Climbing formwork K

User Information
Instructions for assembly and use (Method statement)
## Contents

<table>
<thead>
<tr>
<th>Page</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Introduction</td>
</tr>
<tr>
<td>7</td>
<td>Elementary safety warnings</td>
</tr>
<tr>
<td>8</td>
<td>Eurocodes at Doka</td>
</tr>
<tr>
<td>10</td>
<td>System description</td>
</tr>
<tr>
<td>11</td>
<td>System overview</td>
</tr>
<tr>
<td>12</td>
<td>Possible formwork systems</td>
</tr>
<tr>
<td>13</td>
<td>Structural design</td>
</tr>
<tr>
<td>14</td>
<td>Anchoring on the structure</td>
</tr>
<tr>
<td>22</td>
<td>Operating the formwork</td>
</tr>
<tr>
<td>22</td>
<td>Plumbing &amp; aligning the formwork</td>
</tr>
<tr>
<td>23</td>
<td>Repositioning</td>
</tr>
<tr>
<td>23</td>
<td>Lifting by crane</td>
</tr>
<tr>
<td>26</td>
<td>Operating the climbing formwork</td>
</tr>
<tr>
<td>26</td>
<td>Starting up</td>
</tr>
<tr>
<td>27</td>
<td>1st casting section</td>
</tr>
<tr>
<td>28</td>
<td>2nd casting section</td>
</tr>
<tr>
<td>32</td>
<td>3rd casting section</td>
</tr>
<tr>
<td>34</td>
<td>Assembly</td>
</tr>
<tr>
<td>34</td>
<td>Working platform – set-up procedure with Folding platforms K</td>
</tr>
<tr>
<td>38</td>
<td>Working platform – set-up procedure with Folding brackets K</td>
</tr>
<tr>
<td>42</td>
<td>Mounting the formwork</td>
</tr>
<tr>
<td>47</td>
<td>Assembling the suspended platform</td>
</tr>
<tr>
<td>49</td>
<td>Sideguards on exposed platform-ends</td>
</tr>
<tr>
<td>50</td>
<td>Dismantling</td>
</tr>
<tr>
<td>53</td>
<td>General remarks</td>
</tr>
<tr>
<td>53</td>
<td>Fall-arrest systems on the structure</td>
</tr>
<tr>
<td>54</td>
<td>Transporting, stacking and storing</td>
</tr>
<tr>
<td>58</td>
<td>Component overview</td>
</tr>
</tbody>
</table>

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User Information Climbing formwork K

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Introduction

User Information

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.

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 booklet can also be used as a generic method statement or incorporated with a site-specific method statement.
▪ Many of the illustrations in this booklet show the situation during formwork assembly and are therefore not always complete from the safety point of view.
Any safety accessories not shown in these illustrations must still be used by the customer, in accordance with the applicable rules and regulations.
▪ Further safety instructions, especially warnings, will be found in the individual sections of this booklet!

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 side-guard 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 of all components and units must be ensured during all phases of the construction work!

- The functional / technical instructions, safety warnings and loading data must all be strictly observed and complied with. Failure to do so can cause accidents and severe (even life-threatening) damage to health, as well as very great material damage.

- Fire-sources are not permitted anywhere near the formwork. Heating appliances are only allowed if properly and expertly used, and set up a safe distance away from the formwork.

- The work must take account of the weather conditions (e.g. risk of slippage). In extreme weather, steps must be taken in good time to safeguard the equipment, and the immediate vicinity of the equipment, and to protect employees.

- 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.

  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 suitable condition. Steps must be taken to rule out the use of any components that are damaged, deformed, or weakened due to wear, corrosion or rot.

- Combining our formwork systems with those of other manufacturers could be dangerous, risking damage to both health and property. If you intend to combine different systems, please contact Doka for advice first.

- The equipment/system must be assembled and erected in accordance with the applicable laws, Standards and rules by suitably skilled personnel of the customer's, having regard to any and all required safety inspections.

  It is not permitted to modify Doka products; any 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 out 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 regulations applying to the handling of formwork and scaffolding. In addition, the Doka slinging means must be used - this is a mandatory requirement.
- Remove any loose parts or fix them in place so that they cannot be dislodged or fall free!
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this booklet!

Maintenance

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

Miscellaneous

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

Symbols used

The following symbols are used in this booklet:

- **NOTICE**
  Failure to observe this may lead to malfunction or damage.

- **CAUTION / WARNING / DANGER**
  Failure to observe this may lead to material damage, and to injury to health which may range up to the severe or even life-threatening.

- **Instruction**
  This symbol indicates that actions need to be taken 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**
  Refers to other documents and materials.
Eurocodes at Doka

In Europe, a uniform series of Standards known as Eurocodes (EC) was developed for the construction field by the end of 2007. These are intended to provide a uniform basis, valid throughout Europe, for product specifications, tenders and mathematical verification. The EC are the world’s most highly developed Standards in the construction field.

In the Doka Group, the EC are to be used as standard from the end of 2008. They will thus supersede the DIN norms as the "Doka standard" for product design.

The widely used "Permissible stress design" (comparing the actual stresses with the permissible stresses) has been superseded by a new safety concept in the EC.

The EC contrast the actions (loads) with the resistance (capacity). The previous safety factor in the permissible stresses is now divided into several partial factors. The safety level remains the same!

![Diagram showing comparison of safety concepts]

### Permissible stress design

- **$E_d$**: Design value of effect of actions
  - (E ... effect; d ... design)
  - Internal forces from action $F_d$
    - $(V_{Ed}, N_{Ed}, M_{Ed})$

- **$F_d$**: Design value of an action
  - $F_d = \gamma_F \cdot F_k$
    - (F ... force)

- **$F_k$**: Characteristic value of an action
  - "actual load", service load
    - (k ... characteristic)
    - e.g. dead weight, live load, concrete pressure, wind

- **$\gamma_F$**: Partial factor for actions
  - (in terms of load; F ... force)
    - e.g. for dead weight, live load, concrete pressure, wind
  - Values from EN 12812

### EC/DIN concept

- **$R_d$**: Design value of the resistance
  - (R ... resistance; d ... design)
  - Design capacity of cross-section
    - $(V_{Rd}, N_{Rd}, M_{Rd})$
  - Steel: $R_d = \frac{R_k}{\gamma_M}$
  - Timber: $R_d = k_{mod} \cdot \frac{R_k}{\gamma_M}$

- **$R_k$**: Characteristic value of the resistance
  - e.g. moment resistance to yield stress

- **$\gamma_M$**: Partial factor for a material property
  - (in terms of material; M...material)
  - e.g. for steel or timber
  - Values from EN 12812

- **$k_{mod}$**: Modification factor (only for timber – to take account of the moisture and the duration of load action)
  - e.g. for Doka beam H20
  - Values as given in EN 1995-1-1 and EN 13377

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The "permissible values" communicated in Doka documents (e.g.: $Q_{permissible} = 70$ kN) do not correspond to the design values (e.g.: $V_{Rd} = 105$ kN)!

- Avoid any confusion between the two!
- Our documents will continue to state the permissible values.

Allowance has been made for the following partial factors:

- $\gamma_F = 1.5$
- $\gamma_M, \text{timber} = 1.3$
- $\gamma_M, \text{steel} = 1.1$
- $k_{mod} = 0.9$

In this way, all the design values needed in an EC design calculation can be ascertained from the permissible values.
**Doka services**

**Support in every stage of the project**

Doka offers a broad spectrum of services, all with a single aim: to help you succeed on the site. Every project is unique. Nevertheless, there is one thing that all construction projects have in common — and that is a basic structure with five stages. We at Doka know our clients’ varying requirements. With our consulting, planning and other services, we help you achieve effective implementation of your formwork assignment using our formwork products – in every one of these stages.

1. **Project Development Stage**
   - Taking well-founded decisions thanks to professional advice and consulting
   - Find precisely the right formwork solutions, with the aid of
     - help with the bid invitation
     - in-depth analysis of the initial situation
     - objective evaluation of the planning, execution, and time-risks

2. **Bidding Stage**
   - Optimising the preliminary work with Doka as an experienced partner
   - Draw up potentially winning bids, by
     - basing them on realistically calculated guideline prices
     - making the right formwork choices
     - having an optimum time-calculation basis

3. **Operations Scheduling Stage**
   - Controlled, regular forming operations, for greater efficiency resulting from realistically calculated formwork concepts
   - Plan cost-effectively right from the outset, thanks to
     - detailed offers
     - determination of the commissioning quantities
     - co-ordination of lead-times and handover deadlines
The advantages for you thanks to professional advice and consulting

- **Cost savings and time gains**
  When we advise and support you right from the word “go”, we can make sure that the right formwork systems are chosen and then used as planned. This lets you achieve optimum utilisation of the formwork equipment, and effective forming operations because your workflows will be correct.

- **Maximised workplace safety**
  The advice and support we can give you in how to use the equipment correctly, and as planned, leads to greater safety on the job.

- **Transparency**
  Because our services and costs are completely transparent, there is no need for improvisation during the project – and no unpleasant surprises at the end of it.

- **Reduced close-out costs**
  Our professional advice on the selection, quality and correct use of the equipment helps you avoid damage, and minimise wear-and-tear.

