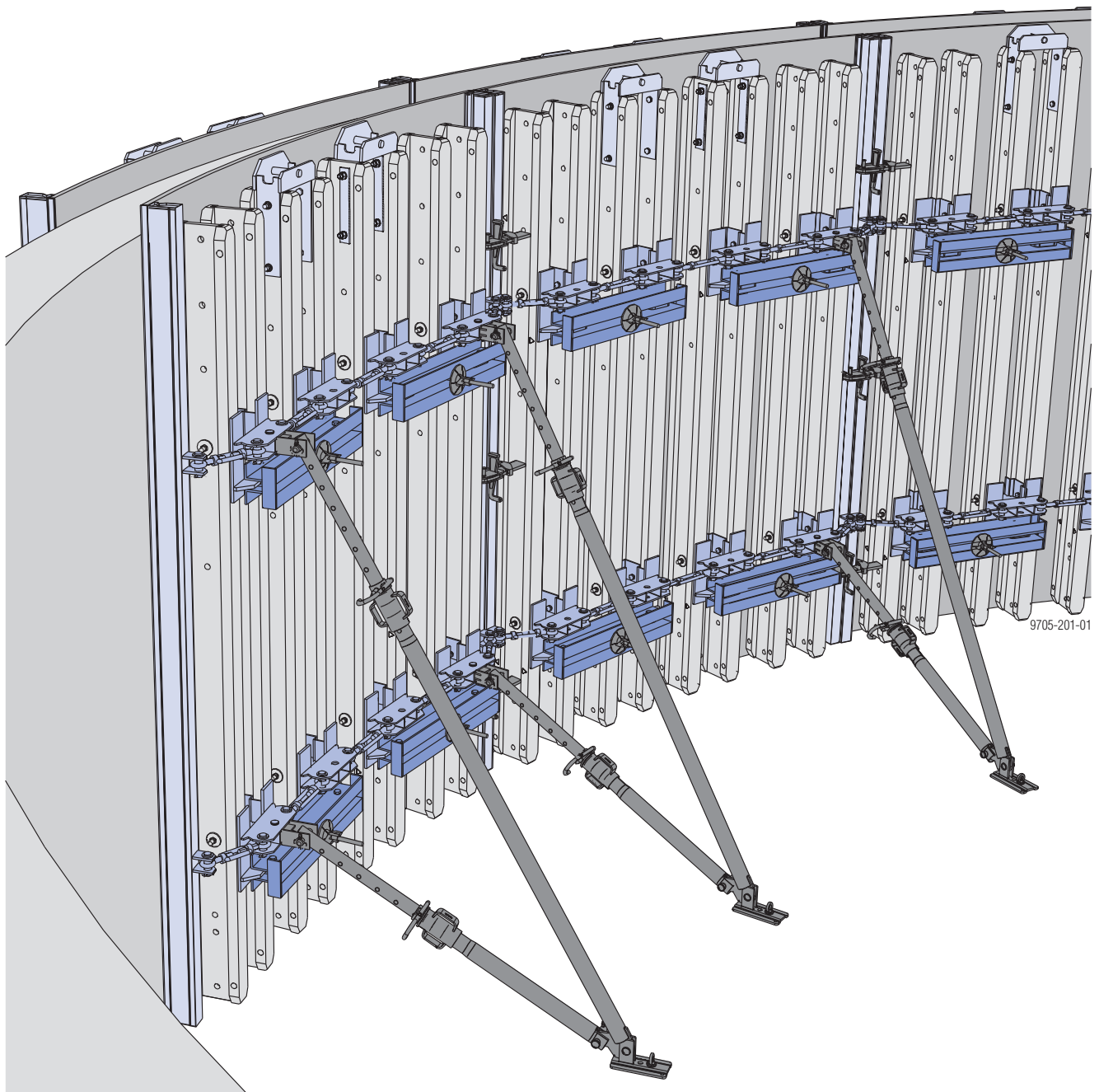


The Formwork Experts.

Circular formwork H20

User Information

Instructions for assembly and use (Method statement)



Contents

4	Elementary safety warnings
7	Services
9	Product description
10	System grid
11	Vertical stacking
13	Inter-panel connections
14	Stop-end formwork
15	Bending instructions
16	Plumbing accessories
19	Pouring platforms with single brackets
21	Ladder system
25	Repositioning
26	Determining the required widths of fitting-timber
27	Transporting, stacking and storing

31	Component overview
-----------	---------------------------

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 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 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 fatality) 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 at 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.

Eurocodes at Doka

The permissible values stated in Doka documents (e.g. $F_{perm} = 70 \text{ kN}$) are not design values (e.g. $F_{Rd} = 105 \text{ kN}$)!

- It is essential to avoid confusing permissible values with design values!
- Doka documents will continue to state the permissible values.

Allowance has been made for the following partial factors:

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

Consequently, all the design values for an EC design calculation can be determined from the permissible values.

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.

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 only be developed economically 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.

