

COLUMN FORMWORK

User guide



HÜNNEBECK 

BY BRAND SAFWAY

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1 Product features

This column formwork by HÜNNEBECK is designed to form square and rectangular column sections in a fast and economical way. The easy to handle basic construction is based on the principle of the windmill system.

The formwork is delivered in units that require almost no assembly. Only the adjustment of the cross section and the stacking of elements need to be performed on site.

A full column formwork setup can be transported with the crane in one pick including all attached accessories.

The column formwork 60 can be adjusted to dimensions ranging from 20 x 20 cm to 60 x 60 cm.

The column formwork 120 can be adjusted to dimensions ranging from 50 x 50 cm to 120 x 120 cm. For additional adjustments the column formwork 60 and column formwork 120 can be combined. The column formwork can be adjusted in a 5 cm grid.

A high performance plywood with plastic face layer is connected to the steel frames of the formwork from the back. This plywood allows a significantly higher number of uses and a high quality concrete finish.

The permitted fresh concrete pressure is 120 kN/m² for the column formwork 60 and 80 kN/m² for the column formwork 120 (according to DIN 18218 – fresh concrete pressure on perpendicular formwork – on adherence to DIN 18202 – tolerances in structural construction, Table 3, line 7).

1.1 General

This user guide contains important information as well as relevant safety precautions for the assembly and use of the HÜNNEBECK COLUMN FORMWORK SYSTEM.

This user guide is intended as an aid to achieve efficiency when working with HÜNNEBECK's column formwork system. It is therefore important to read this user guide carefully before setting up and using the formwork system. Keep the user guide at hand for reference and store them in a safe place for future use.

HÜNNEBECK products are exclusively designed for commercial use by professionally qualified personnel.

1.2 Safety instructions

Important information regarding the intended use and safe application of formwork and falsework

The contractor is responsible for drawing up a comprehensive risk assessment and a set of assembly instructions. The latter is not usually identical to the user guide.

- Risk assessment

The contractor is responsible for the compilation, documentation, implementation and revision of a risk assessment for each construction site. His employees are obliged to implement the measures resulting from this in accordance with all legal requirements.


- Installation instructions


The contractor is responsible for compiling a written set of assembly instructions. The user guide forms part of the basis for the compilation of a set of assembly instruction.


- **User guide**
Formwork is technical work equipment which is intended for commercial use only. The intended use must take place exclusively through properly trained personnel and appropriately qualified supervisory personnel. The user guide is an integral component of the formwork construction. They comprise minimum safety guidelines, details on the standard configuration and intended use as well as the system description. The instructions for assembly and use (standard configuration) contained in the assembly instructions are to be complied with as stated. Enhancements, deviations or changes represent a potential risk and therefore require separate verification (with the help of a risk assessment) or a set of assembly instructions which comply with the relevant laws, standards and safety regulations. The same applies in those cases where formwork and/or falsework components are provided by the contractor. This user guide is intended for commercial users with appropriate technical training. The contents and processes described are in accordance with the legal and occupational safety regulations of Germany and Austria. HÜNNEBECK assumes no liability for deviations from the contents and processes described or for use outside this area of application.
- **Availability of the user guide**
The contractor must ensure that the user guide provided by the manufacturer or formwork supplier are available at the place of use. Site personnel are to be informed of this before assembly and use takes place and that they are available at all times.
- **Representations**
The representations shown in the user guide are, in part, situations of assembly and not always complete in terms of safety considerations. Safety installations which may not have been shown in these representations must nevertheless be available.
- **Storage and transportation**
The special requirements of the respective formwork constructions regarding transportation procedures as well as storage must be complied with. By way of example, name the appropriate lifting gear to be used.
- **Material check**
Formwork and falsework material deliveries are to be checked on arrival at the construction site/place of destination as well as before each use to ensure that they are in perfect condition and function correctly. Changes to the formwork materials are not permitted.
- **Spare parts and repairs**
Only original components may be used as spare parts. Repairs are to be carried out by the manufacturer or authorized repair facilities only.
- **Use of other products**
Combining formwork components from different manufacturers carries certain risks. They are to be individually verified and this may result in the need for a separate set of assembly instructions required for the installation of the equipment.

- Safety warnings, note and visual check
The individual safety messages or notes and the visual check must be complied with.


Examples:

 DANGER	Danger! DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.
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 WARNING	Warnng! WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.
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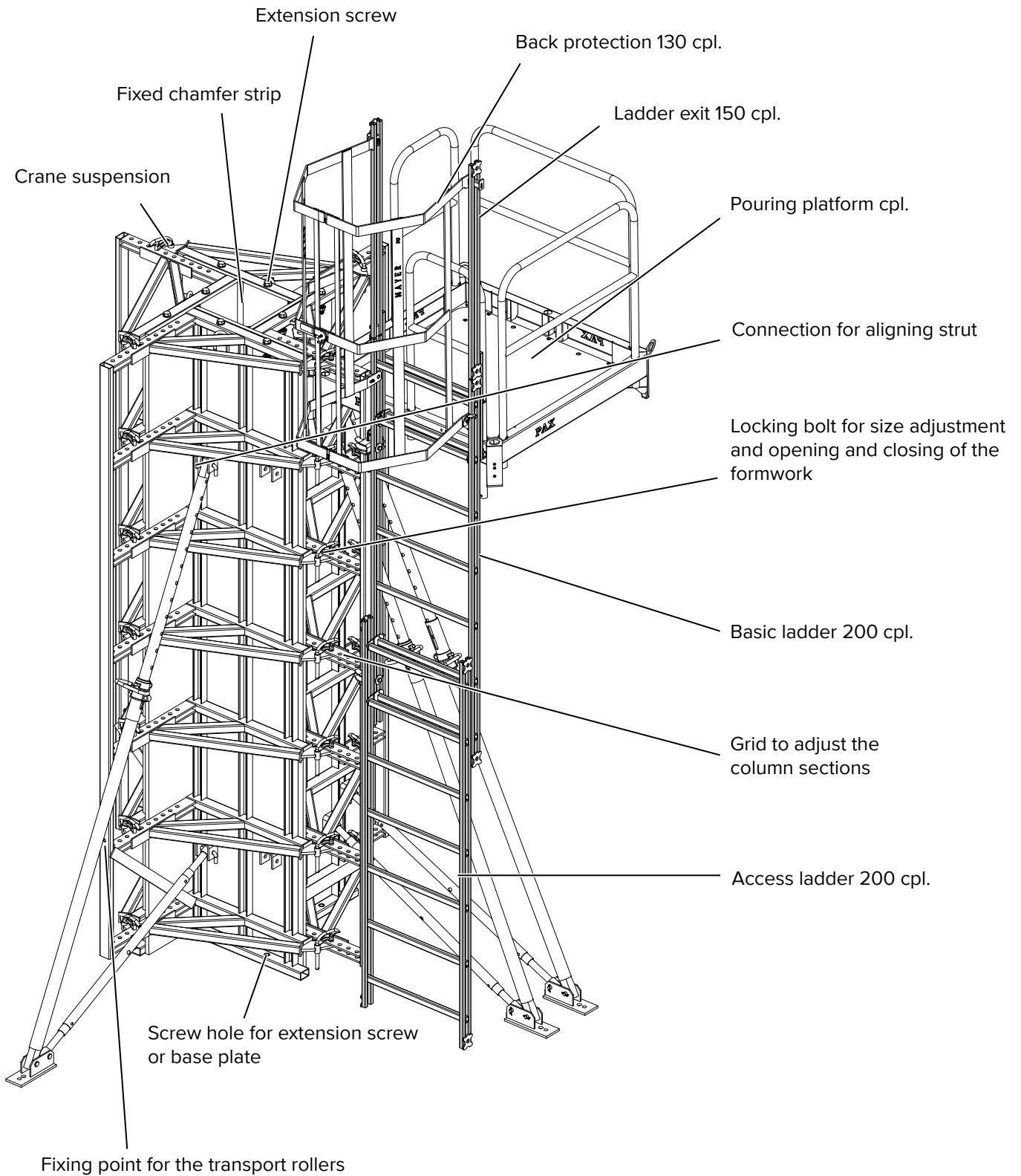
 CAUTION	Caution! CAUTION used with the safety alert symbol indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
--	---

NOTE	Note NOTE refers to practices not related to personal injury.
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 VISUAL CHECK	Visual check VISUAL CHECK refers to a visual check and is not related to personal injury.
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- Miscellaneous
Technical improvements and modifications are subject to change without notice. For the safety-related application and use of the products, all current country-specific laws, standards as well as other safety regulations are to be complied with without exception. They form a part of the obligations of employers and employees regarding industrial safety. This results in, among other things, the responsibility of the contractor to ensure the stability of the formwork and falsework constructions as well as the structure during all stages of construction. This also includes the basic assembly, dismantling and transport ation of the formwork and falsework constructions or their components. The complete construction is to be checked during and after assembly.

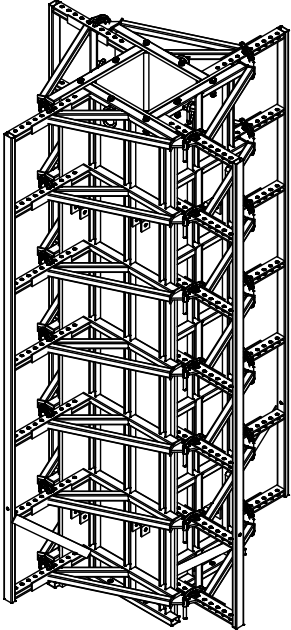
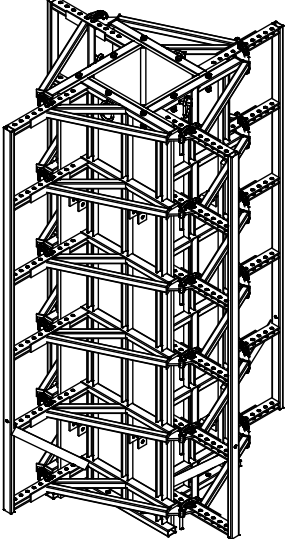
2 Product overview

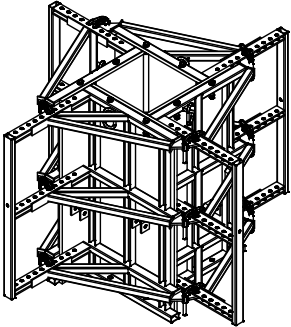


3 Components

With the column formwork 60 cm, rectangular or square shaped column sizes starting from 20/20 cm up to 60/60 cm can be formed in 5 cm steps.

