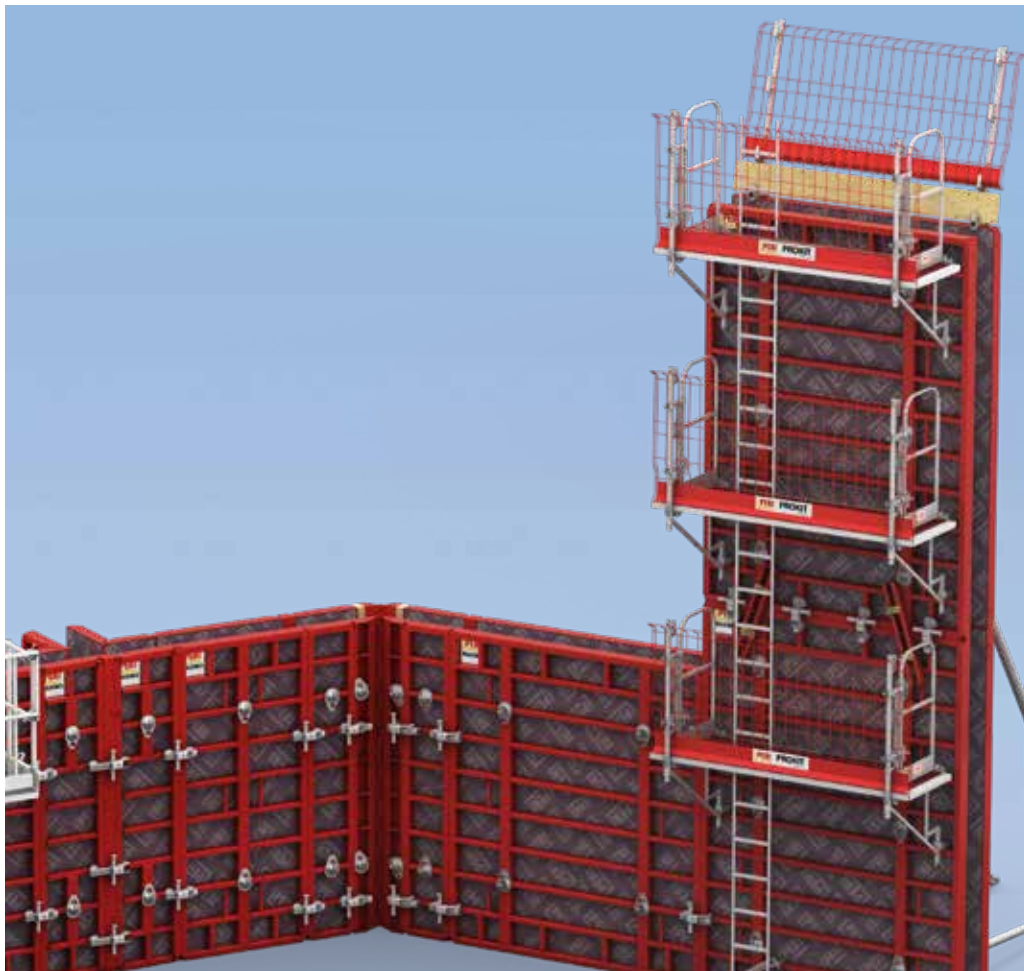


MAXIMO

Panel Formwork with Single-Sided MX Tie Technology

Product Brochure – Issue 06/2020



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Issue 06/2020

Publisher

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Important notes

All current regulations and guidelines applicable in countries where our products are used must be observed.

The photos shown in this brochure feature construction sites in progress. For this reason, safety and anchor details in particular cannot always be considered conclusive or final. These are subject to the risk assessment carried out by the contractor.

In addition, the computer graphics used are to be regarded as system representations. To facilitate understanding, these and the detailed illustrations shown have been partially reduced to certain

aspects. The safety installations that are not shown in these detailed descriptions must nevertheless be available. The systems or items shown might not be available in every country.

Safety instructions and load specifications are to be strictly observed at all times. Separate structural calculations are required for any deviations from the standard design data.

The information contained herein is subject to technical changes in the interests of progress. Errors and typographical mistakes reserved.



MAXIMO

Panel Formwork with Single-Sided MX Tie Technology

Compared to conventional panel formwork, MAXIMO stands out due to the fact that it can be installed extremely quickly by a lower number of site personnel. The fact that only one person is required to carry out the single-sided tie installation process results in a reduction in costs and also ensures that the concrete finish is harmonised.

It is fully compatible with the proven TRIO system and meets the highest requirements in terms of cost-effectiveness and quality of workmanship. All of the outstanding benefits of TRIO were retained in the development of MAXIMO. In this way, for example, you will continue to benefit from the low number of different panel sizes and the Alignment Coupler BFD, which is the only connecting part used.

Faster tie installation

thanks to the single-sided tie technology without spacer tubes and cones

Fewer ties

thanks to the optimised tie point arrangement

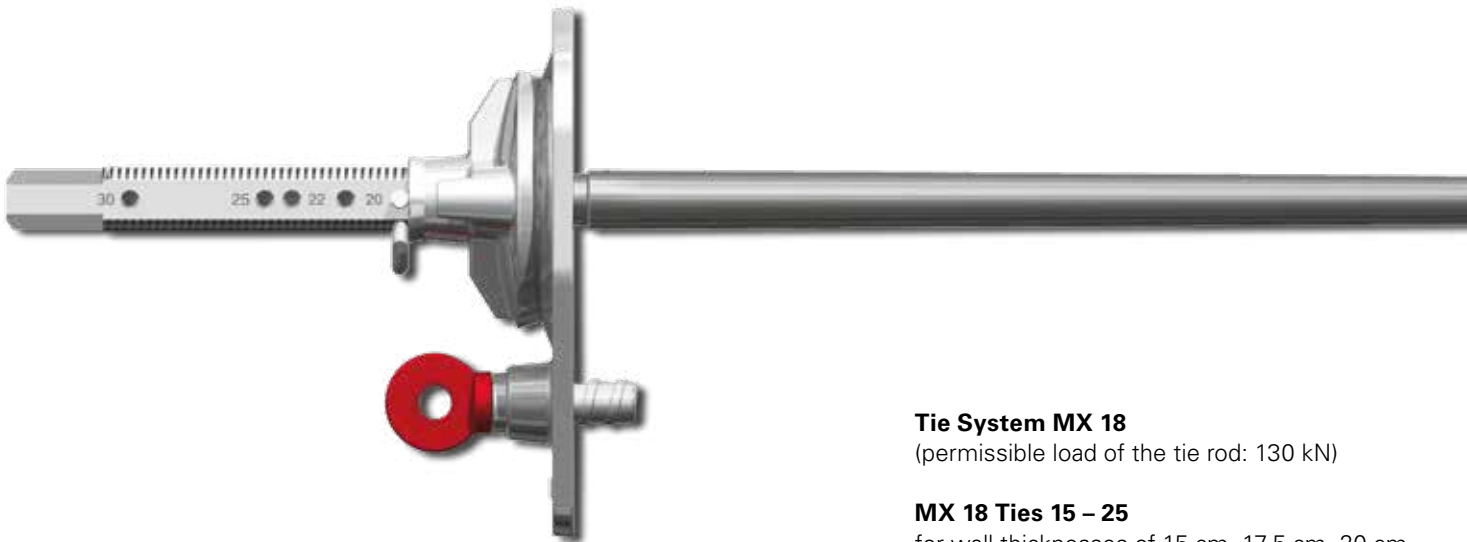
Harmonised concrete finish

thanks to the neat joint and tie arrangement



Faster tie installation

The single-sided installation technology with the MX 15 and MX 18 Ties



Tie System MX 15

(permissible load of the tie rod: 90 kN)

MX 15 Ties 15 – 25

for wall thicknesses of 15 cm, 17.5 cm, 20 cm, 22 cm, 24 cm and 25 cm

MX 15 Ties 20 – 30

for wall thicknesses of 20 cm, 22 cm, 24 cm, 25 cm and 30 cm

MX 15 Ties 30 – 40

for wall thicknesses of 30 cm, 35 cm, 36 cm and 40 cm

Tie System MX 18

(permissible load of the tie rod: 130 kN)

MX 18 Ties 15 – 25

for wall thicknesses of 15 cm, 17.5 cm, 20 cm, 22 cm, 24 cm and 25 cm

MX 18 Ties 20 – 30

for wall thicknesses of 20 cm, 22 cm, 24 cm, 25 cm and 30 cm

MX 18 Ties 30 – 40

for wall thicknesses of 30 cm, 35 cm, 36 cm and 40 cm

MX 18 Ties 40 – 50

for wall thicknesses of 40 cm, 45 cm and 50 cm

MX 18 Ties 50 – 60

for wall thicknesses of 50 cm, 55 cm and 60 cm

The assembly sequence

Once-off preparation phase



To prepare for the assembly sequence, position the Wingnut MX on the primary formwork elements and turn the eyebolt until it is secure.

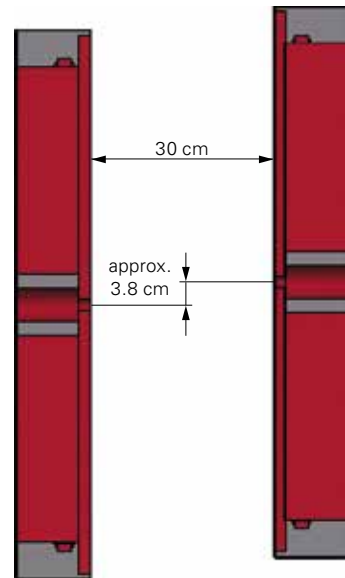


Next, set the wall thickness on the tie using the cotter pin and counter with the nut. Common wall thicknesses are indicated by markings on the tie rod.