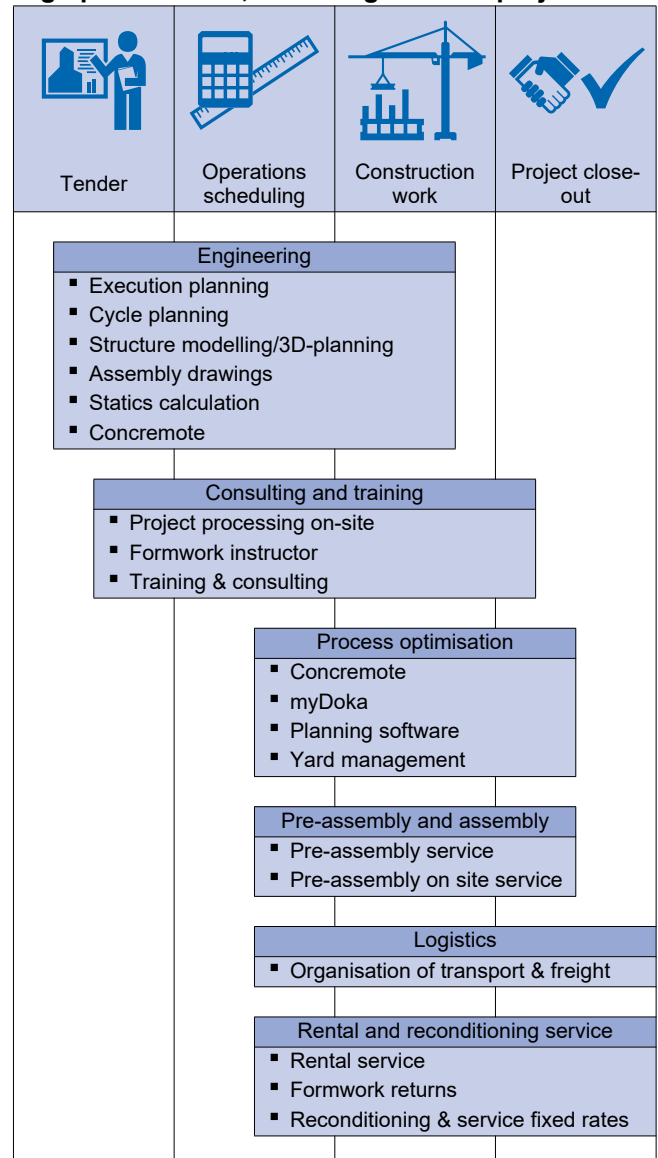
Just-in-time availability

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

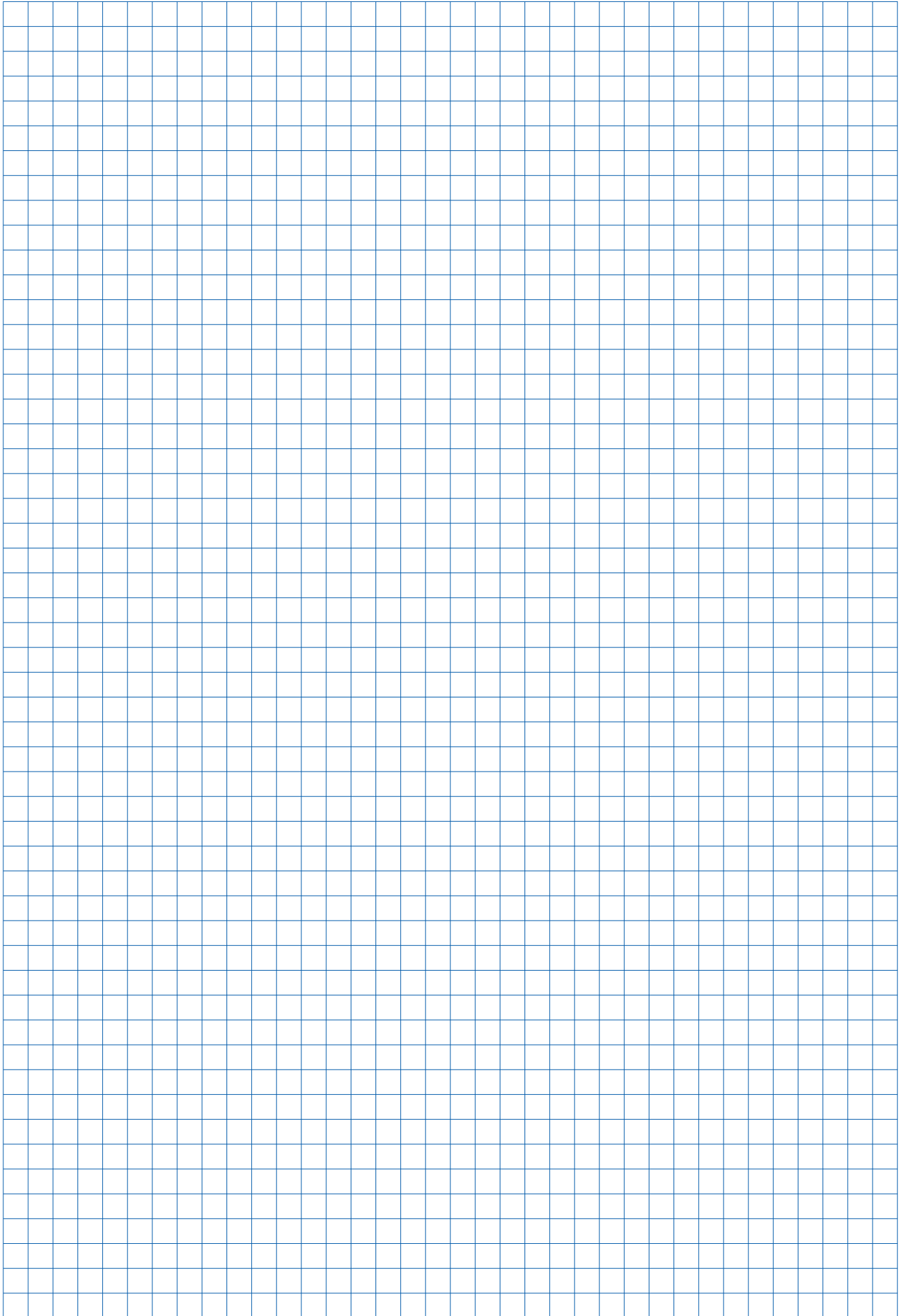
The formwork material needed for any particular project can be rented from Doka's high-performing rental park. Doka Reconditioning cleans and overhauls both client-owned equipment and Doka rental equipment.

High performance, in all stages of the project



upbeat construction digital services for higher productivity

From planning through to completion - with upbeat construction we'll be moving construction forward and upping the beat for more productive building with all our digital services. Our digital portfolio covers the entire construction process and is being extended all the time. To find out more about our specially developed solutions go to doka.com/upbeatconstruction.



Product description

Circular formwork H20 – the practical circular formwork for curved walls

Doka circular formwork H20 uses special spindles to curve the form-ply into a "genuine" arced shape.

This adjusting system permits **continuous setting of the radii**. Circular formwork H20 is designed for **radii of 3.50 m to 40 m** (in special cases, a radius of 2.50 m is possible).

The circular formwork elements are supplied to the site **ready-assembled**.

The use of proven basic components from the Doka Large-area formwork Top 50 makes this formwork system both robust and adaptable.

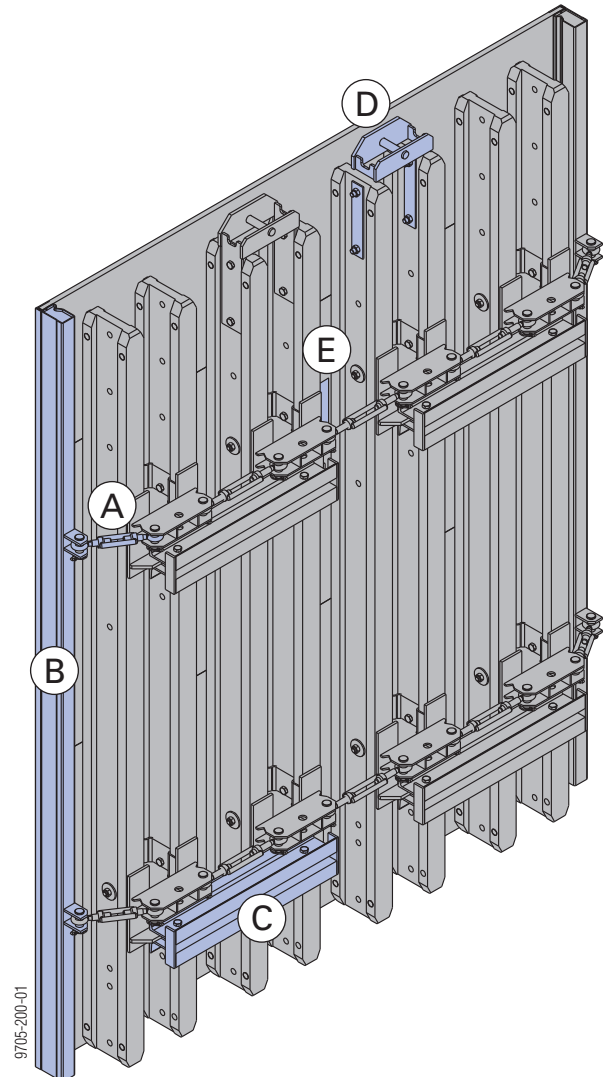
Special connecting profiles allow its components to be combined with Framax Xlife, Alu-Framax Xlife, Frameco and Column formwork RS.

Permitted fresh-concrete pressure: 60 kN/m²

Further product features:

- Continuous adaptation to different radii by means of spindles.
- Only 2 widths of element:
 - 2.40 m inside element
 - 2.50 m outside element
- Ideal height grid provided by the element heights of:
 - 0.70 m
 - 1.20 m
 - 2.40 m
 - 3.00 m
 - 3.60 m
 - 4.80 m
- Only one type of connector needed:
 - Adjustable clamp 10cm
- Heavy-duty, flexible form-ply:
 - Dokaplex 21mm
- Smooth, constant curvature ensured by uniform form-ply support.
- Extra-rigid connection between connecting profile and form-ply ensures perfect curvature in the edge zone of the elements as well.
- Low form-tie ratio:
 - only 1 form-tie per 1.5 m² area to be formed

System overview



A Special spindle:

For setting the element-bending radius.

B Connecting profile:

Connection piece to further circular formwork elements or to Framax Xlife or Alu-Framax Xlife framed formwork panels.

C Steel waling RD:

For distributing the form-tie forces.

D Lifting-bracket:

For lifting and resetting the element.

E Bending instructions:

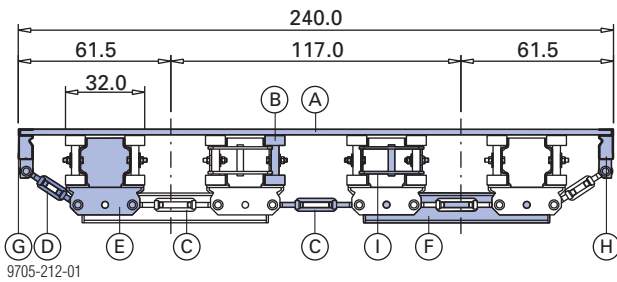
Information on how to adjust the Circular formwork element H20 correctly.

System grid

Panel widths

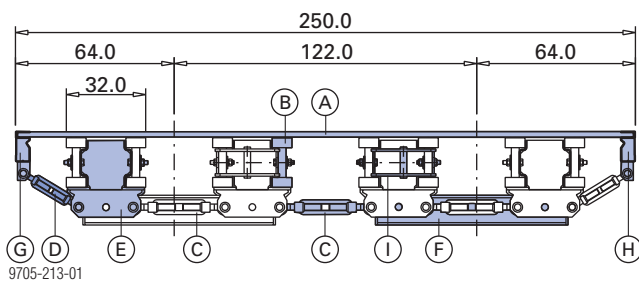
The 2.40m wide elements are used for the inside formwork, and the 2.50m wide ones for the outside formwork. This speeds up work by making it easy to see which element belongs where.