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**Concrete Construction Stage**

Optimum resource utilisation with assistance from the Doka Formwork Experts

Workflow optimisation, thanks to
- thorough utilisation planning
- internationally experienced project technicians
- appropriate transport logistics
- on-site support

**Project Close-out Stage**

Seeing things through to a positive conclusion with professional support

Doka Services are a byword for transparency and efficiency here, offering
- jointly handled return of rented formwork
- professional dismantling
- efficient cleaning and reconditioning using special equipment
System description

Doka climbing formwork K: The versatile climbing formwork assembled from a folding platform and a formwork element or panel

The climbing formwork for structures where the formwork has to be repositioned upwards in several casting sections, and there is no need for a retractable (roll-back) formwork. The formwork can be tilted back for easy cleaning.

The Climbing formwork K is based on the field-proven Folding platforms K, and is ideal for use with either framed or timber-beam formwork.

Climbing scaffold and formwork are lifted and repositioned together

- means that repositioning can be carried out with no need for time-consuming interim storage of the formwork
- saves time by combining several operations into one

Cost-effective and geared to on-site requirements

- using standard components to combine the folding platform with a formwork element or panel results in a fully-fledged climbing formwork system
- quick and easy to assemble when using the standard Folding platform K
- low-cost, as only standard components are used
- complete safety in all phases of the work
- wide (1.80 m) work-platforms

Easy to operate

- formwork can be set up and struck with no need for a crane
- swift, precise formwork adjustment in all directions
- entire unit is lifted in one piece, quickly and easily (i.e. minimal crane time)

The Folding platform K is tested and approved as a "working and protection platform" in accordance with DIN 4420 and the "UVV" accident prevention rules of the German "BBG" employee safety organisation.
Adding a few standard components converts your working platform into a fully-fledged, tiltable climbing formwork unit which can be repositioned as a complete form and access-platform in one single operation.

**Working platform**

Either single Folding brackets K, or ready-assembled Folding platforms K, can be used to assemble the working platform.

- *Folding platform K (3.00m or 4.50m) (A)*
  Pre-assembled, collapsible scaffold platforms with nominal lengths of 3.00 m and 4.50 m, assembled from Folding brackets K, the decking and the railings. The centre-to-centre spacing of the brackets is fixed (at 1.50 m).

- *Folding bracket K (B)*
  Collapsible bracket for assembling the working platform.
  When single Folding brackets K are used, the centre-to-centre spacing of the brackets and the platform length can both be individually selected.

**Suspended platform 120 4.30m (C)**

Finishing-work platform that can be screwed onto the folding brackets

**Connection shoe K (D)**

for connecting the Folding bracket to the Multi-purpose waling WS10 Top50. This makes it possible for the entire climbing unit to be lifted and repositioned in one piece, together with the formwork.

**Multi-purpose waling WS10 Top50 (E)**

For holding the timber-beam or framed formwork. The length of this waling will depend on the height of the formwork elements or panels.

**Panel strut 340 (F)**

For exact plumbing and aligning of the formwork element or panel.

**Universal bracket 90 (G) or Framax bracket 90 (H)**

For assembling pouring platforms. Choose the relevant type of bracket, depending on the formwork system being used (timber-beam or framed formwork).
### Possible formwork systems

#### Timber-beam formwork

- FF20 and Top 50 timber-beam formwork

#### Framed formwork

- Framed formwork Framax Xlife / Alu-Framax Xlife
- Framed formwork Frameco

Follow the directions in the relevant User Information booklet!
Structural design

Climbing formwork K

Climbing scaffold with Folding platforms K

Ready-assembled platforms

The Doka folding platforms K are pre-assembled (and thus immediately work-ready) scaffold platforms designed to be used as:
- DIN 4420-1 and ÖNORM B 4007 compliant protection platforms
- EN 12811-1 compliant working platforms

Suitable precaution:
- set up the opposing formwork

See the User Information booklet "Doka folding platform K" for detailed information.

The following points must be observed when using the folding platforms as a climbing formwork:

Max. formwork height 3.75 m on structures of < 100 m in height (wind pressure \(w_e=1.365 \text{ kN/m}^2\))

Permitted service load: 1.5 kN/m\(^2\) (150 kg/m\(^2\)) on folding platforms and on pouring platforms of Load Class 2 to EN 12811-1:2003

A suspended platform (of Load Class 2) can be added if wished

Allow for the wind-load when deciding the formwork height and the influence width of the brackets.

Wind-load on formwork

<table>
<thead>
<tr>
<th>Formwork height [m]</th>
<th>Influence width per bracket [m]</th>
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<tbody>
<tr>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td>1.0</td>
<td>0.5</td>
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<td>1.5</td>
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<td>5.5</td>
<td>5.0</td>
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</tbody>
</table>

Loads on the suspension point:
- Horizontal load: 36 kN
- Vertical load: 20 kN

Climbing scaffold with Folding brackets K

Platform assembled from single brackets

Makes it possible to choose any bracket spacing and any length of platform, for constructing closure platforms (of e.g. less than 3.0 m in length) and special shapes for use in corner zones.

The following points must be observed when using the Folding brackets as a climbing formwork:

Permitted service load: 1.5 kN/m\(^2\) (150 kg/m\(^2\)) on folding platforms and on pouring platforms of Load Class 2 to EN 12811-1:2003

A suspended platform (of Load Class 2) can be added if wished

Allow for the wind-load when deciding the formwork height and the influence width of the brackets.

Loads on the suspension point:
- Horizontal load: 36 kN
- Vertical load: 26 kN
Anchoring on the structure

Positioning point and suspension point

- Stop anchor
  - Expendable anchoring component for anchoring the Suspension cone (and thus the climbing unit) in the concrete from one side.
- Positioning cone
  - Placeholder for the Suspension cone on the positioning point.
- Suspension cone
  - For safe suspension-mounting of the climbing unit.

Stop-anchor

<table>
<thead>
<tr>
<th>Illustration</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>A</td>
<td>Stop anchor 15.0 (expendable anchoring component)</td>
</tr>
<tr>
<td>B</td>
<td>Depth mark</td>
</tr>
<tr>
<td>C</td>
<td>Positioning cone 15.0 5cm</td>
</tr>
<tr>
<td>D</td>
<td>Sealing sleeve 15.0 5cm (expendable anchoring component)</td>
</tr>
<tr>
<td>E</td>
<td>Suspension cone 15.0 5cm</td>
</tr>
</tbody>
</table>

- **Stop anchor**
  - Expendable anchoring component for anchoring the Suspension cone (and thus the climbing unit) in the concrete from one side.
- **Positioning cone**
  - Placeholder for the Suspension cone on the positioning point.
- **Suspension cone**
  - For safe suspension-mounting of the climbing unit.

Stop-anchor

![Illustration of Stop anchor](image)

| a | 11.5 cm | 16.0 cm | 40.0 cm |
| b | 16.5 cm | 21.0 cm | 45.0 cm |
| c | Where the concrete cover 'd' = 2 cm |
| 19.0 cm | 23.0 cm | 47.0 cm |
| Where the concrete cover 'd' = 3 cm |
| 20.0 cm | 24.0 cm | 48.0 cm |

- a ... tie-rod length
- b ... installation depth
- c ... minimum wall thickness
- d ... concrete cover

**Note:** Stop anchors of different lengths should not be mixed in the same project.

### WARNING

The short Stop anchor 15.0 11.5cm 90 has a much lower load-bearing capacity than the Stop anchor 15.0 16cm 55.

- For this reason, the short stop anchor is only allowed to be used on systems with low tensile loads at the anchoring location, such as on climbing systems inside shafts.
- If the geometry means that it is only possible to install the short stop anchor, then revised static calculation, with extra reinforcement steel, is required in cases where larger tensile loads may occur.
- The Stop anchor 15.0 11.5cm 90 is only permitted for wall thicknesses < 24 cm. For wall thicknesses ≥ 24 cm, the Stop anchor 15.0 16cm 55 (or larger) must be used.

### WARNING

The Stop anchor 15.0 11.5cm 90 may accidentally come unscrewed from the climbing cone while low-viscosity concrete is being poured.

- Take additional precautions to prevent the Stop anchor 15.0 11.5cm 90 from being turned.

**Pigtail anchor**

It is also possible to use a Pigtail anchor for a positioning point / suspension point in the floor-slab, instead of a stop-anchor.

![Illustration of Pigtail anchor](image)

| a | 64.0 cm |
| b | 69.0 cm |
| c | min. 16.0 cm |

- a ... 64.0 cm
- b ... 69.0 cm
- c ... min. 16.0 cm

**F** Pigtail anchor 15.0
**G** Longitudinal reinforcement and U-reinforcements, min. diam. 8 mm, spaced max. 15 cm apart
Opposite anchoring points

Note:
If the wall thickness is less than twice the installation depth of the stop anchor, opposite anchoring points must be located at an offset to one another.

Plan view

![Plan View](image)

Risk of formwork falling off if two cones are fitted opposite one another and joined with a tie rod.
Unscrewing the anchoring component on one side may cause the anchoring point on the opposite side to shear off.

- Every suspension point must have its own separate anchorage.
- Exception: Suspension points prepared with a Stop anchor double-ended 15.0

Dimensioning the suspension point

The required **cube compressive strength** of the concrete at the time of loading must be **specified** separately for each project by the structural designer. It will depend on the following factors:
- load actually occurring
- length of stop anchor or pigtail anchor
- reinforcement / extra reinforcement steel
- distance from edge

The introduction of the forces, the transfer of these forces into the structure, and the stability of the overall construction, must all be verified by the structural designer.

The required cube compressive strength \( f_{\text{c,\,current}} \) must be at least 10 N/mm², however.

