The Formwork Experts.

Framed formwork Framax Xlife

User Information
Instructions for assembly and use (Method statement)
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Introduction

Elementary safety warnings

User target groups

- This booklet is aimed at all persons who will be working with the Doka product or system that it describes. It contains information on the standard design for setting up this system, and on correct, compliant utilisation of the system.
- All persons working with the product described herein must be familiar with the contents of this booklet and with all the safety instructions it contains.
- Persons who are incapable of reading and understanding this booklet, or who can do so only with difficulty, must be instructed and trained by the customer.
- The customer is to ensure that the information materials provided by Doka (e.g. User Information booklets, Instructions for Assembly and Use, Operating Instruction manuals, plans etc.) are up to date and available to all users, and that they have been made aware of them and have easy access to them at the usage location.
- In the relevant technical documentation and formwork utilisation plans, Doka shows the workplace safety precautions that are necessary in order to use the Doka products safely in the usage situations shown.

In all cases, users are obliged to ensure compliance with national laws, standards and regulations throughout the entire project and to take appropriate additional or alternative workplace safety precautions where necessary.

Hazard assessment

- The customer is responsible for drawing up, documenting, implementing and continually updating a hazard assessment at every job-site.

This booklet serves as the basis for the site-specific hazard assessment, and for the instructions given to users on how to prepare and utilise the system. It does not substitute for these, however.

Remarks on this booklet

- This document can be used as general Instructions for Assembly and Use (Method Statement) or be incorporated into site-specific Instructions for Assembly and Use (Method Statement).
- The graphics, animations and videos in this document or app sometimes depict partially assembled assemblies and may require additional safety equipment and/or measures to comply with safety regulations. The customer must ensure all applicable regulations are complied with, even if they are not shown or implied in the graphics, animations and videos provided.
- Individual sections contain further safety instructions and/or special warnings as applicable.

Planning

- Provide safe workplaces for those using the formwork (e.g. for when it is being erected/dismantled, modified or repositioned etc). It must be possible to get to and from these workplaces via safe access routes!
- If you are considering any deviation from the details and instructions given in this booklet, or any application which goes beyond those described in the booklet, then revised static calculations must be produced for checking, as well as supplementary assembly instructions.

Regulations; industrial safety

- All laws, Standards, industrial safety regulations and other safety rules applying to the utilisation of our products in the country and/or region in which you are operating must be observed at all times.
- If a person or object falls against, or into, the sideguard component and/or any of its accessories, the component affected may only continue in use after it has been inspected and passed by an expert.
Rules applying during all phases of the assignment

▪ The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons.

These persons’ mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.

▪ Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.

▪ The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!

▪ Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).

▪ Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of fattyl) and considerable damage to property.

▪ Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated a correspondingly safe distance from the formwork.

▪ Customer must give due consideration to any and all effects of the weather on the equipment and regards both its use and storage (e.g. slippery surfaces, risk of slipping, effects of the wind, etc.) and implement appropriate precautionary measures to secure the equipment and surrounding areas and to protect workers.

▪ All connections must be checked at regular intervals to ensure that they are secure and in full working order.

In particular threaded connections and wedged connections have to be checked and retightened as necessary in accordance with activity on the jobsite and especially after out-of-the-ordinary occurrences (e.g. after a storm).

▪ It is strictly forbidden to weld Doka products – in particular anchoring/tying components, suspension components, connector components and castings etc. – or otherwise subject them to heating.

Welding causes serious change in the microstructure of the materials from which these components are made. This leads to a dramatic drop in the failure load, representing a very great risk to safety.

It is permissible to cut individual tie rods to length with metal cutting discs (introduction of heat at the end of the rod only), but it is important to ensure that flying sparks do not heat and thus damage other tie rods.

The only articles which are allowed to be welded are those for which the Doka literature expressly points out that welding is permitted.

Assembly

▪ The equipment/system must be inspected by the customer before use, to ensure that it is in an acceptable condition. Steps must be taken to exclude components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).

▪ Using our safety and formwork systems together with those of other manufacturers can create risks that may lead to injury and damage to property. This requires separate verification.

▪ The equipment/system must be assembled and erected in accordance with the applicable laws, standards and rules by trained customer personnel whilst maintaining any applicable safety inspections that may be required.

▪ It is not permitted to modify Doka products; such modifications constitute a safety risk.

Closing the formwork

▪ Doka products and systems must be set up so that all loads acting upon them are safely transferred!

Pouring

▪ Do not exceed the permitted fresh-concrete pressures. Over-high pouring rates overload the formwork, cause greater deflection and risk breakage.

Stripping the formwork

▪ Do not strip out the formwork until the concrete has reached sufficient strength and the person in charge has given the order for the formwork to be stripped out!

▪ When stripping out the formwork, never use the crane to break concrete cohesion. Use suitable tools such as timber wedges, special pry-bars or system features such as Framax stripping corners.

▪ When stripping out the formwork, do not endanger the stability of any part of the structure, or of any scaffolding, platforms or formwork that is still in place!
Transporting, stacking and storing

- Observe all country-specific regulations applying to the handling of formwork and scaffolding. For system formwork the Doka slinging means stated in this booklet must be used – this is a mandatory requirement.

If the type of sling is not specified in this document, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.

- When lifting, always make sure that the unit to be lifted and its individual parts can absorb the forces that occur.

- Remove loose parts or secure them so that they cannot slip out of position and drop.

- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this document!

Maintenance

- Only original Doka components may be used as spare parts. Repairs may only be carried out by the manufacturer or authorised facilities.

Miscellaneous

The weights as stated are averages for new material; actual weights can differ, depending on material tolerances. Dirt accretions, moisture saturation, etc. can also affect weight.

We reserve the right to make alterations in the interests of technical progress.

Symbols used

The following symbols are used in this document:

**DANGER**
This is a notifier drawing attention to an extremely dangerous situation in which non-compliance with this notifier will lead to death or severe, irreversible injury.

**WARNING**
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to death or severe, irreversible injury.

**CAUTION**
This is a notifier drawing attention to a dangerous situation in which non-compliance with this notifier can lead to slight, reversible injury.

**NOTICE**
This is a notifier drawing attention to a situation in which non-compliance with this notifier can lead to malfunctions or damage to property.

**Instruction**
Indicates that actions have to be performed by the user.

**Sight-check**
Indicates that you need to do a sight-check to make sure that necessary actions have been carried out.

**Tip**
Points out useful practical tips.

**Reference**
Cross-references other documents.
Doka services

Support in every stage of the project

- Project success assured by products and services from a single source.
- Competent support from planning through to assembly directly on site.

Project assistance from start to finish

Every single project is unique and calls for individualised solutions. When it comes to the forming operations, the Doka team can help you with its consulting, planning and ancillary services in the field, enabling you to carry out your project effectively, safely and reliably. Doka assists you with individual consulting services and customised training courses.

Efficient planning for a safe project sequence

Efficient formwork solutions can be developed economically only if there is an understanding of project requirements and construction processes. This understanding is the basis of Doka engineering services.

Optimise construction workflows with Doka

Doka offers special tools that help you in designing transparent processes. This is the way to speed up pouring processes, optimise inventories and create more efficient formwork planning processes.

Custom formwork and on-site assembly

To complement its system formwork range, Doka offers customised formwork units. And specially trained personnel assemble load-bearing towers and formwork on site.

Just-in-time availability

Formwork availability is a crucial factor in realising your project on time and on budget. The worldwide logistics network puts the necessary formwork quantities on site at the agreed time.

Rental and reconditioning service

The formwork material needed for any particular project can be rented from Doka’s high-performing rental park. Doka Reconditioning cleans and overhauls both client-owned equipment and Doka rental equipment.

High performance, in all stages of the project
Doka framed formwork Framax Xlife

For crane-assisted gang-forming of large areas

Framax Xlife is the framed formwork system that uses only a very few different panel formats to achieve a consistent 15 cm increment-grid, no matter whether the panels are stood upright or on their sides. All the connectors and accessories fit seamlessly into this grid – making for fast forming-times and high efficiency.

Reduced close-out costs

thanks to superior product quality
Highly economical, thanks to
▪ its plastic-coated Xlife sheet
▪ its rugged hot-dip galvanised and powder-coated steel frames
▪ the fact that the Xlife sheet is so easy to clean and recondition

Faster working

due to the low form-tie count
Wide spacing (up to 1.35 m) between form-ties means
▪ shorter forming-times
▪ lower labour costs

Easy handling and planning

thanks to logical system-grid
The 15 cm grid, with 5 different widths of panel, results in
▪ optimum adaptability to every layout
▪ compact gang-forms for short crane times
▪ easy planning and logistics
▪ a neat joint pattern

High safety

at your site
The accident risk is reduced, and legally compliant working conditions are ensured, by
▪ the safe ladderways of the Ladder system XS
▪ combining the formwork with the Platform system Xsafe plus
Areas of use

Wall formwork

Follow the directions in the 'Column formwork Framax Xlife' User Information booklet.

Column formwork

Follow the directions in the 'Column formwork Framax Xlife' User Information booklet.

Circular formwork

Follow the directions in the 'Circular formwork Framax Xlife' User Information booklet.

Foundation formwork

Follow the directions in the 'Foundation formwork Framax Xlife' User Information booklet.
Permitted fresh-concrete pressure:
See the sections headed 'Framax Xlife panel in detail' and 'Tie rod system'.
Instructions for assembly and use for room-high formwork

The sequence shown here is based on a straight wall. However, you should always start to form from the corner outwards.
Ladders must be located so as to create viable 'traffic routes' in the horizontal. (On a straight wall, for example, one ladder on the first element and another on the last).

Transporting / handling the panels

➤ For offloading panels from a truck, or lifting them on-site a stack at a time, use the Framax transport gear (see 'Transporting, stacking and storing').
➤ To separate the panels, use Framax transport bolts and the Doka 4-part chain 3.20m (see 'Transporting, stacking and storing').

Pre-assembly

➤ Pre-assemble elements face-down on an assembly bench (see ‘Inter-panel connections’).
➤ With the gang-form still flat, mount panel struts to it (see ‘Plumbing accessories’).
➤ Mount the Ladder system XS (see ‘Ladder system’).

Closing the formwork

➤ Attach the lifting chain to the Framax lifting hook (see the section headed 'Lifting by crane' and the Operating Instructions for the 'Framax lifting hook').

Max. load:

- Spread angle $\beta$ up to 30°:
  1000 kg (2200 lbs) / Framax lifting hook
- Spread angle $\beta$ up to 7.5°:
  1500 kg (3300 lbs) / Framax lifting hook

Framax lifting hooks with the rated load-bearing capacity of max. 1000 kg (2200 lbs) also comply with the requirements for a load bearing capacity of 1500 kg (3300 lbs) at a spread angle $\beta \leq 7.5^\circ$.

➤ Spray the formwork sheet with release agent (see the section headed 'Cleaning and care of your equipment').
➤ Fly the gang-form to its new location.

CAUTION

Never use a sledge-hammer to plumb and align the elements!
This would damage the profiles of the gangs.
➤ Use only proper plumbing tools (e.g. a special pry-bar) that cannot cause any damage.
➤ Fix the panel struts firmly to the ground (see the section headed ‘Plumbing accessories’).

The gang-form is now stable and can be plumbed and aligned exactly, with no need for the crane.
➤ Detach the gang-form from the crane. The crew can reach the slinging points by standing on a step stool.
➤ Slot the pouring platform into place (see the section headed 'Pouring platforms').

➤ Pick up the gang-form by crane.

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**Erecting the opposing formwork:**

**Once the reinforcement has been placed, the formwork can be closed.**

- Mount the opposing guard-rail to the (laid-flat) gang-form of the opposing formwork (see 'Opposing guard-rail').
- Spray the formwork sheet with release agent (see 'Cleaning and care of your equipment').

**Pouring**

- Lift the opposing formwork by crane to its next location.

**Permitted fresh-concrete pressure:**

See the sections headed 'Framax Xlife panel in detail' and 'Tie rod system'.

Observe the following **guidelines**:

- The section headed 'Pressure of fresh concrete on vertical formwork – DIN 18218' in the Calculation Guide 'Doka formwork engineering'
- DIN 4235 Part 2 - 'Compacting of concrete by vibrating'

**NOTICE**

- Do not exceed the maximum permissible rate of placing.

- Pour the concrete.
Make only moderate use of vibrators, carefully coordinating the times and locations of vibrator use.

**NOTICE**
- Comply with the stipulated stripping times.
- Remove any loose items from the formwork and platforms, or secure them firmly.
- Attach the gang-form of the opposing formwork to the crane (wherever possible, operate the lifting hook from the opposite pouring platform).
- Take out the form ties and undo the connectors to the adjacent panels.

**WARNING**
The formwork tends to adhere to the concrete. When stripping the formwork, do not try to break concrete cohesion using the crane! Risk of crane overload.
- Use suitable tools such as timber wedges or a special pry-bar to detach the formwork from the concrete.

Lift the gang-form away and to its next location. If the gang-form is 'parked' prior to its next use, it must have sufficient stability (see the section headed 'Plumbing accessories').
- Gang-forms with only one panel strut must not be 'parked' upright, but placed face-down.
- Clean residual concrete off the formwork sheet (see the section headed 'Cleaning and care of your equipment').
- Where the gang-form has panel struts and a pouring platform attached to it, first attach this gang-form to the crane, and only then detach the floor anchorages of the panel struts.

In order to speed up operations when lifting and repositioning by crane, most of the form ties can be taken out in advance.

**Important!**
There must be at least as many form ties left in place as are needed to keep the panel safely in the upright.
Instructions for assembly and use for high formwork

The sequence shown here is based on a straight wall. However, you should always start to form from the corner outwards.

Ladders must be located so as to create viable ‘traffic routes’ in the horizontal. (On a straight wall, for example, one ladder on the first element and another on the last).

Transporting / handling the panels

➤ For offloading panels from a truck, or lifting them on-site a stack at a time, use the Framax transport gear (see 'Transporting, stacking and storing').
➤ To separate the panels, use Framax transport bolts and the Doka 4-part chain 3.20m (see 'Transporting, stacking and storing').

Pre-assembly

➤ Pre-assemble elements face-down on an assembly bench (see 'Inter-panel connections').
➤ Only mount the platforms, ladder system and panel struts to the gang-form when this is in the flat position (see 'Pouring platforms', 'Ladder system' and 'Plumbing accessories').

Closing the formwork

➤ Attach the lifting chain to the Framax lifting hook (see the section headed 'Lifting by crane' and the Operating Instructions for the 'Framax lifting hook').

Max. load:

➤ Spread angle $\beta$ up to 30°:
  1000 kg (2200 lbs) / Framax lifting hook
➤ Spread angle $\beta$ up to 7.5°:
  1500 kg (3300 lbs) / Framax lifting hook

Framax lifting hooks with the rated load-bearing capacity of max. 1000 kg (2200 lbs) also comply with the requirements for a load bearing capacity of 1500 kg (3300 lbs) at a spread angle $\beta \leq 7.5°$.

➤ Raise the gang-form by crane.
➤ Spray the formwork sheet with release agent (see the section headed 'Cleaning and care of your equipment').
➤ Fly the gang-form to its new location.

CAUTION

Never use a sledge-hammer to plumb and align the elements!
This would damage the profiles of the gangs.
➤ Use only proper plumbing tools (e.g. a special pry-bar) that cannot cause any damage.
➤ Fix the panel struts firmly to the ground (see the section headed 'Plumbing accessories').