3.1 Column formwork 60 cm

	Component	Product code	Weight [kg]
	<p>Column formwork 320/60 Formwork ready for use with plywood and chamfer strip.</p>	<p>602964</p>	<p>708.00</p>
	<p>Column formwork 270/60 Formwork ready for use with plywood and chamfer strip.</p>	<p>602965</p>	<p>608.00</p>

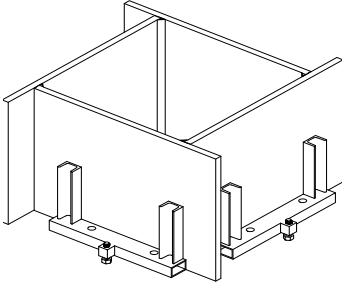
	Component	Product code	Weight [kg]
	<p>Column formwork 120/60 Formwork ready for use with plywood and chamfer strip.</p>	<p>602966</p>	<p>300.00</p>



WARNING

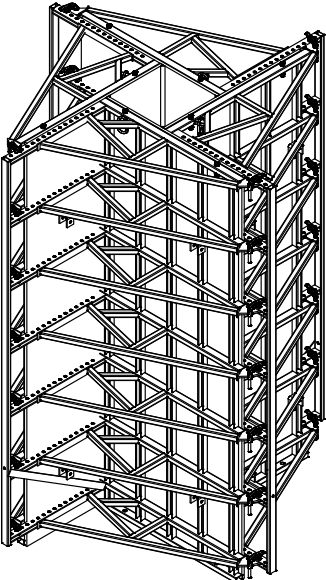
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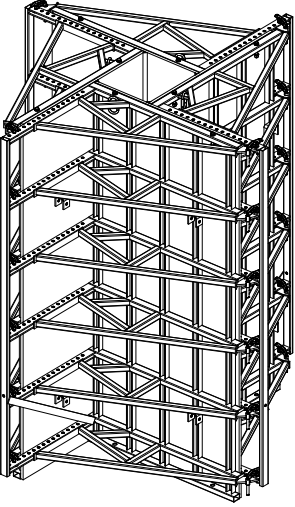
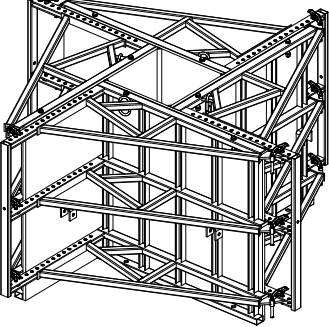

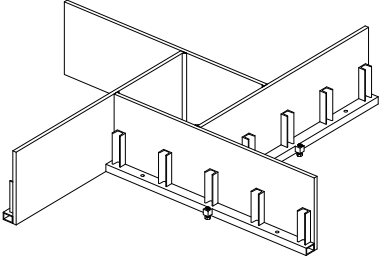
Only use for formwork extensions!

	<p>Extension angle 40/60 the height of the column formwork to be extended by</p>	<p>602967</p>	<p>30.52</p>
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3.2 Column formwork 120 cm

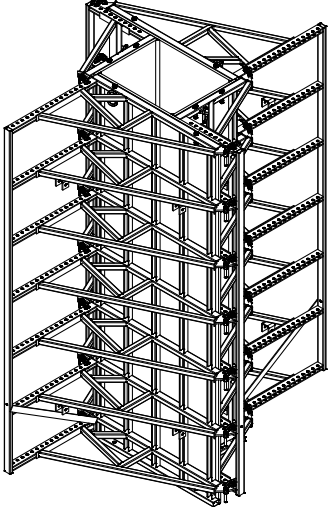
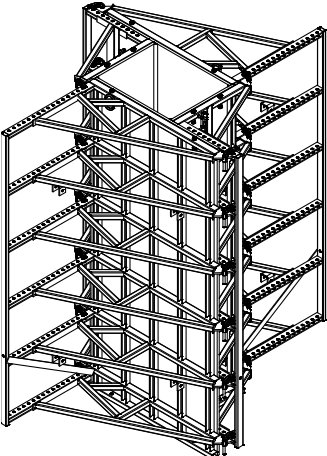
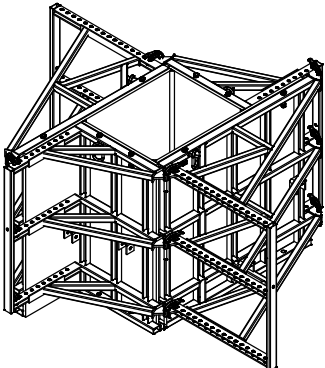
With the column formwork 120 cm, rectangular or square shaped column sizes starting from 50/50 cm up to 120/120 cm can be formed in 5 cm steps.

	Component	Product code	Weight [kg]
	<p>Column formwork 320/120 Formwork ready for use with plywood and chamfer strip.</p>	<p>602968</p>	<p>1260.00</p>

	Component	Product code	Weight [kg]
	<p>Column formwork 270/120</p> <p>Formwork ready for use with plywood and chamfer strip.</p>	<p>602969</p>	<p>1076.00</p>
	<p>Column formwork 120/120</p> <p>Formwork ready for use with plywood and chamfer strip.</p>	<p>602970</p>	<p>530.00</p>
<div style="display: flex; align-items: center;"> <div style="background-color: orange; color: white; padding: 5px; display: flex; align-items: center; gap: 10px;">  <p>WARNING</p> </div> <div style="margin-left: 20px;"> <p>Warning!</p> <p>Only use for formwork extensions!</p> </div> </div>			
	<p>Extension angle 40/120</p> <p>Allows the height of the column formwork to be extended by 40 cm at a width of 120 cm.</p>	<p>602971</p>	<p>52.83</p>

3.3 Combined column formwork

With the combined column formwork 60/120 cm, rectangular or square shaped column sizes starting from 15/75 cm up to 60/120 cm can be formed in 5 cm steps..

	Component	Product code	Weight [kg]
	<p>Column formwork 320/60 120 Formwork ready for use with plywood and chamfer strip.</p>	<p>603334</p>	<p>984.00</p>
	<p>Column formwork 270/60 120 Formwork ready for use with plywood and chamfer strip.</p>	<p>603335</p>	<p>842.00</p>
	<p>Column formwork 120/60 120 Formwork ready for use with plywood and chamfer strip.</p>	<p>603336</p>	<p>415.00</p>

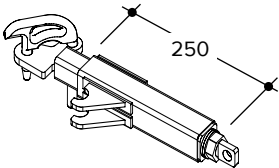
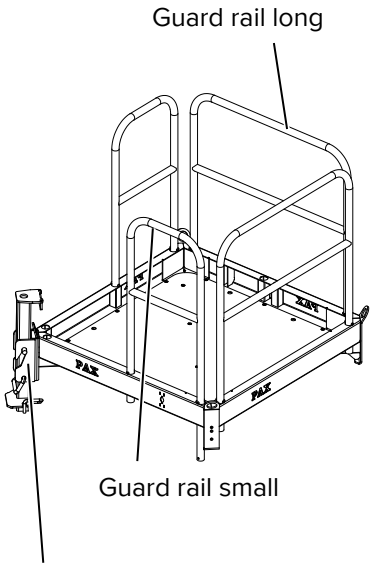
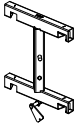
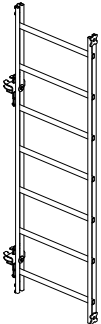
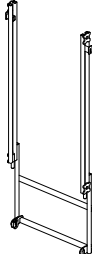


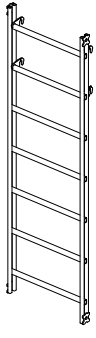
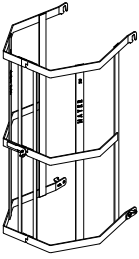
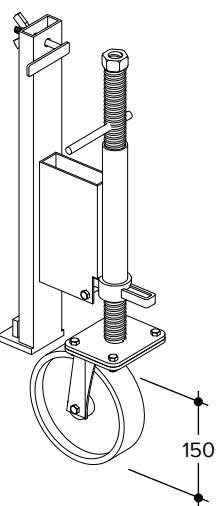

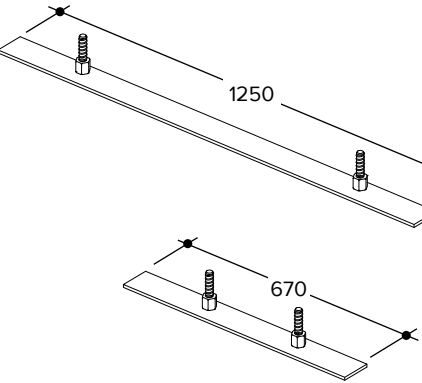
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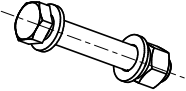
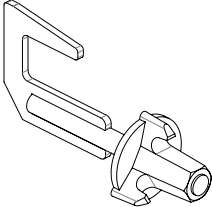
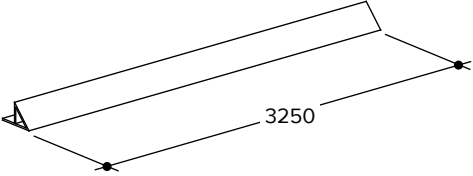
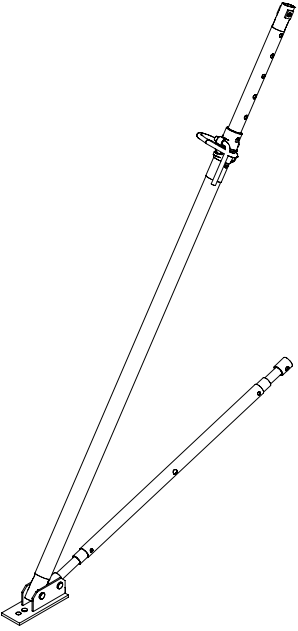
Warning!