Follow the directions in the Calculation Guide entitled "Load-bearing capacity of anchorages in concrete" or ask your Doka technician!

Preparing the positioning point

**Warning** against not screwing in the parts (e.g. stop anchors or pigtail anchors) far enough into the positioning cones. This may subsequently lead to reduced load-bearing capacity and to the failure of the suspension point - resulting in injury and damage.

- Always screw in components until they fully engage. When correctly fitted, there will still be 1 cm of thread visible between the part and the depth mark on the stop anchor or pigtail anchor.
- Make sure that the parts then used for the suspension point are for the same depth of concrete cover.
- Do not use the positioning cone as a rod connector

**WARNING**
Sensitive anchoring, suspension and connector components!
- Never weld or heat these components.
- Any components that are damaged or have been weakened by corrosion or wear must be withdrawn from use.

- The axis of the positioning cone must be at right-angles to the surface of the concrete – maximum angle of deviation 2°.
- Tolerance for locating the positioning points and suspension points: ±10 mm in the horizontal and the vertical.

Cones and accessories are also available for a 2 cm depth of concrete cover.
The articles in question are:
- Suspension cone 15.0 Art.n° 581970000
- Cantilever positioning cone 15.0 Art.n° 581698000
- Positioning cone 15.0 Art.n° 581960000
- Sealing sleeve 15.0 Art.n° 581989000
- Sealing sleeve S 15.0 Art.n° 581696000

These suspension points are prepared in a similar way to the instructions given for the Suspension cone 15.0/5cm.
However, special care must be taken to ensure that components for different depths of concrete cover are kept strictly separate (see warnings above)!

Tools needed:
- Reversible ratchet 1/2"
- Positioning-cone spanner 15.0 DK
Positioning point with Positioning cone 15.0 5cm (with hole drilled through form-ply)

How to mount:
➤ Drill a diam. 18 mm hole in the form-ply (position as shown in shop drawing / assembly plan).
➤ Push the sealing sleeve all the way onto the Positioning cone.
➤ Screw the stop-anchor or pigtail anchor into the positioning cone until fully engaged.
➤ Insert a Tie-rod 15.0 (length approx. 20 cm) through the hole drilled in the form-ply, screw it into the positioning cone and tighten it with a Super-plate 15.0.

Note:
Positioning cones 15.0 5cm are supplied together with Sealing sleeves 15.0 5cm. Every time the positioning cones are re-used, fit them with new sealing sleeves first!

If the positioning-point is located too close to a Doka beam, a board can be nailed to this and the adjoining beam to provide a support surface for the Super-plate.

Positioning point with Cantilever positioning cone 15.0 5cm (with no hole drilled through form-ply)

For special applications only, when it is not possible to drill through the form-ply (e.g. where there are Doka beams or formwork panel frame profiles directly behind the positioning point).

How to mount:
➤ Push the sealing sleeve all the way onto the Cantilever positioning cone.
➤ Nail a Cantilever positioning cone to the form-ply using a Fixing plate 15.0 (position as shown in project plan).
➤ Screw the Stop anchor or pigtail anchor into the Cantilever positioning cone until fully engaged.

1 cm distance between depth mark and cone.

The following items are needed for this type of positioning-point:
- Cantilever positioning cone 15.0 5cm
- Sealing sleeve S 15.0 5cm
- Fixing plate 15.0

Note:
Cantilever positioning cones 15.0 5cm are supplied together with Sealing sleeves S 15.0 5cm. Every time the positioning cones are re-used, fit them with new sealing sleeves first!
Pouring

➤ Before pouring, check all positioning points and suspension points once again.

- The axis of the positioning cone must be at right-angles to the surface of the concrete – maximum angle of deviation 2°.
- Tolerance for locating the positioning points and suspension points: ±10 mm in the horizontal and the vertical.
- The sealing sleeve must be completely pushed onto the Positioning cone.
- 1 cm distance between depth mark and cone = full screw-in depth.

➤ When low-viscosity concretes are used, take additional precautions to prevent the Stop-anchor 15.0 11.5cm 90 from being turned.

Make marks on the top edge of the formwork so that you can easily see where the anchoring points are during pouring.

➤ Prevent the vibrator from touching the stop anchors.
➤ Do not place concrete directly above the stop anchors.

These measures prevent the anchors working loose during pouring and vibration.

Preparing the suspension point

➤ Unscrew the Positioning cone, using a Reversible ratchet 1/2” and a Positioning-cone spanner 15.0 DK.

➤ Screw in Suspension cone 15.0 until fully engaged, and tighten using Reversible ratchet 1/2".
Other possible anchorages

Anchor points with no offset

Anchor points with no offset are prepared using the **Stop anchor double-ended 15.0**.

Positioning point

- **a** ... 25 - 70 cm
- **b** ... order length = wall thickness 'a' - 2 x concrete cover 'c'
- **c** ... concrete cover 5 cm
- **C** Positioning cone 15.0 5cm + Sealing sleeve 15.0 5cm
- **E** Suspension cone 15.0 5cm
- **G** Tie rod 15.0mm
- **H** Super plate 15.0
- **I** Reinforcement
- **J** Stop anchor double-ended 15.0

Suspension point

- **a** ... length of plastic tube 3 - 4 cm
- **b** ... 15 - 16 cm

Thin walls

Wall thicknesses of 15 to 16 cm are prepared using the **Wall anchor 15.0 16cm**.

**Risk of confusion!**

Do NOT on any account use Stop anchors 15.0 for this application.

Positioning point

Suspension point

**Note:**

The Wall anchor 15.0 16cm must be ordered under special-article n° 580100000.
Suspension point for fair-faced concrete

The Fair-faced concrete positioning cone 15.0 5cm is particularly suitable for fair-faced concrete projects where the form-tie points and suspension points are required to make a uniform hole-pattern.

Safety warning:
The Fair-faced concrete positioning cone may only be used on suspension points that are located within a maximum of 80 cm from the top edge of the concrete. The reason for this restriction is the reduced load-bearing capacity of such suspension points, due to the shallower screw-in depth of the end of the tie rod nearest the form-ply.

Result (in terms of appearance):

The form-tie points and/or suspension points have a uniform, regular hole-pattern.
Anchoring on the structure

User Information

Climbing formwork K

Retrofitting a safe suspension point

e.g.: if the crew forgot to prepare a positioning point.
➤ Drill a hole of diam. 25 mm.
➤ Drill a hole of diam. 35 mm and 115 mm depth.
➤ Push the sealing sleeve all the way onto the Suspension cone.
➤ Screw the tie rod into the Suspension cone until fully engaged, and put the rod part-way into the hole.
➤ Paste the ready-mix mortar (supplied by site) into the drilled hole with a spatula.

➤ Insert the unit so that it is flush with the concrete surface.
Scrape away the excess ready-mix mortar with a spatula.

! NOTICE
➤ Weld a bead to the super plate to join the nut and the plate. Do this BEFORE screwing the super plate onto the tie rod.

➤ On the other side of the concrete wall, screw on the super plate (now welded together) and secure it with a screw and dowel so that it cannot be unscrewed.

The required **cube compressive strength** of the concrete and ready-mix mortar at the time of loading must be **specified** separately for each project by the **structural designer**. It will depend on the following factors:
- load actually occurring
- wall thickness
- reinforcement / extra reinforcement steel
- distance from edge

The introduction of the forces, the transfer of these forces into the structure, and the stability of the overall construction, must all be verified by the structural designer.

The required **cube compressive strength** \( f_{\text{c, cube, current}} \) must be at least 10 N/mm², however.

Dimensioning the suspension point

![Diagram of suspension point components]

**A** Stop anchor
**F** Suspension cone

<table>
<thead>
<tr>
<th>Component</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Suspension cone</td>
<td>15.0 5cm</td>
</tr>
<tr>
<td>B Sealing sleeve</td>
<td>15.0 5cm</td>
</tr>
<tr>
<td>C Tie rod</td>
<td>15.0mm</td>
</tr>
<tr>
<td>D Ready-mix mortar</td>
<td></td>
</tr>
</tbody>
</table>

The required cube compressive strength of the concrete and ready-mix mortar at the time of loading must be specified separately for each project by the structural designer. It will depend on the following factors:

- load actually occurring
- wall thickness
- reinforcement / extra reinforcement steel
- distance from edge

The introduction of the forces, the transfer of these forces into the structure, and the stability of the overall construction, must all be verified by the structural designer.

The required cube compressive strength \( f_{\text{c, cube, current}} \) must be at least 10 N/mm², however.

**WARNING**
➤ Do NOT fit stop anchors with the anchor plate left exposed! This must always be embedded in the concrete.
Operating the formwork

Plumbing & aligning the formwork

Adjusting the formwork

In order to permit exact adjustment of the formwork elements in relation to one another and to the structure, they are adjustable in both the vertical and the horizontal.

Tools needed:
- Hammer
- Reversible ratchet 1/2”
- Box nut 24 and
- Fork wrench 13/17 (for the threaded joins on the adjusting spindles)

Preparing the adjusting operation

➤ Take the load off the panel strut.
➤ Detach the formwork from the concrete.
➤ Loosen the Waling-to-bracket holders (B) with a blow of the hammer.

Length adjustment

➤ Push the formwork to either side.

Height and angle adjustment

The Adjusting spindles M36 (C) permit a vertical adjustment range of approx. 150 mm. Also, the adjusting spindles can be relocated in the hole-grid of the Multipurpose waling WS10 Top50 (D).

Height adjustment

➤ Turn both adjusting spindles.