WARNING

There is not yet an opposing guard-rail on the formwork!
Danger to life from fatal falls!
➤ Either use personal protective equipment to protect against falls (e.g. Doka personal fall-arrest set) or mount an opposing guard-rail to the gang-form while this is still being pre-assembled in a flat position.

➤ Detach the gang-form from the crane.
➤ Continue lining up further gang-forms in this way, and link them together (see the section headed 'Inter-panel connections').

The gang-form is now stable and can be plumbed and aligned exactly, with no need for the crane.
Erecting the opposing formwork:

Once the reinforcement has been placed, the formwork can be closed.

➤ Spray the formwork sheet with release agent (see 'Cleaning and care of your equipment').
➤ Lift the opposing formwork by crane to its next location.

➤ Working from the ground, insert the bottom two rows of form ties (see 'Tie rod system').

WARNING
There is not yet an opposing guard-rail on the formwork!
Danger to life from fatal falls!
➤ Use personal fall arrest systems to protect against falls (e.g. Doka safety harness).

Before disconnecting from the crane:
➤ If there are no panel struts on the opposing formwork, do not disconnect the element from the crane until a large enough number of form ties have been installed to keep it safely in the upright.
➤ Detach the gang-form from the crane.
➤ Insert the remaining form ties. These form-tie locations can be reached from the platforms.
➤ Continue lining up further gang-forms in this way, and link them together (see 'Inter-panel connections').

Pouring

Permitted fresh-concrete pressure:
See the sections headed 'Framax Xlife panel in detail' and 'Tie rod system'.

Observe the following guidelines:
▪ The section headed 'Pressure of fresh concrete on vertical formwork – DIN 18218' in the Calculation Guide 'Doka formwork engineering'
▪ DIN 4235 Part 2 - 'Compacting of concrete by vibrating'

NOTICE
➤ Do not exceed the maximum permissible rate of placing.
➤ Pour the concrete.
➤ Make only moderate use of vibrators, carefully coordinating the times and locations of vibrator use.
**Stripping the formwork**

⚠️ **NOTICE**

➤ Comply with the stipulated stripping times.

➤ Remove any loose items from the formwork and platforms, or secure them firmly.

**Begin work on striking the formwork on the opposing formwork:**

➤ Undo the connectors to the adjacent panels.

---

**WARNING**

➤ There must be at least as many form ties left in place as are needed to keep the panel safely in the upright.

➤ Take out the form ties from the two top rows of ties. These form-tie locations can be reached from the platforms.

➤ Attach the gang-form (incl. platforms) to the crane.

➤ Working from the ground, take out the bottom two rows of form ties.

---

**WARNING**

The formwork tends to adhere to the concrete. When stripping the formwork, do not try to break concrete cohesion using the crane!

➤ Lift the gang-form away and to its next location, or place it flat on its back for intermediate storage.

➤ Clean residual concrete off the formwork sheet (see the section headed ‘Cleaning and care of your equipment’).

---

**WARNING**

There is not yet an opposing guard-rail on the formwork!

Danger to life from fatal falls!

➤ Use personal protective equipment to protect against falls (e.g. Doka personal fall-arrest set).

➤ Where the gang-form has panel struts attached to it, first attach this gang-form to the crane, and only then detach the floor anchorages of the panel struts.
Wall formwork

Framax Xlife

Framax panel in detail

High load-bearing capacity

Clean concrete surfaces with the innovative Xlife sheet

The Xlife sheet consists of a combination of a traditional plywood core and a novel and innovative plastic coating.

This combination of materials ensures high numbers of repeat uses, with superb concrete results every time, and reduces the proneness to damage.

- High quality concrete finish
- Less touching-up needed
- Less cleaning work - the Xlife sheet can also be cleaned using a high-pressure spray cleaner
- Because the Xlife sheet is screwed on from the rear, this leaves no screw imprints on the concrete

Dimensionally stable, galvanised and powder-coated steel frame

- Dimensionally stable frame profiles
- Strong cross-profiles
- Powder coated, so easy to clean
- Edges are easy to clean - so panels always abut tightly
- All-round hardware slot for fastening the inter-panel connectors at any point required
- Hot-dip galvanised for long life
- Edges of formwork sheet are protected by frame profile
- Cross boreholes for corner configurations and stop-ends

WARNING

➤ It is forbidden to climb on the cross-profiles. The cross-profiles are NOT a substitute for a ladder.

60 kN/m² pressure of fresh concrete acting on whole area, to DIN 18218, where the surface planeness tolerances to DIN 18202 Table 3 Line 7 are observed.

80 kN/m² pressure of fresh concrete acting on whole area, to DIN 18218, where the surface planeness tolerances to DIN 18202 Table 3 Line 6 are observed.

(Form-tie system 20.0 must be used)
Accessories are easy to fasten, in the integrated waling system

Form-tie sleeves

- Diameter a: 25 mm
- Diameter b: 32 mm
- Diameter c: 42 mm

- Tie rods are very easy to insert through the large, conical form-tie sleeves
- Tie rods 20.0mm can also be used here
- Only 2 form ties are needed for every 2.70 m of panel height

Handles

- Practical lifting edge, as an insertion point for the plumbing tool

WARNING
Do not use these handles as slinging points for crane-handling!
Danger of formwork dropping from crane!
➤ Use only suitable load-carrying equipment and slinging points. See ‘Lifting by crane’ and ‘Transporting, stacking and storing’.
System grid

Framax Xlife panels

Logical panel size-grid in 15 cm increments. The heights and widths of the Framax Xlife panels together result in a logical, advantageous increment-grid that makes this formwork highly flexible and economical.

- Easy planning and forming
- Height and width can be adjusted in 15 cm increments
- Very few closures needed
- Clear joint pattern

Only 2 form-ties needed in the vertical. On the 3.30 m high panels, only 2 form-ties are needed for pour heights of up to 3.15 m.

Wide spacing between form-ties in the horizontal: up to 1.35 m

- 5 widths of panel
- 3 heights of panel
- 2 extra-large panels

are all you need to form any layout.

Panel widths

<table>
<thead>
<tr>
<th>Width (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
</tr>
<tr>
<td>135</td>
</tr>
<tr>
<td>90</td>
</tr>
<tr>
<td>60</td>
</tr>
<tr>
<td>45</td>
</tr>
<tr>
<td>30</td>
</tr>
</tbody>
</table>

The product range also includes a 55 cm wide panel (for forming corners on 25 cm thick walls without closures).

Panel heights

<table>
<thead>
<tr>
<th>Height (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
</tr>
</tbody>
</table>

Dimensions in cm

Extra-large panels

<table>
<thead>
<tr>
<th>Height (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>240</td>
</tr>
</tbody>
</table>

Dimensions in cm

For some typical practical examples, see "Vertical stacking of panels."
Framax Xlife universal panels

Panel widths

Panel heights

Dimensions in cm

The special hole pattern makes these panels particularly suitable for efficient forming of:

- corners
- wall junctions
- stop-ends
- columns
Inter-panel connections

Attributes of the panel connectors:

- provide self-aligning, crane-handling-safe connections between the panels
- no losable small parts
- dirt-resistant and hard-wearing for site use
- easy to fix, with a formwork hammer

**NOTICE**

- Use a formwork hammer weighing max. 800 g.
- Do not oil or grease wedge-clamped joints.

### Panels long side vertical:

<table>
<thead>
<tr>
<th>Panel height</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.35 m</td>
<td>2</td>
</tr>
<tr>
<td>2.70 m</td>
<td>2</td>
</tr>
<tr>
<td>3.30 m</td>
<td>3</td>
</tr>
</tbody>
</table>

### Panels long side horizontal:

<table>
<thead>
<tr>
<th>Panel width</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30 m</td>
<td>1</td>
</tr>
<tr>
<td>0.45 m</td>
<td>1</td>
</tr>
<tr>
<td>0.60 m</td>
<td>2</td>
</tr>
<tr>
<td>0.90 m</td>
<td>2</td>
</tr>
<tr>
<td>1.35 m</td>
<td>2</td>
</tr>
</tbody>
</table>

### More functions

**Vertical stacking with moulded timber**

**NOTICE**

- Do not oil or grease wedged connections.

#### Simple inter-panel connections

with Framax quick acting clamp RU

**Framax quick-acting clamp RU:**

- When used with (steel) Framax Xlife
  - permitted tensile force: 15.0 kN
  - permitted shear force: 6.0 kN
  - permitted moment: 0.5 kNm
- When used with (aluminium) Alu-Framax Xlife
  - permitted tensile force: 15.0 kN
  - permitted shear force: 4.0 kN
  - permitted moment: 0.25 kNm

The continuous hardware slot running around the inside of the frame profile means that panels can be fastened together at any point desired. This allows adjacent panels to be staggered in height, steplessly.

**Panel height**  
**Number of clamps**

- 1.35 m: 2 clamps
- 2.70 m: 2 clamps
- 3.30 m: 3 clamps

**Panel width**  
**Number of clamps**

- 0.30 m: 1 clamp
- 0.45 m: 1 clamp
- 0.60 m: 2 clamps
- 0.90 m: 2 clamps
- 1.35 m: 2 clamps

Note:

- For details regarding extra inter-panel connections on outside corners (for increased tensile loads) see the section headed ‘Inter-panel connections for increased tensile loads’.
- See 'Vertical stacking of panels' for details on the positions of the Framax quick acting clamps RU and Framax multi-function clamps that are needed when vertically extending.
Self-aligning inter-panel connections and closures

with Framax multi function clamp

Particularly when panels are stacked in the vertical, the fact that the clamp bears directly on the profiles means that there is often no need for any extra bracing of the panels with universal walings.

Framax multi function clamp:
- When used with (steel) Framax Xlife
  Permitted tensile force: 15.0 kN
  Permitted shear force: 9.0 kN
  Permitted moment: 0.9 kNm
- When used with Alu-Framax Xlife
  Permitted tensile force: 15.0 kN
  Permitted shear force: 6.0 kN
  Permitted moment: 0.45 kNm

Values apply only when mounted on profile.

Joining the panels using the Framax multi function clamp provides additional bracing of the gang-form (as the clamp bears directly onto the profile).

Filler connection up to 15 cm

With its 15 cm clamping range, the Framax multi function clamp exactly matches the panel size-grid. For more information, see ‘Length adjustment using closures’.

Squared timber connection up to 20 cm

Corner connection for foundations
Bracing the panels

Framax universal waling

With closures, the universal walings bring the gang-forms firmly into alignment and transfer the form-tie forces to the framed panels. Using additional universal walings gives gang-forms better rigidity, especially in higher vertically stacked configurations. This makes it possible to pick up and set down large gang-forms by crane without any problems. The additional universal walings are also useful for transferring the loads from platforms.

Note:
Instead of the universal waling, it is also possible to use a Multi-purpose waling WS10 Top50.

Framax universal waling:
- When used with (steel) Framax Xlife
  Permitted moment (for vertical stacking): 5.0 kNm
  Due to the permitted tensile load of 14 kN in the waling profile, even stiffer components such as Multi-purpose walings WS10 Top50 are also subject to: Permitted moment 5.0 kNm
- When used with (aluminium) Alu-Framax Xlife
  Permitted moment (for vertical stacking): 4.3 kNm
  Due to the permitted tensile load of 12 kN in the waling profile, even stiffer components such as Multi-purpose walings WS10 Top50 are also subject to: Permitted moment 4.3 kNm

How to attach

using the Framax wedge clamp

NOTICE
Do not oil or grease wedged connections.

using the Framax universal fixing bolt and Super plate
Wall formwork
User Information Framed formwork Framax Xlife

Vertical stacking of panels

NOTICE
The values and information stated here apply to standard gang-forms:
- Standard gang-forms are gang-forms consisting entirely of panels with widths of 0.30 m to 1.35 m.
- Examples of gang-forms containing extra-large panels (e.g. with widths of 2.40 m and 2.70 m) are illustrated on the following pages.
For detailed planning, we recommend using Tipos-Doka.

The planning software Tipos-Doka is always very helpful when it comes to finding the optimum technical and economical solution for the formwork issue concerned.

with Framax multi function clamp

Number of clamps at each vertically stacked panel joint

<table>
<thead>
<tr>
<th>Width of upright panels</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30 m</td>
<td>1</td>
</tr>
<tr>
<td>0.45 m</td>
<td>1</td>
</tr>
<tr>
<td>0.60 m</td>
<td>2</td>
</tr>
<tr>
<td>0.90 m</td>
<td>2</td>
</tr>
<tr>
<td>1.35 m</td>
<td>2</td>
</tr>
</tbody>
</table>

N° of universal walings at each vertically stacked panel joint

Formwork heights of up to 4.05 m:
- Per 2.70 m of gang-form width: 1 universal waling
- Exception:
  - Lightweight pouring platform with single brackets (Framax bracket 90): no universal waling

Formwork heights of over 4.05 m and up to 5.40 m:
- Per 1.35 m of gang-form width: 1 universal waling
- Exception:
  - Horizontal panel placed at top of gang: no universal waling
  - All other horizontal panels: only 1 universal waling per 2.70 m of gang-form width

Formwork heights of up to 8.10 m:
- Per 1.35 m of gang-form width: 1 universal waling
- Exception:
  - Horizontal panel placed at top of gang: only 1 universal waling per 2.70 m of gang-form width
with Framax quick acting clamp RU

**Number of clamps at each vertically stacked panel joint**

<table>
<thead>
<tr>
<th>Width of upright panels</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.30 m</td>
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<td>2</td>
</tr>
<tr>
<td>0.90 m</td>
<td>2</td>
</tr>
<tr>
<td>1.35 m</td>
<td>2</td>
</tr>
</tbody>
</table>

**N° of universal walings at each vertically stacked panel joint**

**Gang-form with pouring platform**

*Formwork heights of up to 8.10 m:*
- Per 1.35 m of gang-form width: 1 universal waling
  - Horizontal panel placed at top of gang:
    - only 1 universal waling per 2.70 m of gang-form width.

**Gang-form without pouring platform**

*Formwork heights of over 3.75 m and up to 5.40 m:*
- Per 1.35 m of gang-form width: 1 universal waling
  - Up to 0.60 m wide horizontal panel placed at top of gang:
    - no universal waling.
  - Over 0.60 m wide horizontal panel placed at top of gang:
    - only 1 universal waling per 2.70 m of gang-form width

*Formwork heights of up to 8.10 m:*
- Per 1.35 m of gang-form width: 1 universal waling
  - Up to 0.90 m wide horizontal panel placed at top of gang:
    - only 1 universal waling per 2.70 m of gang-form width

**Positions of the interconnecting and form-tie components and accessories needed for:**
- Lifting and setting down
- Crane-handling
- Pouring platform
- Pouring

**Framax multi function clamp:**
- permitted tensile force: 15.0 kN
- permitted shear force: 9.0 kN
- permitted moment: 0.9 kNm
Values apply only when mounted on profile (contact surface on the profile).

**Framax quick acting clamp RU:**
- permitted tensile force: 15.0 kN
- permitted shear force: 6.0 kN
- permitted moment: 0.5 kNm

**Framax universal waling:**
Permitted moment (for vertical stacking): 5.0 kNm
Due to the permitted tensile load of 14 kN in the waling profile, even stiffer components such as Multi-purpose walings WS10 Top50 are also subject to: Permitted moment 5.0 kNm
Framax Xlife panel 2.70m

with Framax multi function clamp

Formwork height: 300 cm

When using a lightweight pouring platform with single brackets (Framax bracket 90), the universal waling is not necessary.