Repetitive steps



The next step is to push the MX Tie through the closing formwork and into the Wingnut MX of the primary formwork and screw it in.



As an alternative to the MX Tie Technology, you could use the conventional DW 15 or DW 20 System.

The opening of the frame allows deviations of the tie rod angle of up to 4° . In concrete terms this means an inclined position of up to 3.8 cm for a 30 panel. As a result, it is possible to install the ties without any issues if, for example, the bottom slab is uneven as is often the case on construction sites.



Use the MX Ratchet to tighten the MX Tie and tighten it until you are able to fit the eyebolt.



Then screw the the eyebolt in until it is tight ...



... and tighten the MX Tie as far as possible with the MX Ratchet.

Faster tie installation

Without a single spacer tube or cone

Spacer tubes and cones are not required due to the fact that the conical tie rod is used. This enables you to operate the tie on the side of the closing formwork.

This means that anchoring can be carried out quickly by a single person. Intermediate levels on the primary formwork for guardrails are not required. In addition, the working area required between the primary formwork and, for example, an adjacent development or sheet piling, is reduced.

Compared to panel formwork with conventional technology, the single-sided anchoring system on MAXIMO provides significant benefits:



MAXIMO Panel Formwork	Panel formwork with conventional tie technology
Single-sided anchoring process carried out by one person	Anchoring process carried out by two persons
Reduced number of work steps	Higher number of work steps due to fact that spacer tubes are required
Lower number of essential components: MX Tie Rod and Wingnut MX	Higher number of essential components, e.g.: tie rod, cones, spacer tube and wingnut pivot plates
Quick and easy adjustment of wall thicknesses using preset ties	Wall thickness adjustment using spacer tubes, multiple checks, if necessary
Harmonised concrete finish with centred tie positions	Inconsistent concrete finish

MX Removable Sealing

The MX Removable Sealing rings used with the MAXIMO system reliably closes the tie point when using MX Ties and therefore prevents any concrete bleeding. This also applies to inclined tie positions of up to 4°. In addition, the tie hole is protected against all impacts by a metal ring.



Exchanging the removable sealings from MX 15 ...



... to MX 18. This allows for a quick and easy on-site exchange process at your construction site.





Working scaffolds are not required

Due to the fact that ties are installed from one side only, additional safety measures, e.g. working scaffolds on the primary formwork, are not required which saves both time and money. This is of great importance particularly in the case of high formwork.

Fewer ties

Optimised arrangement of the tie points

With MAXIMO, the tie points are systematised and centrally arranged for all panel sizes. Every tie point is used and you do not require any edge ties.

It is mandatory that all tie holes be used. This ensures that the concrete finish is optimised and prevents bleeding through non-sealed tie points. This keeps the additional workload for reworking operations to a minimum.

At the same time, by using the MAXIMO system, the number of tie points required is reduced by up to 40 percent. As such, the single-sided MX Tie Technology allows you to make valuable time and cost savings.




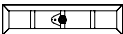



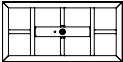





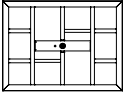










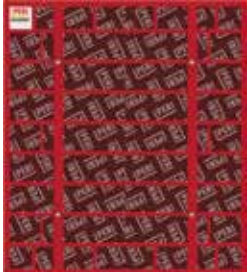











Panel connections with Alignment Coupler BFD

The Alignment Coupler BFD ensures that panel joints are tight, resulting in an excellent concrete finish. With only one component it is possible to achieve a panel connection that is flush, aligned and tight.



Variable combination options with MAXIMO Elements

MAXIMO elements are available in six heights from 30 cm up to 3.30 m as well as five widths from 30 cm to 2.40 m in 30 cm increments. Special-purpose sizes with heights of 3.00 m and 3.60 m are also available. The additional 45-cm-wide element minimises the requirement for filler plates to a significant degree.

Height	Width					
	240	120	90	60	45	30
30						
60						
90						
120						
270						
330						

Harmonised concrete finish

Neat joint and tie arrangement

MAXIMO allows you to produce concrete surfaces in a systematic, cost-effective and straightforward manner.

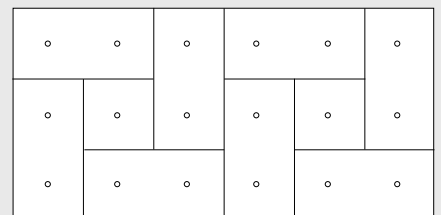
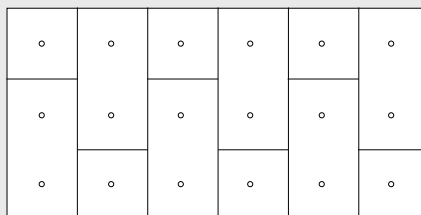
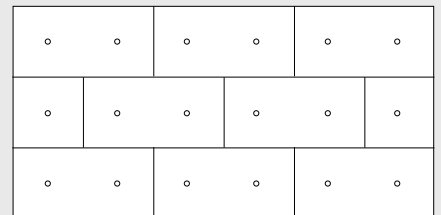
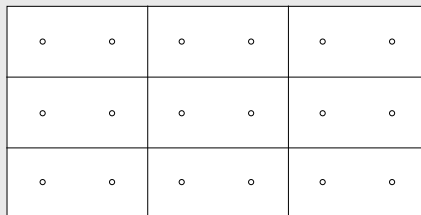
The ability to create special wall surfaces with very little additional effort using an efficient panel formwork system is a request we receive frequently from clients and architects. The centrally-arranged tie points in the MAXIMO Panel Formwork produce a regular and harmonised joint pattern – both horizontally and vertically. You can choose from a multitude of panel combinations to create your customised wall surface.



Walls that are formed using MAXIMO stand out due to the clean concrete finish of their surfaces. It is free from indentations, unused tie points and, consequently, bleeding through unsealed tie points.

Concrete surface design with the MX Grid arrangement

The clearly defined arrangement of the individual MAXIMO Elements in so-called "MX Grids" facilitates the visually appealing design of concrete surfaces. The number and position of the tie points is constant in the variants shown here.





KOPP

Additional benefits of the system

Easy to clean and high degree of corrosion prevention



Easy to clean

The powder coating on the MAXIMO Panel Frame reduces concrete adhesion on the formwork and simplifies the cleaning process. In addition to good concreting results, you will also benefit from a long service life.

High degree of corrosion prevention

Thanks to MAXIMO Cavity Protection, you will benefit from optimised corrosion protection on the inner surfaces of the profiles.

Irrespective of ordinary temperatures and humidity conditions, the active corrosion prevention takes effect on the metal surface and forms a protective layer against the effects of oxygen.