Only use for formwork extensions!

3.4 Accessories

	Component	Product code	Weight [kg]
	Operating clamp Used for assembly and dismantling of the formwork.	602973	3.50
 <p>Guard rail long</p> <p>Guard rail small</p> <p>Adapter for pouring platform</p>	Pouring platform cpl. Has to be placed on the formwork with assembled side railings by a crane to allow safe working. The pouring platform cpl. consists of: adapter for pouring platform (1x), guard rail long (2x) and guard rail small (2x).	602974	110.00
	Guard rail long Can also be ordered separately.	603027	9.00
	Guard rail small Can also be ordered separately.	603028	7.00
	HD adapter 120 cpl.	605986	10.00
	Basic ladder 200 cpl.	605987	17.50
	Ladder exit 150 cpl.	605983	9.00

	Component	Product code	Weight [kg]
	Suspension ladder 200 cpl.	605984	15.00
	Safety cage 130 cpl.	605985	29.00
	Roller 700 kg, offset 150 mm For transportation of column formwork 60.	602975	9.50
	Pistol bolt Ø16 To connect the aligning strut to the column formwork. Diameter 16 mm.	603033	0.24
	Base plate 120 Base plate 60 The base plate is screwed under the bottom elements. This way, the frame and plywood are protected when the column formwork is opened or closed. Four base plates are required for each column formwork.	602977	6.40
602976	3.60		

	Component	Product code	Weight [kg]
	<p>Extension screw M16x100 nut with washer Spare part to connect single column formwork elements.</p>	<p>603001</p>	<p>0.30</p>
	<p>Ladder fixing clamp Used to secure a ladder to the pouring platform cpl.</p>	<p>603030</p>	<p>1.00</p>
	<p>Chamfer strip 15/15/22 L = 325 cm with fixing strip</p>	<p>603029</p>	<p>0.40</p>
	<p>Alignment strut To brace and align the column formwork.</p>	<p>603054</p>	<p>21.87</p>

4 Adjustment of column size

The adjustment procedure for the formwork 60 and the formwork 120 is identical.

The cross section is adjusted when the formwork is standing, including if the formwork has been stacked and with or without installed pouring platform. In horizontal position it is not possible to adjust the formwork.

Procedure:

- Starting at one form element, loosen all double bolts.
- Push the element to the required dimension on the grid.
- Replace all double bolts.
- Repeat this process for the 3 other form elements.



WARNING

Warning!

During work at the column formwork secure it against tipping. A suitable safety measure is the attachment of the formwork to the crane on site with a 4-chain lifting sling.

Cross section

Schematic diagram of the column cross sections

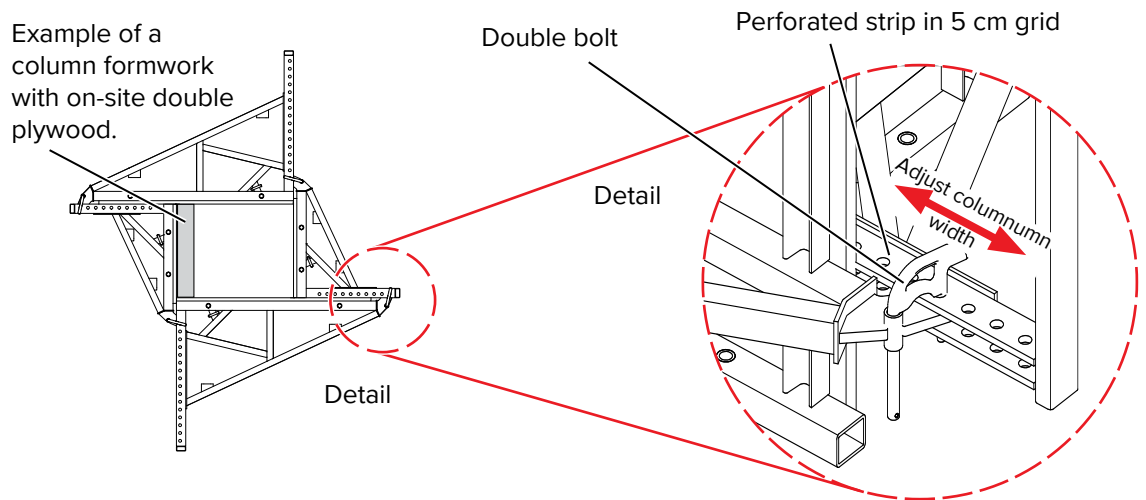
Possible combinations for the column formwork 60, 120 and 60/120

	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	
15	□										■	■	●	●	●	●	●	●	●	●	●	●	●
20											■	■	●	●	●	●	●	●	●	●	●	●	●
25											■	■	●	●	●	●	●	●	●	●	●	●	●
30											■	■	●	●	●	●	●	●	●	●	●	●	●
35											■	■	●	●	●	●	●	●	●	●	●	●	●
40											■	■	●	●	●	●	●	●	●	●	●	●	●
45							□	□	□	□	■	■	□	□	□	□	□	□	□	□	□	□	□
50							□	□	□	□	■	■	□	□	□	□	□	□	□	□	□	□	□
55							□	□	□	□	■	■	□	□	□	□	□	□	□	□	□	□	□
60							□	□	□	□	■	■	□	□	□	□	□	□	□	□	□	□	□
65	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
70	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
75	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
80	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
85	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
90	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
95	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
100	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
105	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
110	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
115	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■
120	●	●	●	●	●	●	□	□	□	□	■	■	■	■	■	■	■	■	■	■	■	■	■

□ 60 ■ 120 □ 60 or 120 ● 60 / 120 ■ with double plywood

□ 60 / 120 or 120 □ Operation with operating clamp not possible

5 Mounting



5.1 Stacking the formwork elements

Height adaptation from 2.70 up to 6.60 m:

The formwork can be adapted to the required height by using standard elements, stacking elements and the related extension angles.

The permitted fresh concrete pressure is limited to:

Column formwork 60 = 120 kN/m²

Column formwork 120 = 80 kN/m²

The stacking procedures for the formwork 60 and the formwork 120 are identical.



WARNING

Warning!

The formwork must be secured against tipping at all times. The safety regulations must be adhered to!



WARNING

Warning!

Stacked formwork elements that are in a horizontal position can only be raised up to a height of 6.40 m!



VISUAL CHECK

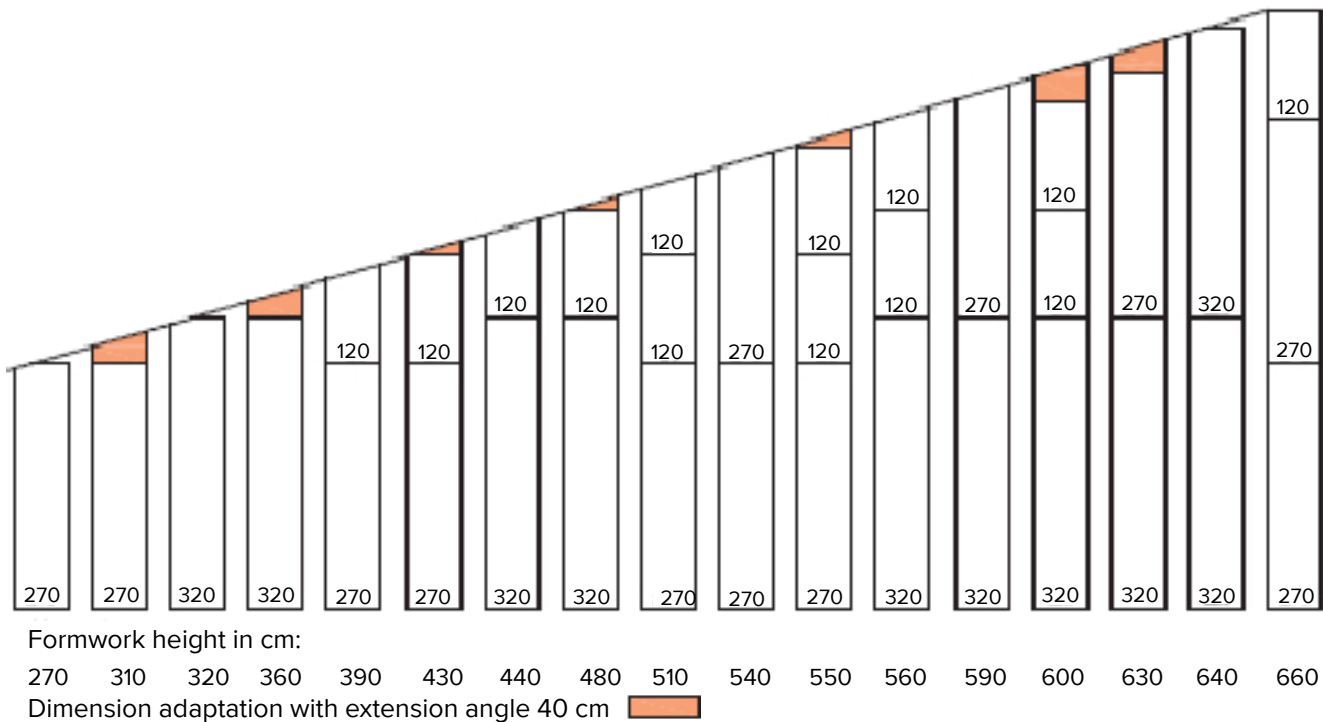
It is recommended to operate stacked column formwork with two operating clamps.