Circular formwork element H20 2.40m (for inside use)



- A** Dokaplex 21mm
- B** Doka beam H20
- C** Turnbuckle C
- D** Turnbuckle D
- E** Timber-beam seat 24cm
- F** Steel waling RD 0.75m
- G** Connecting profile (left)
- H** Connecting profile (right)
- I** Lifting-bracket

Circular formwork element H20 2.50m (for outside use)



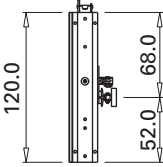
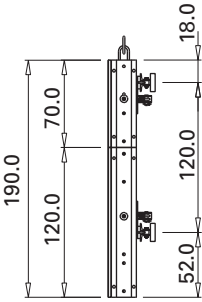
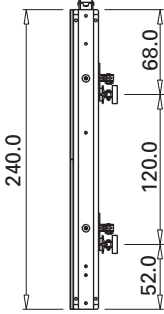
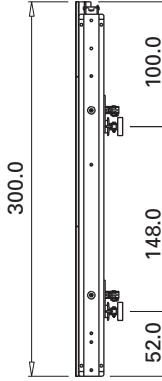
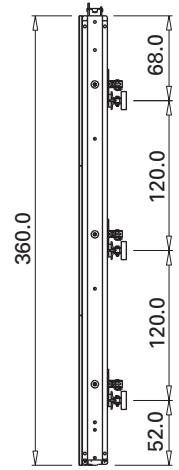
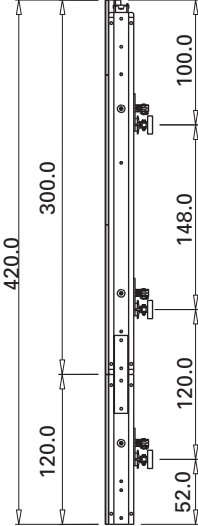
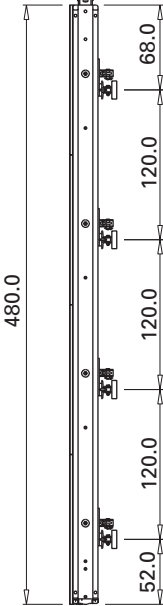
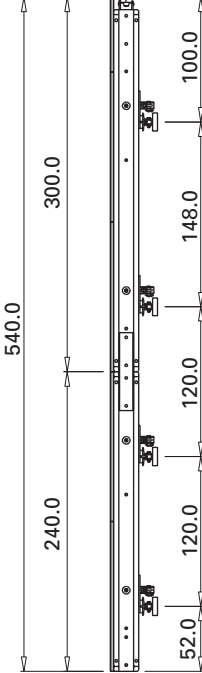
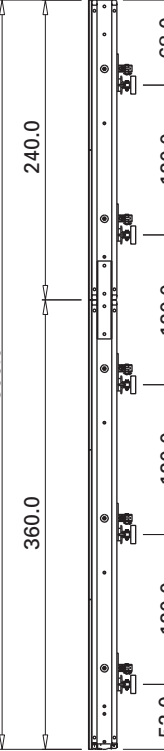
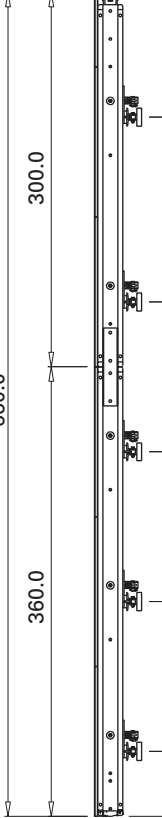
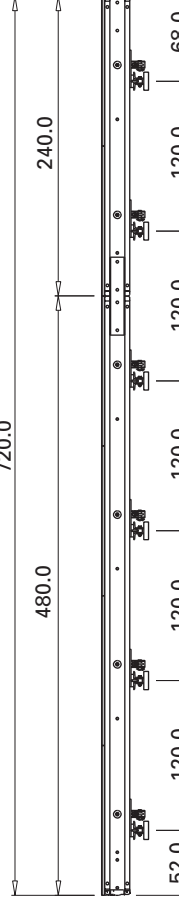
- A** Dokaplex 21mm
- B** Doka beam H20
- C** Turnbuckle A
- D** Turnbuckle C
- E** Timber-beam seat 24cm
- F** Steel waling RD 0.75m
- G** Connecting profile (left)
- H** Connecting profile (right)
- I** Lifting-bracket

Panel heights

0.70 m	1.20 m	2.40 m
3.00 m	3.60 m	4.80 m

Vertical stacking

Possible height gradations

	1.20 m	1.90 m 1.20 m + 0.70 m	2.40 m	3.00 m	3.60 m
					
4.20 m	4.80 m	5.40 m	6.00 m	6.60 m	7.20 m
1.20 m + 3.00 m	4.80 m or 3.60 m + 1.20 m	2.40 m + 3.00 m	3.60 m + 2.40 m	3.60 m + 3.00 m	4.80 m + 2.40 m or 3.60 m + 2.40 m + 1.20 m
					

Vertical stacking using Stacking plate for circular formwork H20



Perm. moment: 2.0 kNm

Rules for vertical stacking of panels

- Always position 0.70m high elements at the top.
- In stacking configurations, 3.00m high elements are only allowed to have other elements placed beneath them, never on top of them! In other words, these elements must always be on top.
- To prolong their service lives, the 3.60m and 4.80m high Circular formwork elements H20 are equipped with protective caps. For this reason, they can only be used at the bottom of a stack.

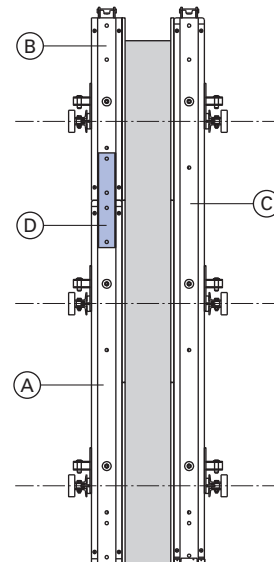
The ideal height-grid of the elements, and the systematic spacing of the form-ties, make it possible to arrange many different height-combinations opposite one another.

Note:

A 3.00 m high element may only be placed opposite another 3.00 m high element.

Dismount the **Lifting-bracket for Circular formwork H20** from the element joint before vertically stacking the elements.

Practical example



9705-209-01

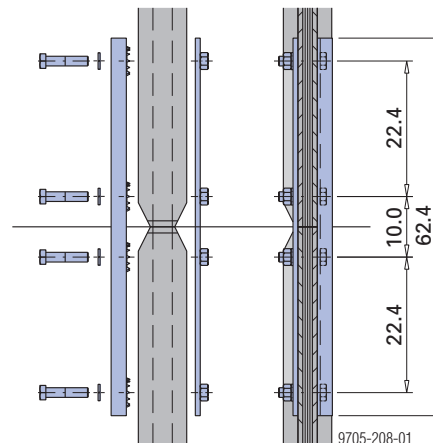
- A** Circular formwork element H20 2.40x2.40m
- B** Circular formwork element H20 2.40x1.20m
- C** Circular formwork element H20 2.50x3.60m
- D** Stacking plate for circular formwork H20

Mounting the stacking plate



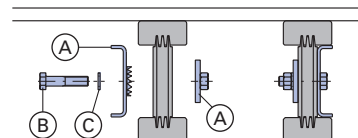
NOTICE

- Before vertically stacking elements, always turn their spindles to make them straight again.
- Attach one stacking plate for every beam-join.



9705-208-01

Plan view



The necessary nuts & bolts etc. are included with the stacking plate.

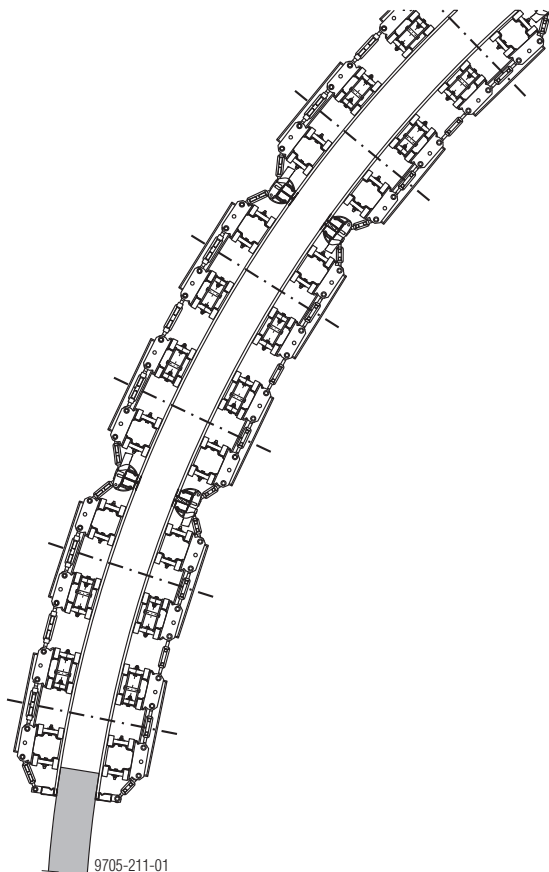
- A** Stacking plate
- B** Hexagon screw M16x70 (width-across 24 mm)
- C** Spring washer A16