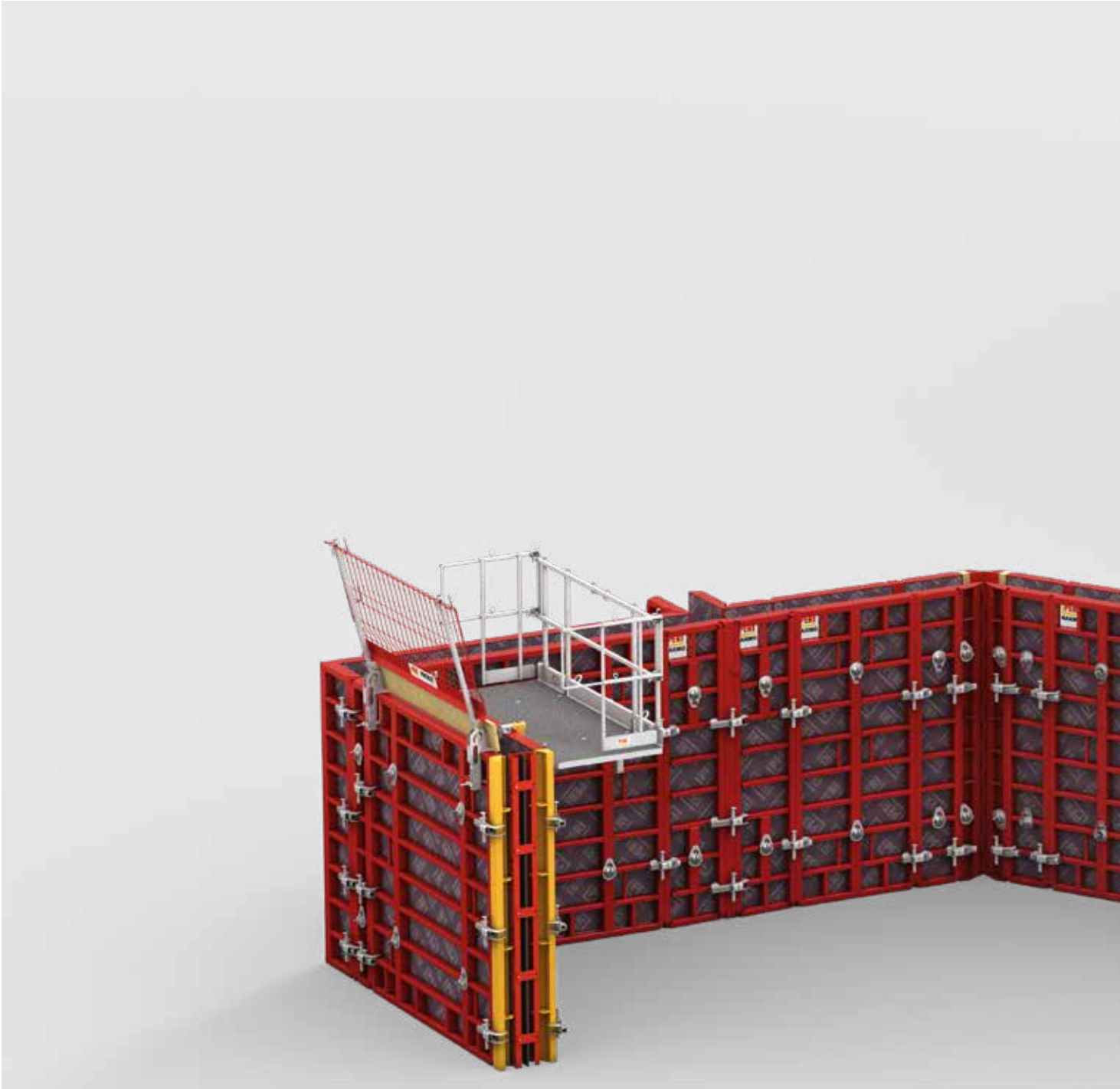


PERI PROKIT
MAXIMO

Sophisticated safety concept

MAXIMO Panel Formwork provides you with a high degree of safety. With the aid of the MXK Bracket System, you can create safe and convenient working and concreting platforms on the panel formwork.

MAXIMO Panel Formwork at a glance



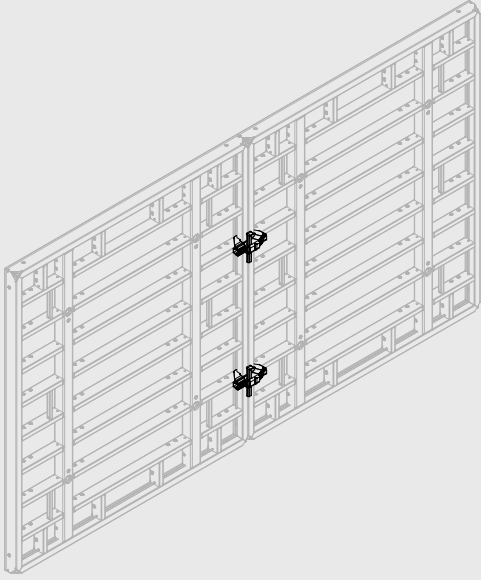
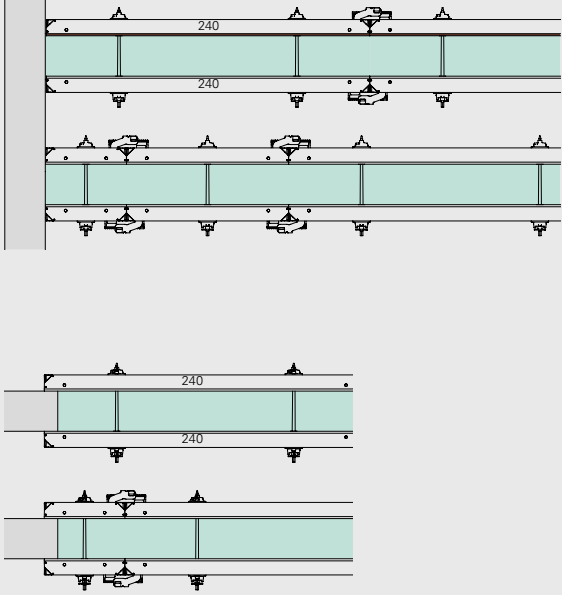
The following pages describe standard applications for the forming of walls, foundations, columns and shear walls. The explanations show important basic principles but do not claim to be comprehensive. All detailed specifications as well as any possible country-specific data can be found in the Instructions for Assembly and Use. Furthermore, the corresponding Instructions for Use must also be observed.

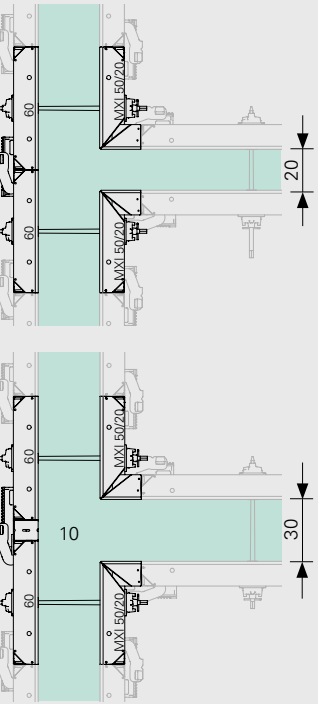
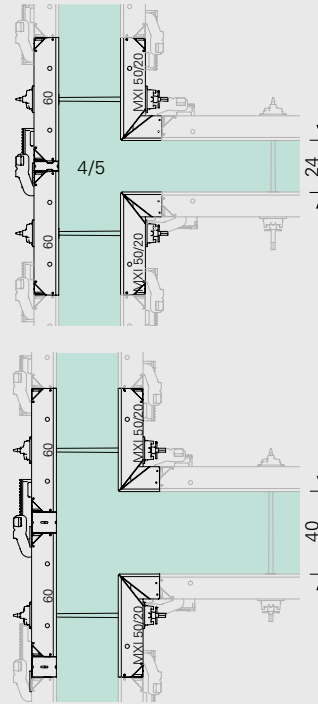


MAXIMO Panel Formwork is perfectly suited to construction projects with high walls and a high surface requirement.

Realising other standard applications such as foundations and corners is quick and easy with MAXIMO. What's more, the formwork stands out due to its sophisticated safety system, which allows working operations at your construction site to be carried out in a swift yet safe manner.

Panel connections, wall connections and T-junctions

Panel connections	Wall connections
 <p>Panel connection 2 x Alignment Coupler BFD</p>	 <p>The figures are only valid up to a panel height of 270 cm.</p>

T-junctions		
<p>T-junctions Wall thicknesses 15 – 40 cm</p> <p>Internal formwork Inside Corner MXI 50/20 3 x Alignment Coupler BFD</p> <p>External formwork Element MX 60 2 x Alignment Coupler BFD</p> <p>Adapting to wall thickness with Wall Thickness Compensator MX or timber, 3 x Alignment Coupler BFD</p> <p>The figures are only valid up to a panel height of 270 cm.</p>		

Corners and wall offsets

Corners

Corners with MXI 50/20

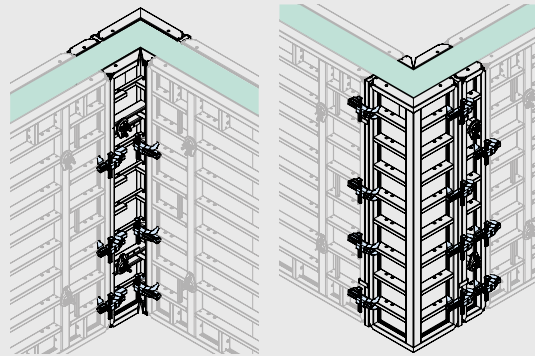
Wall thicknesses 15 – 40 cm

Internal formwork

Inside Corner MXI 50/20
3 x Alignment Coupler BFD

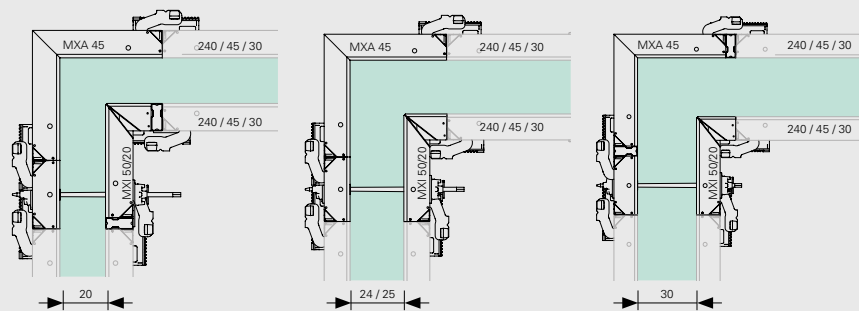
External formwork

Outside Corner MXA 45
Element MX 30
4 x Alignment Coupler BFD

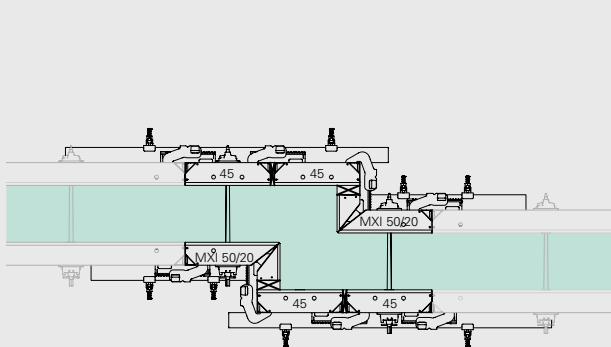


No tie is required at the short side of the Internal Corner MXI 50/20.

The figures are only valid up to a panel height of 270 cm.