Side angle adjustment

➤ Only turn one adjusting spindle.

Ending the adjusting operation

➤ Tighten the waling-to-bracket holders with the hammer.
Repositioning

Lifting by crane

Instructions for safe resetting of the entire unit

*NOTICE*

- **Before repositioning:** Remove any loose items from the formwork and platforms.
- The conveyance of persons is forbidden!
- Observe all regulations applying to the operation of cranes where higher wind speeds are experienced.
- Spread angle $\beta$: max. 30°
- Vertical multi-purpose walings must be adequately (B) braced against oblique pull.
- **Tightening torque of couplers (C):** 50 Nm
- When using lifting beams, ensure that these have sufficient load-bearing capacity!
- When a climbing unit is repositioned, this opens up exposed fall-hazard locations on the remaining sections. These exposed locations must be made safe by putting up an access prohibition barrier. This access prohibition barrier must be fixed at least 2.0 m before the drop-off edge.
- The personnel in charge of the repositioning operation are responsible for positioning the access prohibition barriers correctly.
- During the lifting/repositioning cycle, no site personnel are allowed to be on the units to be climbed, or on adjacent units for repositioning.
- During the repositioning operation, the persons operating the climbing formwork must use personal protective equipment to guard against falls (e.g. Doka personal fall-arrest set).

**Length of chain** = at least the space between the hoisting points
This automatically leads to the required spread angle $\beta$. 
Initial situation

Hoist the unit for repositioning up to the next section.

Horizontal repositioning of the prohibition barriers

**WARNING**

➤ Any **lifting brackets** on the formwork elements, or Framax **lifting hooks**, must **not** be used for lifting the unit as a whole.

➤ Attach the lifting chain to the Connecting pin 10cm of the multi-purpose waling.

The suspension methods shown above are only needed for assembling and dismantling the formwork elements or panels.

A Warning sign 'No entry' 300x300mm
B Crane suspension tackle
Repositioning the entire unit

When repositioning the Climbing formwork K or units assembled from it (e.g. formwork element with multi-purpose walings), the lifting crane must always be attached to the vertical multi-purpose waling. For this, a Connecting pin 10cm must be inserted into the top hole in the multi-purpose waling and secured with a Spring cotter 5mm.

To avoid oblique pull, the Lifting beam 110kN 6.00m can be used.

➤ Tilt back the formwork with the panel strut.

➤ Before every repositioning operation, check to make sure that the vertical Multi-purpose walings WS10 Top50 are each bolted into a Connection shoe K with a Connecting pin 10 cm that has been secured with a Spring cotter 5mm!

➤ Attach the lifting chain to the Connecting pin 10cm of the multi-purpose waling.

➤ Dismount the wind bracing.

➤ Before repositioning, move the lifting bow of the Folding platform K into the stand-by position (locked in the short slot).

Before repositioning

➤ Engage the climbing unit in the prepared suspension points by crane.

After suspending the climbing unit

➤ Move the lifting bow into the locked position (locked in the long slot – lifting bow flush with decking).
Operating the climbing formwork

Starting up

The modular design of the Climbing formwork K system means that many different combinations are possible. Depending on the project, the actual design may thus differ very greatly from the basic type described here.

➤ In these cases, you should discuss the assembly procedure with your Doka technician.
➤ Follow the shop drawing / assembly plan.

Possible incorrect usages

**NOTICE**

- There must be a flat, firm base capable of supporting the load.
- Prepare a sufficiently large assembly area.
- Tightening torque of the couplers for the bracing tubes: 50 Nm

**WARNING**

Falling hazard!

➤ Do not step onto the pouring platforms until the formwork is closed!

In order to explain the entire climbing workflow as simply as possible, the repetitive actions involved are described in detail in separate sections of this booklet.

The sections in question are:

- Preparing the positioning points and suspension points (see the section headed ‘Anchoring on the structure’).
- Plumbing and aligning the formwork
- Repositioning by crane

For instructions on tying and joining the formwork elements, and on cleaning them and using concrete release agents, see the User Information booklets ‘Large-area formwork Top50’ and ‘Framed formwork Framax Xlife’.

**WARNING**

It is not allowed to transfer any extra forces into the formwork!

➤ Do not use hoists or other such devices for positioning and re-adjusting the formwork.
➤ Do not use the formwork to force incorrectly placed reinforcement steel into position.
➤ Always press the formwork against the concrete without applying force.
➤ Never use ‘brute force’ on the panel struts (e.g. with tube-extensions).
1st casting section

➤ Apply concrete release agent and set up one side of the formwork.
➤ Mount the positioning points.
➤ Mount positioning-points for the wind-bracing.
➤ Place the reinforcement.
➤ Close the formwork and tie it.
➤ Pour the 1st section.

➤ Strike the formwork.
➤ Clean the formwork.
➤ Set the gang-form down on a flat surface, with the form-ply facing downwards.
➤ Prepare the formwork for the climbing operation.
2nd casting section

Hanging the working platform into place on the suspension points:
➤ Remove the positioning cone.
➤ Prepare the suspension points.
➤ Raise the prepared working platform with a 4-part lifting chain (e.g. Doka 4-part chain 3.20m).

This raises the front lifting bows, opening the lift-out guard.
➤ Once the working platform has been hung into place on the suspension cone, the load is removed from the four-part lifting chain.

The lifting bows drop into the starting position, automatically securing the platform against accidental lift-out.

"Locked" position = lifting bow is flush with decking.

Wind bracing:
➤ Use a Hexagon bolt M16x90 and Hexagon nut M16 to secure Wind bracing MF/150F/K 6.00m to the Folding bracket K.

Fasten the tensioning unit of the Wind bracing MF/150F/K 6.00m to the structure, i.e. to the positioning point prepared with a suspension cone.

Tighten the Wind bracing MF/150F/K 6.00m.

Wind bracing MF/150F/K 6.00m
Permitted tensile force: 25 kN

Formwork:
➤ Attach the crane suspension tackle to the vertical multi-purpose walings.
➤ Place the pre-assembled formwork onto the working platform, and fix it in place.
➤ Bolt the vertical Multi-purpose waling WS10 Top50 into the Connection shoe K with a Connecting pin 10 cm, and secure this with a Spring cotter 5mm.

➤ Insert guardrail boards and use nails to secure them to the handrail-post plates.

Making it impossible to use any of the forbidden attachment methods when lifting and repositioning the unit in one piece:

➤ E.g. nail on a board in such a way that the crane suspension tackle cannot be hung into place in the lifting bracket.

<table>
<thead>
<tr>
<th>A</th>
<th>Folding platform K</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Multi-purpose waling WS10 Top50</td>
</tr>
<tr>
<td>C</td>
<td>Connection shoe K</td>
</tr>
<tr>
<td>D</td>
<td>Connecting pin 10cm</td>
</tr>
<tr>
<td>E</td>
<td>Spring cotter 5mm</td>
</tr>
</tbody>
</table>

**CAUTION**

The panel struts on the folding platform must:

➤ only be positioned in the axis of the bracket
➤ only be fitted into the special connection sockets, and
➤ only be fixed with star screws (L).

_Tie rod 15.0mm is forbidden!_

➤ Fix the panel strut in the connection socket of the folding platform using a star screw.

**WARNING**

➤ Any lifting brackets on the formwork elements, or Framax lifting hooks, must not be used for lifting the unit as a whole.

➤ Attach the crane suspension tackle to the suspension bolt of the vertical waling.

➤ E.g. nail on a board in such a way that the crane suspension tackle cannot be hung into place in the lifting bracket.
Operating the climbing formwork

**User Information**

### Climbing formwork K

#### Formwork set-up and pouring

- Apply concrete release agent and set up one side of the formwork.
- Mount the positioning points.
- Place the reinforcement.
- Plumb and align the formwork element or panel, using panel struts and adjusting spindles.
- Close the formwork and tie it.
- Pour the 2nd section.

#### Stripping out the formwork

- Take out the form ties and undo the connectors to the adjacent panels.
- Dismount the Super-plate and the threaded rod from positioning-points where a hole had to be drilled through the form-ply.
- Tilt back the formwork with the panel strut.
3rd casting section

- Remove the positioning cone.
- Prepare the suspension points.
- Dismount the wind bracing.

**Assembling the suspended platform:**
- Attach the crane suspension tackle to the vertical multi-purpose walings.
- Before repositioning, move the lifting bow of the Folding platform K into the stand-by position (locked in the short slot).

**Before repositioning**

- Detach the entire climbing unit by crane.

- Bolt on the outside suspension tube with an M 16x90 hexagon bolt.

- Mount the platform profiles of the pre-assembled platform decking to the suspension tubes with 4 hexagon bolts M16x90 for each profile.

- Use an M10x120 square bolt to attach a guardrail board (min. 15x3 cm) as a toeboard.

- Insert guardrail boards (min. 15x3 cm) into the Handrail-post plates and fix them with 28x65 nails.

- Bolt on the inside suspension tube with an M 16x120 hexagon bolt.
Note:
The plank and board thicknesses given here comply with the C24 category to EN 338.
Observe all national regulations applying to deck-boards and guardrail boards.

➤ Engage the climbing unit in the prepared suspension points by crane.
➤ Move the lifting bow into the locked position (locked in the long slot – lifting bow flush with decking).