Formwork height: 315, 330 and 360 cm

When using a lightweight pouring platform with single brackets (Framax bracket 90), the universal waling is not necessary.

Formwork height: 405 cm

When using a lightweight pouring platform with single brackets (Framax bracket 90), the universal waling is not necessary.

Formwork height: 435, 450, 465, 495 and 540 cm

When using a lightweight pouring platform with single brackets (Framax bracket 90), the universal waling is not necessary.
Formwork height: 540 cm

Formwork height: 570, 585, 600 and 630 cm

Formwork height: 675 cm

Formwork height: 705, 720, 735, 765 and 810 cm
Formwork height: 810 cm

with Framax quick acting clamp RU

Formwork height: 300 cm

Universal waling only needed if pouring platforms are to be used.

Formwork height: 315, 330 and 360 cm

Universal waling only needed if pouring platforms are to be used.

Formwork height: 405 cm

Formwork height: 405 cm
**Formwork height: 435 and 450 cm**

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.

**Formwork height: 465 cm**

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.

**Formwork height: 495 and 540 cm**
Formwork height: 570, 585, 600 and 630 cm

Formwork height: 705 and 720 cm

Formwork height: 675 cm

Formwork height: 735 and 765 cm
Formwork height: 810 cm

Formwork height: 360 and 375 cm

Formwork height: 390 cm

Formwork height: 420 and 465 cm

Framax Xlife panel 3.30m

with Framax quick acting clamp RU

Universal waling only needed if pouring platforms are to be used.
Formwork height: 465 cm

Formwork height: 495 and 510 cm

Formwork height: 525 cm

Formwork height: 555 cm

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.
Formwork height: 600 cm

Up to a pour-height of 5.85 m, no form ties are needed at the top edge of the formwork.

Formwork height: 660 cm

Framax Xlife panel 2.40x2.70m

with Framax multi function clamp

Formwork height: 270, 285, 300 and 330 cm

Formwork height: 375 cm

Formwork height: 480 cm
Formwork height: 405 cm

Formwork height: 480 cm

Formwork height: 540 cm

Formwork height: 270, 285, 300 and 330 cm

Formwork height: 375 cm

Universal waling only needed if pouring platforms are to be used.
Formwork height: 405 cm

Formwork height: 540 cm

Framax Xlife panel 2.40x3.30m
with Framax quick acting clamp RU

Formwork height: 270, 285, 300 and 330 cm

Universal waling only needed if pouring platforms are to be used.

Formwork height: 375 cm

Formwork height: 480 cm
Formwork height: 405, 420 and 435 cm

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.

Formwork height: 465 and 510 cm

Formwork height: 540 and 570 cm

Formwork height: 510 and 525 cm

Formwork height: 615 cm

Universal waling on top-placed horizontal panel only needed if pouring platforms are to be used.
Formwork height: 720 cm

Formwork height: 465 cm

Formwork height: 600 cm

Up to a pour-height of 5.85 m, no form ties are needed at the top edge of the formwork.

Formwork height: 660 cm
**Tie rod system**

**Placing form ties in the frame profile**

![Wall formwork](image)

**Basic rule:**
- Fix a form tie in every form-tie sleeve that is not covered by a super plate.
- Always tie in the bigger (wider) of the two panels.

For exceptions, see the sections headed 'Length adjustment using closures' and/or 'Vertical stacking of panels'.

**Note:**
Seal off unneeded form-tie sleeves with Universal plugs R20/25.

**WARNING**
Sensitive rod steel!
- Never weld or heat tie rods.
- Tie rods that are damaged or have been weakened by corrosion or wear must be withdrawn from use.

**Note:**
Doka also offers economical solutions for creating watertight wall-ties.

**The Doka tie rod system 15.0**

![Diagram of the Doka tie rod system 15.0](image)

<table>
<thead>
<tr>
<th>A</th>
<th>Tie rod 15.0mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Super plate 15.0</td>
</tr>
<tr>
<td>C</td>
<td>Plastic tube 22mm</td>
</tr>
<tr>
<td>D</td>
<td>Universal cone 22mm</td>
</tr>
</tbody>
</table>

**Note:**
The Plastic tubes 22mm left behind in the concrete are sealed off with Plugs 22mm.

<table>
<thead>
<tr>
<th>Tie rod 15.0mm:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permitted capacity, allowing a 1.6 : 1 factor of safety against failure: 120 kN</td>
</tr>
<tr>
<td>Permitted capacity to DIN 18216: 90 kN</td>
</tr>
</tbody>
</table>

The friction-type ratchet SW27 or Box spanner 27 0.65m can be used for low-noise releasing and tightening of the following anchoring components:
- Super plate 15.0
- Wing nut 15.0
- Star grip nut 15.0

**Distance piece**

As an alternative to the plastic tube with universal cone, there is also a distance piece designed as an all-in-one form-tie distance tube.

![Diagram of the distance piece](image)

<table>
<thead>
<tr>
<th>A</th>
<th>Tie rod 15.0mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Super plate 15.0</td>
</tr>
<tr>
<td>C</td>
<td>Distance piece (ready for use for certain thicknesses of wall)</td>
</tr>
</tbody>
</table>

The stoppers for plugging the distance pieces are also included.

**Tie-rod wrench 15.0/20.0**
For turning and holding the tie rods.
The Doka tie rod system 20.0

For high formwork pressures of up to 80 kN/m², use the Tie rod system 20.0.

Note:
The Plastic tubes 26mm left behind in the concrete are sealed off with Plugs 26mm.

Tie rod 20.0mm:
Permitted capacity, allowing a 1.6 : 1 factor of safety against failure: 220 kN
Permitted capacity to DIN 18216: 150 kN

Inclined and height-mismatched positioning

Thanks to their large, conical form-tie sleeves, the panels can be inclined on one or both sides, and/or height-mismatched.

Note:
Secure all inclined panels against uplift.
Inclined and mismatched positioning are not possible with panels that have been placed on their sides.

Limit-values when super plates are used

<table>
<thead>
<tr>
<th></th>
<th>Conical on 1 side</th>
<th>Conical on both sides</th>
<th>Height mismatch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form-tie system 15.0: max. 1.9 cm per 10 cm of wall thickness</td>
<td>max. 4°</td>
<td>max. 2 x 4.5°</td>
<td></td>
</tr>
<tr>
<td>Form-tie system 20.0: max. 1.0 cm per 10 cm of wall thickness</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:
Secure all inclined panels against uplift.
Inclined and mismatched positioning are not possible with panels that have been placed on their sides.
Form-tie situations on the 3.30m panel

The positions of the tie-holes on the 3.30m panels match those on the 2.70m and 1.35m high panels. This means that combinations of these 3 panel heights are possible in both the inside and outside formwork.

- Wall heights of up to 3.30 m possible with no vertical stacking of panels
- Up to a pour height of 3.15 m, only 2 form-ties are needed (0.47 ties per m²)
- Vertical stacking with horizontal panels possible using 2.70m panels
- Vertical stacking with upright panels possible using all 3 heights of panel

Dimensions in cm
**Framax head anchor**

The Framax head anchor is used for tying Framax Xlife panels.

- The Framax head anchor holds the two sides of the formwork the required distance apart.
- For wall thicknesses from 15 to 100 cm.
- Tension bracing and compression bracing.
- Adjustable in a 5-mm grid.
- When the Framax head anchor is used there is no need for the Doka tie-rod system 15.0 or 20.0 at the following positions:
  - on the top horizontal panel up to a panel width of 0.90m
  - in the top form-tie points of the Framax Xlife panel 3.30m (not vertically stacked)

**Permitted tensile force**: 10 kN  
**Permitted compressive force**: 10 kN

**Assembly:**

- Position the Framax head anchor directly above the form-tie points of the Framax Xlife panel.
- Telescope the Framax head anchor to the desired length 'a' (= wall thickness) and fix it in the relevant hole with a pin and spring cotter.

Example: Vertical stacking with panel turned long-side horizontal

![Diagram showing vertical stacking with and without Framax head anchor]

<table>
<thead>
<tr>
<th>with Framax head anchor</th>
<th>without Framax head anchor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Framax head anchor 15-40cm</td>
<td></td>
</tr>
<tr>
<td>B Framax head anchor 15-100cm</td>
<td></td>
</tr>
<tr>
<td>C Adjusting unit</td>
<td></td>
</tr>
<tr>
<td>D Notch = measuring point</td>
<td></td>
</tr>
</tbody>
</table>

Example: Framax Xlife panel 3.30m

![Diagram showing Framax Xlife panel 3.30m with and without Framax head anchor]

<table>
<thead>
<tr>
<th>with Framax head anchor</th>
<th>without Framax head anchor</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Framax head anchor</td>
<td></td>
</tr>
<tr>
<td>B Tie rod system 15.0 and 20.0</td>
<td></td>
</tr>
</tbody>
</table>

**Example:**

- a ... 15 - 40 cm
- b ... 15 - 100 cm
- c ... max. 0.90 m

**Permitted tensile force**: 10 kN  
**Permitted compressive force**: 10 kN
Length adjustment using closures

By combining the Framax alu closures (5 and 10 cm) and the Framax fitting timbers (2, 3, 5 and 10 cm) in various ways, closures can be made in 1 cm increments.

Example:
- Closure width = 12 cm
  - 1 Framax alu closure 10 cm
  - 1 Framax fitting timber 2 cm

Framax universal waling:
Permitted moment: 5.2 kNm

Where space is tight (e.g. between two Xsafe plus platforms), use the short Framax universal waling 0.60 m.

Closures: 0 - 15 cm

with Framax multi function clamp

Tie through frame profile

Tie through enclosure

with Framax universal fixing bolt

NOTICE
3 universal fixing bolts are needed per 2.70 m of panel height.

<table>
<thead>
<tr>
<th>Closure range</th>
<th>0 to 6 cm</th>
<th>0 to 15 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framax universal fixing bolt 10-16cm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Framax universal fixing bolt 10-25cm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
secured to Framax Xlife panel

**NOTICE**

Be sure to proceed in the correct sequence when stripping the formwork!
To avoid damage to the alu closure, first strip the panel with the attached closure.

Framax alu closure

---

Closures: 0-20 cm

with Framax adjustable clamp

Framax adjustable clamp:
Permitted tensile force: 10.0 kN

**Note:**
Fit the Framax adjustable clamp in the same position as the Framax multi function clamp

Framax alu closure and Framax fitting timber

*) If (C) ≤3 cm, use Clamping screw 4-8cm instead of the universal fixing bolt.
**Closures: 17 - 80 cm**

**with Framax moulded timber, formwork sheet**

<table>
<thead>
<tr>
<th>A</th>
<th>Framax moulded timber</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Framax quick-acting clamp RU</td>
</tr>
<tr>
<td>C</td>
<td>Squared timber</td>
</tr>
<tr>
<td>D</td>
<td>Formwork sheet</td>
</tr>
<tr>
<td>E</td>
<td>Framax universal waling</td>
</tr>
<tr>
<td>F</td>
<td>Framax wedge clamp</td>
</tr>
<tr>
<td>G</td>
<td>Framax Xlife panel</td>
</tr>
</tbody>
</table>

**Closure range**

<table>
<thead>
<tr>
<th>Closure range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framax universal waling 0.90m</td>
</tr>
<tr>
<td>Framax universal waling 1.50m</td>
</tr>
</tbody>
</table>

**Tying the panels:**

Closure widths <30 cm: fix 1 form tie through the closure in the top and bottom universal waling.

Closure widths >30 cm: fix two ties in each of the 3 universal walings (per 2.70 m formwork height).

A tension anchor can be made using a tie rod and Star grip nut 15.0 G.

**Closures on horizontal panels**

**Closures on 2.40x2.70m panel**
90 degree corners

The corner solutions are based on the strong, torsion-proof Framax Xlife inside corner.

a ... 30 cm
The hole drilled in the inside corner enables a vertical stacking connection to be made using universal fixing bolts + super plates.

There are **2 ways** of forming right-angled outside corners:
- with a Framax Xlife universal panel
- with a Framax outside corner

**Note:**
For details regarding extra inter-panel connections on outside corners (for increased tensile loads) see 'Inter-panel connections for increased tensile loads'.

**with Framax Xlife universal panels**

![Diagram of corner solutions]

Required numbers of universal fixing bolts + Super plates 15.0:

<table>
<thead>
<tr>
<th>Universal panel length</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.90m</td>
<td>2</td>
</tr>
<tr>
<td>1.35m</td>
<td>2</td>
</tr>
<tr>
<td>2.70m</td>
<td>4</td>
</tr>
<tr>
<td>3.30m</td>
<td>5</td>
</tr>
</tbody>
</table>

- If the entire outside corner is raised and repositioned by crane, then **no universal walings** are needed for height-bracing the panels.

**Note:**
Seal off the unused holes in the formwork sheet of the universal panels with **Framax plugs R 24.5**.
Framax Xlife universal panel 0.90m

Various different wall-thickness grids (5 and 6 cm) are provided by inverting the 0.90 m wide universal panel.

<table>
<thead>
<tr>
<th>Attainable wall thicknesses</th>
<th>in 5 cm increment-grid</th>
<th>in 6 cm increment-grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>X = 10</td>
<td>18</td>
<td>20</td>
</tr>
<tr>
<td>X = 15</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>X = 20</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>X = 25</td>
<td>36</td>
<td>38</td>
</tr>
<tr>
<td>X = 30</td>
<td>40</td>
<td>42</td>
</tr>
<tr>
<td>X = 35</td>
<td>45</td>
<td>48</td>
</tr>
<tr>
<td>X = 40</td>
<td>50</td>
<td>53</td>
</tr>
<tr>
<td>X = 45</td>
<td>55</td>
<td>58</td>
</tr>
<tr>
<td>X = 50</td>
<td>60</td>
<td>63</td>
</tr>
<tr>
<td>X = 55</td>
<td>65</td>
<td>68</td>
</tr>
<tr>
<td>X = 60</td>
<td>66</td>
<td>69</td>
</tr>
<tr>
<td>X = 65</td>
<td>70</td>
<td>73</td>
</tr>
<tr>
<td>X = 70</td>
<td>75</td>
<td>76</td>
</tr>
</tbody>
</table>

Note:
Due to its unsymmetrical design, the universal panel 3.30m cannot be inverted. This means that wall thicknesses are only available in 5 cm increments when this panel is used.

Framax Xlife universal panel 1.20m

The continuous 5 cm hole-grid makes it possible to form corner configurations on walls of up to 75 cm thick.

<table>
<thead>
<tr>
<th>Attainable wall thicknesses</th>
<th>in 5 cm increment-grid</th>
</tr>
</thead>
<tbody>
<tr>
<td>X = 10</td>
<td>18</td>
</tr>
<tr>
<td>X = 15</td>
<td>24</td>
</tr>
<tr>
<td>X = 20</td>
<td>30</td>
</tr>
<tr>
<td>X = 25</td>
<td>36</td>
</tr>
<tr>
<td>X = 30</td>
<td>40</td>
</tr>
<tr>
<td>X = 35</td>
<td>45</td>
</tr>
<tr>
<td>X = 40</td>
<td>50</td>
</tr>
<tr>
<td>X = 45</td>
<td>55</td>
</tr>
<tr>
<td>X = 50</td>
<td>60</td>
</tr>
<tr>
<td>X = 55</td>
<td>65</td>
</tr>
<tr>
<td>X = 60</td>
<td>70</td>
</tr>
<tr>
<td>X = 65</td>
<td>75</td>
</tr>
</tbody>
</table>

with Framax outside corner

The Framax outside corner is an easy way of forming corners in narrow trench situations or where large wall thicknesses are called for.
Required number of connectors for different fresh-concrete pressures and wall thicknesses:

<table>
<thead>
<tr>
<th>Pressure of fresh concrete Pk</th>
<th>Wall thickness</th>
<th>Height of outside corner</th>
<th>Quick acting clamp RU</th>
<th>Tensioning wedge + wedge bolt</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 kN/m²</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>up to 40 cm</td>
<td>1.35m</td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70m</td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.30m</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt; 40 and up to 75 cm</td>
<td>1.35m</td>
<td>-</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70m</td>
<td>-</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.30m</td>
<td>-</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>80 kN/m²</td>
<td>up to 25 cm</td>
<td>1.35m</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70m</td>
<td>8</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.30m</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>&gt; 25 and up to 60 cm</td>
<td>1.35m</td>
<td>-</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.70m</td>
<td>-</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.30m</td>
<td>-</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

Wedge bolt and tensioning wedge:

Example: T-junction

NOTICE
Do not oil or grease wedged connections.