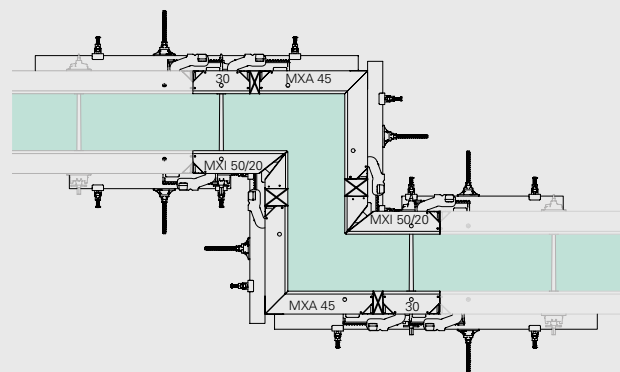
Wall offsets



20 – 28 cm

- Inside Corner MXI 50/20
- Element MX 45
- Compensation Waler MAR 170
- Compensation Waler MAR 85
- Filler timber supplied by contractor

The figures are only valid up to a panel height of 270 cm.



65 – 79 cm

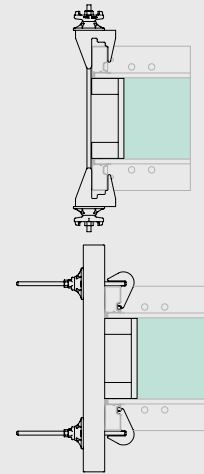
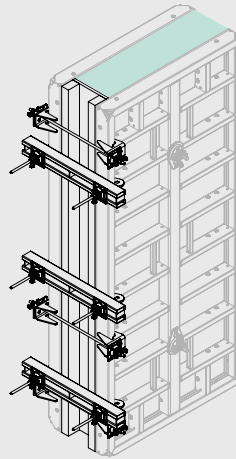
- Inside Corner MXI 50/20
- Outside Corner MXA 45
- Element MX 30
- Compensation Waler MAR 170
- with one Hook Tie DW 15 and Wingnut Pivot Plate
- Compensation Waler MAR 85
- with one Hook Tie DW 15 and Wingnut Pivot Plate
- Filler timber supplied by contractor

Stopend formwork

Stopend formwork

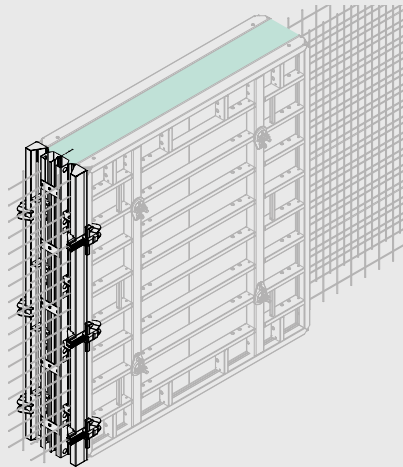
Stopend ties and compensation walers

When using a conventional solution, the fresh concrete pressure of the stopend formwork is transferred to the MAXIMO elements via the Stopend Ties and Walers 85. You require three walers for a height of 2.70 m. You could use the Compensation Waler MAR 85 as an alternative to the Waler 85.

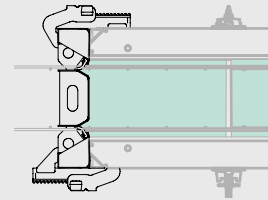


Stopend Panel MT/MTF

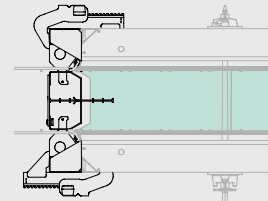
You can attach the stopend panel to the MAXIMO Frame with the aid of the BFD Alignment Couplers, which will allow you to easily guide the reinforcement through the stopend panel. The durable and hard-wearing rubber lip on the centre section prevents the fresh concrete from escaping. The centre section can be used with or without a water bar.



Centre Section MT, without water bar

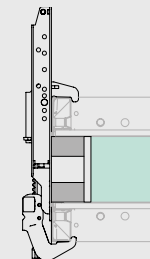
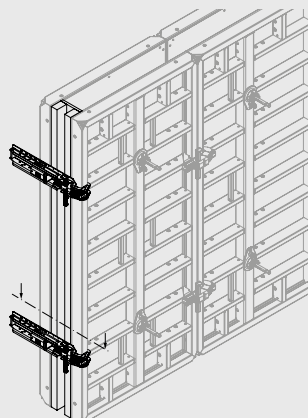


Centre Section MTF, with water bar



Stopend Waler MX 15 – 40

The Stopend Waler is an optimised solution for all wall thicknesses between 15 cm and 40 cm, when forming at the front with squared timber and filler plates. The waler is easy to use and can be continuously adjusted.



For a height of 2.70 m and a wall thickness of ≤ 30 cm, two Stopend Walers MX 15 - 40 are required for a permissible fresh concrete pressure of 60 kN/m^2 and three Stopend Walers MX 15 - 40 are required for a permissible fresh concrete pressure of 80 kN/m^2 .

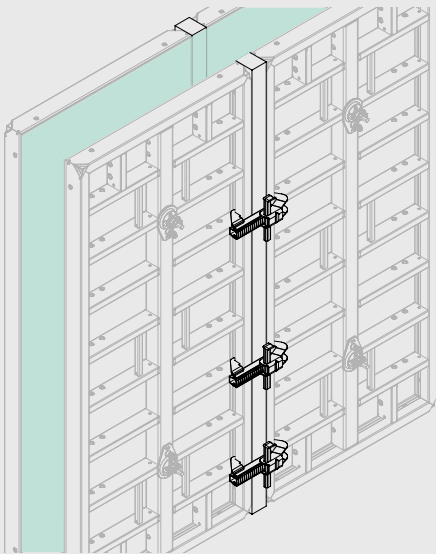


Length compensations and oblique angles

Length compensations

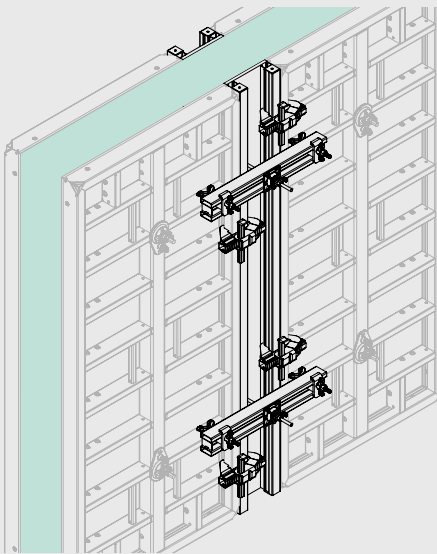
Up to 10 cm

With Wall Thickness Compensator MX or squared timber and Alignment Coupler BFD.

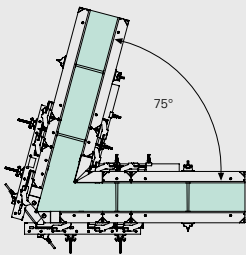


10 cm to 36 cm

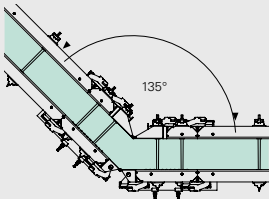
With Filler Plate Profile TPP and formlining.
 TPP 270 at a height of up to 2.70 m
 TPP 120 at a height of up to 1.20 m



Oblique angles



Outside: 3 x BFD 2 4 7
 2 x SRU 122 1 6
Inside: 2 x BFD 1 6



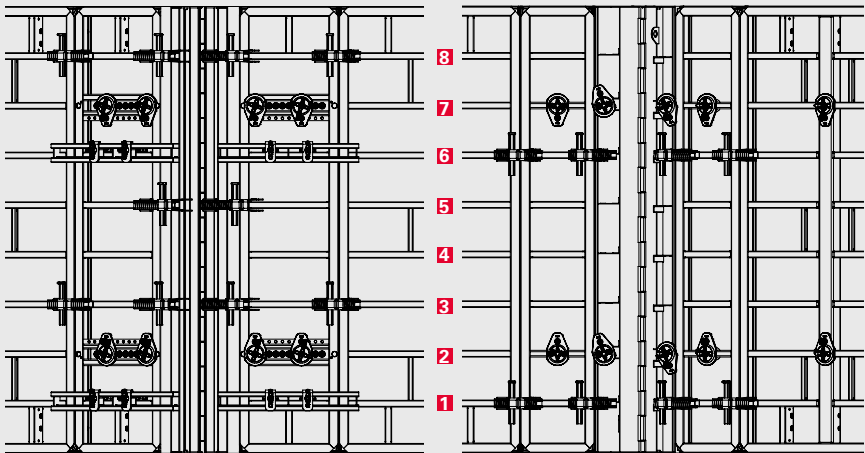
Outside: 3 x BFD 3 5 8
 2 x MAR 85 1 6
Inside: 2 x BFD 1 6

External formwork

Articulated Corner MX outside
 Element MXM 60
 Element MX 45 and MX 30 at 75°

Internal formwork

Articulated Corner MX inside
 Element MX 45
 Element MX 30 at 75°



■ = number of struts



Planning simple floor plans in only a few minutes



The tool is self-explanatory and can be used intuitively: The first step is to create a new project using the required wall heights and thicknesses.



You then enter the floor plan that is to be formed and determine the cycles.