After suspending the climbing unit

Formwork set-up and pouring

➤ Apply concrete release agent and set up one side of the formwork.
➤ Mount the positioning points.
➤ Place the reinforcement.
➤ Plumb and align the formwork element or panel, using panel struts and adjusting spindles.
➤ Close the formwork and tie it.
➤ Pour the 3rd section.
Assembly

Working platform – set-up procedure with Folding platforms K

Separating the platforms

➤ Lift the stacked platforms off the truck by crane or forklift truck, and set them down on a flat, paved surface.
➤ Attach the four-part lifting chain to the crane hoisting points at the front and to the extra lifting bows at the rear.

❗ Only attach and lift 1 platform at a time.

Attaching the crane

➤ Pull the lifting bows up out of their recesses, attach the four-part lifting chain (e.g. Doka 4-part chain 3.20m) and raise the Folding platform K.

Putting up the railings

➤ Tilt up the rear railings. When you reach the stop, lift the railings and slot them into place.

CAUTION
After being released, the pressure rod swings downwards!
➤ Hold the pressure rod in one hand.
➤ Then, with the other hand, lift up the red safety clip and pull out the U-bolt as far as it will go.
➤ Gradually lower the pressure rod by hand.

Pulling out the pressure rod

❗ 9725-405-02

G Safety clip (red)
H U-bolt
I Pressure rod

A Doka folding platform K
B Doka 4-part chain 3.20m
C Lifting bow
D Rear railing
Bolting the vertical rod in place

➤ Tilt up the vertical rod and fix it by inserting the U-bolt.
➤ Secure the U-bolt with the red safety clip to prevent it being opened accidentally.

![Diagram of vertical rod and safety clip](image1)

Fitting the bracing

➤ Prepare an assembly bench.
➤ Prepare the bracing.
➤ Tilt up the folding platforms and secure them so that they cannot topple over.
➤ Brace the Folding platforms K in the horizontal, with 4 screw-on couplers and 2 scaffolding tubes.
➤ Mount a scaffold tube as a diagonal stiffening reinforcement between the brackets, using 2 swivel couplers.

![Diagram of scaffolding setup](image2)

- **A** Folding platform K
- **B** Scaffolding tube 48.3mm 2.00m
- **C** Screw-on coupler 48mm 50
- **D** Swivel coupler 48mm

Distance between screw-on coupler and swivel coupler: max. 160 mm.

This set-up scheme is for 3.0 m long folding platforms – on 4.5 m long folding platforms, the number of couplers and scaffolding tubes, and the length of the scaffolding tubes, will need to be adjusted accordingly.
Fitting the Connection shoe K

➤ Bolt the Connection shoe K to the folding platform at the selected distance from the edge, as shown in the drawing.

Included with product:
▪ 2 M 12x90 hexagon bolts
▪ 1 washer A 13
▪ 2 washers 12
▪ 2 M 12 hexagon nuts (self-locking)

![Diagram of Fitting the Connection shoe K]

a ... 363 mm with Top50 and FF20
a ... 264 mm with Framax Xlife and Alu-Framax Xlife
b ... 45 mm

**CAUTION**
➤ It is not sufficient to fix the Connection shoe K only through the deck-boards.

How to fix the Connection shoe K

![Diagram of How to fix the Connection shoe K]

Plan view without platform decking

![Diagram of Plan view without platform decking]

A Holes drilled for Folding platform K
Working platform – set-up procedure with Folding brackets K

The professionals from the Doka Pre-assembly Service plan and assemble ready-to-use and custom formworks exactly to your specifications.

NOTICE
When making project-specific platforms, observe the following points:
- Position brackets as symmetrically as possible and keep their cantilever short.
- Ensure that all loads are applied centrally.
- The stability of the platforms must be ensured during all phases of the construction work!

CAUTION
Risk of platforms tipping over when loads are applied non-centrally.
If there is no way to avoid cantilevers extending out to one side, observe the following points:
- Choose the widest possible bracket spacing in relation to the cantilever!
- Allow for the greater influence of the bracket in the cantilevering region!
- Contact your Doka technician for information on further measures to prevent platforms tipping over.

The anti-liftout guards are not suitable for sustaining planned forces! The anti-liftout guard is only designed to prevent the platform from being accidentally lifted out of its suspension points while work is in progress.

Separating the brackets
➤ Lift the Folding brackets K off the truck and set them down on a flat surface.

Putting up the railings
➤ Tilt up the railings. When you reach the stop, lift the railings and slot them into place.

➤ Place the Folding bracket K on its side, on timber supports on the ground.
Pulling out the pressure rod

➤ Raise the red safety clip and pull out the U-bolt as far as it will go.
➤ Pull out the pressure rod.

Note:
In cases where the bracket is unfolded while suspended from the crane:

CAUTION
After being released, the pressure rod swings downwards!
➤ Hold the pressure rod in one hand.
➤ Then, with the other hand, lift up the red safety clip and pull out the U-bolt as far as it will go.
➤ Gradually lower the pressure rod by hand.

Bolting the vertical rod in place

➤ Tilt up the vertical rod and fix it by inserting the U-bolt.
➤ Secure the U-bolt with the red safety clip to prevent it being opened accidentally.
Fitting the bracing

➤ Prepare an assembly bench.
➤ Prepare the bracing.
➤ Tilt up the Folding brackets K and stand them spaced the specified centre-to-centre distance apart (see shop drawing / assembly plan).
➤ Secure them so that they cannot topple over.
➤ The length of the scaffold tubes used will depend on the centre-to-centre spacing of the brackets.
➤ Brace the Folding brackets K in the horizontal, with 4 screw-on couplers and 2 scaffold tubes.
➤ Mount a scaffold tube as a diagonal stiffening reinforcement between the brackets, using 2 swivel couplers.

Distance between swivel coupler and screw-on coupler: max. 160 mm.

This set-up scheme is for platform units with 2 brackets. On platform units with 3 brackets, the number of couplers and scaffold tubes will need to be adjusted accordingly.

Attaching the platform decking

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

➤ Place the braced Folding brackets K onto a trestle.

➤ Lay deck-boards onto the bracket. (Cut them to size as shown in the illustration)

➤ Attach each deck-board with one M 10x70 square bolt on each bracket (6 bolts are included with each Folding bracket K).
➤ Fix a diagonal board to the underside, between the brackets (with 2 nails in each deck-board)
Attach guard rails so as to comply with the applicable national regulations.

On each bracket, fasten handrail planks onto the handrail post using square bolts M 10x110, spring washers A 10 and hexagon nuts M 10.

Mount the Connection shoe K (see the section headed "Working platform – set-up procedure with Folding platforms K").

Note:
In corner zones, or where the corners are not right-angled, the platform planking must be trimmed accordingly.
Mount passage units as shown in the shop drawing / assembly plan.
Mounting the formwork

After the first casting section, the formwork is completed in the steps outlined below. This makes it possible to place the formwork onto the folding platform.

Framed formwork

e.g. framed formwork Framax Xlife

Follow the directions in the "Framed formwork Framax Xlife" User Information booklet!

- A hard, flat, firm surface is needed!
- Tightening torque of the couplers for the bracing tubes: 50 Nm

Tools needed:
- Universal tool box 15.0

Preparing the vertical Multi-purpose waling

Length of the multi-purpose waling:
The Multi-purpose waling WS10 Top50 must be long enough to project up through the pouring platform which will later be mounted to the formwork.

It must also be long enough to permit the necessary excess length beyond the bottom of the formwork.

Threaded-fastener material required
- 2 hexagon bolts M 10x45
- 2 U-washer 11 DIN 434
- 2 hexagon nuts M10 (self-locking)
- 1 washer R 11
(not included with product)

➤ Screw an Adjusting spindle M36 into the hole-grid on the vertical Multi-purpose waling WS10 Top50.
(Position as shown in shop drawing / assembly plan)
➤ Push a Connecting pin 10cm into the top hole in the Multi-purpose waling WS10 Top50, and secure it with a Spring cotter 5mm.

Preparing the formwork

➤ Set the gang-form down on a flat surface, with the form-ply facing downwards.
➤ Fix Multi-purpose walings WS10 Top50 in the waling profiles of the framed formwork panels, using Framax wedge clamps.

Preparing the formwork

➤ Set the gang-form down on a flat surface, with the form-ply facing downwards.
➤ Fix Multi-purpose walings WS10 Top50 in the waling profiles of the framed formwork panels, using Framax wedge clamps.

Mounting Multi-purpose walings to the formwork

➤ Lay down vertical Multi-purpose walings WS10 Top50 spaced apart at the centre-to-centre distance "a" of the brackets (use an assembly template).
➤ Adjust the overlap dimension "b" as shown in the shop drawing / assembly plan. Use Waling-to-bracket holders to fix the Multi-purpose walings at right-angles.
Example:
- Suspension point 30 cm beneath the concrete edge
- Formwork overlap 10 cm
  \[ b = 7.8 \text{ cm} \]

Fitting the bracing

➤ Brace the vertical Multi-purpose walings in the horizontal and the diagonal.

Fitting the panel struts

➤ Fix a Panel strut 340 in the multi-purpose waling with a Connecting pin 10cm, and secure this with a Spring cotter 5mm.

Mounting the pouring platform

➤ Attach Framax brackets and mount deck-boards.
➤ Also mount guard-rail boards, except where they would get in the way of the lifting chains when the gang-form is lifted into the upright.
Timber-beam formwork

Follow the directions in the 'Large-area formwork Top 50' User Information booklet!