Inter-panel connections

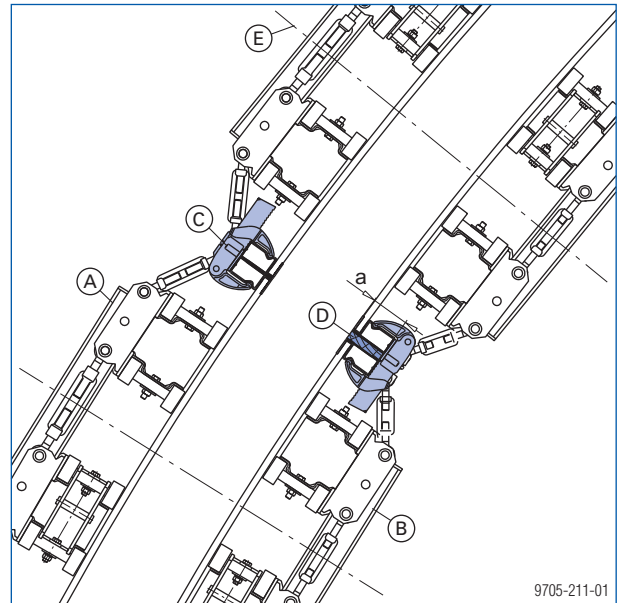
- As a rule, 2.50 m wide elements are used for the outside formwork.
- For the inside formwork, 2.40 m wide elements are used.
- The inter-element connections are made using **Adjustable clamps 10cm**. Attach at least 1 clamp for every metre that the element is high!
 - Do not oil or grease wedge-clamped joints.
- Place the inside and outside formworks opposite one another.
Bridge any closure gaps between the elements using fitting-timbers (a = 122 mm), e.g. Framax fitting-timbers 2.70m or 3.30m (see the section headed 'Determining the required widths of fitting-timber').
- Tie using a Tie-rod 15.0 and a Super-plate 15.0. Minimum length of the tie-rods:
Wall thickness + 1.00 m

Practical example

Inside radius of the structure: 10.00 m
Wall thickness: 0.30 m



Close-up



- A Outside formwork
- B Inside formwork
- C Adjustable clamp 10cm
- D Fitting-timber (a=122 mm)
- E Tie-rod 15.0 and Super-plate 15.0

Combining with Framed formwork Framax Xlife and Alu-Framax Xlife

The connecting profiles of the Circular formwork elements H20 permit Framax Xlife and Alu-Framax Xlife panels to be connected directly to the elements.

Stop-end formwork

There are 3 ways of making up stop ends (for wall thicknesses up to 60 cm):

- Adjustable clamp 10cm
- Framax stop-end tie
- Framax multi function clamp

Adjustable clamp 10cm:

Perm. tensile force: 10.0 kN

Framax stop-end tie:

Perm. tensile force: 15.0 kN

Framax multi function clamp:

Perm. tensile force: 15.0 kN

Number of connectors required

Wall thickness	Number of connectors	
	Adjustable clamp 10cm	Framax stop-end tie / Framax multi function clamp
25 cm	0.75 pcs./m	0.5 pcs./m
34 cm	1 pcs./m	0.68 pcs./m
40 cm	1.2 pcs./m	0.8 pcs./m
50 cm	1.5 pcs./m	1 pcs./m
60 cm	1.8 pcs./m	1.2 pcs./m

Example:

- Wall thickness: 40 cm
- Panel height: 2.40 m
- Adjustable clamp 10cm

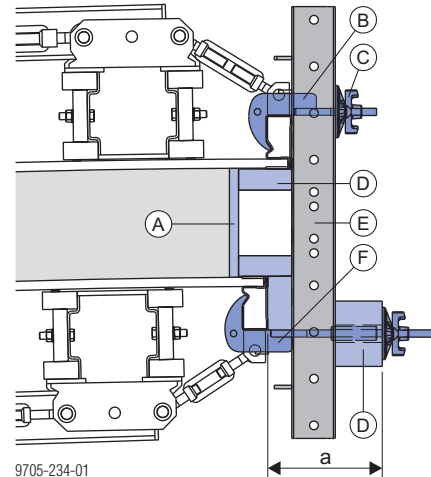
Number of connectors: 6 pcs./stop end



NOTICE

- Permissible load of stop end: max. 18.0 kN/m at the profiles of the circular formwork elements.
- If wall thickness is greater than 60 cm provide additional support for the stop end (e.g. with supporting construction frames).

Example: Stop end with Framax stop-end tie



a ... min. 250 mm

- A** Formwork sheet
- B** Framax stop-end tie
- C** Super plate 15.0
- D** Spacer
- E** Multi-purpose waling WS10 Top50
- F** Framax stop-end tie (with extension)

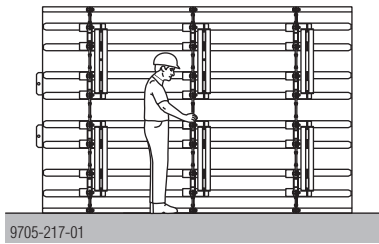
Bending instructions

As-delivered condition: Element = straight

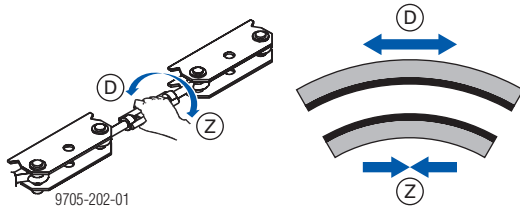
Note:

Smallest bending radius: 3.50 m

- ▶ Put up the circular formwork element and secure it so that it cannot topple over.
- ▶ Place tall elements on their sides, as shown in the illustration, so that the spindle-levels are in the vertical. In this way, all the spindles are within easy reach.



- ▶ Uniformly pre-tension all the spindles by hand.



D Outside element pushed apart

Z Inside element pulled together



There is an indicator on the spindles to show you which way to turn them (**(Z)** for pulling together, **(D)** for pushing apart).

- ▶ Prepare the template.

9705-001



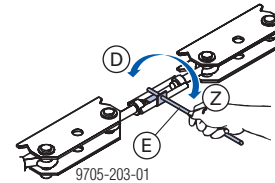
The formwork is easier to set up if there is an in-line connection to an existing wall.

Adjusting



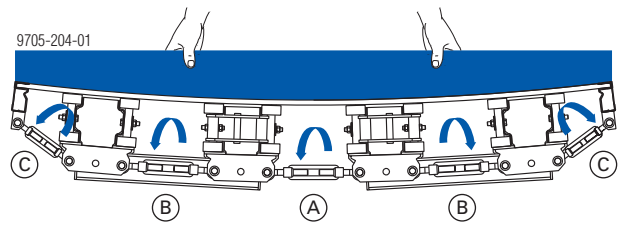
NOTICE

- ▶ Only adjust the element by means of the template.
 - ▶ Make sure that you turn each spindle exactly as much as the ones above and below it.
 - ▶ Check the radius with the template before every pour.
- ▶ Adjust the spindles using the Wrench for Circular formwork H20 **(E)**.



D Outside element pushed apart

Z Inside element pulled together



N° of turns of the spindle

	(C)	(B)	(A)	(B)	(C)
1	—	—	1 1/2	—	—
2	—	1 1/2	—	1 1/2	—
3	1/2	—	—	—	1/2

- ▶ Repeat this procedure until the form-ply sits closely and evenly against the template. To return the elements to the "straight" position, simply repeat the spindling procedure in reverse.



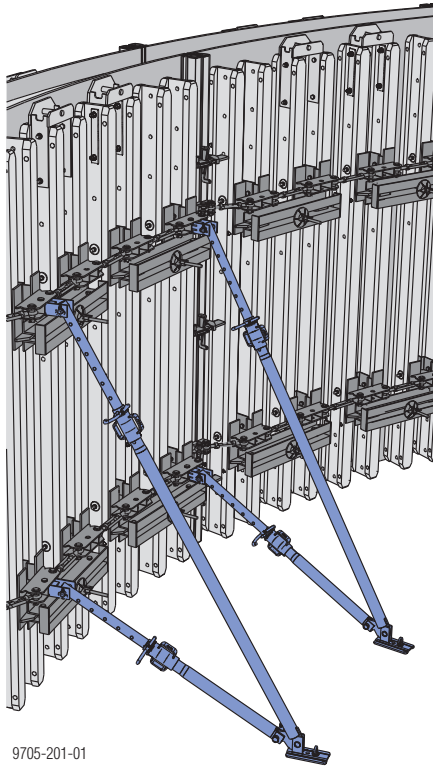
If spindling has gone badly wrong:

- ▶ Straighten out the element and start all over again!
- ▶ Once you have adjusted the circular formwork elements to the desired radius, set them up next to one another in the same way as straight elements, link them with Adjustable clamps 10cm, and then place the form-ties.

Storage

- ▶ Straighten out the elements again before storing them for any length of time.

Plumbing accessories



Plumbing accessories brace the formwork against wind loads and make it easier to plumb and align.



NOTICE

The formwork panels must be held stable in **every** phase of the construction work!
Please observe all applicable safety regulations!



For more information (wind loads etc.) see the section headed 'Vertical and horizontal loads' in the Calculation Guide 'Doka formwork engineering'.

Permitted spacings [m] of the plumbing accessories:

Formwork height [m]	Panel strut		Eurex 60 550
	340	540	
3,00	2,50		
3,60	2,50		
4,20		2,50	
4,80		2,50	
5,40		2,50	
6,00		2,50	
6,60		1,25	
7,20		2,50	2,50
7,80		2,50	2,50

The values apply where the wind pressure $w_e = 0.65 \text{ kN/m}^2$. This results in a dynamic pressure $q_p = 0.5 \text{ kN/m}^2$ (102 km/h) where $c_{p, \text{net}} = 1.3$. 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 ask your Doka technician!