Planning MAXIMO with PERI QuickSolve

Using the name “QuickSolve”, PERI publishes various planning tools intended to simplify everyday construction work – this also allows you to plan MAXIMO ground plans, amongst other things.

The application can be used to plan and synchronise simple ground plans quickly without the use of complex software.

Whether you are in the office or on site: You can access PERI QuickSolve 365 days a year. The software can be accessed easily online, from any location and without having to install anything.



The application then creates a suitable formwork solution automatically based on this information. You then have the option of printing or emailing the easily comprehensible plans and parts lists in PDF format for material scheduling.

You can send your feedback to PERI directly from the application. PERI takes a proactive approach to optimising the planning tool on the basis of individual user feedback reports. This means that we will be able to provide you with additional functions in the future.

Panel heights 300 and 360

MAXIMO MX 18 – MAXIMO 300 and MAXIMO 360

All MAXIMO panel formwork elements with the MX 18 Tie System are also available in 3.00 m and 3.60 m heights.

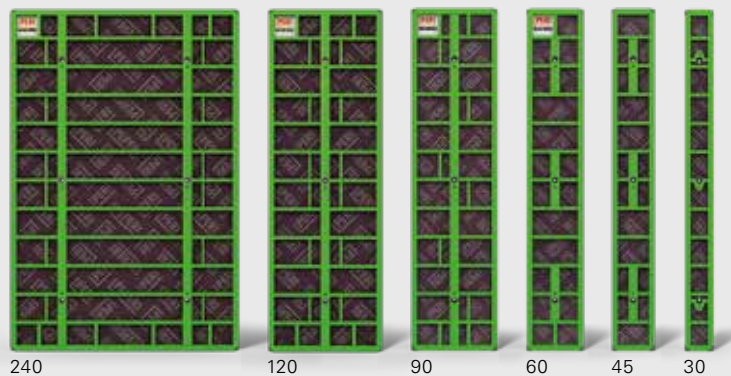
When these additional panel heights are used for larger storey heights, you will benefit from further time savings, for example from upmarket residential construction to underground car parks.

Up to a wall thickness of 60 cm, you can also incorporate the Tie System MX 18. In this case, you will only require two ties for a wall height of 3 m.



On request, PERI products are also manufactured and supplied in individual customer colours.

Panel heights 360



Panel heights 300



Inside Corner MXI 60/60

Corners

Corners

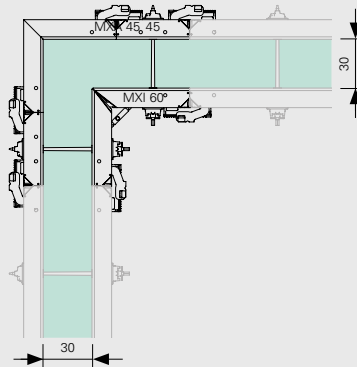
Wall thickness 15 – 40 cm

Internal formwork

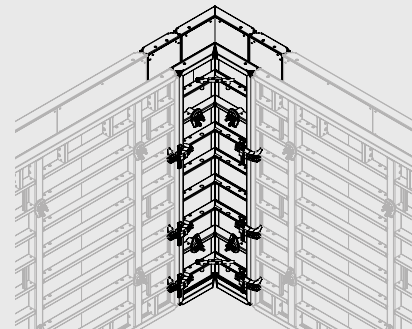
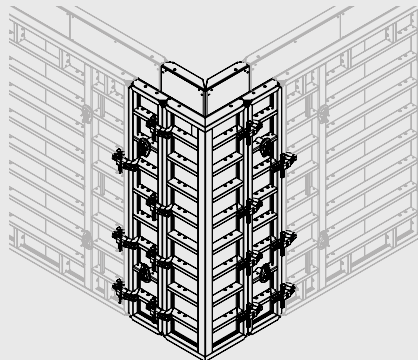
- Inside Corner MXI 60/60
- 3 x Alignment Coupler BFD

External formwork

- Outside Corner MXA 35 or 45
- 2 x Element MX 45
- 4 x Alignment Coupler BFD



The Inside Corner 60/60 is used for designer concrete surfaces – continuous joint and tie arrangements that reach right up into the corners – or when using the Sealing Cone MX 55 to close the tie points.



T-junctions

T-junctions

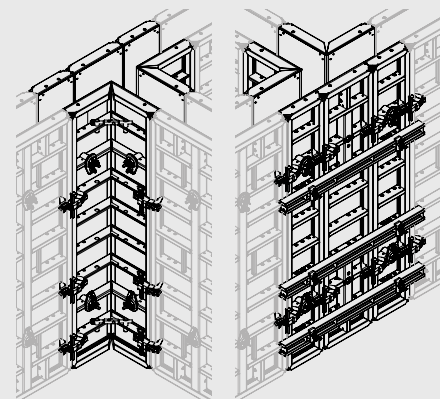
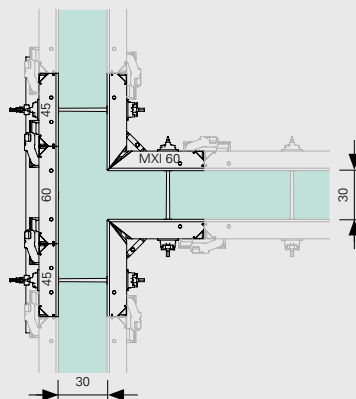
Wall thickness 15 – 40 cm

Internal formwork

- Inside Corner MXI 60/60
- 3 x Alignment Coupler BFD

External formwork

- 2 x Element MX 45
- 1 x Element MX 60
- 3 x MAR 170-2
- 2 x Alignment Coupler BFD



MX Shaft Corner

MAXIMO Shaft Corner

The MAXIMO Shaft Corner is a 90° inside corner which also serves as a striking element.

It has two functions: you can use the shaft corner to form the internal corner and to strike the entire internal formwork of the shaft.

■ Quick and safe handling

Striking can be carried out in only a few work steps – without spindles and from the ground. The Alignment Coupler BFD is used for installation on the next element.

■ Formlining right up into the corner

Nailable formlining is installed over the entire surface of the MAXIMO Shaft Corner. This means that built-in parts can also be securely fixed to the formwork in the corner areas.

■ Moving complete units

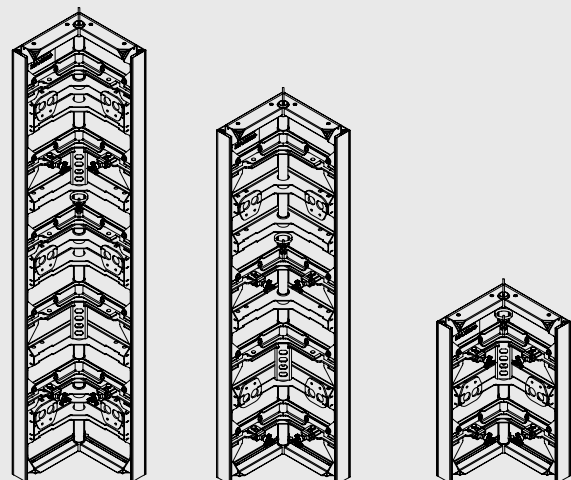
The MAXIMO Shaft Corners together with the wall formwork elements form a complete formwork unit for all concreting cycles. BFD Alignment Couplers bridge all required compensations. The Wingnut MX also remain attached to the elements.

■ Shaft dimensions starting at 1.30 m x 1.30 m

The MAXIMO Shaft Corner makes it possible to form ground plans starting at 1.30 m x 1.30 m. The maximum shaft dimensions and height are limited by the 2.0 t load-carrying capacity of the lifting unit.



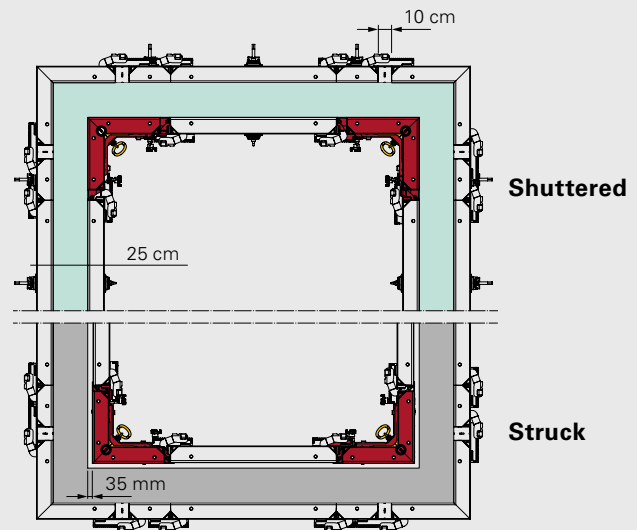
When releasing the shaft corners and pulling with the crane, a 35 mm striking clearance is created on each side.



In addition to the heights 3.30 m, 2.70 m and 1.20 m, the MAXIMO Internal and Shaft Corners are also available in the special-purpose heights of 3.00 m and 3.60 m.



Attach the crane and tighten the chains before you release the striking mechanism with the crowbar, in order to release the formwork from the concrete surface. You can then lift the formwork as a complete unit.



When four Shaft Corners MXSE are used, the formwork dimensions are reduced by 35 mm on each side of the shaft.

MAXIMO Shaft Corner with alkus® formlining

You can order the MAXIMO Shaft Corner both with conventional formlining made of timber and with alkus® formlining.

alkus® is an all-plastic panel that does not rot and does not become discoloured. What's more, rippling does not occur.