When there is a closure on both sides of the inside corner, bracing can be achieved economically with the universal corner waling.

NOTICE
When striking the formwork, separate the gang-form at the Framax outside corner (remove the connectors on one side of the Framax outside corner).
**Pilasters**

Framax Xlife pilaster panels are used for the non-tied forming of pilasters.

Product features:
- No need for ties through the pilaster.
- The integral folding function makes the stripping procedure faster.
- Depending on the stop-end used, pilasters up to 60 cm deep and 60 cm wide are possible.
- Panel heights:
  - 1.35 m
  - 3.30 m

*) for Connecting panel 2.70m or 3.30m

---

**Example, of stop-end with Universal waling**

A Framax Xlife pilaster panel left
B Framax Xlife pilaster panel right
C Framax universal waling
D Framax universal fixing bolt + Super plate 15.0
E Doka tie rod system

**Example, stop-end with Framax Xlife panel**

A Framax Xlife pilaster panel left
B Framax Xlife pilaster panel right
D Framax universal fixing bolt + Super plate 15.0
F Framax Xlife pilaster panel 0.45m or 0.60m

---

<table>
<thead>
<tr>
<th>Panel height</th>
<th>Framax universal fixing bolt + Super plates 15.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.35m</td>
<td>4</td>
</tr>
<tr>
<td>3.30m</td>
<td>10</td>
</tr>
</tbody>
</table>

---

a ... 30 cm
b ... 60 cm

A Framax Xlife pilaster panel 3.30m or 1.35m left
B Framax Xlife pilaster panel 3.30m or 1.35m right
C Fastening bolt for fixing at right-angles
D Lug
Opening the formwork

➤ Remove the stop-end formwork.

➤ Take out the fastening bolt and swivel the lug inward.

➤ Swivel pilaster panels inward.

➤ Detach the entire unit from the concrete and crane-lift it to the next position.

Edges

with Framax frontal triangular ledge

The Framax frontal triangular ledge can be slipped over the front end of the panel without being nailed and is used with the universal panel to form outside corners (integral slot grid for universal fixing bolts). It is also possible to form edges using the Framax triangular ledge, of course.

with the Framax triangular ledge

Where outside corners are formed using the Framax outside corner, the Quick acting clamps used for the interconnection mean that the Framax triangular ledge has to be used.
Inter-panel connections for increased tensile loads

As a rule, only **2 clamps are needed per 2.70 m** and **3 clamps per 3.30 m** formwork height as a tension link between the panels.

However, where **increased tensile loads** need to be sustained near outside corners and stop-ends, **extra clamps are needed**.

### Wall thicknesses up to 40 cm:

For each panel joint up to 1.35 m:
- 1 extra clamp

### Wall thicknesses up to 60 cm:

For each panel joint up to 1.35 m:
- 2 extra clamps

For each panel joint between 1.35 m and 2.70 m:
- 1 extra clamp

### Wall thicknesses up to 75 cm:

For each panel joint up to 1.35 m:
- 3 extra clamps

For each panel joint between 1.35 m and 2.70 m:
- 2 extra clamps

For each panel joint between 2.70 m and 4.05 m:
- 1 extra clamp

---

**Near stop-ends**

- a ... up to 40 cm
- b ... 1.35 m
- X1 ... 1 extra clamp

- a ... up to 60 cm
- b ... 1.35 m
- X1 ... 2 extra clamps
- X2 ... 1 extra clamp

- a ... up to 75 cm
- b ... 1.35 m
- X1 ... 3 extra clamps
- X2 ... 2 extra clamps
- X3 ... 1 extra clamp
Near outside corners

**NOTICE**

For a fresh-concrete pressure $P_k$ of over 60 kN/m² or wall thicknesses of over 40 cm, **wedge bolts** and **tensioning wedges** must be used in the outside corners instead of quick acting clamps (see the section headed '90 degree corners').
Acute & obtuse-angled corners

Acute and obtuse angles are solved using the hinged inside and outside corners.

### Note:
For angles of less than 120°, no universal walings are needed in inside corners.

**NOTICE**
Where there are closures, provide extra Universal walings as shown in the section headed 'Length adjustment using closures'.

#### Number of clamps needed in the hinged outside corner:

<table>
<thead>
<tr>
<th>Height of panel</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.35 m</td>
<td>4</td>
</tr>
<tr>
<td>2.70 m</td>
<td>8</td>
</tr>
<tr>
<td>3.30 m</td>
<td>10</td>
</tr>
</tbody>
</table>

**NOTICE**
For details regarding extra inter-panel connections on outside corners (for increased tensile loads), see the section headed 'Inter-panel connections for increased tensile loads'.

### Hinged inside corner I

- **(powder-coated)**
  - a ... 0.7 cm
  - b ... 29.2 cm

- **(galvanised)**
  - a ... 0.7 cm
  - b ... 29.3 cm

### Hinged outside corner A

- **(powder-coated)**
  - a ... 5.5 cm
  - b ... 0.8 cm

- **(galvanised)**
  - a ... 6.3 cm

**Note:**
The Framax hinged outside corner A (galvanised) cannot be combined with the Framax hinged outside corner A (powder-coated).

### N° of universal walings in the outside and inside corners:

<table>
<thead>
<tr>
<th>Panel height</th>
<th>N° of universal walings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.35 m</td>
<td>4</td>
</tr>
<tr>
<td>2.70 m</td>
<td>6</td>
</tr>
<tr>
<td>3.30 m</td>
<td>8</td>
</tr>
</tbody>
</table>

**Position of the universal walings:**
In every support level of the Hinged inside corner I.
70° (60°) - 135° angles, with hinged corners I + A

<table>
<thead>
<tr>
<th>Pressure of fresh concrete $P_k$</th>
<th>Max. width of panel next to Hinged outside corner A</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 kN/m²</td>
<td>90 cm</td>
</tr>
<tr>
<td>80 kN/m²</td>
<td>60 cm</td>
</tr>
</tbody>
</table>

In addition, closures of up to max. 15 cm are allowed.

Where **universal fixing bolts** are used instead of the quick-acting clamp RU in the inside corner, an angle of 60° is also possible.
90° - 180° angles, with hinged inside corner I only

The hinged corner I can be fixed at a 90° angle using a universal fixing bolt and super plate 15.0.

A  Framax hinged inside corner I
B  Framax Xlife panel 0.30m
C  Framax quick-acting clamp RU
D  Framax universal waling
E  Framax wedge clamp

The hinged corner I can be fixed at a 90° angle using a universal fixing bolt and super plate 15.0.
Shaft formwork / stripping aid

Shaft formwork with Stripping corner I

With the Stripping corner I, the entire shaft formwork unit is detached from the wall, in one piece, before being lifted and reset by crane.

Product features:
- No negative impression in the concrete.
- Formwork set-up and stripping function integrated in the inside corner (no need for crane – uses stripping spindles).
- Entire shaft formwork unit is lifted and reset in one piece (with lifting hooks and four-part lifting chain).

Two different types of stripping spindle can be used for setting up and stripping the formwork:
- Framax stripping spindle I with ratchet
- Framax stripping spindle I

Position of closures (fitting-timbers) in the inside shaft formwork:
- whenever possible, not directly next to the stripping corners

Formwork-striking play:

A Framax stripping corner I
B Framax stripping spindle I or Framax stripping spindle I with ratchet
C Steel form-facing

Required number of Framax quick acting clamps RU:

<table>
<thead>
<tr>
<th>Height of the Stripping corner I</th>
<th>Number of clamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.35 m</td>
<td>4</td>
</tr>
<tr>
<td>2.70 m</td>
<td>6</td>
</tr>
<tr>
<td>3.30 m</td>
<td>8</td>
</tr>
</tbody>
</table>

NOTICE
In order to obtain the full available stripping-play, make sure that the Framax quick acting clamps RU are mounted at staggered heights (i.e. not opposite one another).
**Vertical stacking of Framax stripping corners I**

1) Pull out the coupling bolt.
2) Manoeuvre the Stripping corner I into place so that it is flush with the one below it.
3) Push the coupling bolt back in.
4) Bolt the Stripping corners I together with 2 hexagonal bolts.

Animation: [https://player.vimeo.com/video/256373947](https://player.vimeo.com/video/256373947)

**Mounting the Framax stripping spindles I**

These mounting instructions apply to both **Stripping spindles I** and **Stripping spindles I with ratchet**.

1) Pull out the U-bolt from the stripping spindle.
2) Place the stripping spindle on the centring stud of the stripping corner.
3) Twist the stripping spindle clockwise until fully engaged.
4) Position the ratchet or spindle nut between the holes in the push-rod.
5) Fix the stripping spindle with the U-bolt.

Animation: [https://player.vimeo.com/video/256374622](https://player.vimeo.com/video/256374622)

**Operating the Framax stripping spindle I with ratchet**

- **Screw a Tie-rod 15.0mm into the Weldable coupler 15.0 of the ratchet.**
- **Setting up:**
  - shift the change-over lever into the 'L' position
  - turn the ratchet **clockwise**
- **Stripping:**
  - shift the change-over lever into the 'R' position
  - turn the ratchet **anti-clockwise**.
Facilitating stripping with the stripping timber

The diagonally cut stripping timber makes quick work of striking inside-formwork in narrow cross-sections such as lift-shafts or stair-wells.

The Framax stripping timber is available in lengths of 2.85 m. The stripping timbers thus project 15 cm beyond the ends of the panels, and so are easier to remove.

The crane hook on the Stripping corner I is not allowed to be used for lifting the shaft formwork.

➤ The shaft formwork may only be reset using lifting hooks.

Permitted weight of the shaft formwork:
4000 kg with 4 Framax lifting hooks
Stop-end formwork

There are 3 ways of forming stop ends:
- with universal panel
- stop-end waler tie
- with universal waling

Note:
For details regarding extra inter-panel connections on stop-ends (for increased tensile loads) see 'Inter-panel connections for increased tensile loads'.

with universal panels

The universal panels are mounted using universal fixing bolts and Super plates 15.0.

Required numbers of universal fixing bolts + Super plates 15.0:

<table>
<thead>
<tr>
<th>Universal panel length (m)</th>
<th>Required数量</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.90</td>
<td>4</td>
</tr>
<tr>
<td>1.35</td>
<td>4</td>
</tr>
<tr>
<td>2.70</td>
<td>8</td>
</tr>
<tr>
<td>3.30</td>
<td>10</td>
</tr>
</tbody>
</table>

Note:
Seal off the unused holes in the formwork sheet of the universal panels with Framax plugs R 24.5.
**Framax Xlife universal panel 0.90m**

**Universal panel 0.90m, 1.35m and 2.70m**

The stop-end formwork can be **flexibly adapted to different wall thicknesses** by the two integrated hole-grids.

A Framax Xlife universal panel 0.90m
B Framax universal fixing bolt + Super-plate 15.0
C Framax Xlife panel (panel width > 0.30m)

<table>
<thead>
<tr>
<th>Combination</th>
<th>Wall thickness X</th>
</tr>
</thead>
<tbody>
<tr>
<td>A' with H to A</td>
<td>16 to 51 cm</td>
</tr>
<tr>
<td>B' with H to A</td>
<td>10 to 45 cm</td>
</tr>
<tr>
<td>C' with H to A</td>
<td>4 to 39 cm</td>
</tr>
<tr>
<td>D' with G to A</td>
<td>3 to 33 cm</td>
</tr>
</tbody>
</table>

**Universal panel 3.30m**

The continuous **5 cm hole-grid** makes it possible to form stop-ends on walls of **up to 60 cm thick**.

A Framax Xlife universal panel 0.90x3.30m
B Framax universal fixing bolt + Super-plate 15.0
C Framax Xlife panel (panel width > 0.30m)

**Framax Xlife universal panel 1.20m**

The continuous **5 cm hole-grid** makes it possible to form stop-ends on walls of **up to 75 cm thick**.

**Note:**
If the concrete pressure is reduced, wall thicknesses of up to 90 cm are also possible.

A Framax Xlife universal panel 1.20m
B Framax universal fixing bolt + Super-plate 15.0
C Framax Xlife panel (panel width > 0.30m)
The stop-end waler ties make it possible to form stop-ends continuously from wall thicknesses of 15 cm to 75 cm.

a ... 15 cm to 75 cm  
b ... ≥ 20 cm (only statically necessary on panel width 1.35 m)

Position of stop-end waler tie:
- **A** Framax stop-end waler tie
- **B** Framax Xlife panel

How to mount:
- Fix the required wall thickness with twin pins.
- Position the stop-end waler tie on the formwork.
- Fine-adjust the screwjack clamp with the star grip nut, and tighten it.
## Required numbers of Framax stop-end waler ties

### Panels longside vertical

<table>
<thead>
<tr>
<th>Pressure of fresh concrete $P_k$</th>
<th>60 kN/m$^2$</th>
<th>80 kN/m$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel height 2.70m</td>
<td>2.70m</td>
<td>2.70m</td>
</tr>
<tr>
<td>Panel width</td>
<td>0.30-0.90m</td>
<td>0.30-0.90m</td>
</tr>
<tr>
<td>Wall thickness 15-45cm:</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Wall thickness &gt;45-75cm:</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

### Panels longside horizontal

<table>
<thead>
<tr>
<th>Panel width</th>
<th>0.30m - 0.60m</th>
<th>0.90m - 1.35m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

### Positions of Framax stop-end waler ties

#### Panel height 2.70m, upright

<table>
<thead>
<tr>
<th>Number of stop-end waler ties</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>

#### Panel height 3.30m, upright

<table>
<thead>
<tr>
<th>Number of stop-end waler ties</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
</table>
with universal walings

Universal walings make it possible to form stop-ends continuously across any thickness of wall.

**Framax universal waling:**  
permitted moment: 5.2 kNm

There are 2 possible ways of fastening the universal walings:  
- with universal fixing bolts  
- with stop-end ties

**Universal fixing bolts**

The universal walings are mounted using universal fixing bolts and Super plates 15.0 fixed through the cross boreholes in the panels.

---

**Stop-end ties**

The universal walings or multi-purpose walings are fastened using Framax stop-end ties and super plates. This enables you to form stop-ends continuously, even across large thicknesses of wall.

**Framax universal waling:**  
permitted moment: 5.2 kNm

**Stop-end ties**

In order to ensure uniform load transfer, the stop-end ties should be fitted in the middle (between 2 cross-profiles) wherever possible.