Procedure for stacking of elements

- The individual forming elements are connected by extension screws M16x100 that are placed through the frames.
- The column formwork should be stacked preferably in an open position to allow accurate alignment and checking of the elements. Pay attention to achieving flush and even plywood joints, particularly at the edges of the stacked elements.
- The elements can be stacked with the formwork in a horizontal position (only when the formwork is closed – control of alignment is not possible; max. height 6.40 m) as well as when a vertical position. It is recommended to stack the formwork in a vertical position when a fair faced or exposed concrete finish is required.

- When the elements are aligned, tighten the extension screws in order to avoid movement of the elements during concrete placement.
- All elements are delivered with all required extension screws.
- By using the extension angles, the height of the formwork can be adapted to exactly the required height.

Element combinations for possible formwork heights



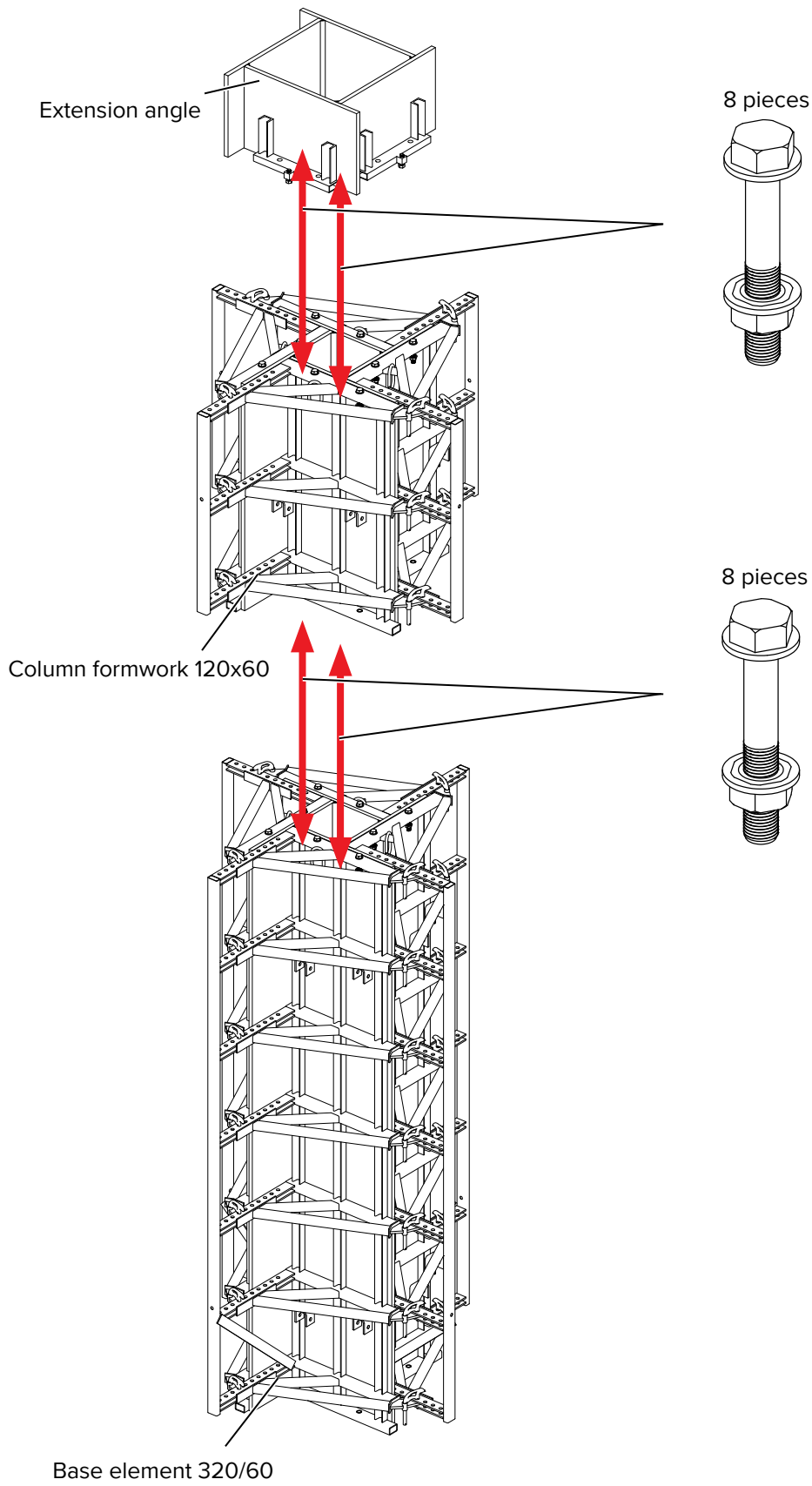
WARNING

Warning!

The column formwork 60x120, 120x120 and 120/60x120 are exclusively for stacking. Do not use them as a base element!

Each column formwork is equipped with 8 extension screws. The extension screws are located at the top of the element.

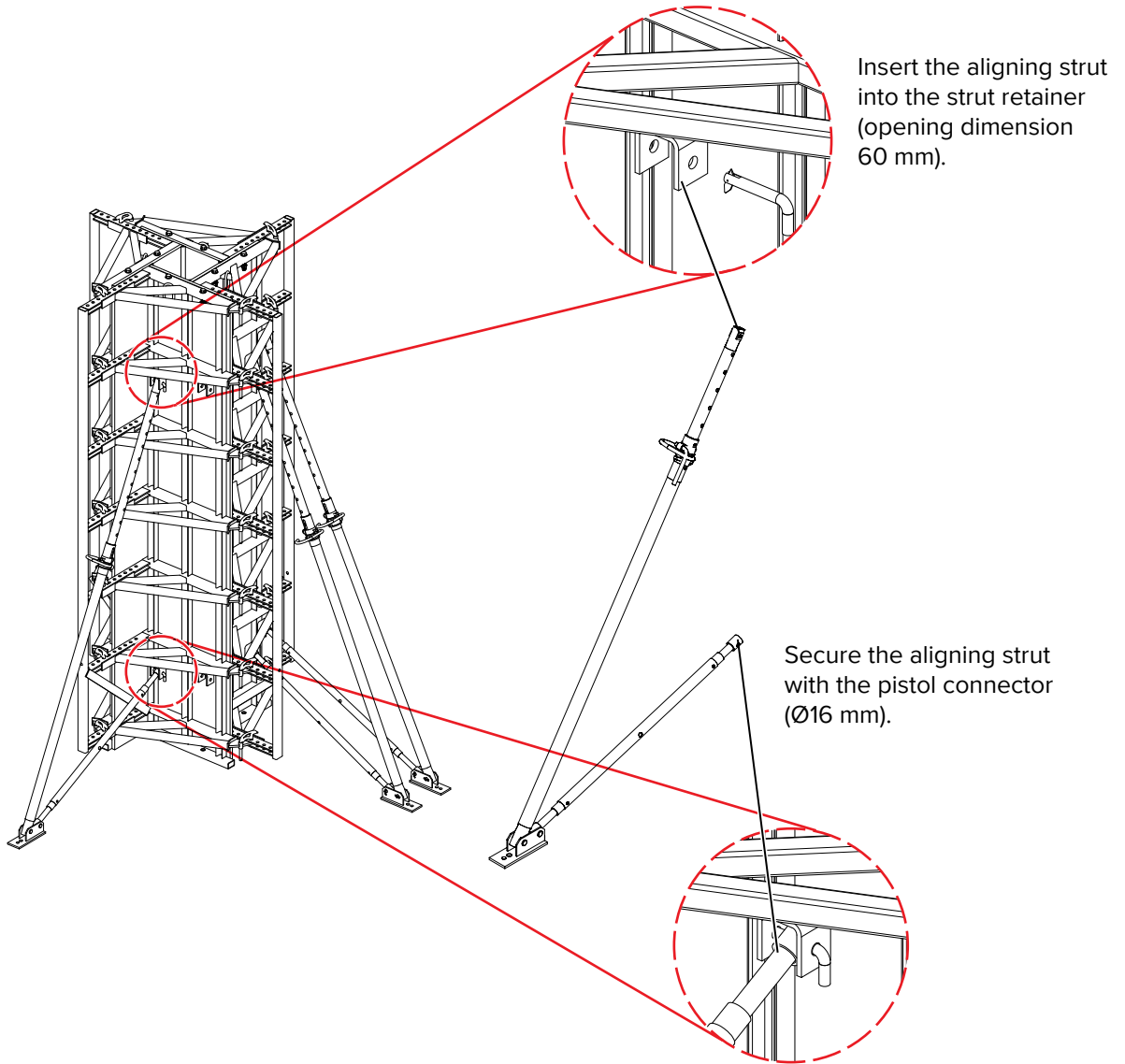
For the column formwork 60 and the column formwork 120, every side frame must be mounted by using 2 extension screws M16x100 (8 pcs in total) (diameters of holes 20 mm each).



5.2 Installation of the aligning struts

The vertical alignment of the column formwork is done by using at least 2 aligning struts that are attached to the formwork, on two sides, switched by 90°. Each element is equipped with 4 aligning strut retainers – 2 at the top of the element and 2 at the base.