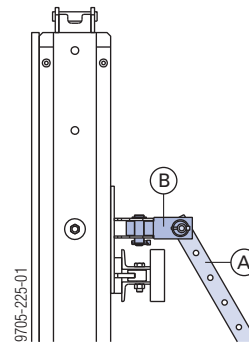
Note:

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

Example: For a formwork height of 7.20 m, the following items are required for each element:

- 1 Panel strut 540
- 1 Eurex 60 550

Fixing the struts to the formwork



A Panel strut 340 IB or 540 IB

B Prop head RD EB

Fixing to the ground

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

Drilled holes in footplate

Panel struts	Eurex 60 550
<p>9727-343-01</p>	<p>9745-214-01</p>

a ... diam. 26 mm

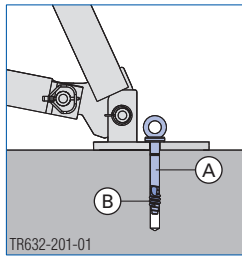
b ... diam. 18 mm (suitable for Doka express anchors)

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.



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 foot-plates:

$R_d \geq 20.3 \text{ kN}$ ($F_{\text{permissible}} \geq 13.5 \text{ kN}$)

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 strut 340	Panel strut 540
<p>a ... 190.8 - 341.8 cm b ... 119.4 - 178.8 cm</p>	<p>a ... 310.5 - 549.2 cm b ... 224.1 - 274.9 cm</p>

α ... approx. 60°

A Panel strut 340 IB or 540 IB

B Prop head RD EB

Eurex 60 550 used as a shoring & plumbing accessory

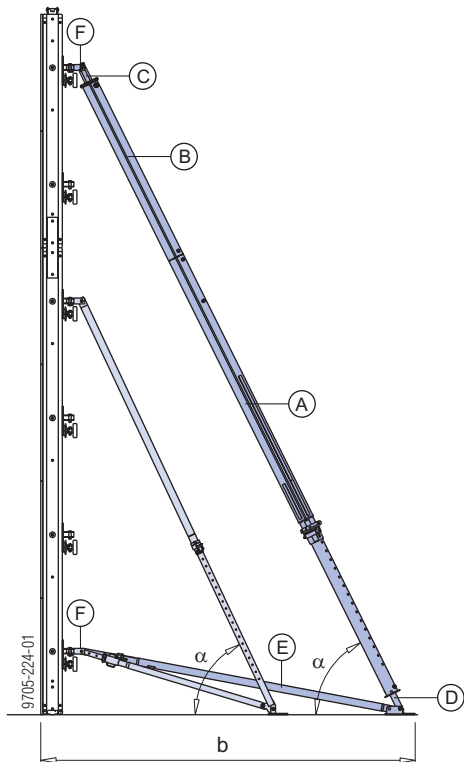
Product features:

- For shoring high wall 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
- Continuous fine adjustment by screw-thread



Follow the directions in the "Eurex 60 550" User Information!

Type	Length extended L [m]	Plumbing strut Eurex 60 550 (A)	Extension Eurex 60 2.00m (B)	Connector Eurex 60 IB (C)	Plumbing strut shoe Eurex 60 EB (D)	Adjusting strut 540 Eurex 60 IB (E)	Prop head RD EB (F)	Weight [kg]
1	3,79 - 5,89	1	---	1	1	1	2	88,7
2	5,79 - 7,89	1	1	1	1	1	2	106,7



b ... min. 360.8 cm - max. 602.1 cm

α ... approx. 60°

A Plumbing strut Eurex 60 550

B Extension Eurex 60 2.00m

C Connector Eurex 60 IB

D Plumbing strut shoe Eurex 60 EB

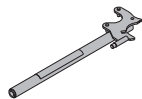
E Adjusting strut 540 Eurex 60 IB

F Prop head RD EB



Universal dismantling tool

The easy way to turn the spindle nuts.



A good 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 element to be shored.

Pouring platforms with single brackets

Doka brackets can be used to make pouring platforms that can easily be assembled by hand.

Preconditions for use:

Only fix the pouring platform onto formwork constructions that are sufficiently stable to transfer the expected loads.

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

Ensure that the formwork gang has sufficient stiffness.

Observe all applicable safety regulations.

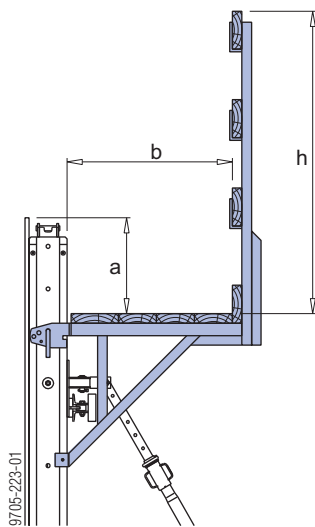


NOTICE

The brackets must be secured against accidental lift-out

Universal bracket 90

"Use-anywhere" brackets for making working platforms.



a ... 28.4 cm (50.5 cm in the case of 3.00m high elements)
b ... 87 cm
h ... 160 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



CAUTION

➤ In the case of **H20 N and P** Doka beams where the first drilled hole is 5 cm from the end of the beam, it is not allowed to fix the bracket in the top hole in the beam!

Deck and guardrail boards

Board thicknesses for support centres of up to 2.50 m:

- Deck-boards min. 20x5 cm
- Guard-rail boards min. 15x3 cm

Deck and guardrail boards: Per 1 metre length of platform, 0.9 m² of floor decking and 0.8 m² of guard-rail boards are needed (in-situ).

Fastening the floor decking: with 5 square bolts M 10x70 and 1 square bolt M10x160 per bracket (included with product).

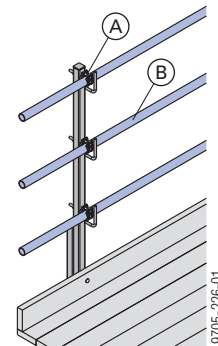
Fastening the guard-rail boards: Use nails

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.

Using scaffolding tubes



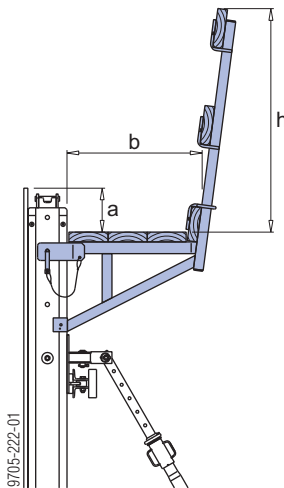
Tools: Fork spanner 22 for mounting the couplers and scaffolding tubes.

A Screw-on couplers 48mm 95

B Scaffolding tube 48.3mm

Top scaffold bracket L

Lightweight bracket for making working platforms.



a ... 76 cm (22.5 cm in the case of 3.00m high elements)
b ... 62 cm
h ... 115 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



CAUTION

► In the case of **H20 N and P** Doka beams where the first drilled hole is 5 cm from the end of the beam, it is not allowed to fix the bracket in the top hole in the beam!

Deck and guardrail boards

Board thicknesses for support centres of up to 2.50 m:

- Deck-boards min. 20x5 cm
- Guard-rail boards min. 15x3 cm

Deck and guardrail boards: Per 1 metre length of platform, 0.65 m² of floor decking and 0.6 m² of guard-rail boards are needed (in-situ).

Fastening the floor decking: with 3 square bolts M 10x120 per bracket (not included with product).

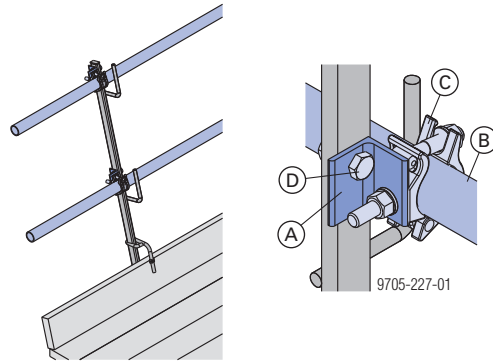
Fastening the guard-rail boards: Use nails

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.

Using scaffolding tubes



Tools: Fork spanner 22 for mounting the couplers and scaffolding tubes.