**Framax stop-end tie:**  
Perm. tensile force: 15.0 kN

**Multi-purpose waling WS10 Top50:**  
Permitted moment: 12.3 kNm

---

**Position of the stop-end ties:**

**Framax stop-end tie:**  
Perm. tensile force: 15.0 kN

---

**Multi-purpose waling WS10 Top50:**  
Permitted moment: 12.3 kNm

---

**Framax universal fixing bolt:**  
Permitted tensile force in the cross borehole of the Framax Xlife panel: 25.0 kN

---

**Height of panel:** 2.76 m

<table>
<thead>
<tr>
<th>Height of panel</th>
<th>Universal walings / multipurpose walings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 40 cm</td>
<td>2 units</td>
</tr>
<tr>
<td>Up to 50 cm</td>
<td>3 units</td>
</tr>
<tr>
<td>Up to 60 cm</td>
<td>4 units</td>
</tr>
<tr>
<td>Up to 80 cm</td>
<td>5 units</td>
</tr>
</tbody>
</table>

**Pressure of fresh concrete P:**

<table>
<thead>
<tr>
<th>Pressure of fresh concrete P</th>
<th>Universal walings / multipurpose walings</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 kN/m²</td>
<td>Up to 40 cm</td>
</tr>
<tr>
<td>80 kN/m²</td>
<td>Up to 50 cm</td>
</tr>
</tbody>
</table>

**Pressure of fresh concrete P:**

<table>
<thead>
<tr>
<th>Pressure of fresh concrete P</th>
<th>Universal walings / multipurpose walings</th>
</tr>
</thead>
<tbody>
<tr>
<td>60 kN/m²</td>
<td>Up to 50 cm</td>
</tr>
<tr>
<td>80 kN/m²</td>
<td>Up to 60 cm</td>
</tr>
</tbody>
</table>

**Horizontal panels**

<table>
<thead>
<tr>
<th>Width of panel</th>
<th>Wall thickness</th>
<th>Universal walings / multipurpose walings</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 0.45 m</td>
<td>up to 60 cm</td>
<td>1 unit</td>
</tr>
<tr>
<td>over 0.45 m</td>
<td>up to 60 cm</td>
<td>2 units</td>
</tr>
</tbody>
</table>
Stop-ends with joint-sealing tapes

- **A** Framax universal waling or Multi-purpose waling WS10 Top50
- **B** Framax universal fixing bolt or Framax stop-end tie
- **C** Super-plate 15.0
- **D** Framax Xlife panel
- **E** Doka form-tie system
Wall junctions, offsets and steps

Connecting to existing walls

Right-angled connections

with a Framax Xlife universal panel

- A Framax Xlife universal panel
- B Doka form-tie system 15.0
  (on the Universal panel 2.70m, 3 form-ties are required, one in the first hole of each perforated profile)
- C Doka form-tie system
- D In-place timber brace

with Framax Xlife panel and pressure plate 6/15

- A Framax Xlife panel
- B Framax pressure plate 6/15
- C Hexagon nut 15.0
- D Doka form-tie system 15.0mm
- E Doka form-tie system
- F In-place timber brace

with Framax Xlife panel and squared timbers

- A Framax Xlife panel
- B Squared timber (min. 3.5 cm up to max. 20 cm)
- C Framax universal waling (not necessary with squared timbers up to 5 cm wide)
- D Framax wedge clamp
- E Doka form-tie system
- F In-place timber brace

In-line connections

with a Framax Xlife universal panel

- A Framax Xlife universal panel
- B Framax universal waling 1.50m
- C Doka form-tie system 15.0 (in the Universal panel 2.70m, 3 form-ties are needed)
- D Doka form-tie system

with Framax Xlife panel 2.40x2.70m

- A Framax Xlife panel 2.40x2.70m
- B Doka form-tie system

with Framax Xlife panel and squared timbers

- A Framax Xlife panel
- B Squared timber
- C Framax multi-function clamp
- D Doka form-tie system
### Corner connections

**without closure**

![Corner connections without closure](image)

- A Framax Xlife panel
- B Framax pressure plate 6/15
- C Hexagon nut 15.0
- D Super-plate 15.0
- E Doka form-tie system 15.0
- F Framax multi-function clamp
- G Doka form-tie system
- H In-place timber brace

**with closure**

![Corner connections with closure](image)

- A Framax Xlife panel
- B Framax Xlife panel 0.30m
- C Framax universal waling (not necessary with squared timbers up to 5 cm wide)
- D Framax universal fixing bolt 10-25cm
- E Framax wedge clamp
- F Doka form-tie system
- G In-place timber brace

---

### Wall offsets

**one-sided wall offset up to max. 12 cm**

![Wall offsets one-sided wall offset up to max. 12 cm](image)

- A Framax universal waling
- B Framax wedge clamp
- C Squared timber
- D Super-plate 15.0 + Framax universal fixing bolt 10-25cm
- E Doka form-tie system
- F Framax Xlife panel

**Note:**
Where the sections of wall are short (high longitudinal tension), shoring is necessary.

### Wall steps

**a ... 35 to 90 cm**

![Wall steps a ... 35 to 90 cm](image)

- A Framax Xlife inside corner
- B Framax Xlife universal panel
- C Framax Xlife panel 0.60m
- D Framax universal corner waling
- E Framax wedge clamp
- F Super-plate 15.0 + Framax universal fixing bolt
- G Doka form-tie system
Window and door openings

Window and door box-outs can be formed quickly and stripped out non-destructively with box-out clamps. Planks are fixed in the box-out clamps by means of the integrated star grip nuts.

Close-up A:

a ... clear width of opening
l ... length of plank = a minus 12 cm
s ... plank width = wall thickness

How to mount:

➤ Place the box-out clamps on the ground, fit planks into them and tighten the star grip nuts.
➤ Fasten the box-outs to the wall formwork with boards 10/3 cm and nails.
➤ Brace vertically and horizontally with suitable floor props (as statically required).
Plumbing accessories

0.5 kN/m² (102 km/h) where $c_{p_{net}} = 1.3$. The greater wind loads encountered at exposed formwork-ends must be constructionally sustained by additional plumbing accessories (e.g. struts or pipe-braces). In cases where higher wind pressure is encountered, the number of struts must be determined by statical calculation!

For more information, see the Calculation Guide 'Wind loads to the Eurocodes', or consult your Doka technician!

**Note:**
Every gang-form must be supported by at least 2 plumbing accessories.

Example: Where the formwork height is 7.20 m, the following are needed for every 5.40 m wide gang-form:
- 2 panel struts 340
- 4 panel struts 540

**WARNING**
Risk of the formwork tipping over!
- Formwork panels must be held stable in every phase of construction work!
- Observe all applicable safety rules!
- If high wind speeds are likely, and when work finishes for the day or before prolonged work-breaks, always take extra precautions to fix the formwork in place.

**Suitable precautions:**
- set up the opposing formwork
- place the formwork against a wall
- anchor the formwork to the ground (e.g. with Framax floor fixing plates)

**Universal dismantling tool**
The easy way to turn the spindle nuts.

**Number of struts per 2.70 m width of gang-form:**

<table>
<thead>
<tr>
<th>Formwork height [m]</th>
<th>Panel strut 340</th>
<th>Panel strut 540</th>
<th>Eurex 60 550</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.05</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>5.40</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>6.00</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7.20</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8.10</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Max. anchoring load: $F_n = 13.5 \text{ kN} \ (R_d = 20.3 \text{ kN})$

*) Up to a height of 3.30 m, the spacing of the struts can be extended to 4.05 m apart.

The values apply where the wind pressure $w_e = 0.65 \text{ kN/m}^2$. This results in an impact pressure $q_p =$
Connection in the waling profile

![Diagram of waling profile with labeled parts](image)

- **A** Panel strut 340 IB or 540 IB
- **B** Prop head EB

Animation: [https://player.vimeo.com/video/268536814](https://player.vimeo.com/video/268536814)

Fixing to the ground

➤ Anchor the plumbing accessories in such a way as to resist tensile and compressive forces!

### Drilled holes in footplate

<table>
<thead>
<tr>
<th>Panel struts</th>
<th>Eurex 60 550</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram of panel strut and footplate" /></td>
<td></td>
</tr>
</tbody>
</table>

- **a** ... diam. 26 mm
- **b** ... diam. 18 mm (suitable for Doka express anchors)
- **c** ... diam. 28 mm
- **d** ... diam. 18 mm (suitable for Doka express anchors)

### Anchoring the footplate

The **Doka express anchor** can be re-used many times over.

![Diagram of anchoring footplate](image)

- **A** Doka express anchor 16x125mm
- **B** Doka coil 16mm

**Characteristic cube compressive strength of the concrete (f_{ck,cube}):**

min. 15 N/mm² (C12/15 grade concrete)

Follow the Fitting Instructions!

**Required safe working load of alternative anchors for footplates:**

\[ R_d \geq 20.3 \text{ kN} \quad (F_{\text{permissible}} \geq 13.5 \text{ kN}) \]

Follow the manufacturers' applicable fitting instructions.

Panel struts

**Product features:**

- Can be telescoped in 8 cm increments
- Fine adjustment by screw-thread
- All parts are captively integrated - including the telescopic tube (has safety stop to prevent dropout)

### Panel struts

<table>
<thead>
<tr>
<th>Panel strut 340</th>
<th>Panel strut 540</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Diagram of panel strut 340" /></td>
<td></td>
</tr>
<tr>
<td><img src="image" alt="Diagram of panel strut 540" /></td>
<td></td>
</tr>
</tbody>
</table>

- **a** ... 190.8 - 341.8 cm
- **b** ... 115.8 - 165.5 cm
- **a** ... 310.5 - 549.2 cm
- **b** ... 207.7 - 256.5 cm

- **A** Panel strut 340 IB or 540 IB
- **B** Prop head EB
Eurex 60 550 used as a shoring & plumbing accessory

As the Doka plumbing strut Eurex 60 550 - fitted with the appropriate accessories - this prop can also be used for shoring high wall formwork.

- Can be connected directly – without modification – to Doka framed formwork and Doka timber-beam formwork
- The Adjusting strut 540 Eurex 60 IB makes handling much easier, especially when the formwork is being transferred.
- Can be telescoped in 10 cm increments, with continuous fine adjustment.

Follow the directions in the 'Eurex 60 550' User Information booklet!

Example of a possible combination of type 2

The rule-of-thumb here is:
The length of the shoring & plumbing accessory (i.e. the complete Eurex 60 550 plumbing-strut assembly) = the height of the gang-form to be braced.

<table>
<thead>
<tr>
<th>Type</th>
<th>Length extended L [m]</th>
<th>Plumbing strut Eurex 60 550 (A)</th>
<th>Extension Eurex 60 2.00m (B)</th>
<th>Coupler Eurex 60 (C)</th>
<th>Connector Eurex 60 IB (D)</th>
<th>Plumbing strut shoe Eurex 60 EB (E)</th>
<th>Adjusting strut 540 Eurex 60 IB (F)</th>
<th>Prop head EB (G)</th>
<th>Weight [kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>3.79 - 5.89</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>12</td>
<td>1</td>
<td>91.1</td>
</tr>
<tr>
<td>2</td>
<td>5.79 - 7.89</td>
<td>1 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>112.4</td>
</tr>
<tr>
<td>3</td>
<td>7.79 - 9.89</td>
<td>1 2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>133.7</td>
</tr>
<tr>
<td>4</td>
<td>7.22 - 11.42</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>142.5</td>
</tr>
<tr>
<td>5</td>
<td>9.22 - 13.42</td>
<td>2 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>163.8</td>
</tr>
</tbody>
</table>
Pouring platforms

can be quickly readied for use, and make concreting both easy and safe.

Xsafe plus platform

These pre-assembled, fold-out working platforms with their integral side railings, self-closing manhole lids and integrable ladders are ready for immediate use and greatly improve workplace safety.

Note:
For detailed information on platform sizes, handling and accessories, see the 'Platform system Xsafe plus' User Information booklet.

Precondition for use

Observe all applicable safety rules.

Engage pouring platforms only to formwork structures of adequate stability to ensure that the expected loads can be taken.

Make sure that the formwork gang is sufficiently rigid.

Brace the formwork in a windproof manner when erecting it and when it is temporarily placed in the standing position.

NOTICE
If the formwork is lifted with the pouring platform still mounted to it, the platform must be secured so that it cannot slip to either side.

Preconditions for using the Xsafe plus platform with the Xsafe plus lifting adapter for Framax:

- max. one platform level
- max. vertical stacking configuration where the gangform is assembled face-down on the ground and has a width of 2.70 m:
  - 2.70m + 1.35m or
  - 3.30m + 1.35m

Mounting the lifting adapter onto the platform:

➤ Use a Connecting pin 10cm and Spring cotter 5mm to mount the lifting adapter to the platform.

Permitted service load: 1.5 kN/m² (150 kg/m²)
Load Class 2 to EN 12811-1:2003
Lifting the platform onto the formwork:
➤ Attach a four-part lifting chain (e.g. Doka 4-part chain 3.20m) to the platform and hoist it towards the formwork.

➤ Fix the platform to the top of the formwork.

Note:
On horizontal panels, mount the platform so that it is perfectly aligned with the panel (bearing profile of the lifting adapter is resting on the cross profile of the panel).

If under exceptional circumstances the platform is mounted at an offset to the outer edge of the panel, the bearing profile of the lifting adapter has to be widened.
➤ Push a hollow section into the bearing profile and secure it with a screw to prevent it dropping out.

Consequently, the bearing profile of the lifting adapter is resting on two cross profiles of the panel.

➤ Detach the four-part lifting tackle.
The safety hooks latch into place automatically.

➤ Do a sight check to make sure that the safety hooks have latched into place!

The platform is now secured against accidental lift-out.

The level of the floor planking is 13 cm below the top edge of the formwork. This means that there is a ‘boundary’ on the side facing the formwork.

Lifting the platform off the formwork:
➤ Attach a four-part lifting chain to the platform and raise it.

When the platform is raised by the four-part lifting chain on the safety hook, the platform is automatically unlocked.

Extending the platform to either side

The platform can be lengthened at either end by using the Xsafe plus platform extension 0.60m.

CAUTION
Platforms with platform extensions can tip up. Falling hazard!
➤ Do not step onto the platform extension until the safety hooks have been fixed in place.
➤ Fix the safety hooks of both lifting adapters with Framax universal fixing bolts and Super plates 15.0.
Xsafe plus telescopic ladder

Connection to the Xsafe plus platform:
➤ Hook the Xsafe plus telescopic ladder into the integrated ladder connection.
➤ Secure with Spring cotters 5mm.

Connection to the formwork:

Moving the formwork and the platform in one piece

The Framax lifting hook makes it possible to raise and reposition the formwork + Xsafe plus platform in one piece.

Repositioning:

Lifting / laying down:

a ... max. 2.70m + 1.35m or max. 3.30m + 1.35m

D Framax lifting hook

CAUTION
It is not permitted to raise formwork units with heights of >2.70m+1.35m or >3.30m+1.35m into the vertical, or to lay them down into the horizontal!
➤ In these cases, remove the platform before lifting / laying down the formwork.

Animation: https://player.vimeo.com/video/256374934
Framax pouring platform U
1.25/2.70m

A pre-assembled, foldable, ready-to-use platform, 1.25 m wide, for convenient and safe working.

Preparing the pouring platform:
➤ Tilt up the guard rails and lock them in position.

➤ Put both side stops into position.

➤ Close the decking with the tilt-back board.

Lifting the platform onto the formwork:
➤ Attach a four-part lifting tackle (e.g. Doka 4-part chain 3.20m) to the pouring platform and hoist it towards the formwork.