These retainers are suitable for all conventional tension and compression props, which are fixed with the pistol connector $\text{Ø}16$ mm.



A third strut may be mounted to one of these two sides in order to prevent distortion of the column formwork. For column heights in excess of 350 cm it is required to brace the formwork with additional aligning struts at the top element. The aligning struts must be adapted in size to the height of the formwork.

NOTE

Note

Proper mounting of the aligning strut to a load carrying base slab is required.

5.3 Installation of the pouring platform

The pouring platform can be employed with the column formwork 60 as well as with the column formwork 120. To assemble the pouring platform, the HD adapter 120 cpl. is also required (see page 21).

The platform consists of a galvanized steel construction with a corrugated sheet metal base plate. The railings (4 altogether, 2 large railings for the rear sides and 2 small railings for the ascent and the front side) are inserted in the retention holes of the platform and secured with cotter pins.

The ladder fixing clamp can be bolted to one side of the platform to allow the safe connection of a ladder.

The platform can be loaded up to a maximum of 200 kg.

The platform is attached to the column formwork by an adapter.

The adapter for the pouring platform is normally hooked into the top cross stud but can also be installed at a lower position.

If the pouring platform is installed at a lower position, not all railings can be used and personal protective equipment must be used.

It must be ensured that the column formwork together with the installed pouring platform is secured against tipping by properly anchored aligning struts.

Procedure for the installation of the pouring platform:

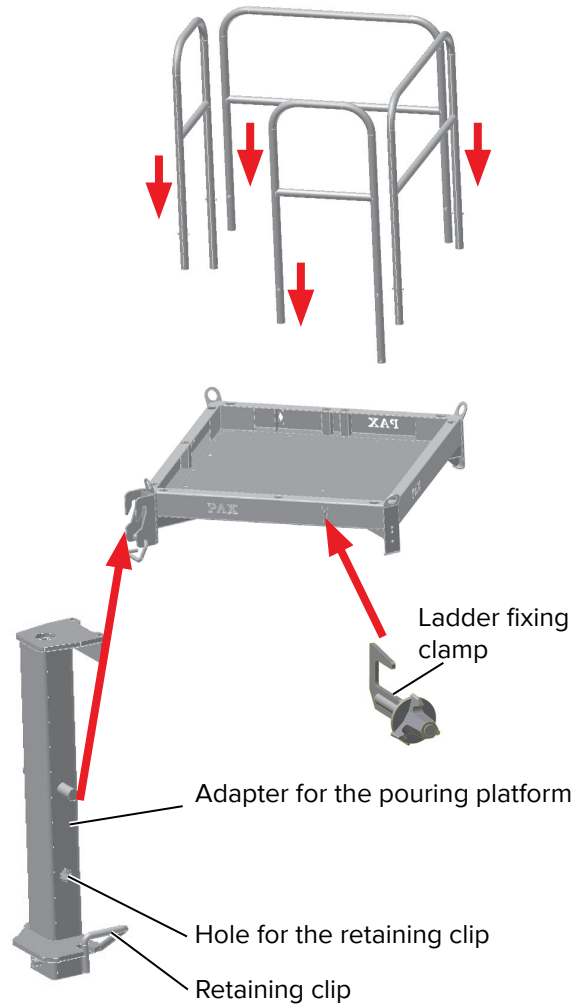
- Hook in the adapter to the top horizontal rib of the column formwork.
- Secure the adapter with the retaining clip that is inserted below the 2nd horizontal member.
- Suspend the platform from the site crane using a 4 string crane rope.
- Hook the pouring platform into the adapter with the hook-in catch.
- Insert 2 retaining clips into the adapter and tilt in order to secure the concreting platform against unintentional uplift.
- Remove the crane hook.
- Insert the railings and secure with cotter pins.

Up to 4 pouring platforms can be installed on one level of the column formwork.

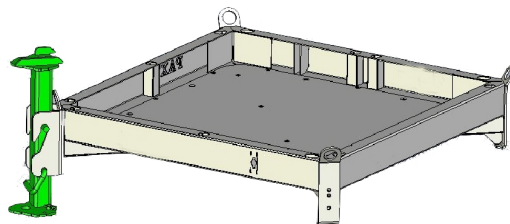
The pouring platform can remain attached to the elements when the formwork is moved from pour to pour. The general safety guidelines must be followed if no side protection is installed on the pouring platform.

Installation of the pouring platform on column formwork 60

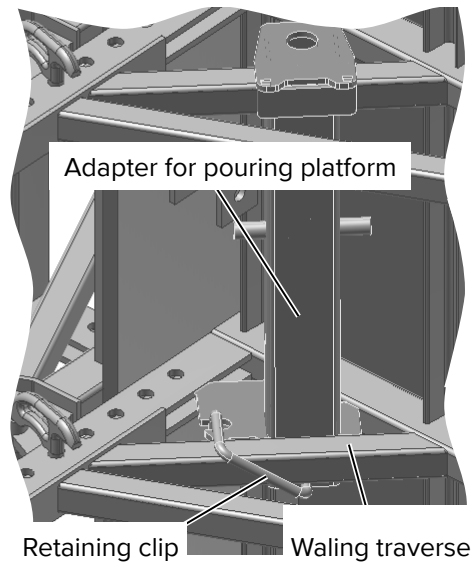
Insert the railings into the pouring platform



The adapter for the pouring platform is attached to the platform retainer and fixed with a retaining clip as shown. A ladder fixing clamp can also be attached to mount an access ladder to the platform.

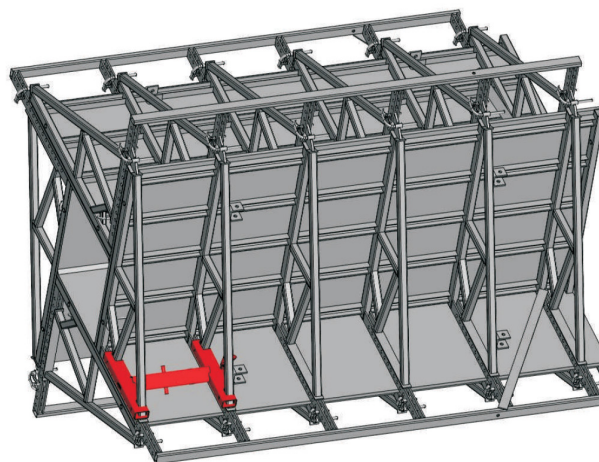
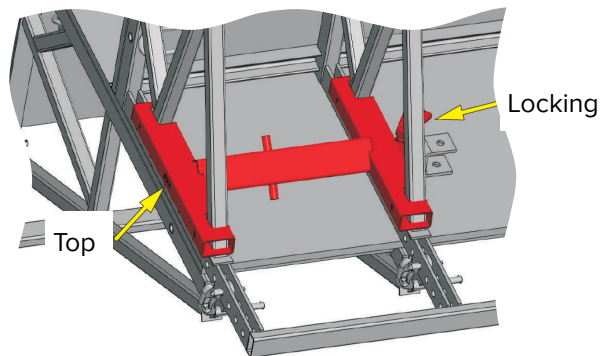


The platform is attached to the formwork with the adapter as shown.

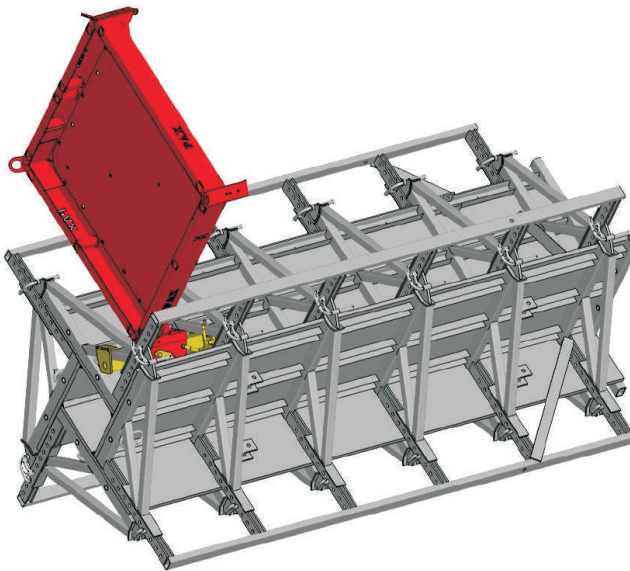
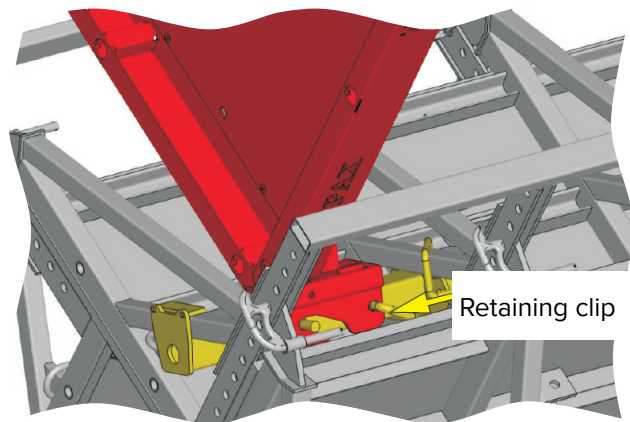


Installation of the pouring platform on column formwork 120

Position the HD adapter 120 cpl. on the column formwork as shown in the illustration and secure it with the locking.