- A hard, flat, firm surface is needed!
- Tightening torque of the couplers for the bracing tubes: 50 Nm

Tools needed:
- Universal tool box 15.0

Preparing the vertical Multi-purpose waling

**Length of the multi-purpose waling:**

The Multi-purpose waling WS10 Top50 must be long enough to project up through the pouring platform which will later be mounted to the formwork.

It must also be long enough to permit the necessary excess length beyond the bottom of the formwork.

**Threaded-fastener material required**
- 2 hexagon bolts M 10x45
- 2 U-washer 11 DIN 434
- 2 hexagon nuts M10 (self-locking)
- 1 washer R 11

(not included with product)

➤ Screw an Adjusting spindle M36 into the hole-grid on the vertical Multi-purpose waling WS10 Top50. (Position as shown in shop drawing / assembly plan)

➤ Push a Connecting pin 10cm into the top hole in the Multi-purpose waling WS10 Top50, and secure it with a Spring cotter 5mm.

---

Preparing the formwork

➤ Set the formwork element down on a flat surface, with the form-ply facing downwards.

**Example:**
- Suspension point 30 cm beneath the concrete edge
- Formwork overlap 10 cm
  
  \[ b = 7.8 \text{ cm} \]
Fitting the bracing

➤ Brace the vertical Multi-purpose walings in the horizontal and the diagonal.

The length of the scaffolding tubes used will depend on the centre-to-centre spacing of the brackets.

| Screw-on couplers 48mm 50 (x6) | Swivel couplers 48mm (x2) | Scaffolding tubes 48.3mm (x4) |

Distance between screw-on coupler and swivel coupler: max. 160 mm.
This set-up scheme is for platform units with 2 brackets. On platform units with 3 brackets, the number of couplers and scaffolding tubes will need to be adjusted accordingly.

Fitting the panel struts

➤ Fix a Panel strut 340 in the multi-purpose waling with a Connecting pin 10cm, and secure this with a Spring cotter 5mm.

Making it impossible to use any of the forbidden suspension methods when carrying out standard lifting of the unit as a whole:

➤ nail e.g. a board on in such a way that the crane suspension tackle cannot be hung into place in the lifting-bracket.

Mounting the pouring platform

➤ Attach Universal brackets and mount deck-boards.
➤ Also mount guard-rail boards, except where they would get in the way of the lifting chains when the gang-form is lifted into the upright.

H Screw-on couplers 48mm 50 (x6)  
I Swivel couplers 48mm (x2)  
J Scaffolding tubes 48.3mm (x4)

M Universal bracket 90

K Panel strut 340 IB + Prop head EB  
L Connecting pin 10cm + Spring cotter 5mm
Assembling the suspended platform

Preparing the platform decking

➤ Place the deck-boards on trestles.
➤ Place platform profiles onto the deck-boards, spaced apart at the centre-distance of the brackets.
➤ Fasten the platform profiles to the deck-boards with M 10x70 square bolts.
➤ Fix planks to the ends of the platforms, and diagonally between the platform profiles. (2 nails per deck-board)

A Platform profiles

➤ Turn over the pre-assembled decking and set it down on the ground.

Note:
In corner zones, or where the corners are not right-angled, the platform planking must be trimmed accordingly.

Items needed:

<table>
<thead>
<tr>
<th>Item</th>
<th>Designation</th>
<th>N° of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Suspended platform 120 4.30m</td>
<td>2 3</td>
</tr>
<tr>
<td>B</td>
<td>Planks and guard-rail boards*</td>
<td>-- --</td>
</tr>
</tbody>
</table>

The Support lengthening piece is supplied knocked-down, incl. all necessary fixing items (except for *).

* site-provided
Sideguards on exposed platform-ends

Suitable sideguards must be provided on exposed ends of platforms.

**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.

**Handrail post XP 1.20m**

![Handrail post XP 1.20m](image)

A. Guard-rail board min. 15x3 cm (site-provided)
B. Handrail post XP 1.20m
C. Doka folding platform K

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

**Side handrail clamping unit T**

![Side handrail clamping unit T](image)

- A. Side handrail clamping unit T with integral telescopic handrail
- B. Guard-rail board min. 15x3 cm (site-provided)
- C. Doka folding platform K

**How to mount:**
- Fasten the clamping part to the decking of the folding platform using the wedge (clamping range 4 to 6 cm).
- Slot in the railing.
- Extend the telescopic railing to the desired length and secure it.
- Insert toeboard (guard-rail board).

**Handrail clamp S**

![Handrail clamp S](image)

- A. Guard-rail board min. 15x3 cm (in-situ)
- B. Handrail clamp S
- C. Folding platform

**How to mount:**
- Fasten the handrail clamps to the decking of the folding platform using the wedge (clamping range 2 to 43 cm).
- Secure the guardrail boards to the loops on the Handrail clamp S with one 28 x 65 nail per loop.

Follow the directions in the “Handrail clamp S” User information!
Dismantling

NOTICE

- A hard, flat, firm surface is needed!
- Provide a sufficiently large dismantling space.
- Read and observe the section headed "Resetting by crane".

Lifting the formwork off the climbing unit

► Attach the crane suspension tackle to the lifting brackets on the formwork gang.
   This protects the formwork against tipping over.
► Remove the two top guardrail boards from the pouring platform.

► Remove the waling-to-bracket holders and lift the formwork element or panel off the climbing unit.

► Set down and dismantle the formwork element.
Attach the crane suspension tackle to the vertical multi-purpose walings.

Disengage the pinned connection between the vertical Multi-purpose waling WS10 Top50 and Connection shoe K.

Remove the star screw.

Lift the vertical Multi-purpose waling WS10 Top50 complete with panel strut clear of the Folding platform K and set down.
Lifting the climbing unit off the structure

- Attach the climbing unit to the crane with a four-part lifting chain (e.g. Doka 4-part chain 3.20m).

<table>
<thead>
<tr>
<th>Front lifting bow</th>
<th>Rear lifting bow</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Front lifting bow" /></td>
<td><img src="image2.png" alt="Rear lifting bow" /></td>
</tr>
</tbody>
</table>

This raises the front lifting bows, opening the lift-out guard.

- Remove the wind bracing.
- Gently raise the entire unit by crane, and move it away from the building.

- Remove the inside suspension tubes and the outside suspension tubes.

From this point on disassembly takes place on the ground and is the reverse of the assembly procedure.

- At the follow-up platform, remove the guardrail boards, platform decking and platform profile.
General remarks

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 S

- Attached with integral clamp
- 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 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!
Transporting, stacking and storing

Utilise the benefits of Doka multi-trip packaging on your site.
Multi-trip packaging such as containers, stacking pallets and skeleton transport boxes keep everything in place on the site, minimise time wasted searching for parts, and streamline the storage and transport of system components, small items and accessories.

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
Permitted imposed load: 3150 kg

Using Doka skeleton transport boxes 1.70x0.80m as transport devices

Lifting by crane

➤ Only lift the boxes when their sidewalls are closed!

▪ 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.

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!
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
Permitted imposed load: 7900 kg

- 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.

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

- 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

The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport trolley.

Using Doka stacking pallets as storage units

- 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

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 gradient up to 3%</td>
<td>Floor gradient 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!

Using Doka stacking pallets as transport devices

Lifting by crane

- 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.
- Load the items centrically.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.
- When lifting stacking pallets to which Bolt-on caster sets B have been attached, you must also follow the directions in these Operating Instructions!
- Spread-angle $\beta$ max. 30°!

| Doka stacking pallet 1.55x0.85m | max. 4.0 m |
| Doka stacking pallet 1.20x0.80m | max. 3.0 m |

Repositioning by forklift truck or pallet stacking truck

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

| 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 castor set mounted to it.
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.

The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport trolley.

Follow the directions in the "Bolt-on castor set B" Operating Instructions!

Max. load: 1000 kg
Permitted imposed load: 5530 kg

- 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>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!

- 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

- 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.
- When lifting stacking pallets to which Bolt-on castor sets B have been attached, you must also follow the directions in these Operating Instructions!
- 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.

Bolt-on castor set B

The Bolt-on castor set B turns the stacking pallet into a fast and manoeuvrable transport trolley.

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 Operating Instructions!
### Component overview

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka folding platform K 3.00m</td>
<td>291.5</td>
<td></td>
</tr>
<tr>
<td>Doka folding platform K 4.50m</td>
<td>444.5</td>
<td></td>
</tr>
</tbody>
</table>

Doka-Faltbühne K

**Doka folding platform K 3.00m**

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

**Doka folding platform K 4.50m**

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

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Folding bracket K</td>
<td>52.4</td>
</tr>
</tbody>
</table>

- **Folding bracket K**

  - Galvanised
  - Length: 224 cm
  - Height: 245 cm
  - Delivery condition: folded closed

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connection-shoe K</td>
<td>6.4</td>
</tr>
</tbody>
</table>

- **Connection-shoe K**

  - Galvanised
  - Length: 25 cm
  - Width: 17 cm

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspended platform 120 3.30m</td>
<td>44.0</td>
</tr>
<tr>
<td>Suspended platform 120 4.30m</td>
<td>52.6</td>
</tr>
</tbody>
</table>

- **Suspended platform 120 3.30m**

  - Galvanised
  - Delivery condition: folded closed

- **Suspended platform 120 4.30m**

  - Galvanised
  - Delivery condition: folded closed

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scaffold tube 48.3mm 0.50m</td>
<td>1.7</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 1.00m</td>
<td>3.6</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 1.50m</td>
<td>5.4</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 2.00m</td>
<td>7.2</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 2.50m</td>
<td>9.0</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 3.00m</td>
<td>10.8</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 3.50m</td>
<td>12.6</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 4.00m</td>
<td>14.4</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 4.50m</td>
<td>16.2</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 5.00m</td>
<td>18.0</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 5.50m</td>
<td>19.8</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm 6.00m</td>
<td>21.6</td>
</tr>
<tr>
<td>Scaffold tube 48.3mm ...m</td>
<td>3.6</td>
</tr>
</tbody>
</table>