A Scaffold tube connector

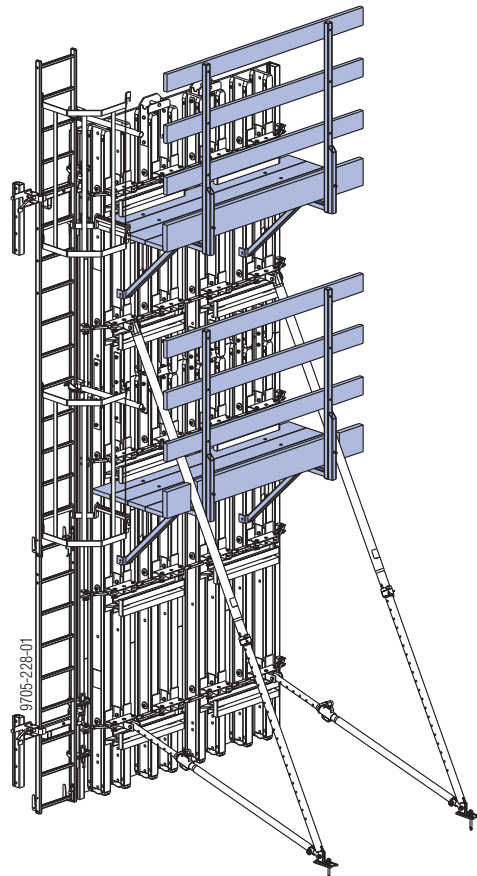
B Scaffolding tube 48.3mm

C Screw-on couplers 48mm 50

D Hexagon screw M14x40 + hexagon nut M14 (not included with product)

Intermediate platforms

Because there are holes drilled in the beams beneath every spindle level, it is possible to erect several platform levels on the Circular formwork element H20, from an element height of 1.20 m upwards.



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:

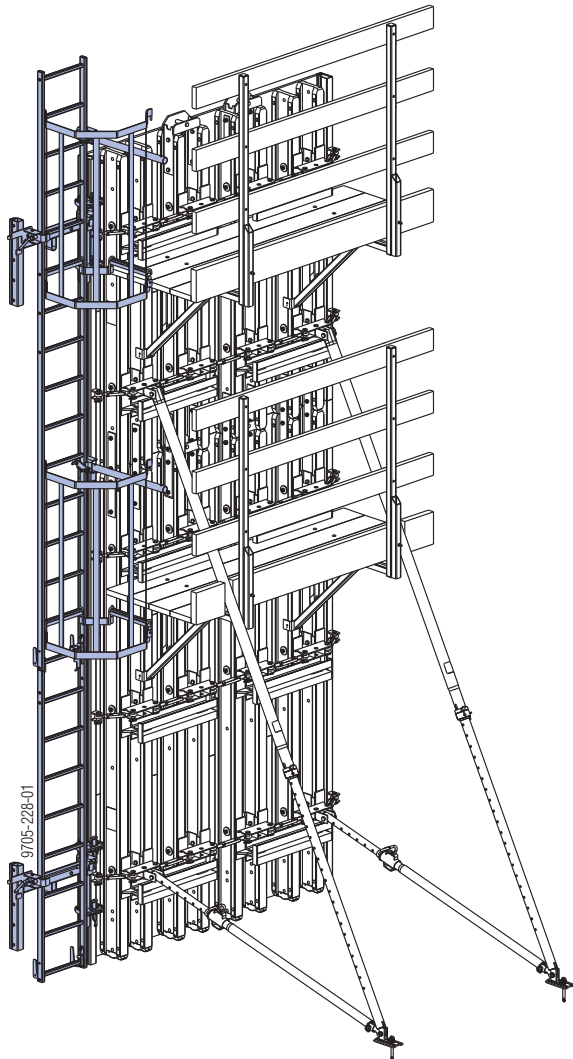
The Ladder system XS must be implemented in such a way that all national regulations are complied with.

On formworks of up to 3.00 m in height, no Ladder system XS is possible.



WARNING

- The Ladders XS may only be used as part of the XS system, and must NOT be used separately (as "lean-to" ladders).



Assembly

Preparing the formwork

- Pre-assemble gang-forms face-down on an assembly bench.
- With the gang-form still flat, mount platforms and panel struts to it.

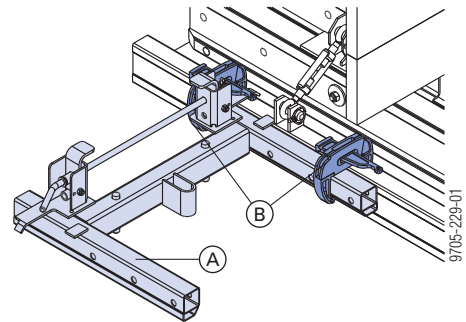
Attaching connectors to the formwork

- Place the Connector XS Wall formwork against the frame profile near the top of the formwork.



NOTICE

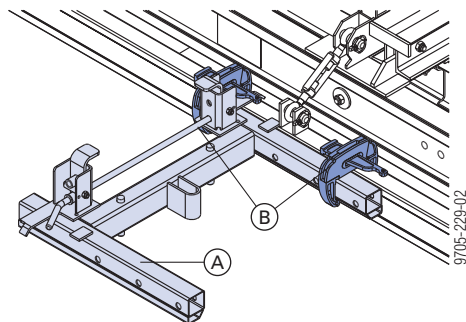
- Do not oil or grease wedge-clamped joints.
- Fasten the Connector XS Wall formwork to the frame profile using two Quick acting clamps RU.



A Connector XS wall formwork

B 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.



A Connector XS wall formwork

B Quick acting clamps RU

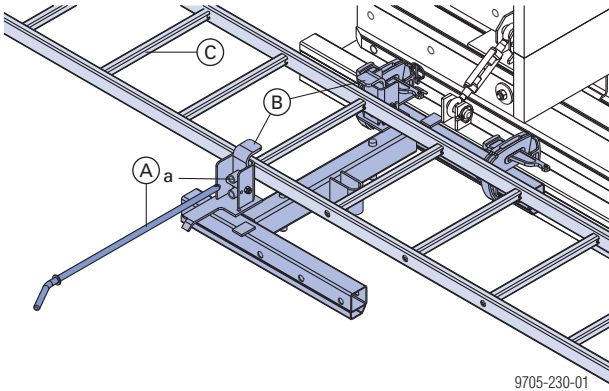
- For formwork heights above 5.85 m, an extra Connector XS Wall formwork must be attached in the same way near the middle of the formwork (i.e. approx. half-way up).

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.

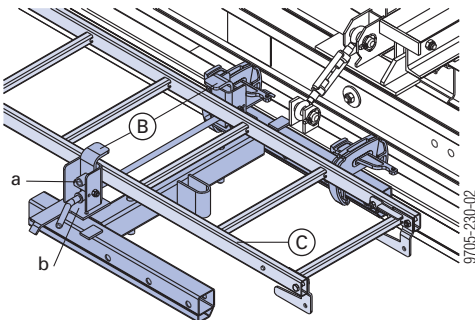


- in the front position (a)

- A** Push-in bolt
- B** Safety hooks
- C** System ladder XS 4.40m

to the bottom "Connector XS Wall formwork"

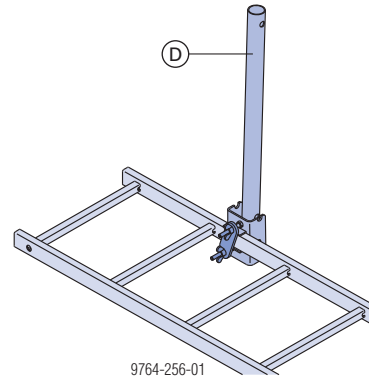
- Pull out the push-in bolt, pivot both safety hooks out of the way, and place the ladder onto the Connector XS.
- Close the safety hooks, re-insert the push-in bolt and secure it with a linch pin.



- 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

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



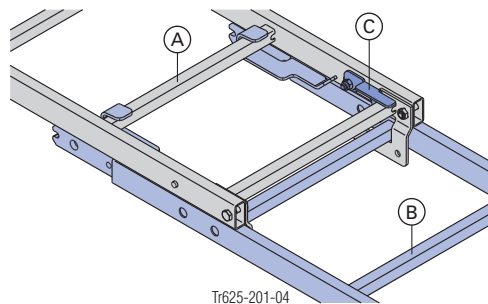
D Securing barrier XS

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

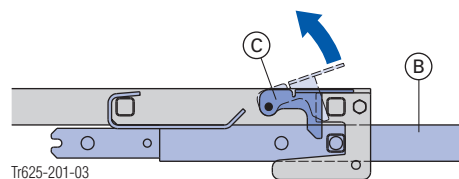
Ladder system XS for heights above 3.75 m

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

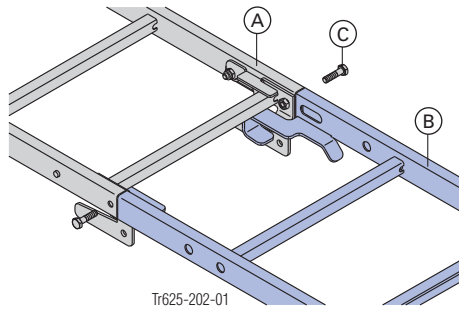


- A** System ladder XS 4.40m
- B** Ladder extension XS 2.30m
- C** Safety latch

A telescoping joint 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!**



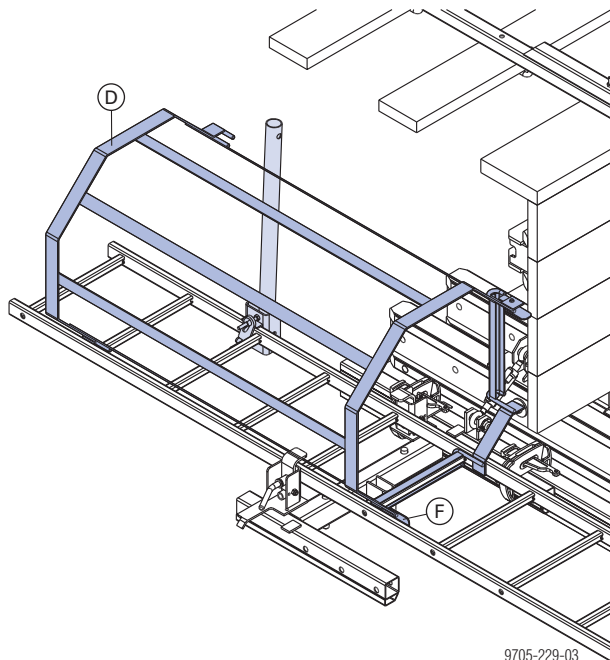
Screws (C) are included in the scope of supply of the System ladder XS 4.40m and the Ladder extension XS 2.30m.