➤ Fix the pouring platform to the top of the formwork.

Permitted service load: 1.5 kN/m² (150 kg/m²)
Load Class 2 to EN 12811-1:2003

NOTICE
• It is not permissible to lay the formwork down flat together with the pouring platform!
• Planks can be used to bridge decking-to-decking gaps up to 50 cm for length adaptation. Minimum plank overlap 25 cm.

Other possible areas of use for the Framax pouring platform U:
• Framed formwork Alu-Framax Xlife
• Large-area formwork Top 50 (with Top50 adapter for Framax pouring platform U)
• Wall formwork FF20 (with FF20 adapter for Framax pouring platform U)

• The level of the floor planking is 30 cm below the top edge of the formwork. This means that there is a 'boundary' on the side facing the formwork.
• The guard rail can be locked in either of two positions:
  - vertical
  - tilted by 15°

• Tilt-back board:
  - The front deck-board can be tilted back so that panel struts can be attached to the panel.
  - This lets you get at form ties at the top of the formwork, and makes room for any projecting universal walings.

a ... 30 cm
A Tilt-back board
Detach the four-part lifting tackle.
The safety hooks latch into place automatically.

Do a sight check to make sure that the safety hooks have latched into place!

The pouring platform is now secured against accidental lift-out.

Lifting the platform off the formwork:
Attach a four-part lifting tackle to the pouring platform and raise it.
When the pouring platform is raised by the four-part lifting tackle on the safety hook, the platform is automatically unlocked.

Transporting, stacking and storing

Stack of 10 Framax pouring platforms U

Single collapsed platform

a...268 cm
b...295 cm
c...10 x 18.7 cm
d...31 cm
e...approx. 218 cm
f...142 cm
g...50 cm
Framax pouring platform O
1.25/2.70m

A pre-assembled, foldable, ready-to-use platform, 1.25 m wide, for convenient and safe working.

Permitted service load: 1.5 kN/m² (150 kg/m²)
Load Class 2 to EN 12811-1:2003

NOTICE

- It is not permissible to lay the formwork down flat together with the pouring platform!
- Planks can be used to bridge decking-to-decking gaps up to 50 cm for length adaptation. Minimum plank overlap 25 cm.

Other possible areas of use for the Framax pouring platform O:
- Framed formwork Alu-Framax Xlife
- Large-area formwork Top 50 and Wall formwork FF20 - with Top50 adapter for Framax pouring platform O

- The level of the floor planking is above the top edge of the formwork.
- The guard rail can be locked in either of two positions:
  - vertical
  - tilted by 15°
- Tilt-back board:
  - The platform decking protects the formwork from concrete spatter.
  - This lets you get at form ties at the top of the formwork, and makes room for any projecting universal walings.

Preparing the pouring platform:

➤ Tilt up the guard rails and lock them in position.

➤ Unfold the bracket (A) and latch it into place.

Lifting the platform onto the formwork:

➤ Attach a four-part lifting tackle (e.g. Doka 4-part chain 3.20m) to the pouring platform and hoist it towards the formwork.
Fix the pouring platform to the top of the formwork.

Detach the four-part lifting tackle. The safety hooks latch into place automatically.

The pouring platform is now secured against accidental lift-out.

Lifting the platform off the formwork:
Attach a four-part lifting tackle to the pouring platform and raise it.
When the pouring platform is raised by the four-part lifting tackle on the crane suspension hook, the platform is automatically unlocked.

Transporting, stacking and storing

Stack of 12 Framax pouring platforms O

Single collapsed platform

Sideguards on exposed platform-ends

On pouring platforms that do not completely encircle the structure, suitable sideguards must be placed across exposed end-of-platform zones.

Note:
The plank and board thicknesses given here comply with the C24 category of EN 338.
Observe all national regulations applying to deckboards and guard-rail boards.

Side handrail clamping unit T

Assembly:
Use the wedge (clamping range 4 to 6 cm) to fasten the clamping part to the decking of the pouring platform.
Slot in the guardrail planks.
Extend the telescopic railing to the desired length and secure it.
Insert footguard (guardrail plank).

Animation: https://player.vimeo.com/video/274887351

Stack of 12 Framax pouring platforms O

Single collapsed platform

a ... 138 cm
b ... 11 x 18 cm
c ... 23 cm
d ... approx. 220 cm
Pouring platforms with single brackets

### Preconditions for use:
Observe all applicable safety regulations.
Only fix the pouring platform onto formwork constructions that are sufficiently stable to transfer the expected loads.
Ensure that the formwork gang has sufficient stiffness.
Shore the formwork in a windproof manner when erecting it and when it is temporarily placed in the standing position.

**Note:**
The plank and board thicknesses given here comply with the C24 category of EN 338.
Observe all national regulations applying to deck-boards and guard-rail boards.

### Framax bracket 90
With the Framax bracket 90, pouring platforms with a platform width of 90 cm can be assembled. These pouring platforms can easily be assembled by hand.

- **b** ... 87 cm
- **h** ... 103 cm

#### Permitted service load: 1.5 kN/m² (150 kg/m²)
- Load Class 2 to EN 12811-1:2003
- Max. influence width: 2.00 m

**NOTICE**
The brackets must be secured against accidental lift-out.

**Deck-boards and guardrail boards:** Per 1 metre length of platform, 0.9 m² of deck-boards and 0.6 m² of guard-rail boards are needed (site-provided).
Board thicknesses for centre-to-centre spans up to 2.50 m:
- Deck-boards min. 20/5 cm
- Guard-rail boards min. 15/3 cm

### Fastening the deck-boards:
With 5 square bolts M10x120 per bracket (not included in scope of supply).

### Fastening the guard-rail boards:
With nails

### Using scaffold tubes

**Tools:** Fork wrench 22 for mounting the couplers and scaffold tubes.

- **A** Scaffold tube connection
- **B** Scaffold tube 48.3mm
- **C** Screw-on coupler 48mm 50
- **D** Hexagon bolt M14x40 + hexagon nut M14
  (not included with product)

### Possible ways of fixing to upright panels

- **A** Framax bracket 90
- **B** Spring cotter

**Note:**
Where brackets need to be fixed to the middle cross profile of upright Framax Xlife universal panels 2.70m and 3.30m (2008 models onward), this can also be done in the left-hand borehole.
Possible ways of fixing to horizontally placed panels

In the cross profile

Anti-liftout guard

A Framax bracket 90
B Spring cotter
C Wedge bolt RA 7.5

Sideguards on exposed platform-ends

On pouring platforms that do not completely encircle the structure, suitable sideguards must be placed across exposed end-of-platform zones.

Edge protection system XP

How to mount:

➤ Fasten Railing clamps XP onto the decking of the pouring platform, by tightening the wedge (clamping range 2 to 43 cm).
➤ Working from below, push a Toeboard holder XP 1.20m onto the Handrail post XP 1.20m.
➤ Push the Handrail post XP 1.20m into the post-holding fixture on the Railing clamps XP until the locking mechanism engages.
➤ Fix guard-rail boards to the handrail post plates with nails (diam. 5 mm).

Animation: https://player.vimeo.com/video/276197020

Handrail clamp S

Follow the directions in the “Handrail clamp S” User information!
Opposing guard-rail

If there are work platforms mounted on one side of the formwork only, then a fall-protection barrier must be mounted to the opposing formwork.

Note:
The plank and board thicknesses given here comply with the C24 category of EN 338.
Observe all national regulations applying to deck-boards and guard-rail boards.

Edge protection system XP

If necessary (e.g. to enlarge the available work-space during pouring), the safety barrier can be tilted outward by 15°.

➤ Push up the safety bolt on the Adapters XP until the spring snaps into place (allow for overlap between protective gratings and/or guard-rail boards).

➤ Tilt the safety barrier outward.

The safety bolt now automatically drops and secures the tilted barrier unit.

Do a sight-check to make sure that the safety bolt is in the correct position!

Types of safety barrier:

<table>
<thead>
<tr>
<th>Protective grating</th>
<th>Guard-rail boards</th>
</tr>
</thead>
<tbody>
<tr>
<td>D Protective grating XP</td>
<td>E Guard-rail board</td>
</tr>
</tbody>
</table>

| a ... 143 cm | b ... 103 cm |

NOTICE
When guard-rail boards are used to make the safety barrier, it is not allowed to fit guard-rail boards in the top handrail-post plates.
Assembly

The opposing guard-rail can be mounted to both upright and face-down (ground-assembled) gang-forms.

**NOTICE**

➤ The Framax adapter XP must not be mounted directly over an alignment-tool indentation!

➤ Mount the Framax adapter XP on the frame profile and fix it in place with the wedge.

➤ Push the Handrail post XP 1.20m into the post-holding fixture on the Framax adapter XP until the locking mechanism engages.

➤ Fit on a Protective grating XP or guard-rail boards.

➤ Fix the Protective grating XP to the Handrail post XP with Velcro® fasteners 30x380mm, or fix on the guard-rail boards with nails (diam. 5 mm).

---

Lifting by crane

When lifting gang-forms together with opposing guard-rails assembled from the Edge protection system XP, remember the following points:

- The guard rails must be in the vertical position when the gang-form is raised or laid down.
- Elastic deformation of the guard rails may occur because the 4-part chain is resting against the protective grating or guard-rail boards while the gang-form is being lifted.
- When a gang-form is lifted, repositioned or laid down, the 4-part chain must not be led around the protective grating or the guard-rail board.

Make sure that the 4-part chain is in the right position:

- Placing down onto the form-ply side
- Picking up from this position

- Placing down onto the back-face of the formwork (e.g. for cleaning the form-facing)
- Picking up from the cleaning position
- Repositioning the upright gang-form

---

A Handrail post XP 1.20m
B Framax adapter XP
C Protective grating or guard-rail boards
G Doka 4-part chain 3.20m
H Framax lifting hook

---

A Form-ply side
Structural design

Note:
The wind conditions likely to be encountered in Europe, in accordance with EN 13374, are largely recognised by the dynamic pressure $q = 0.6 \text{kN/m}^2$ (highlighted in the tables).

### Permitted support centres (a)

<table>
<thead>
<tr>
<th>Dynamic pressure $q$ [kN/m$^2$]</th>
<th>0.2</th>
<th>0.6</th>
<th>1.1</th>
<th>1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective grating XP</td>
<td>2.5</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 2.4 x 15 cm</td>
<td>1.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 3 x 15 cm</td>
<td>2.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 4 x 15 cm</td>
<td>3.3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Permitted cantilever (b)

<table>
<thead>
<tr>
<th>Dynamic pressure $q$ [kN/m$^2$]</th>
<th>0.2</th>
<th>0.6</th>
<th>1.1</th>
<th>1.3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective grating XP</td>
<td>0.6</td>
<td>0.4</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 2.4 x 15 cm</td>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 3 x 15 cm</td>
<td>0.8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guard-rail board 4 x 15 cm</td>
<td>1.4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Handrail post 1.10m

#### How to mount:

➤ Fix the Guard rail 1.10m into the cross borehole of the framed panel with a hexagon nut 20.0.

➤ Secure the Hexagon nut 20.0.

**NOTICE**

Before the gang-form is repositioned by crane, the guard-rail boards must be removed!

Follow the directions in the 'Handrail post 1.10m' User Information!
Wall formwork at the edge of the structure

The **Wall-formwork support angle** is a support for positioning wall formwork at the edge of the structure if there is no suitable load-bearing base (e.g. platform).

**Note:**

A **Bridge edge beam anchor 15.0** has to be set into the concrete when the preceding section is poured so that the support angle can be secured to it.

Follow the directions in the ‘Bridge edge beam anchor 15.0’ Fitting Instructions.

**Assembly:**

- Remove the nailing cone from the bridge edge beam anchor.

- Secure the support angle to the bridge edge beam anchor with a Screw-in cone 15.0 (but do not yet tighten).

- Use the star grip nut for levelling.

- Tighten the Screw-in cone 15.0.

- Offset approx. 1.0 cm (so that the formwork can be tightened against the wall/slab)

- Position the holding formwork.

- Lower the opposing formwork on to the support angle by crane.

**Max. load-bearing capacity:**

2000 kg / Wall-formwork support angle

---

**NOTICE**

- Static verification is required!
- Installation of the support angle and tying of the panels are jobs undertaken by crew members working from the leading façade scaffolding!
➤ Use a wedge to tighten the formwork against the wall/slab.

➤ Fit the anchors.

![Warning]

Before disconnecting from the crane:
➤ Do not disconnect the panel from the crane until a large enough number of form ties have been installed to keep it safely in the upright.

➤ Detach the gang-form from the crane.
Ladder system

The Ladder system XS permits safe vertical access to and from the intermediate platforms and pouring platforms:
- when attaching/detaching the formwork to/from the crane tackle
- when opening/closing the formwork
- when placing the reinforcement
- during pouring

Note:
The Ladder system XS must be implemented in such a way that all national regulations are complied with.

Assembly

Preparing the formwork

➤ Pre-assemble elements face-down on an assembly bench (see 'Inter-panel connections').
➤ Only mount the platforms and panel struts to the element when this is in the flat position (see 'Pouring platforms' and 'Plumbing accessories').

Attaching connectors to the formwork

➤ Place the Connector XS Wall formwork against the frame profile near the top of the formwork.
➤ Fasten the Connector XS Wall formwork to the frame profile using two Quick acting clamps RU.

➤ Place a Connector XS wall formwork against the frame profile, near the bottom of the formwork.
➤ Fasten the Connector XS Wall formwork to the frame profile using two Quick acting clamps RU.

➤ For formwork heights above 5.85 m, an extra Connector XS Wall formwork must be attached in the same way near the middle of the formwork (i.e. approx. half-way up). This extra connector prevents the ladder swaying when site crew climb up or down it.
Fixing the ladder

to the top Connector XS Wall formwork
➤ Pull out the push-in bolt, and pivot the two safety hooks out of the way.
➤ Place the System ladder XS 4.40m onto the Connector XS, with the hooking brackets facing downwards.
➤ Close the safety hooks.
➤ Insert the push-in bolt into whichever rung of the ladder is suitable for the height of the formwork, and secure it with a linch pin.

Animation: https://player.vimeo.com/video/274425011

- in the front position (a)
  A Push-in bolt
  B Safety hooks
  C System ladder XS 4.40m

Ladder system XS for heights above 3.75 m

Telescoping ladder extension (for adjusting to ground level)
➤ To telescope the ladders past one another, lift the safety latch on the ladder and fix the Ladder extension XS 2.30m onto the desired rung of the other ladder.

Close-up

- in the front position (a) for one single ladder
- in the rear position (b) in the telescoping zone (for 2 ladders)
  B Safety hooks
  C Ladder XS

Animation: https://player.vimeo.com/video/274427263

Mount the Securing barrier XS to the ladder, with fixing hooks and wing-nuts.

The components needed for mounting the Securing barrier XS are captively attached to it.

A telescoping join between two Ladder extensions XS 2.30m can be made in the same way.
Permanently fixed ladder extension

➤ Insert the Ladder extension XS 2.30m into the uprights of the System ladder XS 4.40m, with its hooking brackets facing downwards, and fasten it. Tighten the screws only very slightly!

Screws (C) are included in the scope of supply of the System ladder XS 4.40m and the Ladder extension XS 2.30m.

A System ladder XS 4.40m  
B Ladder extension XS 2.30m  
C Screws, width-across 17 mm

Two Ladder extensions XS 2.30m can be fixed together in the same way.