- **Scaffold tube 48.3mm 0.50m**

  - Galvanised

- **Scaffold tube 48.3mm 1.00m**

  - Galvanised

- **Scaffold tube 48.3mm 1.50m**

  - Galvanised

- **Scaffold tube 48.3mm 2.00m**

  - Galvanised

- **Scaffold tube 48.3mm 2.50m**

  - Galvanised

- **Scaffold tube 48.3mm 3.00m**

  - Galvanised

- **Scaffold tube 48.3mm 3.50m**

  - Galvanised

- **Scaffold tube 48.3mm 4.00m**

  - Galvanised

- **Scaffold tube 48.3mm 4.50m**

  - Galvanised

- **Scaffold tube 48.3mm 5.00m**

  - Galvanised

- **Scaffold tube 48.3mm 5.50m**

  - Galvanised

- **Scaffold tube 48.3mm 6.00m**

  - Galvanised

- **Scaffold tube 48.3mm ...m**

  - Galvanised

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swivel coupler 48mm</td>
<td>1.5</td>
</tr>
</tbody>
</table>

- **Swivel coupler 48mm**

  - Galvanised
  - Width-across: 22 mm
  - Follow the directions in the "Fitting instructions"!

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-purpose waling WS10 Top50 3.00m</td>
<td>58.9</td>
</tr>
<tr>
<td>Multi-purpose waling WS10 Top50 3.50m</td>
<td>68.4</td>
</tr>
<tr>
<td>Multi-purpose waling WS10 Top50 4.00m</td>
<td>79.4</td>
</tr>
</tbody>
</table>

- **Multi-purpose waling WS10 Top50 3.00m**

  - Galvanised
  - Length: 25 cm
  - Painted blue

- **Multi-purpose waling WS10 Top50 3.50m**

  - Galvanised
  - Length: 32 cm
  - Painted blue

- **Multi-purpose waling WS10 Top50 4.00m**

  - Galvanised
  - Length: 38 cm
  - Painted blue

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steel waling WS10 Top50 3.00m</td>
<td>60.4</td>
</tr>
<tr>
<td>Steel waling WS10 Top50 3.50m</td>
<td>71.5</td>
</tr>
<tr>
<td>Steel waling WS10 Top50 4.00m</td>
<td>82.1</td>
</tr>
</tbody>
</table>

- **Steel waling WS10 Top50 3.00m**

  - Galvanised
  - Length: 25 cm
  - Painted blue

- **Steel waling WS10 Top50 3.50m**

  - Galvanised
  - Length: 31 cm
  - Painted blue

- **Steel waling WS10 Top50 4.00m**

  - Galvanised
  - Length: 38 cm
  - Painted blue

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjusting spindle M36</td>
<td>6.2</td>
</tr>
</tbody>
</table>

- **Adjusting spindle M36**

  - Galvanised
  - Length: 31 cm
  - Height: 29.2 cm
  - Width-across: 24 mm

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connecting pin 10cm</td>
<td>0.34</td>
</tr>
</tbody>
</table>

- **Connecting pin 10cm**

  - Galvanised
  - Length: 14 cm

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring cotter 5mm</td>
<td>0.03</td>
</tr>
</tbody>
</table>

- **Spring cotter 5mm**

  - Galvanised
  - Length: 13 cm

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waling-to-bracket holder 9-15cm</td>
<td>2.7</td>
</tr>
</tbody>
</table>

- **Waling-to-bracket holder 9-15cm**

  - Galvanised
  - Length: 26 cm
  - Height: 31 cm

---

<table>
<thead>
<tr>
<th>Article n°</th>
<th>[kg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waling-to-bracket holder</td>
<td>2.5</td>
</tr>
</tbody>
</table>

- **Waling-to-bracket holder**

  - Galvanised
  - Length: 26 cm
  - Height: 31 cm
### User Information

**Climbing formwork K**

#### Component overview

<table>
<thead>
<tr>
<th>Component</th>
<th>Article n°</th>
<th>[kg]</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framax wedge clamp</td>
<td>588152000</td>
<td>1.5</td>
<td>Framax-Spannklammer</td>
</tr>
<tr>
<td>Panel strut 340 IB</td>
<td>580365000</td>
<td>24.3</td>
<td>Elementstütze 340 IB containing:</td>
</tr>
<tr>
<td>(A) Plumbing strut 340 IB</td>
<td>588696000</td>
<td>16.7</td>
<td>Galvanised Length: 190.8 - 341.8 cm</td>
</tr>
<tr>
<td>(B) Adjusting strut 120 IB</td>
<td>588248500</td>
<td>7.6</td>
<td>Galvanised Length: 81.5 - 130.6 cm</td>
</tr>
<tr>
<td>Prop head EB</td>
<td>588244500</td>
<td>3.1</td>
<td>Stützenkopf EB</td>
</tr>
<tr>
<td>Universal dismantling tool</td>
<td>582768000</td>
<td>3.7</td>
<td>Universal-Lösewerkzeug</td>
</tr>
<tr>
<td>Star screw</td>
<td>580425000</td>
<td>0.75</td>
<td>Sternschraube</td>
</tr>
<tr>
<td>Wind bracing MF/150F/K 6.00m</td>
<td>580665000</td>
<td>4.7</td>
<td>Windabspannung MF/150F/K 6,00m</td>
</tr>
<tr>
<td>Pin D16/112</td>
<td>500403330</td>
<td>0.29</td>
<td>Steckbolzen D16/112</td>
</tr>
</tbody>
</table>

**Top scaffold bracket L**

- **Betonierkonsole L**
  - Galvanised Length: 101 cm Height: 159 cm

**Top scaffold bracket L painted**

- **Betonierkonsole L lackiert**
  - Painted blue Length: 101 cm Height: 159 cm

**Universal bracket 90**

- **Universal-Konsole 90**
  - Galvanised Length: 121 cm Height: 235 cm

**Framax bracket 90**

- **Framax-Konsole 90**
  - Galvanised Length: 103 cm Height: 185 cm Delivery condition: railing included

**Framax bracket 90 EP**

- **Framax-Konsole 90 EP**
  - Galvanised Length: 103 cm Height: 84 cm

---

**Galvanised Length:**
- 190.8 - 341.8 cm
- 81.5 - 130.6 cm
- 40.8 cm
- 121 cm
- 101 cm
- 103 cm
- 6,00m
- 40.8 cm Width: 11.8 cm Height: 17.6 cm
- 75.5 cm
- 17 cm Width-across: 24 mm
- 16 cm
- 121 cm Height: 235 cm
- 103 cm Height: 185 cm
- 103 cm Height: 84 cm
<table>
<thead>
<tr>
<th>Component</th>
<th>Article No.</th>
<th>[kg]</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Handrail post 1.00m</td>
<td>584335000</td>
<td>3.8</td>
<td>Galvanised Length: 124 cm</td>
</tr>
<tr>
<td>Bracket adapter XP FRR 50/30</td>
<td>586486000</td>
<td>2.4</td>
<td>Galvanised Height: 32 cm</td>
</tr>
<tr>
<td>Railing clamp XP 40cm</td>
<td>586456000</td>
<td>7.7</td>
<td>Galvanised Height: 73 cm</td>
</tr>
<tr>
<td>Handrail post XP 1.20m</td>
<td>586460000</td>
<td>4.1</td>
<td>Galvanised Height: 118 cm</td>
</tr>
<tr>
<td>Toeboard holder XP 1.20m</td>
<td>586461000</td>
<td>0.64</td>
<td>Galvanised Height: 21 cm</td>
</tr>
<tr>
<td>Side handrail clamping unit T</td>
<td>580488000</td>
<td>29.1</td>
<td>Galvanised Length: 115 - 175 cm Height: 112 cm</td>
</tr>
<tr>
<td>Handrail clamp S</td>
<td>580470000</td>
<td>11.5</td>
<td>Galvanised Height: 123 - 171 cm</td>
</tr>
<tr>
<td>Universal railing shackle</td>
<td>580478000</td>
<td>3.0</td>
<td>Galvanised Height: 20 cm</td>
</tr>
<tr>
<td>Scaffold tube connection</td>
<td>584375000</td>
<td>0.27</td>
<td>Galvanised Height: 7 cm</td>
</tr>
<tr>
<td>Doka 4-part chain 3.20m</td>
<td>588620000</td>
<td>15.0</td>
<td>Follow the directions in the &quot;Operating Instructions&quot;!</td>
</tr>
<tr>
<td>Lifting beam 110kN 6.00m</td>
<td>586359000</td>
<td>136.5</td>
<td>Galvanised Length: 626 cm Follow the directions in the &quot;Operating Instructions&quot;!</td>
</tr>
<tr>
<td>Manhole B 70/60cm</td>
<td>581530000</td>
<td>22.0</td>
<td>Steel parts galvanised Timber parts varnished yellow Length: 81 cm Width: 71 cm</td>
</tr>
<tr>
<td>Warning sign &quot;No entry&quot; 300x300mm</td>
<td>581575000</td>
<td>0.70</td>
<td>Verbotschild &quot;Zutritt Verboten&quot; 300x300mm</td>
</tr>
<tr>
<td>Doka personal fall-arrest set</td>
<td>583022000</td>
<td>3.6</td>
<td>Follow the directions in the &quot;Operating Instructions&quot;!</td>
</tr>
</tbody>
</table>
User Information  
Climbing formwork K  
Component overview