- 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.

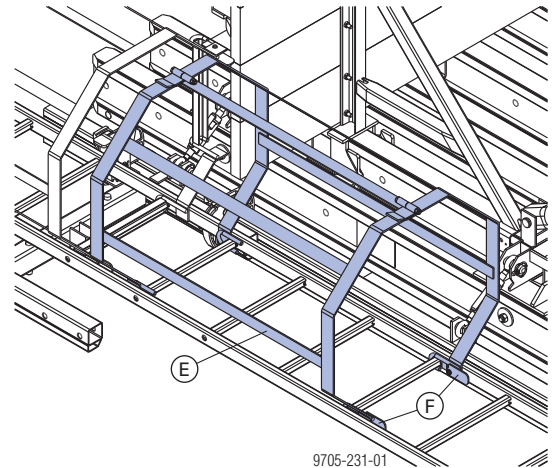
**NOTICE**

- ▶ 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.



- D** Ladder cage exit XS
- F** Safety latch

- ▶ Attach the Ladder cage XS to the next available rung. Attach further ladder cages, in each case to the next available rung.



- E** Ladder cage XS
- F** Safety latches (lift-out guard)

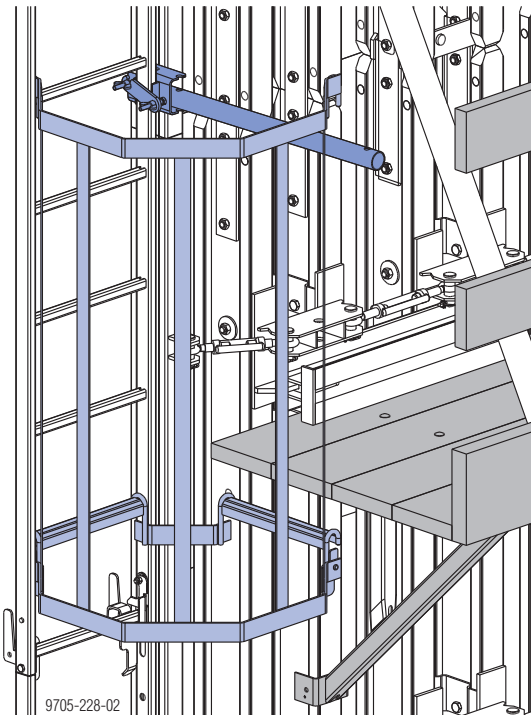
Items needed

Connectors + ladder	Formwork height		
	3.00-3.60 m	>3.60-6.00 m	>6.00-7.20 m
Connector XS wall formwork	2	2	3
System ladder XS 4.40m	1	1	1
Ladder extension XS 2.30m	0	1	2
Framax quick-acting clamp RU	4	4	6

Ladder cage	Formwork height				
	3.00-3.15 m	>3.15-4.05 m	>4.05-5.40 m	>5.40-6.60 m	>6.60-7.20 m
Ladder cage exit XS ¹⁾	1	1	1	1	1
Securing barrier XS ¹⁾	1	1	1	1	1
Ladder cage XS 1.00m ¹⁾	0	1	2	3	4

¹⁾ No allowance made here for intermediate exits.

Exit onto an intermediate platform

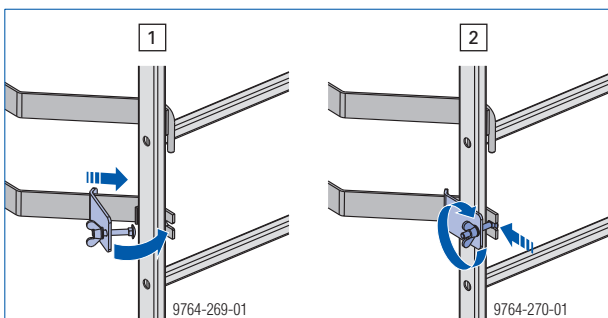


Basic rule:

- 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.

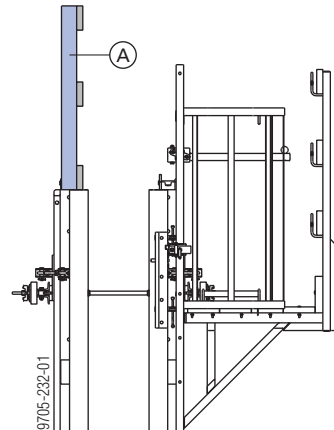
Mounting the Ladder cage XS 0.25m

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



Opposing guard-rail

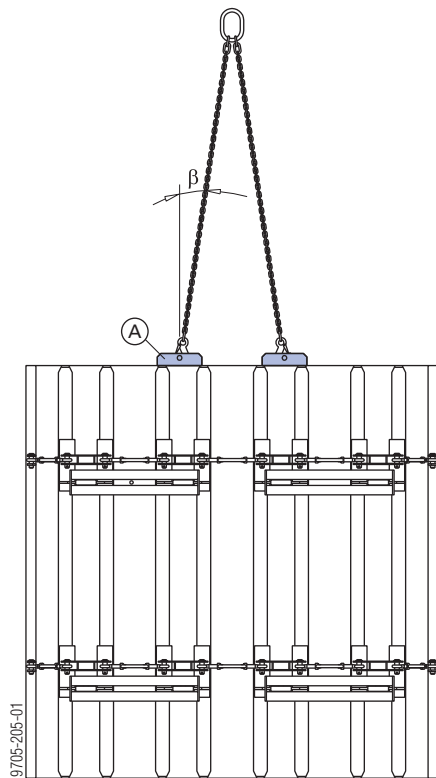
If there are work platforms mounted on one side of the formwork only, then a fall-protection barrier must be mounted to the opposing formwork.



A Opposing guard-rail (provided at site)

Repositioning

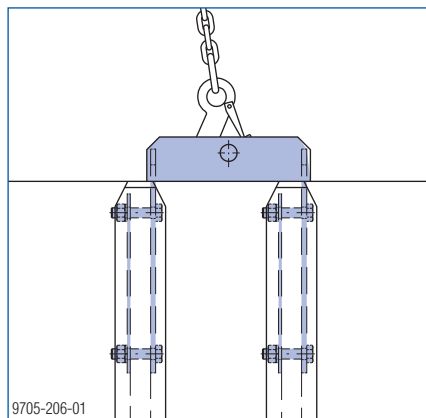
The slinging chains are hooked into the ready-mounted lifting-brackets of the Circular formwork element H20.