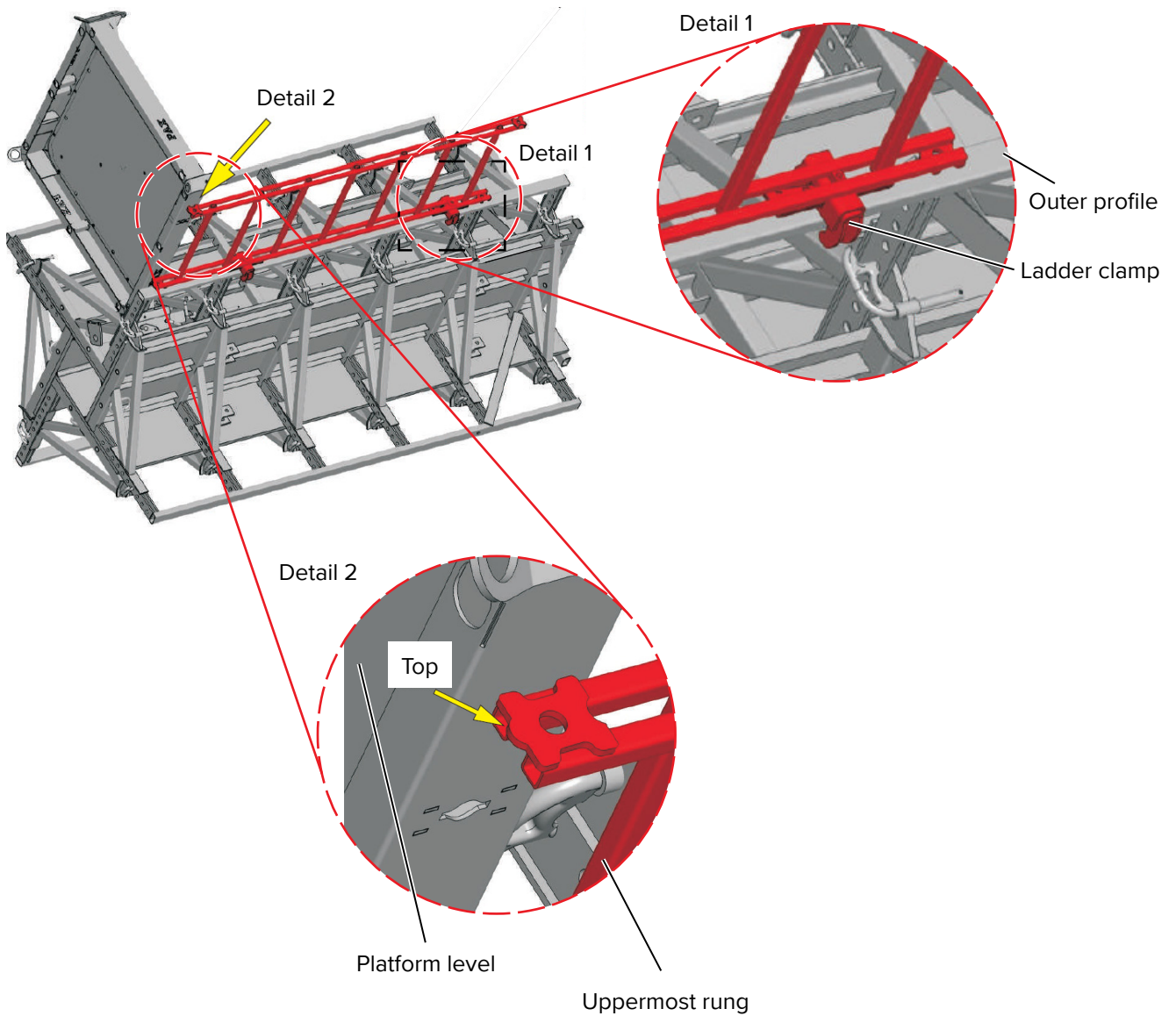
The pouring platform is attached to the HD adapter and secured with the platform's retaining clip.



Mounting of the basic ladder 200 cpl.

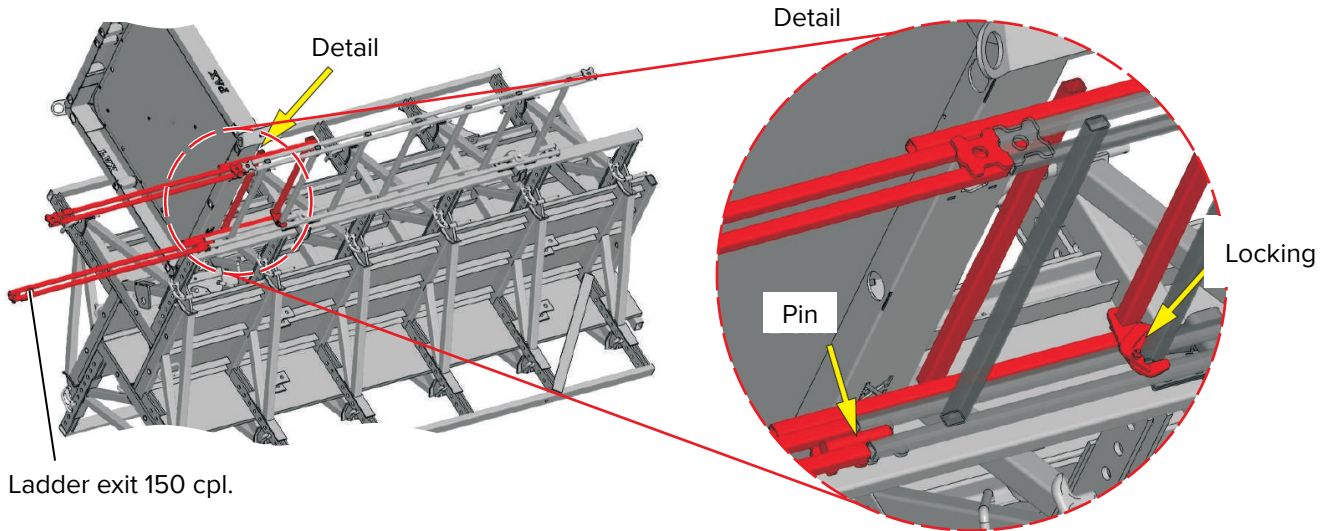
The basic ladder 200 cpl. is fixed with ladder clamps to the outer profile of the column formwork in such a way that the uppermost rung is at platform level.

Depending on the height of the formwork, additional ladders may need to be placed below.



Mounting of the ladder exit 150 cpl.

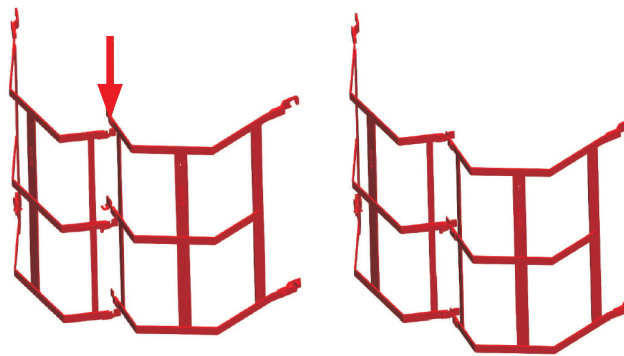
The ladder exit 150 cpl. is mounted between platform and ladder. The pin of the exit must be inserted between the two steel tubes of the ladder. Close the locking to prevent unintended displacement.



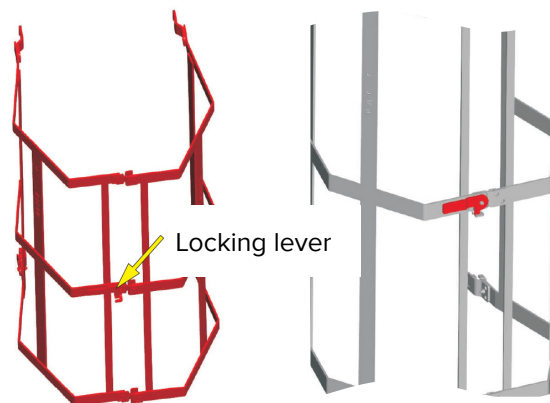
Ladder exit 150 cpl.

Mounting of the back protection 130 cpl.

The back protection 130 cpl. is put together as shown, on level ground.