You can nail, saw and drill the plastic panel in a similar way to timber. It can also be welded, bent, shaped and repaired with the same materials.

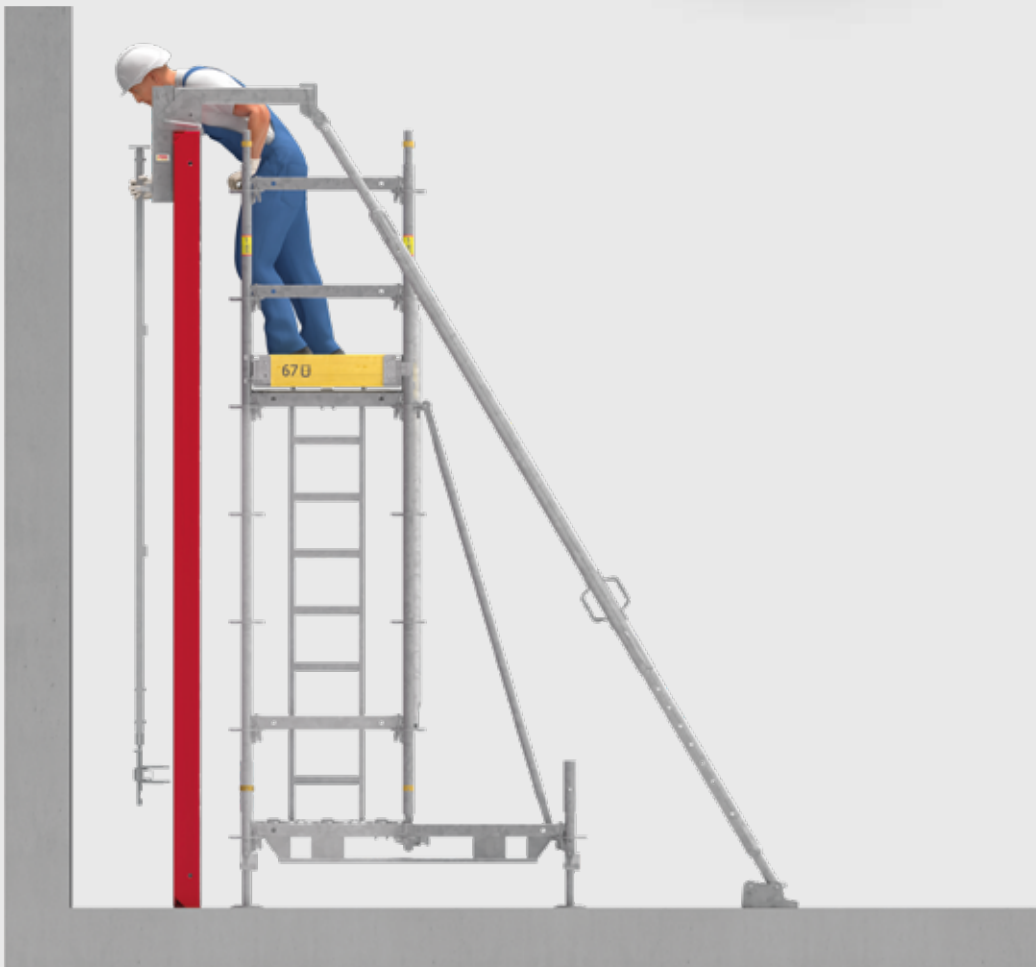


Element Connection Lock MX VS

Using the three MAXIMO system supplements described below allows you to work safely and cost-effectively in every situation. You can combine the additional components and use them with the MAXIMO and the TRIO Panel Formwork.

Element Connection Lock MX VS

The Element Connection Lock MX VS is the ideal solution for element connections in situations where space is very restricted such as, for example, in front of rocks or existing walls. Thanks to its sherardised surface, the connection lock stands out on account of its long service life.



Brace Connector MX RS formlining side and Wall Formwork Bracket MX WK

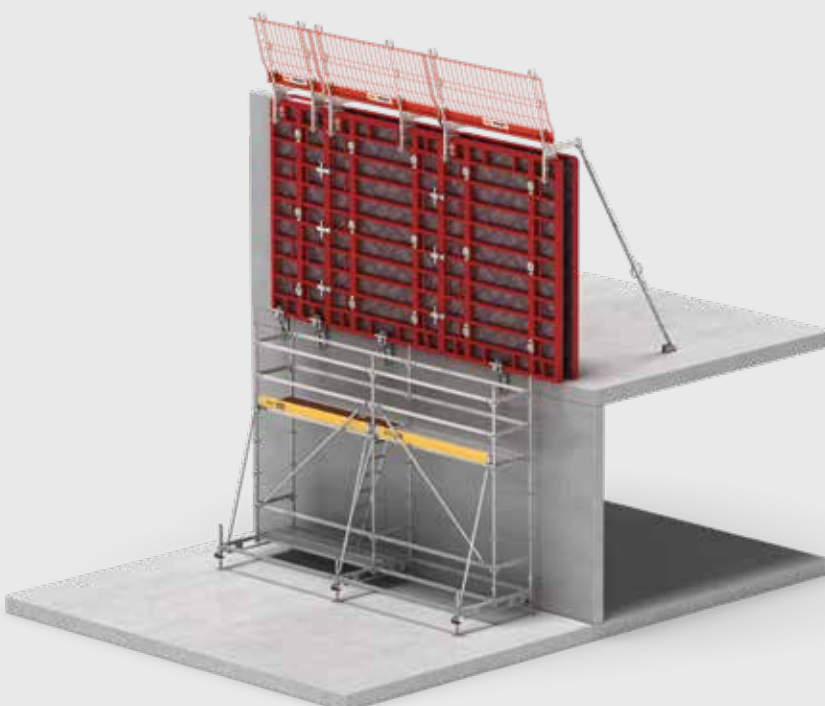
Brace Connector MX RS formlining side

The Brace Connector MX RS formlining side is used to connect the push-pull props to the safe internal side. Thanks to its two-part design and low weight, you will find it convenient to handle. The galvanised surface protects against rust and makes the element very durable.



Wall Formwork Bracket MX WK

The Wall Formwork Bracket MX WK also doubles up as slab edge formwork. It allows the MAXIMO and TRIO Elements to be placed quickly and safely on the slab edge at a height of up to 5.40 m. In addition, slab edge formwork up to 35 cm can be installed by attaching a Guardrail Post MXK. The galvanised and rust-resistant surface increases the service life.



The Brace Connector MX RS formlining side with the Wall Formwork Bracket MX WK.

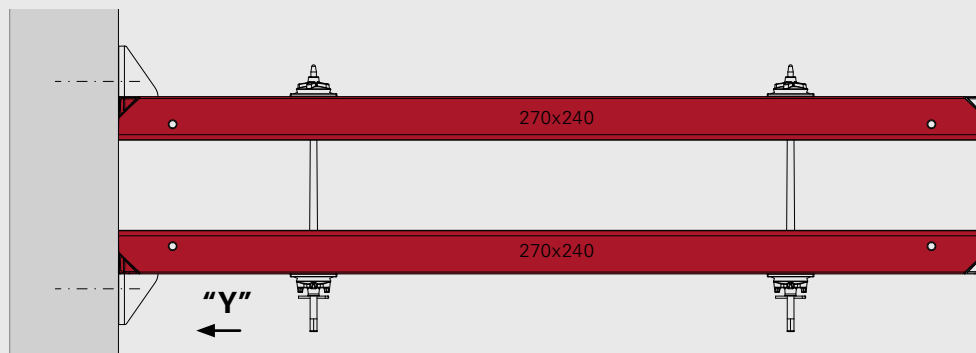
Frame holders

MAXIMO Frame Holder

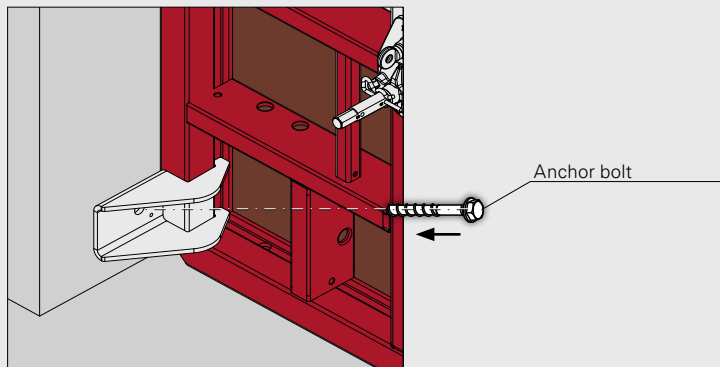
The Frame Holder allows you to secure MAXIMO elements to an existing wall, for example, at a T-junction.

Alternatively, it is possible to fix and anchor the elements to a base plate or concrete slab. During this process, the frame holder prevents inclined elements from lifting and improves the level of safety at your construction site.

You can use the frame holder flexibly with the edge profiles of the MAXIMO and TRIO Formwork Systems.



The MAXIMO Frame Holder serves as anchoring at a T-junction.



To do so, you could use, for example, an anchor bolt.

Tension and compression brace

Tension and compression brace

The central tie point provides decisive advantages when forming foundations, parapets and beams.