NOTICE

➤ Always observe all relevant safety regulations applying to the use of the Ladder cage XS in the country in which you are operating (e.g. in Germany: BGV D 36).

➤ Attach the Ladder cage exit XS (the bottom of the cage must always be at the same height as the platform). The safety latches prevent the cage from being accidentally lifted out.

Connection in the waling profile

Mounting the Ladder system XS to the waling profile makes it an integral part of the gang-form.

Plan view

How to mount:

➤ Fix the Connector XS Wall formwork to the waling profile with a Fixing clamp XS Framax.

Anti-slide-off protection

Two bolts resting on the waling profile (C)  
Fixing clamp XS Framax resting on the frame profile or on one of the drawn metal sheets (D)

A Connector XS Wall formwork  
B Fixing clamp XS Framax
Items needed

<table>
<thead>
<tr>
<th>Connectors + ladder</th>
<th>Formwork height 2.70-3.75 m</th>
<th>&gt;3.75-5.85 m</th>
<th>&gt;5.85-8.10 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector XS wall formwork</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Quick acting clamp RU or Fixing clamp XS Framax 1)</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>System ladder XS 4.40m</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ladder extension XS 2.30m</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

1) When connected in the waling profile

Exit onto an intermediate platform

Basic rule:
- The number of Connectors XS wall formwork and ladder components is shown in the 'Items needed' table.
- For each additional exit, one Ladder cage exit XS and one Securing barrier XS are required.
- Any over-large openings above the intermediate exit must be reduced with a Ladder cage XS 0.25m.

Mounting the Ladder cage XS 0.25m

➤ Hook the ladder cage into an empty rung and secure it against accidental lift-out.

![Diagram of ladder cage mounting](image_url)
Stripping aid

Framax stripping tool

Formwork units adhere to the cured concrete. 
**Framed formwork can be detached from the concrete using the Framax stripping tool.**

1) Secure the panel or gang so that it cannot tip over (e.g. attach to the crane or secure with panel struts).

2) Position the Framax stripping tool into a cross bore-hole of the framed formwork.

3) Lever the framed formwork away from the concrete.
Lifting by crane

Safe crane-handling of Framax Xlife is possible using the Doka 4-part chain 3.20m and the Framax lifting hook. The lifting hook locks automatically after being hung into place.

**Doka 4-part chain 3.20m**

Attach the Doka 4-part chain 3.20m to the Framax lifting hooks.
Hang the remaining chain-lengths back in place.

**Max. load (as 2-part chain):**
Up to spread-angle of 30° $\beta$ 2400 kg.

Follow the directions in the Operating Instructions!

**Framax lifting hook**

**Max. load:**
- Spread angle $\beta$ up to 30°:
  1000 kg (2200 lbs) / Framax lifting hook
- Spread angle $\beta$ up to 7.5°:
  1500 kg (3300 lbs) / Framax lifting hook

Framax lifting hooks with the rated load-bearing capacity of max. 1000 kg (2200 lbs) also comply with the requirements for a load bearing capacity of 1500 kg (3300 lbs) at a spread angle $\beta \leq 7.5^\circ$.

Follow the directions in the Operating Instructions!

---

**NOTICE**

On larger gangs, the Framax lifting hook 20kN must be used together with a two-part lifting chain with sufficient load-bearing capacity.
Follow the directions in the Operating Instructions!

**Positioning the lifting hooks**

**Single panels**

Always place the Framax lifting hook over one of the welded-on metal plates, to prevent it from sliding from side to side.

- Panels up to 60 cm wide
- Panels over 60 cm wide

**Extra-large panels (panels over 1.35m wide)**

Place the Framax lifting hook over a centre profile. On horizontally-placed extra-large panels, the lifting hook must be placed over a cross profile.

**Two upright panels**

Always place the Framax lifting hook over one of the welded-on metal plates, to prevent it from sliding from side to side.
Gang-form

- Always position the Framax lifting hook over the inter-panel joint (A), to prevent the hook sliding from side to side.
  - **Exception:** On single panels incorporated in the horizontal, the lifting hook must be placed over a cross profile (B).

- Suspend the gang-form symmetrically (centre-of-gravity position).
- Spread angle $\beta \leq 30^\circ$ or $\beta \leq 7.5^\circ$!

How to operate the lifting hook

1) Raise the handle (locking lever) as far as it will go.
2) Push the lifting hook onto the frame profile as far as the rear stop, and close the handle (spring-loaded).

Do a sight-check to make sure that there is a secure form-fit between the lifting hook and the frame profile!
The handle must be closed!

3) When the panels are lifted by the crane, a load-dependent locking mechanism is activated.

Striking and repositioning the panels

**Before lifting:** Remove any loose items from the formwork and platforms, or secure them firmly.

**WARNING**
The formwork tends to adhere to the concrete. When stripping the formwork, do not try to break concrete cohesion using the crane! Risk of crane overload.
- Use suitable tools such as timber wedges or a special pry-bar to detach the formwork from the concrete.
- Lift the gang-form to its new location (guide with tag-lines if necessary).

Framax 3-in-1 pole tool

The Framax 3-in-1 pole tool has three handy functions:

- For operating the lifting hook from ground level (up to a formwork height of 3.30 m)
- Pulling out double-headed nails
- Plumbing and aligning the formwork
Transporting, stacking and storing

Bundling the panels

1) Position hardwood blocking approx. 8.0 x 10.0 (W x H) underneath the cross profile.
2) Strap the sleepers (hardwood blocking) and the bottom panel together with metal banding.

WARNING
The smooth surface of the powder-coated panels reduces the sticking friction.
➤ It is strictly forbidden to lift stacks of panels without inserting Framax stacking cones (2 cones per layer) first!

Exception: Stacking cones are not required if the stack is lifted using the Framax transport gear.

3) Insert Framax stacking cones.

4) Strap the whole stack together tightly with strapping tape.

Transporting the panels

Dokamatic lifting strap 13.00m

The Lifting strap 13.00m is a practical tool for loading and offloading lorries (trucks), and for lifting and setting down stacks of panels.

With closely stacked bundles of panels:
➤ lever-up the bundle of panels (e.g. with a squared timber (D) ), to make a space for threading in the slings.

Caution!
When doing this, always make sure that the bundle of panels remains stable!

WARNING
➤ The Lifting straps 13.00 m may only be used as shown here if there is no risk of the straps sliding towards one another, or of the load being displaced.

Max. load: 2000 kg

Follow the directions in the Operating Instructions!

Animation: [https://player.vimeo.com/video/267970071](https://player.vimeo.com/video/267970071)

Max. number of panels in a stack:

<table>
<thead>
<tr>
<th>Panel (width)</th>
<th>Max. number of panels stacked on top of one another</th>
<th>Stacking height incl. sleepers</th>
</tr>
</thead>
<tbody>
<tr>
<td>up to 1.35m</td>
<td>8</td>
<td>approx. 110 cm</td>
</tr>
<tr>
<td>2.40x2.70m</td>
<td>5</td>
<td>approx. 75 cm</td>
</tr>
<tr>
<td>2.40x3.30m</td>
<td>4</td>
<td>approx. 60 cm</td>
</tr>
<tr>
<td>2.70x2.70m</td>
<td>4</td>
<td>approx. 60 cm</td>
</tr>
</tbody>
</table>

A Framax stacking cone
B Strapping tape
C Sleeper

9727-246-01
9727-245-01
9727-244-01
**Framax transport gear**

For safe crane transport of stacked panels at construction sites, depots etc.

![Diagram of Framax transport gear](image)

**Advantages:**
- Spring-loaded slinging hooks reach from underneath into the beads of the panel frame and prevent the transport gear accidentally detaching itself when the cable tension slackens.
- The automatic length compensation feature of the Framax transport gear ensures that the load is distributed evenly.
- The Framax transport gear can easily be suspended and detached by just one person working on their own.
- There is no need for anti-slippage protection using Framax stacking cones here.

Max. load-bearing capacity: 2000 kg (20 kN) / 4 round slings

**NOTICE**
- Max. stacking height: 8 panels (incl. sleepers)

---

**Precondition for use**

The bottom layer of the stack may only consist of one panel.

The stacks must always be of panels of equal width. The top layers may also consist of 'half-width' panels. The important thing here is that every panel must be held by at least two round slings and that no 'gaps' may be left open between panels.

It is forbidden to transport stacks where the edges of the panels are not all in alignment!

Follow the directions in the Operating Instructions!
Doka 4-part chain 3.20m

The Doka-4-part chain 3.20m is a multi-functional slinging means:

- **used with the integrated eye-hooks** for hoisting formwork, platforms and multi-trip packaging containers
- For further information, see the section headed ‘Lifting by crane’.
- **used in conjunction with Framax transport bolts** for hoisting stacks of panels and individual panels.

The Doka 4-part chain 3.20m can be adjusted to the centre-of-gravity position by shortening the lengths of the individual chains.

**Max. load** $P_{\text{max}}$:

<table>
<thead>
<tr>
<th>Spread-angle $\beta$</th>
<th>0°</th>
<th>0°-30°</th>
<th>30°-45°</th>
<th>45°-60°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using 1 chain</td>
<td>1400 kg</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Using 2 chains</td>
<td>-</td>
<td>2400 kg</td>
<td>2000 kg</td>
<td>1400 kg</td>
</tr>
<tr>
<td>Using all 4 chains</td>
<td>-</td>
<td>3600 kg</td>
<td>3000 kg</td>
<td>2120 kg</td>
</tr>
</tbody>
</table>

Follow the directions in the Operating Instructions!

Framax transport bolts with Doka 4-part chain 3.20m

The Framax transport bolts (A), in conjunction with the Doka 4-part chain 3.20m (B), are for moving panels either individually or in stacks.

**WARNING**

➤ It is strictly forbidden to lift stacks of panels without inserting Framax stacking cones (2 cones per layer) first!

<table>
<thead>
<tr>
<th>Hoisting bundled stacks of panels</th>
<th>Lifting panels off the stack</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="9259-201-01" alt="Diagram of hoisting bundled stacks of panels" /></td>
<td><img src="9259-201-01" alt="Diagram of lifting panels off the stack" /></td>
</tr>
</tbody>
</table>

**Max. load:**

800 kg / Framax transport bolt

Framax transport bolts manufactured until 2015, with a given load capacity of 500 kg, are also capable of a carrying capacity of 800 kg.

Follow the directions in the Operating Instructions!
Lifting panels upright / turning panels over

➤ Use Framax transport bolts to lay the framed panel flat on squared timbers 20x20 cm

➤ Position the Framax lifting hooks. Lift the framed panel upright with Framax lifting hooks and, if applicable, lay it flat with the sheeting side down.

WARNING
Using Framax transport bolts to lift the framed elements upright or turn them over is prohibited!
➤ Use Framax lifting hooks!

Doka skeleton transport box
1.70x0.80m

Storage and transport devices for small items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

To make the Doka skeleton transport box easier to load and unload, one of its sidewalls can be opened.

Max. load: 700 kg (1540 lbs)
Permitted imposed load: 3150 kg (6950 lbs)

NOTICE
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

Using Doka skeleton transport boxes
1.70x0.80m as storage units

Max. n° of boxes on top of one another

<table>
<thead>
<tr>
<th>Outdoors (on the site)</th>
<th>Indoors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor gradient up to 3%</td>
<td>Floor gradient up to 1%</td>
</tr>
<tr>
<td>2</td>
<td>5</td>
</tr>
</tbody>
</table>

It is not allowed to stack empty pallets on top of one another!
Lifting by crane

**NOTICE**

- Multi-trip packaging items may only be lifted one at a time.
- Only lift the boxes when their sidewalls are closed!
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle $\beta$ max. 30°!

Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka multi-trip transport box
1.20x0.80m galv.

Storage and transport devices for small items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

Max. load: 1500 kg (3300 lbs)
Permitted imposed load: 7850 kg (17305 lbs)

**NOTICE**

- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

Multi-trip transport box partition

Different items in the Multi-trip transport box can be kept separate with the Multi-trip transport box partitions 1.20m or 0.80m.

A Slide-bolt for fixing the partition
Possible ways of dividing the box

<table>
<thead>
<tr>
<th>Multi-trip transport box partition</th>
<th>Lengthways</th>
<th>Crossways</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.20m</td>
<td>max. 3 partitions</td>
<td>-</td>
</tr>
<tr>
<td>0.80m</td>
<td>-</td>
<td>max. 3 partitions</td>
</tr>
</tbody>
</table>

Using Doka multi-trip transport boxes as storage units

**Max. n° of boxes on top of one another**

<table>
<thead>
<tr>
<th>Outdoors (on the site)</th>
<th>Indoors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor gradient up to 3%</td>
<td>Floor gradient up to 1%</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

It is not allowed to stack empty pallets on top of one another!

Using Doka multi-trip transport boxes as transport devices

**Lifting by crane**

**NOTICE**
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable lifting chain (e.g., Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle $\beta$ max. 30°!

**REPOSITIONING BY FORKLIFT TRUCK OR PALLET STACKING TRUCK**

The forks can be inserted under either the broadside or the narrowside of the containers.

Doka stacking pallet 1.55x0.85m and 1.20x0.80m

**Storage and transport devices for long items:**
- durable
- stackable

**Suitable transport appliances:**
- crane
- pallet stacking truck
- forklift truck

**Max. load:** 1100 kg (2420 lbs)
**Permitted imposed load:** 5900 kg (12980 lbs)

**NOTICE**
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

**Using Doka stacking pallets as storage units**

**Max. n° of units on top of one another**

<table>
<thead>
<tr>
<th>Outdoors (on the site)</th>
<th>Indoors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor gradients of up to 3%</td>
<td>Floor gradients of up to 1%</td>
</tr>
<tr>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

It is not allowed to stack empty pallets on top of one another!

**Note:**

**How to use with bolt-on castor set:**
Always apply the fixing brake when the container is ‘parked’.
When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.
Using Doka stacking pallets as transport devices

Lifting by crane

**NOTICE**
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.
- Spread angle $\beta$ max. 30°!

Repositioning by forklift truck or pallet stacking truck

**NOTICE**
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.

---

**Doka accessory box**

Storage and transport devices for small items:
- durable
- stackable

Suitable transport appliances:
- crane
- pallet stacking truck
- forklift truck

The Doka accessory box is the tidy, easy-to-find way of storing and stacking all interconnection and form-tie components.

Max. load: 1000 kg (2200 lbs)
Permitted imposed load: 5530 kg (12191 lbs)

**NOTICE**
- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- Rating plate must be in place and clearly legible

**Doka accessory boxes as storage units**

Max. n° of boxes on top of one another

<table>
<thead>
<tr>
<th></th>
<th>Outdoors (on the site)</th>
<th>Indoors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Floor gradient up to 3%</td>
<td>Floor gradient up to 1%</td>
</tr>
<tr>
<td>Doka stacking pallet 1.55x0.85m</td>
<td>max. 4.5 m</td>
<td></td>
</tr>
<tr>
<td>Doka stacking pallet 1.20x0.80m</td>
<td>max. 3.0 m</td>
<td></td>
</tr>
</tbody>
</table>

It is not allowed to stack empty pallets on top of one another!

**Note:**
**How to use with bolt-on castor set:**
Always apply the fixing brake when the container is 'parked'.
When Doka accessory boxes are stacked, the bottom box must NOT be one with a bolt-on castor set mounted to it.
Doka accessory box as transport devices

Lifting by crane

NOTICE
- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m).
  Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!

Repositioning by forklift truck or pallet stacking truck

The forks can be inserted under either the broadside or the narrowside of the containers.