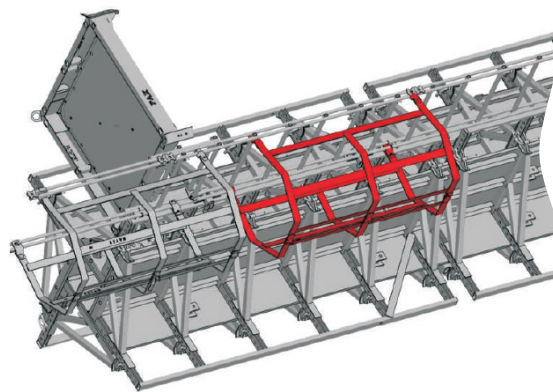
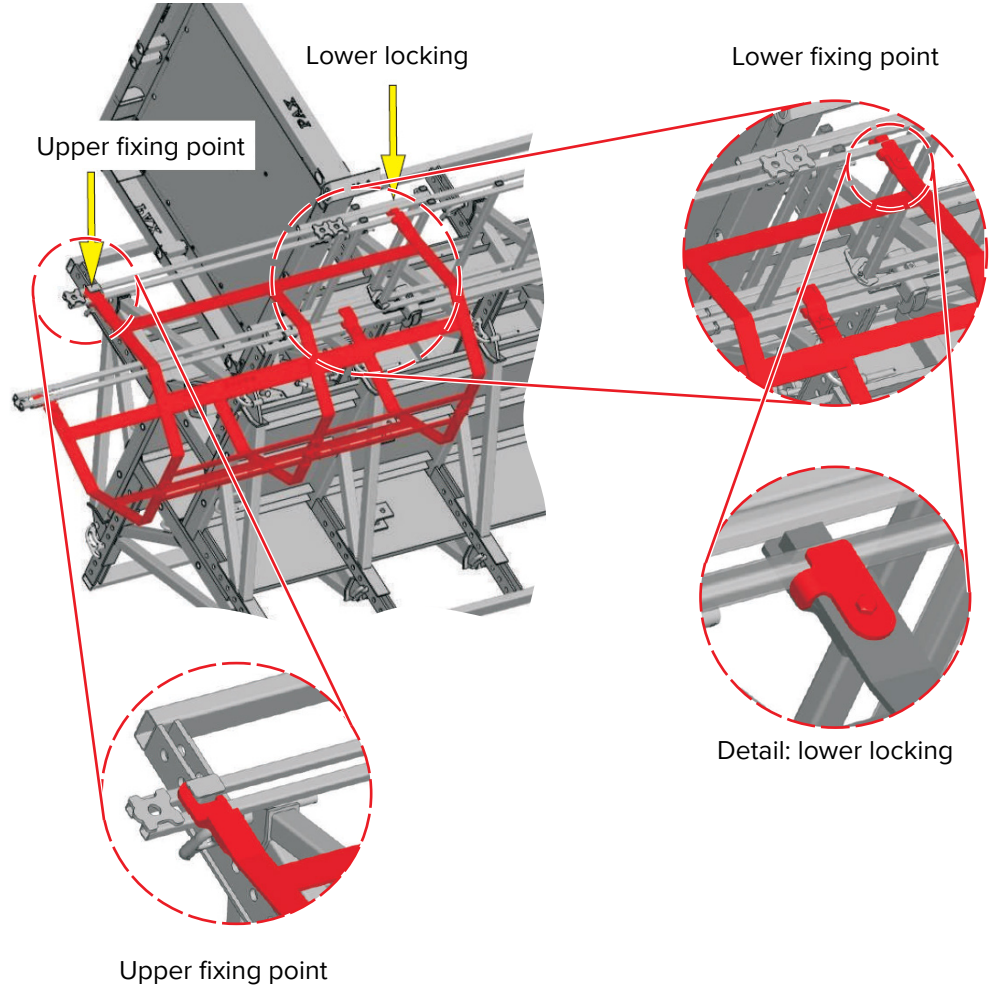


Fold the back protection 130 cpl. and secure it with the locking lever.



Mounting of the back protection 130 cpl.

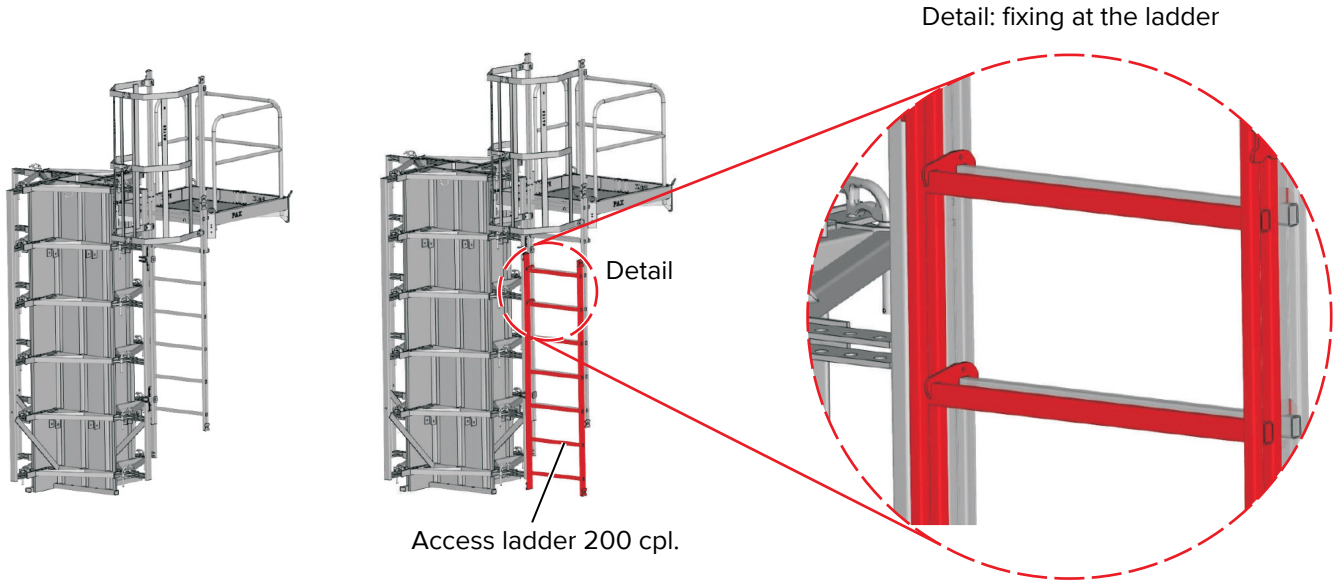
The back protection 130 cpl. is hooked to the ladder exit and is fixed and secured between the two steel tubes of the ladder. To reach greater platform heights it is necessary to mount additional back protections. These are hooked to a rung of the ladder. A continuous back protection must be mounted starting at a height of 3 m above the ground.



Mounting of additional back protection

Mounting of the access ladder 200 cpl.

The column formwork is set upright with a crane. If the distance between the ground and the lowest rung of the basic ladder 200 cpl. is too big, an access ladder 200 cpl. can be hooked on.



6 Calculation of material

The following table shows the amount of material required for one column formwork as an example. Struts must be calculated separately, depending if 2 or 3 struts are used for one column. The table includes the access to the platform.

Table for the calculation of material

Formwork height (without extension angle)		270	320	340	390	440	460	510	540	560	590	610	640	660
Product code	Description													
602964 60 602968 120	Column formwork 320		1			1			1	1	1	2	2	
602965 60 602969 120	Column formwork 270	1		1	1		1	1			1			2
602966 60 602970 120	Column formwork 120			1	1	1	2	2	2	2				1
602976 60 602977 120	Base plate	4	4	4	4	4	4	4	4	4	4	4	4	4
605987	Basic ladder 200 cpl.	1	1	1	1	2	2	2	2	2	2	3	3	3
605983	Ladder exit 150 cpl.	1	1	1	1	1	1	1	1	1	1	1	1	1
605984	Access ladder 200 cpl.	1	1	1	1	-	-	1	1	1	1	-	-	-
605985	Back protection 130 cpl.	1	1	1	2	2	2	3	3	3	3	3	3	3
Pouring platform														
602974	Concreting platform incl. 2 x guard rail long and 2 x guard rail small								1					
Adapter for pouring platform														
605986	HD adapter 120 cpl.								1					

6.1 Closing the column formwork

NOTE

Note

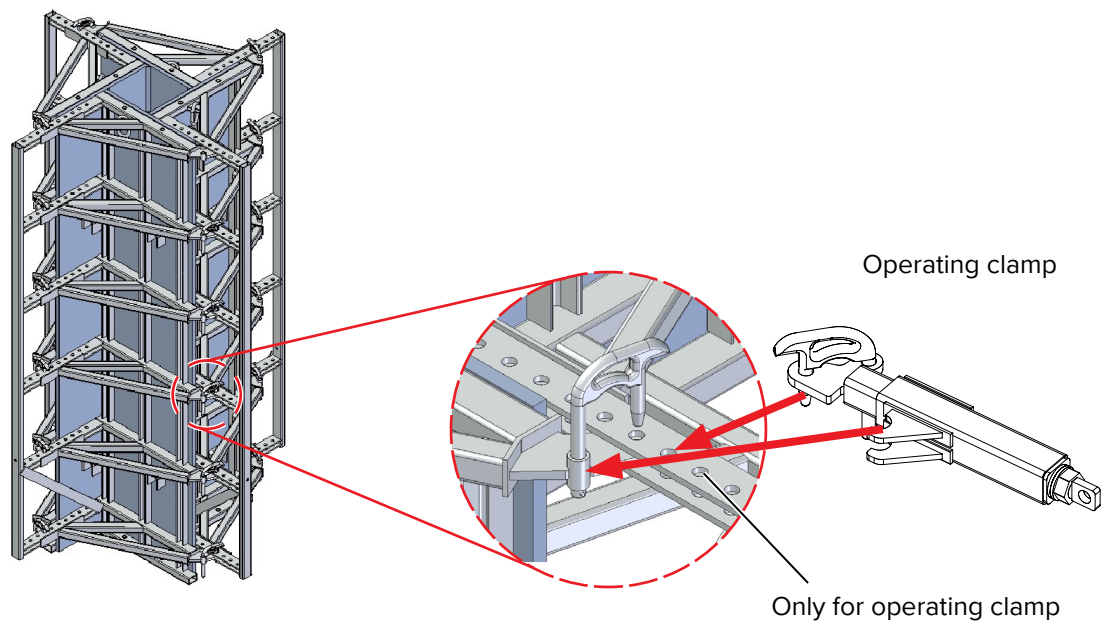
Before closing the formwork, first mount the base plates (see page 29).

The operating clamp finally comes into operation at this point.

The working procedures for the column formwork 60 and 120 are identical.

Working procedure for casting:

- Tighten the column formwork around the existing reinforcement as far as possible by hand.
- Fix the operating clamp with the integrated double bolt to the perforated strip (column measurement plus 5 cm or 1 perforation).
- Open the clamp only so far that it can grasp the bolt side of the formwork.
- Tighten the clamp like a screw clamp until the double bolt of the column formwork can be inserted into the designated hole of the perforated strip without using violent force.
- Repeat this procedure on the next highest horizontal bar. Continue in this manner until the column form is completely closed.



WARNING

Warning!