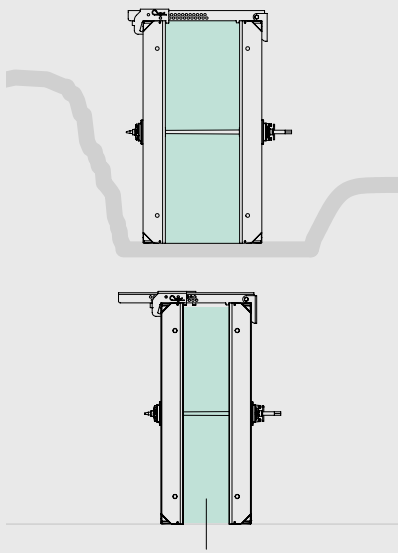
By using the tension and compression brace in connection with the central tie of the MAXIMO Element, a bottom row of ties is not necessary.

Two lengths are available:
The Tension and Compression Brace MX 15 – 40 is continuously adjustable in 5 cm increments for 40 cm; accordingly the MX 15 – 100 up to 100 cm.

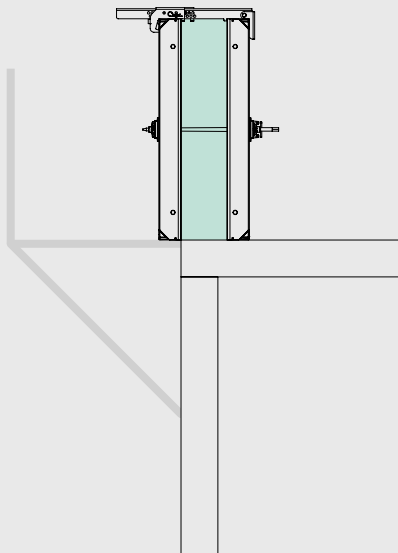


Foundation/upturn beam

- Only a minimum of working space is required.
- Joint filler sheets are no hindrance.

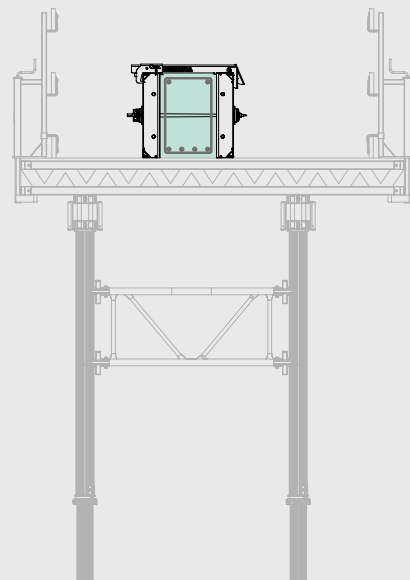


Parapet or similar



Beam

- Thick reinforcement is no hindrance.



System solutions for fast and safe working processes

MXK Bracket System

With the aid of the MXK Bracket System, you can create safe and convenient working and concreting platforms on the MAXIMO and TRIO Panel Formwork. Unlike conventional solutions, this system will see you benefit from compatible system components.

The bracket system is mounted on the elements of the panel formwork horizontally on the ground. The essential system components are light and can be handled without the use of a crane.

The supplementary system components, such as decks with access hatches, ladder access, system solutions for internal and external corners, as well as length compensations, ensure a consistently reliable solution in all areas.



The work platforms are mounted on the element with the corresponding width and also remain attached to the formwork during temporary storage.

Concreting Platform MX

The work and concreting platform for MAXIMO and TRIO is attached to the element from above and is self-securing.

The steel surface provides a high degree of surefootedness. This paves the way for quick and safe work operations.



Platform MXP

The Platform System MXP allows generously sized work platforms to be installed on MAXIMO and TRIO in a particularly efficient manner. At the same time, MXP stands out due to its high degree of safety and user-friendliness.

It is assembled on the ground by hand. Large-sized units of the system can be moved by crane, thus improving the cost-efficiency further still, particularly in the case of high walls and multiple usage.

Thereafter, the integrated ladder access, hatches and guardrails guarantee efficient working operations. MXP provides quick solutions for corners, length compensations and stopend formwork. With larger wall thicknesses, modifications can also be carried out on the front side of the wall using a continuous platform assembly.



All anchors are easily accessible, while the yellow rubber lip protects the element against dirt.



You can suspend the anchors directly on the guardrails. Once the unit has been moved, they are ready for installation again.

Closure technology

PERI can offer you various types of closure technology for use with the MAXIMO Panel Formwork. In this way, you will be able to achieve an optimal concreting result even if requirements are higher than normal, such as in the case of watertight concrete, architectural concrete or fire-resistant F90 walls.

	Plug MX Ø 17.5 – 22	
Deep installation	■	
Installation flush with the surface	□	
Only as a visual function	■	
Sealing against non-pressing water	□	
Sealing against pressing water	□	
Walls with sound protection function	□	
Walls with fire-resistance class F90	□	
Used for attractively designed visible concrete surfaces	□	
Shadow joint	□	
		No cone required

	Plug MX Ø 24 – 28	
Deep installation	■	
Installation flush with the surface	□	
Only as a visual function	■	
Sealing against non-pressing water	□	
Sealing against pressing water	□	
Walls with sound protection function	□	
Walls with fire-resistance class F90	□	
Used for attractively designed visible concrete surfaces	□	
Shadow joint	□	
		No cone required



Tie MX 15

	Screw plug MX 15 – 50 OF – LS	Screw plug MX 15 – 50 MF – LS	Screw plug MX 15 – 75 MF – L MX 15 – 75 MF – S	DK Concrete Cone DW15 – 58/30	DK Concrete Cone Architectural/01 DW 15 – 58/52	DK Concrete Cone UNI 58/52
	■	□	□	■	□	□
	□	■	■	□	■	■
	□	□	□	□	□	□
	■	■	□	□	□	□
	□	□	■	□	□	■
	■	■	■	□	□	■
	■	■	■	□	□	■
	□	□	□	■	■	□
	□	□	□	□	■	□

No cone required



Magnet Cone MX 15 – 55

Magnets are fitted in the cone which means they are reliably fixed to the metal ring of the sealing integrated in the element.

Tie MX 18

	Screw plug MX 18 – 50 OF – LS	Screw plug MX 18 – 50 MF – LS	Screw plug MX 18 – 75 MF – L MX 18 – 75 MF – S	DK Concrete Cone DW15 – 58/30	DK Concrete Cone Architectural/01 DW 15 – 58/52	DK Concrete Cone UNI 58/52
	■	□	□	■	□	□
	□	■	■	□	■	■
	□	□	□	□	□	□
	■	■	□	□	□	□
	□	□	■	□	□	■
	■	■	■	□	□	■
	■	■	■	□	□	■
	□	□	□	■	■	□
	□	□	□	□	■	□

No cone required



Magnet Cone MX 18 – 55

Magnets are fitted in the cone which means they are reliably fixed to the metal ring of the sealing integrated in the element.



Closure technology

Deep installation

Installation flush with the surface

Only as a visual function

Sealing against non-pressing water

Sealing against pressing water

Walls with sound protection function

Walls with fire-resistance class F90

Used for attractively designed visible concrete surfaces

Shadow joint



DW 15		DW 15 / DW 20		
Plug DR 22	Plug FRZ 22	DK Concrete Cone DW15 – 58/30	DK Concrete Cone Architectural/01 DW 15 – 58/52	DK Concrete Cone UNI 58/52
■	■	■	□	□
□	□	□	■	■
■	■	□	□	□
□	□	□	□	□
□	□	□	□	■
□	□	□	□	■
□	□	■	■	□
□	□	□	■	□



For use with Spacer Tube, Rough DR 22 or Fibre Cement Pipe FZR. Cone MX DR 22/2 covers the sealing on the element.



For waterproof, fire-resistant and sound-absorbing tie points with Tie Rods DW 15. For use with DK Sealing Cone DW 15 – 55.



For use with Spacer Tube DR 28 and DK Sealing Cone DW 20/55.



MAXIMO in use



Hexagon office building, Calgary, Canada

A combination of MAXIMO Panel Formwork and CB Climbing Units was used during the reconstruction of the Hexagon headquarters in Calgary, Canada. This enabled the construction site team to stick to the tight schedule while meeting the stringent concrete surface quality requirements.

In order to produce the reinforced-concrete walls, the construction site team used MAXIMO Panel Formwork. Thanks to its MX Tie Technology, which can be operated from one

side, it was possible to save valuable working time on site. The anchoring process was carried out quickly by a single person. Given the conical shape of the MX Tie Rod, neither spacer tubes nor cones were required – in Calgary, this saved both on materials and any additional effort. The centrally-arranged tie points in the MAXIMO Formwork also allowed for a regular joint and tie arrangement – both horizontally and vertically.

Two MAXIMO Shaft Units were used to produce the six



Jamie Wood, Site Manager

“Not only do I think that the PERI MAXIMO Shaft Corner is the safest shaft formwork out there, I also think it’s the easiest to strike and move. We love the MX Shaft Corner.”



Combination of MAXIMO Panel Formwork and CB Climbing Units in action

Valuable working time was saved by using the single-sided MX Tie Technology

Regular joint and tie arrangement thanks to centrally-arranged tie points

The six multi-storey building cores were produced using MAXIMO Shaft Units

multi-storey building cores. During this process, the internal formwork was installed using MAXIMO Elements with suitable shaft corners. At the same time, the Shaft Corners MXSE served as 90° internal corners as well as striking panels. It was possible to strike the entire internal formwork quickly as a complete unit and lift it out by crane in order to move it to the next concreting section.