---

**Universal tool box 15.0**  
Universal-Werkzeugbox 15,0  
Included in scope of supply:

- (A) Reversible ratchet 1/2"  
  Galvanised  
  Length: 30 cm  
  Weight: 0.73 kg  
  Article n°: 580580000

- (B) Fork wrench 13/17  
  Weight: 0.08 kg  
  Article n°: 580577000

- (C) Fork wrench 22/24  
  Weight: 0.22 kg  
  Article n°: 580587000

- (D) Fork wrench 30/32  
  Weight: 0.80 kg  
  Article n°: 580897000

- (E) Fork wrench 36/41  
  Weight: 1.0 kg  
  Article n°: 580586000

- (F) Ring spanner 17/19  
  Weight: 0.27 kg  
  Article n°: 580590000

- (G) Square nut 22  
  Weight: 0.12 kg  
  Article n°: 580584000

- (H) Box spanner 41  
  Weight: 0.99 kg  
  Article n°: 580585000

- (I) Extension 11cm 1/2"  
  Weight: 0.20 kg  
  Article n°: 580581000

- (J) Extension 22cm 1/2"  
  Weight: 0.31 kg  
  Article n°: 580582000

- (K) Universal joint coupling 1/2"  
  Weight: 0.16 kg  
  Article n°: 580583000

- (L) Box nut 19  
  Weight: 0.06 kg  
  Article n°: 580576000

- (M) Box nut 24  
  Weight: 0.12 kg  
  Article n°: 580580000

- (N) Box nut 30  
  Weight: 0.20 kg  
  Article n°: 580575000

- (O) Positioning cone spanner 15.0 DK  
  Weight: 0.30 kg  
  Article n°: 580579000

---

**Tie rod system 15.0**

| Tie rod 15.0mm galvanised 0.50m | 0.72 kg | 581821000 |
| Tie rod 15.0mm galvanised 1.00m | 1.1 kg  | 581823000 |
| Tie rod 15.0mm galvanised 1.50m | 1.8 kg  | 581826000 |
| Tie rod 15.0mm galvanised 2.00m | 2.2 kg  | 581827000 |
| Tie rod 15.0mm galvanised 2.50m | 2.9 kg  | 581829000 |
| Tie rod 15.0mm galvanised 3.00m | 3.6 kg  | 581852000 |
| Tie rod 15.0mm galvanised 3.50m | 4.1 kg  | 581854000 |
| Tie rod 15.0mm galvanised 4.00m | 0.73 kg | 581870000 |
| Tie rod 15.0mm galvanised 4.50m | 1.1 kg  | 581871000 |
| Tie rod 15.0mm galvanised 5.00m | 1.4 kg  | 581874000 |
| Tie rod 15.0mm galvanised 5.50m | 1.8 kg  | 581886000 |
| Tie rod 15.0mm galvanised 6.00m | 2.1 kg  | 581876000 |
| Tie rod 15.0mm galvanised 6.50m | 2.5 kg  | 581878000 |
| Tie rod 15.0mm galvanised 7.00m | 2.9 kg  | 581875000 |
| Tie rod 15.0mm galvanised 7.50m | 3.6 kg  | 581877000 |
| Tie rod 15.0mm galvanised 8.00m | 4.3 kg  | 581878000 |
| Tie rod 15.0mm non-treated 0.50m | 0.73 kg | 581870000 |
| Tie rod 15.0mm non-treated 0.75m | 1.1 kg  | 581871000 |
| Tie rod 15.0mm non-treated 1.00m | 1.4 kg  | 581874000 |
| Tie rod 15.0mm non-treated 1.25m | 1.8 kg  | 581886000 |
| Tie rod 15.0mm non-treated 1.50m | 2.1 kg  | 581876000 |
| Tie rod 15.0mm non-treated 1.75m | 2.5 kg  | 581878000 |
| Tie rod 15.0mm non-treated 2.00m | 2.9 kg  | 581875000 |
| Tie rod 15.0mm non-treated 2.50m | 3.6 kg  | 581877000 |
| Tie rod 15.0mm non-treated 3.00m | 4.3 kg  | 581878000 |
| Tie rod 15.0mm non-treated 3.50m | 5.0 kg  | 581888000 |
| Tie rod 15.0mm non-treated 4.00m | 5.7 kg  | 581879000 |
| Tie rod 15.0mm non-treated 5.00m | 7.2 kg  | 581880000 |
| Tie rod 15.0mm non-treated 6.00m | 8.6 kg  | 581881000 |
| Tie rod 15.0mm non-treated 7.00m | 10.7 kg | 581882000 |
| Tie rod 15.0mm non-treated 8.00m | 1.4 kg  | 581873000 |

---

**Fixing plate 15.0**  
Nagelblech 15.0  
Galvanised  
Diameter: 10 cm  
Weight: 0.15 kg  
Article n°: 581692000

---

**Positioning cone 15.0 5cm**  
Vorlaufkonus 15,0 5cm  
Galvanised  
Length: 11 cm  
Diameter: 5 cm  
Weight: 0.43 kg  
Article n°: 581969000

---

**Sealing sleeve S 15.0 5cm**  
Dichtungshülse S 15,0 5cm  
Orange  
Length: 11 cm  
Diameter: 4.7 cm  
Weight: 0.009 kg  
Article n°: 581697000

---

**Fibre concrete plug 30.7mm**  
Faserbetonstopfen 30,7mm  
Grey  
Weight: 0.03 kg  
Article n°: 581902000

---

**Fair-faced concrete positioning cone 15.0 5cm**  
Sichtbetonvorlauf 15,0 5cm  
Galvanised  
Length: 11 cm  
Diameter: 4.3 cm  
Weight: 0.46 kg  
Article n°: 581973000

---

**Sealing sleeve 15.0 5cm**  
Dichtungshülse 15,0 5cm  
Orange  
Length: 10 cm  
Diameter: 3 cm  
Weight: 0.008 kg  
Article n°: 581990000

---

**Stop anchor double-ended 15.0 20cm 90**  
Sperranker beidseitig 15,0 20cm 90  
Non-treated  
Length: 67 cm  
Weight: 0.76 kg  
Article n°: 581820000

---

**Stop anchor 15.0 11.5cm 90**  
Sperranker 15,0  
Non-treated  
Length: 11 cm  
Weight: 0.55 kg  
Article n°: 581868000

---

**Stop anchor 15.0 16cm 55**  
Sperranker 15,0  
Non-treated  
Length: 55 cm  
Weight: 0.38 kg  
Article n°: 581997000

---

**Stop anchor 15.0 40cm 55**  
Sperranker 15,0  
Non-treated  
Length: 55 cm  
Weight: 0.71 kg  
Article n°: 581993000

---

**Pigtail anchor 15.0**  
Wellenanker 15,0  
Non-treated  
Length: 67 cm  
Weight: 0.92 kg  
Article n°: 581984000

---

**Cantilever positioning cone 15.0 5cm**  
Sperrenvorlauf 15,0 5cm  
Follow the directions in the "Fitting instructions"!  
Weight: 0.45 kg  
Article n°: 581699000

---

Non-treated  
Custom lengths can be ordered under the special-component Art.n° 580100000, quoting the designation and the desired length in mm.
### Component overview

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fair-faced concrete plug 41mm plastic 0.007</td>
<td>581851000</td>
</tr>
<tr>
<td>Fair-faced concrete plug 41mm concrete 0.05</td>
<td>581848000</td>
</tr>
</tbody>
</table>

- **Grey**
- **Height:** 6 cm
- **Diameter:** 12 cm
- **Width-across:** 27 mm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Super plate 15.0 1.1</td>
<td>581966000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Height:** 7 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspension cone 15.0 5cm 0.88</td>
<td>581971000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Length:** 16 cm
- **Diameter:** 6 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protective cap 15.0/20.0 0.03</td>
<td>581858000</td>
</tr>
</tbody>
</table>

- **Yellow**
- **Length:** 6 cm
- **Diameter:** 6.7 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie-rod wrench 15.0/20.0 1.9</td>
<td>580594000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Length:** 37 cm
- **Diameter:** 8 cm

### Multi-trip packaging

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka skeleton transport box 1.70x0.80m 87.0</td>
<td>583012000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Height:** 113 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka multi-trip transport box 1.20x0.80m 70.0</td>
<td>583011000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Height:** 78 cm

### User Information

**Climbing formwork K**

- **Steel parts galvanised**
- **Timber parts varnished yellow**

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-trip transport box partition 0.80m 3.7</td>
<td>583018000</td>
</tr>
<tr>
<td>Multi-trip transport box partition 1.20m 5.5</td>
<td>583017000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka stacking pallet 1.55x0.85m 41.0</td>
<td>586151000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Height:** 77 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka stacking pallet 1.20x0.80m 38.0</td>
<td>583016000</td>
</tr>
</tbody>
</table>

- **Galvanised**
- **Height:** 77 cm

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doka accessory box 106.4</td>
<td>583010000</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Article n°</th>
<th>Article n°</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolt-on castor set B 33.6</td>
<td>586168000</td>
</tr>
</tbody>
</table>

- **Painted blue**
Near to you, worldwide

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