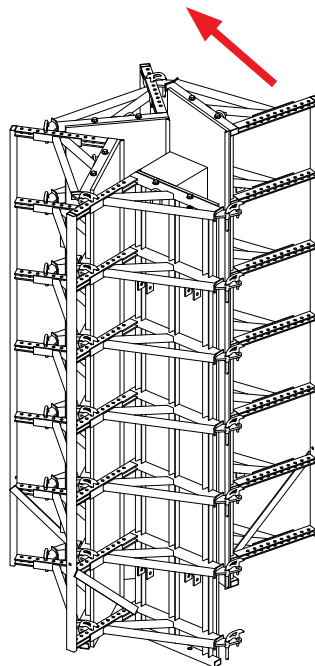
All applicable safety codes and standards must be followed during the installation!

6.2 Dismantling the column formwork

The operating clamp comes into operation. The working procedure is identical for the column formworks 60 and 120.

Working procedure for dismantling:

- Select a row of double bolts that appear to be especially suitable for commencing the opening of the formwork – any row can be selected.
- To open the formwork only one vertical row of double bolts must be loosened.
- Secure the formwork against tipping and overturning by attaching the formwork to a crane, using a 4 string crane rope.
- The aligning struts, additional aligning struts and the pouring platform can remain on the column formwork.
- Fix the operating clamp to the top perforated strip with the integrated double bolt. Use the claws of the clamp to grasp the double bolt slide of the column formwork.
- Then apply the ratchet and close the clamp until the double bolt of the formwork can be removed from the perforated strip without violent force (see chapter *Closing the column formwork* on page 27).
- Repeat this procedure on all horizontal bars until the entire formwork can be opened.
- It is imperative to adhere to the specialized accident prevention guidelines during this procedure.
- Open the formwork by hand.
- The opening of the formwork must always begin at the tensioner with the perforation plate (open the formwork in a counterclockwise direction) to ensure that the chamfer strip is not damaged.
- When the formwork has been opened and broken off the concrete it can be lifted and transported.



Always remove this part first from the concreted column. Open in counterclockwise direction.



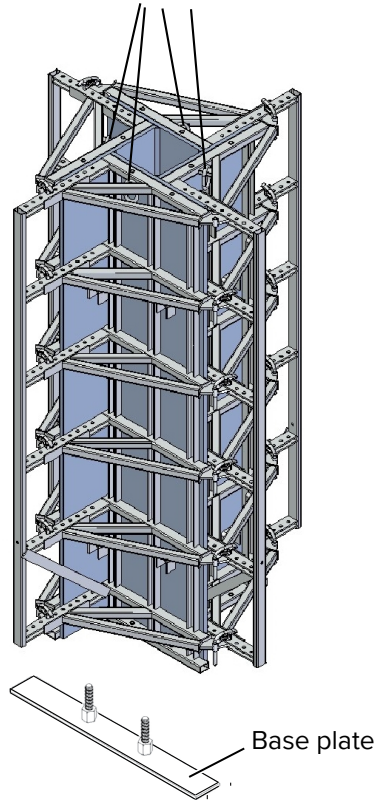
WARNING

Warning!

Before opening, secure the formwork against tipping and overturning by using a crane with a 4 string crane rope.

6.3 Base plate

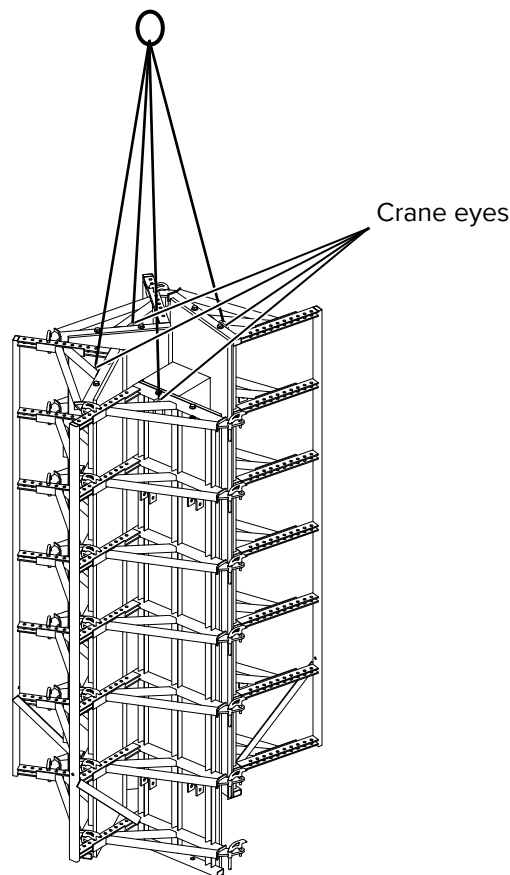
The base plate is screwed into place under the bottom element and ensures that the frame and the plywood are protected whenever the column formwork is opened or closed. Four base plates are required for each column formwork.



7 Transportation of the column formwork

7.1 Using the crane

- Fix the column formwork to the crane using an adequate 4 string crane rope.
- All parts must be safely connected prior to transportation by crane.
- Be careful with the aligning struts. They must be removed or entirely spindled in.



WARNING

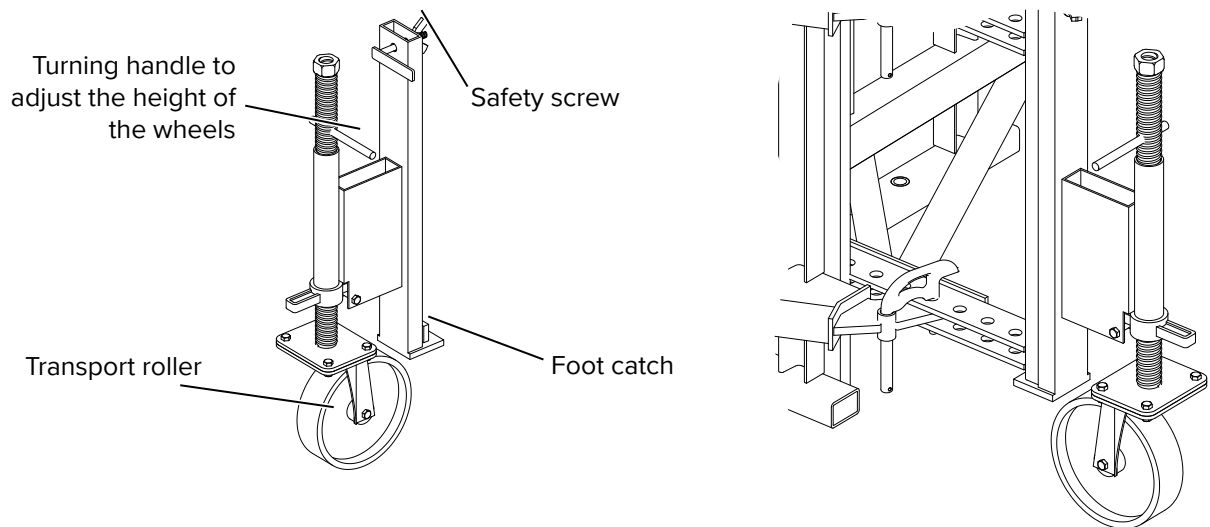
Warning!

First break off and open the formwork from the concreted column before lifting with the crane!

7.2 Transportation of column formwork 60 with rollers

- The use of rollers for transportation of the column formwork is only suitable on even base slabs with adequate load bearing capacity.
- Only use the rollers up to a height of 390 cm because of danger of tipping!
- Four rollers are required for a column formwork 60.
- The column formwork 60 may only be transported on the rollers when it is closed. The formwork must be locked by at least 2 double bolts in the process.
- Lift the formwork to a maximum height above ground level of 5 cm for transportation purposes.

- Procedure for fixing a roller to the column formwork 60:
 - Loosen and remove the safety screw from the rectangular main section of the roller.
 - Spindle in the threaded tube with the wheel to enable the foot catch in the roller to fit into the open end of the outside rectangular tube without any problems.
 - After inserting the roller, spindle out the roller again until it sits actuated under the vertical rectangular tube.
 - Then replace the safety screw and tighten it.
- The column formwork 60 can now be raised with the rollers. Ensure that the wheels are pulled out and retracted evenly in so that no unbalanced load can arise.
- To prevent the rollers from being damaged, remove the rollers before the formwork is transported by crane.
- The disassembly of the rollers takes place in reverse order.



WARNING

Warning!

It is not permitted to transport the column formwork 120 with rollers!

8 Concrete casting with the column formwork

Column formwork 60

The column formwork 60 is designed for a fresh concrete pressure of 120 kN/m².

In practice this means concrete casting can be carried out up to a height of 480 cm without restrictions at full hydrostatic pressure.

Column formwork 120

The column formwork 120 is designed for a fresh concrete pressure of 80 kN/m².

In practice this means concrete casting can be carried out up to a height of 320 cm without restrictions at full hydrostatic pressure.

9 Cleaning the column formwork

The column formwork is cleaned in a vertical position and opened.

The formwork must be secured against tipping with a 4 string crane rope on a crane or with aligning struts at all times.

The surface of the plywood must be brushed clean. Pay particular attention to the integrated chamfer strip so that the formwork can be closed tightly sealed later.

A concrete release agent has to be applied prior to every use to protect the formwork and to allow easy opening.

When selecting an adequate formwork release oil, please note that the plywood is plastic coated and therefore non-absorbent.

Treatment with a concrete release agent (pay attention to the manufacturer's specific instructions):

- Minimum and smooth spraying of the release agent using a releasing oil sprayer.
- Remove superfluous release agent with a rubber slider.
- Wipe with a cotton cloth.
- Only a minimum coating of release agent must be applied to the plywood.



VISUAL CHECK

The condition of the plywood must be checked by a visual inspection prior to every concrete pour.

10 Chronology

Changes compared to issue 2016-02		
Changes	Page	Date
Layout updated	div	2019-02

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The illustrations in this brochure depict actual site conditions which may not always conform with applicable safety rules and regulations.

Last updated: January 2019
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