For the core-external formwork, PERI used a total of 12 units consisting of CB Climbing Brackets and MAXIMO Panel Formwork that could be moved by crane. In addition, the work platforms ensured that working conditions were safe, partly due to the absence of tripping hazards.

MAXIMO in use



More than 6,000 m² of MAXIMO Panel Formwork materials were in simultaneous use during construction of Berlin's City Palace.



The walls of the "am Hirschgarten" urban district were formed in no time at all using MAXIMO Panel Formwork.

"Humboldt Forum" City Palace Berlin, Germany

For the reconstruction of Berlin's City Palace, PERI supplied a large number of cost-effective formwork and scaffolding solutions from a single source. In addition to fast shuttering and moving times, the on-site support provided by the PERI engineers ensured that the very tight construction schedule could be maintained.

More than 6,000 m² of MAXIMO Panel Formwork materials were in simultaneous use in Berlin. In particular, the one-sided MX Tie Technology guaranteed significant time savings during all shuttering and striking operations. This is because MAXIMO does not require any spacer tubes or cones – and saves the expense of an extra person on the opposite side.

In particular, taking all construction tasks into consideration was an important element of the PERI overall solution. In addition to providing modern and time-saving systems, the well-thought-out safety technology, provision of project-specific special formwork assemblies and project management by the PERI project leader had a very positive effect and accelerated the work processes.

"am Hirschgarten" urban district, MK 4 "Friends" Munich, Germany

The MK 4 residential complex near the city centre with its 260 apartments and office and hotel units consists of two 16-storey residential towers, each reaching a height of 53 m. The basement storeys house the underground garage, storage rooms and technical facilities.

In only twelve months of construction time, a total of 40,000 m³ of concrete and 5,700 t of the constructional steel were installed. A comprehensive formwork and scaffolding solution provided by the PERI engineers in Munich guaranteed safety and efficiency in equal measure.

MAXIMO Panel Formwork was used to form the walls. Thanks to the single-sided tie technology without spacer tubes and cones, the client was able to make significant savings on personnel costs and the time required for the shuttering process. There was no need to have a second person on the opposite side of the formwork.



The modern, two-storey office building stands out due to its impressive architectural concrete facade. The building dimensions, as well as the window and door openings, were cleverly defined so that no obstructing filler timber compensations were necessary and a perfect concrete finish with a homogeneous joint and tie arrangement could be realised.

Kopp Office Building Emerkingen, Germany

With its one-sided MX Tie Technology, the MAXIMO Panel Formwork guaranteed fast working operations and rapid cycle sequences during construction work. This meant one less person was required when anchoring and scaffolding on the setting side, while also eliminating time-consuming working steps such as the cutting of spacer tubes and closing of unused tie points. In particular, the possibility of using MAXIMO Standard Panels, due to the centrally arranged tie points and the perfectly matched joint and tie arrangement for realising extremely impressive concrete finishes in architectural concrete quality, convinced the client, architect and contractor alike.

To achieve an optimal result, the project management team collaborated closely with the PERI formwork specialists at an early stage. Thus, the design possibilities using the 30 cm grid of the MAXIMO Formwork Panels were already incorporated in the construction plans. Both costs and time were saved by only using standardised rental formwork in the construction work. At the request of the customer, only MAXIMO Elements fitted with new formlining for the visible surfaces were supplied.



The climbing units were lifted into the next section each time in 50 cm increments by means of mobile climbing hydraulics. Thereby, the MAXIMO Wall Formwork was positioned on a carriage and retracted by up to 90 cm for reinforcement work to be carried out.

Maakri-Kvartal Business Complex, Tallinn, Estonia

PERI engineers developed a comprehensive overall concept in collaboration with the contractor to construct the building shell. The RCS Rail Climbing System was combined with the particularly efficient MAXIMO Panel Formwork to form corresponding climbing units.

The MAXIMO Panel Formwork was used not only on the climbing formwork but also for various other wall areas. With panel heights of up to 3.30 m and the one-sided MX Tie Technology, valuable working time was saved. The Wingnut MX was fixed only once on the primary formwork at the beginning of work operations; subsequently the MX Tie could be screwed in through the closing formwork into the swivel nut – it was therefore possible for one person to operate the tie and from one side only whenever the formwork was used. In the process, the conical tie rod requires no spacer tubes and cones – this saves both on materials and any additional effort. What's more, MAXIMO required up to 40% fewer tie points compared to panel formwork systems with conventional tie technology.

MAXIMO in use



Shuttering could be carried out much more quickly due to the fact that the anchor technology is operated from one side only and the number of spacer tubes and tie points were reduced.

Detached House Dußlingen, Germany

The basement walls of the detached house were formed in three cycles with a wall thickness of 24 cm. For this, the construction site team used the newly purchased MAXIMO 270. After very careful consideration, the 14-man building company opted to use the MAXIMO Panel Formwork System so they could work even more efficiently when constructing the basement for the detached house, the retaining walls and silo walls. As an additional benefit, the contractor promised attractive visible concrete surfaces with cost-effective means, as the MAXIMO Panel Formwork ensures a neat joint and tie arrangement.

For subsequent projects, especially those with high wall sections, the reduction of working steps and tie points will have an even greater effect. In addition, the combination of tension and compression braces together with centrally-positioned tie points replaced the bottom row of ties for foundations, parapets and downstand beams. Anchoring no longer had to take place in the bottom, often heavily reinforced area.



The almost 12-m-high walls were cast in one pour, while closing the MAXIMO required no scaffolding on the setting side.

Production hall at the carbide tool factory of Paul Horn GmbH, Tübingen-Derendingen, Germany

The carbide tool factory of Paul Horn GmbH doubled its manufacturing floor space. The 170-m-long, 50-m-wide and 18-m-high two-storey building shell was completed in a construction time of only ten months. Once the project was complete, 15,000 m² of additional space was available for carrier tool production, coating operations and logistics.

In order to adhere to the demanding building schedule, the experienced construction team was supported by four tower cranes and had a large supply of on-site formwork and scaffolding materials, whereby the quantities available matched the exact requirements of the construction process. In particular, for the realisation of the high reinforced concrete walls, which were cast in sections of up to 12 m in one pour, the MAXIMO Panel Formwork guaranteed fast shuttering times. Thanks to the MX Tie Technology, no additional scaffolding was required on the setting side; anchoring was only required on the closing side of the PERI UP Reinforcement Scaffold.



Horizontally-positioned MAXIMO 270 x 120 Elements were used as side formwork for the bottom plate, and were fixed to the steel girders by means of weld-on anchors. The DK Tie System served to ensure subsequent reliable sealing of the tie points. The tie points were sealed with concrete cones using a sealing compound.

Billhafen flood protection Hamburg, Germany

The 720-m-long “Billhafen” flood protection system was upgraded by means of an angular reinforced concrete retaining wall structure – laterally extended by 8 m and with the height raised by almost 5 m. The foundations were realised by means of vertical piles along with oblique anchors that were embedded up to 40 m in the ground. For the visible, water-facing surfaces, Class SB 2 architectural concrete was specified.

The experienced construction site team used MAXIMO Panel Formwork for the 18 casting segments, each 28 m long. For concreting the bottom plate, horizontally-positioned MX 270 x 120 Elements were used for the base layer, which were fixed to the inclined steel girders by means of weld-on ties. Deploying the MAXIMO Elements horizontally in close coordination with the project planners resulted in excellent concrete surfaces with a neat and tidy joint and tie arrangement on account of the centrally-positioned tie points. Due to the outer side having a 6° inclination, conventional DW 15 Ties were used. The MAXIMO Elements were arranged polygonally in the curved areas. Filler timbers were accurately cut at PERI's assembly hall in Hamburg; BFD Alignment Couplers provided tight panel connections.



The MXP Modular Platform System ensured a high level of safety on the construction site – and provided optimal working conditions especially when forming the high walls.

Customer Service Centre Winnenden, Germany

Three impressive structures have expanded the company premises of this manufacturer of cleaning equipment with an international presence. To construct the new customer service centre including training rooms and an 800 m² exhibition hall, the construction site team used MAXIMO Panel Formwork together with the modular MXP Platform System to manufacture the walls, which reached heights of up to 12.10 m. After completing the straightforward initial assembly phase with only a few fasteners, the work platforms remained fixed to the formwork, thus forming movable units that could be relocated easily by crane. This meant that shuttering and concreting could also be carried out at great heights in a totally safe manner and a great working speed. What's more, the 1.20-m-wide working levels made it easier to operate the MX Ties and connect the MAXIMO Elements using BFD Alignment Couplers.

In addition to the significant time savings, the MAXIMO System also impressed by providing excellent concreting results. The perfectly coordinated panel dimensions, the centrally-positioned tie points and the permanently symmetrical tie positions in all extension situations won over the project management team. All of this meant that the wall surfaces could be retained as architectural concrete walls without the need for any subsequent reworking.

**The optimal System
for every Project and
every Requirement**



Wall Formwork



Column Formwork



Slab Formwork



Climbing Systems



Bridge Formwork



Tunnel Formwork



Shoring Systems



Construction Scaffold



Facade Scaffold



Industrial Scaffold



Access



Protection Scaffold



Safety Systems



**System-Independent
Accessories**



Services



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