Bolt-on castor set B

The Bolt-on castor set B turns the stacking pallet into a fast and manoeuvrable transport device.
Suitable for drive-through access openings > 90 cm.

The Bolt-on castor set B can be mounted to the following multi-trip packaging items:
- Doka accessory box
- Doka stacking pallets

Follow the directions in the "Bolt-on castor set B" Operating Instructions!
Utilising self-compacting concrete

Framax Xlife universal panel SCC 0.90x2.70m

The Framax Xlife universal panel SCC makes it possible to place self-compacting concrete. The concrete is pumped in through the built-in connection point and forced upward under pressure.

Advantages:
- Concrete is placed from below
- No vibrating needed
- Walls can be poured up against existing floor-slabs
- Little or no soiling of the formwork
- Only a small number of pouring platforms are needed
- Can be used both as a wall-formwork and stop-end panel

Note:
For more information, please contact your Doka technician.

Follow the directions in the ‘Framax Xlife universal panel SCC 0.90x2.70m’ User Information booklet!

Dimensions in cm
Otherwise, the panel has the same dimensions and functions as the Framax Xlife universal panel 0.90x2.70m.

Used as a stop-end panel Used as a wall panel
Using as downturned-beam formwork

**Number of ties, Framax Xlife panel longside horizontal:**

<table>
<thead>
<tr>
<th>Panel length</th>
<th>Downturned beam height</th>
<th>Head anchor (top)</th>
<th>Tie-holder bracket (bottom)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.70m</td>
<td>up to 1.35m</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>up to 0.90m</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3.30m</td>
<td>up to 1.35m</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>up to 0.90m</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

**Framax head anchor:**
- Permitted tensile force: 10 kN
- Permitted compressive force: 10 kN

**Note:**
For directions on installing the Framax head anchor see the section headed ‘Framax head anchor.

**Framax tie-holder bracket:**
- Permitted capacity: 15 kN

**Example with 0.90x2.70m panel**

A Framax Xlife panel 0.90x2.70m
B Framax head anchor
C Framax tie-holder bracket
D Formwork sheet
E Load-bearing tower (e.g. Staxo 100)
Alu-Framax Xlife in conjunction with Framax Xlife

Combining Framax Xlife with Alu-Framax Xlife makes it possible to divide up the work into areas for crane-handled and man-handled forms, facilitating scheduling and the work sequence on the site.

Where to place the form ties:
When you place an Alu-Framax Xlife panel next to a Framax Xlife panel, always place the form tie in the Framax Xlife panel!

NOTICE
When Framax Xlife and Alu-Framax Xlife panels are used in conjunction with one another, the structural-design data specified in the 'Framed formwork Alu-Framax Xlife' User Information booklet must be followed.

Alu-Framax Xlife (man-handled)
On complicated layouts or where no crane is available, Alu-Framax Xlife is the ideal way to carry on forming by hand.

Framax Xlife (crane-handled, for large areas)
The Doka framed formwork Framax Xlife is the ideal framed formwork for large-area forming using the crane.
Framax Xlife in conjunction with . . .

**Doka climbing formwork MF240**

Climbing formwork MF240 proves its versatility on all tall structures. The formwork and climbing scaffold are linked together as a single unit which can be repositioned in one single crane cycle.

**Doka automatic climbing formwork**

With their modular design concept, these crane-independent automatic climbing formwork systems provide an efficient solution for every type of structure. The formwork and climbing scaffold are linked together as a single unit which can be lifted and reset hydraulically.

Follow the directions in the 'Climbing formwork MF240' User Information booklet!

Follow the directions in the relevant User Information booklet!
Doka folding platforms

The high capacity of these working and safety scaffolds means that the formwork can safely be stood on the folding platforms. Adding a few standard parts converts a working platform into a climbing formwork unit which can be shifted as a complete form and access-platform in one single operation. This makes work at great heights faster and more efficient.

Doka supporting construction frames

The Doka supporting construction frame Universal F or Doka supporting construction frame Variabel also enable the sturdy Framax Xlife panels to be used as single-sided wall formwork.

Follow the directions in the "Doka supporting construction frames" User Information!

Follow the directions in the 'Folding platform K' and 'Climbing formwork K' User Information booklets!
Platform system Xsafe plus

These pre-assembled, fold-out working platforms with their integral side railings, self-closing manhole lids and integrable ladders are ready for immediate use and greatly improve workplace safety.

Easy to use

- pre-assembled, fold-out working platforms
- time and cost-savings as so little assembly work is needed
- system accessories for closure gaps and corner transitions

Safe working

- high safety, as side and end guards are integrated in the platform
- integrable ladder system

An economical solution

- its perfect stackability cuts storage and freight costs
- no universal walings needed for bracing the panels in vertically stacked configurations
- simplified planning, from using a single platform concept for all Doka wall systems
- much quicker and more efficient than single brackets

Follow the directions in the 'Platform system Xsafe plus' User Information booklet!
Tie rod system Monotec

- formwork can be tied by just 1 man working from one side only
- no time-consuming fitting of jacket tubes
- exact pre-setting of the desired wall thickness on the Monotec tie
- form-tie nut integrated in the connector component
- enhances your Framax Xlife framed formwork with no need to invest in a new formwork system
- particularly ergonomic where space is tight, as the tie can be installed from the accessible side
- long lifespan, as the tie is operated using a ratchet, minimising wear-and-tear on the equipment
- the Monotec ties are easy to unscrew, so the formwork can be stripped out faster

Follow the directions in the 'Tie rod system Monotec' User Information booklet!
Cleaning and care of your equipment

Release agents

Doka-Trenn or Doka-OptiX is applied using the Doka release-agent sprayer.

Follow the directions in the ‘Doka release-agent sprayer’ Operating Instructions and on the containers of release agent.

NOTICE

- Before every pour:
  - Apply release agent to the formwork sheet and the end faces extremely thinly, evenly and in a continuous layer.
  - Make sure there are no drips of release-agent running down the formwork sheet.
  - Applying too much release agent will spoil the concrete finish.

To determine the right dosage and to make sure that you are using the agent correctly, test it on less important parts of the structure first.

Cleaning

NOTICE

- Immediately after pouring:
  - Remove any blobs of concrete from the back-face of the formwork, using water (without any added sand).
  - Immediately after stripping out the formwork
    - Clean the formwork with a high-pressure washer and a concrete scraper.
  - Do not use any chemical cleaning agents!

Cleaning high formwork:

Provide a service tower at a suitable cleaning location.

- Wheel-around scaffold DF (up to a formwork height of 3.90 m)
- Working scaffold Modul (up to a formwork height of 6.70 m)
- Load-bearing tower Staxo 40 (for formwork of over 6.70 m in height)

Cleaning equipment

High-pressure spray cleaner

NOTICE

- Appliance pressure rating: 200 to max. 300 bar
- Keep the water-jet the correct distance from the formwork, and move it at the right speed:
  - The higher the pressure, the further away from the formwork you must keep the jet and the faster you must move it across the surface.
- Do not aim the jet at one place for too long.
- Make only moderate use of the jet around the silicone sealing strip:
  - If the pressure is too high, this will damage the silicone sealing strip.
  - Do not aim the jet at one place for too long.
Concrete scraper

For removing any concrete remnants, we recommend using a **Double scraper Xlife** and a spatula.

**Functional description:**

- **A** Blade for dealing with heavy soiling
- **B** Blade for dealing with slight soiling

**NOTICE**

Do not use pointed or sharp objects, wire brushes, abrasive disks or cup brushes.

**Care**

- **No hammer-blows to the frame profiles**

- **Do not use nails on the formwork that are longer than 60 mm**

- **Never push over panels or allow them to fall**

- **Only stack panel gangs on top of one another with timber battens (A) between each layer.**

  This prevents the formwork sheets from being damaged by the connector components.
Fall-arrest systems on the structure

Handrail post XP 1.20m

- Attached with Screw-on shoe XP, railing clamp, Handrail-post shoe or Step bracket XP
- Protective grating XP, guard-rail boards or scaffold tubes can be used as the safety barrier

Handrail clamp T

- Fixed in embedded anchoring components or reinforcement hoops
- Guard-rail boards or scaffold tubes can be used as the safety barrier

Handrail clamp S

- Attached with integral clamp
- Guard-rail boards or scaffold tubes can be used as the safety barrier

Handrail post 1.10m

- Fixed in a Screw sleeve 20.0 or Attachable sleeve 24mm
- Guard-rail boards or scaffold tubes can be used as the safety barrier

Follow the directions in the 'Edge protection system XP' User Information booklet!

Follow the directions in the 'Handrail clamp T' User Information!

Follow the directions in the "Handrail clamp S" User information!

Follow the directions in the 'Handrail post 1.10m' User Information!
Formwork planning with Tipos-Doka

**Tipos-Doka helps you to form even more efficiently**

Tipos-Doka has been developed to assist you in planning the use of your Doka formwork. For wall formwork, floor formwork and platforms, it puts the same tools into your hands that we at Doka use ourselves for formwork planning.

**Easy to use, fast and accurate results**

The easy-to-use interface makes for very fast working. From when you input your layout (with the 'Schal-Igel® on-screen assistant), all the way through to when you manually put the finishing touches to the formwork solution the program gives you. All this saves time - yours.

The program contains a large number of templates and wizards, so you can be sure of always getting the optimum technical and economical solution to your formwork task. This makes for greater operational reliability, and cuts costs.

You can get to work right away with the piece-lists, plans, views, sections and perspective drawings that the program gives you. Operational reliability is also enhanced by the high level of detail of the plans.

Among other things, Tipos-Doka plans the following with Framax Xlife:
- Distribution of the framed formwork panels
- Any vertically stacked configurations that are needed
- Closures and accessories
- Pouring platforms, safety railings etc.

**Always the right quantities of formwork and accessories**

You can import the automatically generated piece-lists into many other programs for further processing. Formwork components and accessories that have to be organised at short notice, or replaced by improvisation, are the ones that cost the most. This is why Tipos-Doka offers complete piece-lists that leave no room for improvisation. Planning with Tipos-Doka eliminates costs before they have a chance to even arise. And your depot can make the best possible use of its stocks.

Drawings of formwork and platforms really can be this detailed! Both for the layout and for spatial representations, Tipos-Doka sets an impressive new standard of visual presentation.
### Component overview

<table>
<thead>
<tr>
<th>Article</th>
<th>Description</th>
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**Framax Xlife-Element**

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**Panel closure tool D125 SCC**

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## Component overview

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## User Information

### Framed formwork Framax Xlife

- **Framax head anchor 15-40cm**
  - [kg]: 4.2
  - Article n°: 588969000
  - Length: 72 - 81 cm

- **Framax head anchor 15-100cm**
  - [kg]: 6.1
  - Article n°: 588970000
  - Length: 131 - 141 cm

- **Framax head anchor**
  - Galvanised, powder-coated

- **Framax floor fixing plate**
  - [kg]: 0.87
  - Article n°: 588628000
  - Length: 17.6 cm
  - Width: 7.7 cm
  - Height: 8.5 cm

- **Wall-formwork support angle**
  - [kg]: 6.6
  - Article n°: 588967000
  - Length: 15.8 cm
  - Width: 12 cm
  - Height: 11.2 cm

### Panel strut 340 IB
- **Elementstütze 340 IB**
  - [kg]: 24.3
  - Article n°: 580365000
  - Consisting of:
    - **Plumbing strut 340 IB**
      - [kg]: 16.7
      - Article n°: 588696000
      - Galvanised
      - Length: 190.8 - 341.8 cm
    - **Adjusting strut 120 IB**
      - [kg]: 7.6
      - Article n°: 588248500
      - Galvanised
      - Length: 81.5 - 130.6 cm
  - Delivery condition: folded closed

### Panel strut 540 IB
- **Elementstütze 540 IB**
  - [kg]: 41.4
  - Article n°: 580366000
  - Consisting of:
    - **Plumbing strut 540 IB**
      - [kg]: 30.7
      - Article n°: 588697000
      - Galvanised
      - Length: 310.5 - 549.2 cm
    - **Adjusting strut 220 IB**
      - [kg]: 10.9
      - Article n°: 588251500
      - Galvanised
      - Length: 172.5 - 221.1 cm
  - Delivery condition: folded closed
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<th>Article n°</th>
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* Delivery condition: separate parts
* Follow the directions in the "Fitting instructions"!
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Gerüstrohr 48,3mm

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Timber parts varnished yellow
Steel parts galvanised
Delivery condition: folded closed

Galvanised
Height: 73 cm

Galvanised
Height: 118 cm

Timber parts varnished yellow
Steel parts galvanised
Delivery condition: folded closed

Galvanised
Height: 51.4 cm

Galvanised
Height: 56 cm

Galvanised
Height: 123 - 171 cm
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<td><strong>User Information</strong> Framed formwork Framax Xlife</td>
<td><strong>Component overview</strong></td>
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<tr>
<td>Handrail post 1.10m</td>
<td>Framax-Transportbolzen</td>
<td>1.9</td>
<td>Framax lifting gear</td>
<td>Framax-Transportgehänge</td>
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## Framed formwork Framax Xlife

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<td>Double scraper Xlife 100/150mm 1.40m</td>
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### User Information

- **Framax steel closure plate**
- **Framax aluminium closure**
- **Framax triangular ledge**
- **Framax frontal triangular ledge**
- **Connecting timber**
- **Box-out clamp**
- **Box-out clamp type**
- **Framax tie-holder bracket**
- **Universal plug**
- **Framax plug**
- **Framax stripping tool**
- **Framax assembling tool**
- **Double scraper Xlife**

### Technical Details

- **Width**: 10 cm
- **Height**: 13 cm
- **Diameter**: 3 cm
- **Length**: 110 cm
- **Length**: 193 cm
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## Component overview

### Tie rod system 15.0

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Description</th>
<th>Length (m)</th>
<th>[kg]</th>
<th>[kg] Article n°</th>
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### Plastic tube 22mm 2.50m

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<th>Description</th>
<th>Length (m)</th>
<th>[kg]</th>
<th>[kg] Article n°</th>
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### Universal cone 22mm

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### Protective cap 15.0/20.0

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### Tie-rod wrench 15.0/20.0

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### Friction type ratchet SW27

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### Box spanner 27 0.65m

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### Tie rod system 20.0

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*Ankerstab 20,0mm*  

### Super plate 20.0 B

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*Superplatte 20,0 B*

### Hexagon nut 20.0

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*Sechskantmutter 20,0*

### Plastic tube 26mm 2.00m

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*Kunststoffrohr 26mm 2,00m*

### Universal cone 26mm

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*Universal-Konus 26mm*

### Plug 26mm

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*Verschlussstopfen 26mm*

### Multi-trip packaging

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<td>Doka-Mehrzweckcontainer 1,20x0,80m</td>
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*Galvanised*  
**Height: 78 cm**

### Multi-trip transport box partition 0.80m

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<td>Mehrwegcontainer Unterteilung</td>
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*Steel parts galvanised*  
**Timber parts varnished yellow**

### Doka stacking pallet 1.55x0.85m

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*Galvanised*  
**Height: 77 cm**

### Doka stacking pallet 1.20x0.80m

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*Galvanised*  
**Height: 77 cm**

### Doka accessory box

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*Timber parts varnished yellow*  
**Steel parts galvanised**  
**Length: 154 cm**  
**Width: 83 cm**  
**Height: 77 cm**

### Bolt-on castor set B

<table>
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*Anklemm-Radsatz B*  
**Painted blue**
Near to you, worldwide

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