β ... max. 15°

A Lifting-bracket for Circular formwork H20

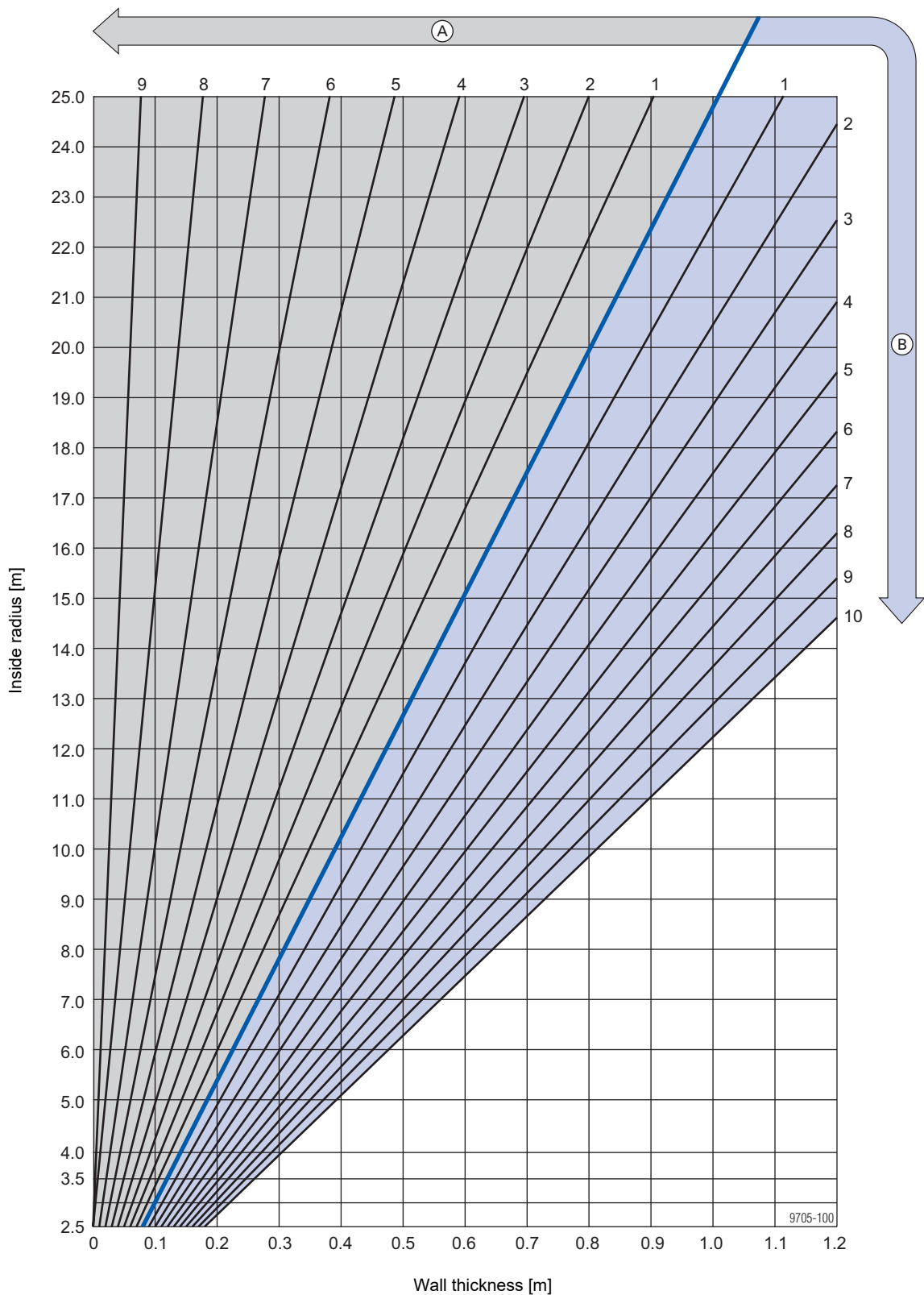
Close-up of lifting-bracket:



Max. load per lifting-bracket: 1000 kg

Determining the required widths of fitting-timber

Closure diagram



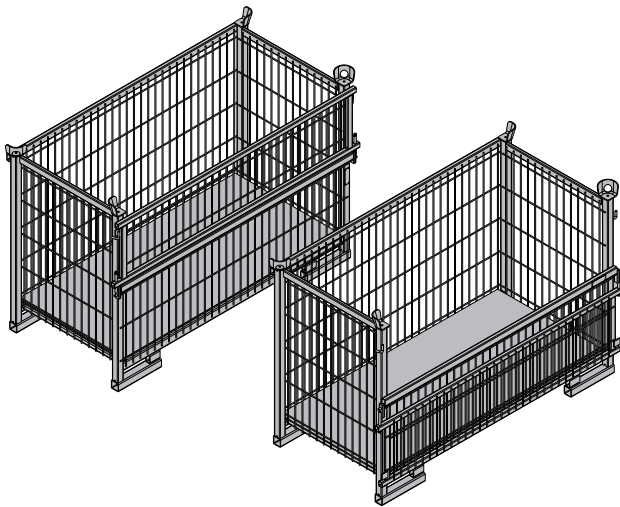
Transporting, stacking and storing

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 device for small items



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

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

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

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	5
It is not allowed to stack empty pallets on top of one another!	



NOTICE

Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

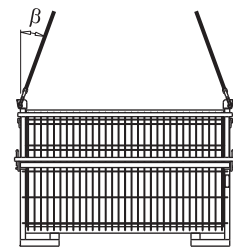
Using Doka skeleton transport boxes 1.70x0.80m as transport devices

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 β max. 30°!



9234-203-01

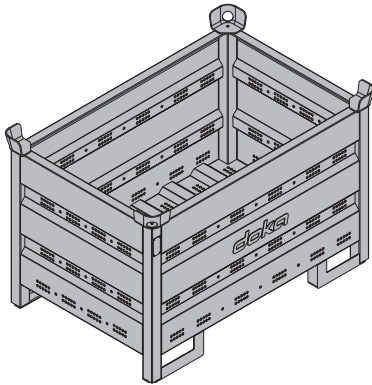
Repositioning by forklift truck or pallet stacking truck

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

Doka multi-trip transport box

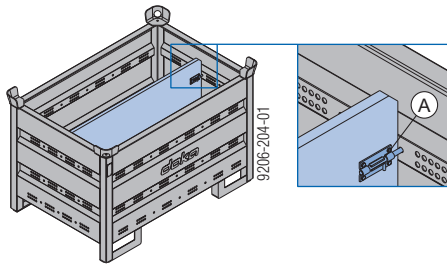
Storage and transport device for small items

Doka multi-trip transport box 1.20x0.80m



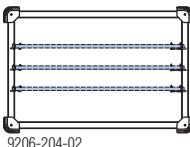
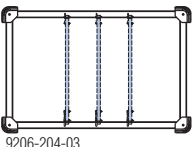
Max. carrying capacity: 1500 kg (3300 lbs)
Permitted imposed load: 7850 kg (17300 lbs)

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

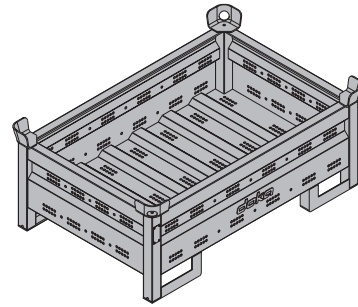


A Slide-bolt for fixing the partition

Possible ways of dividing the box

Multi-trip transport box partition	in the longitudinal direction	in the transverse direction
1.20m	max. 3 partitions	-
0.80m	-	max. 3 partitions
		

Doka multi-trip transport box 1.20x0.80mx0.41m



Max. carrying capacity: 750 kg (1650 lbs)
Permitted imposed load: 7200 kg (15870 lbs)

Using Doka multi-trip transport boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site)		Indoors	
Floor gradients up to 3%		Floor gradients up to 1%	
Doka multi-trip transport box 1.20x0.80m	Doka multi-trip transport box 1.20x0.80x0.41m	Doka multi-trip transport box 1.20x0.80m	Doka multi-trip transport box 1.20x0.80x0.41m
3	5	6	10
It is not allowed to stack empty pallets on top of one another!			



NOTICE

Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.

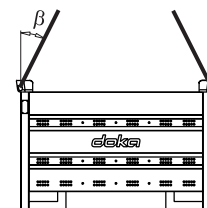
Using Doka multi-trip transport boxes as transport devices

Lifting by crane



NOTICE

- Multi-trip packaging items must be lifted individually.
- Use a suitable crane lifting tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!



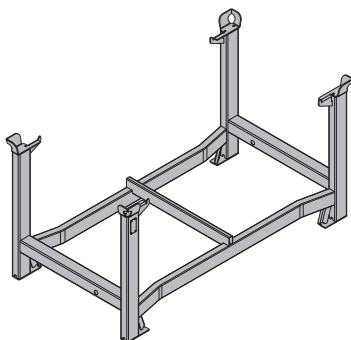
9206-202-01

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.



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

Using Doka stacking pallets as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
2	6
It is not allowed to stack empty pallets on top of one another!	



NOTICE

- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- How to use with Bolt-on castor set B:**
 - 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.

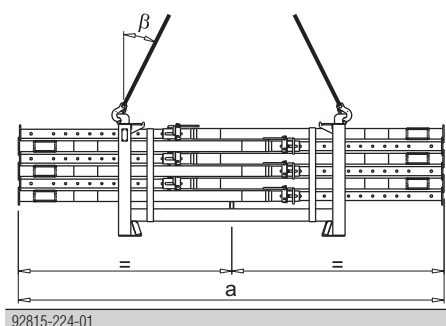
Using Doka stacking pallets as transport devices

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 centrally.
- Fasten the load to the stacking pallet so that it cannot slide or tip out.
- Spread angle β max. 30°!



92815-224-01

	a
Doka stacking pallet 1.55x0.85m	max. 4.5 m
Doka stacking pallet 1.20x0.80m	max. 3.0 m

Repositioning by forklift truck or pallet stacking truck

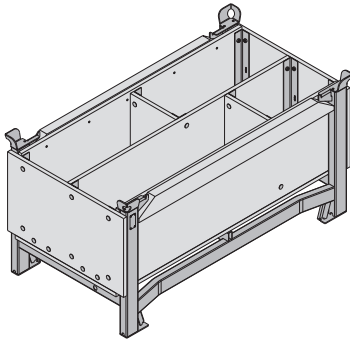


NOTICE

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

Doka accessory box

Storage and transport device for small items



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

Doka accessory boxes as storage units

Max. n° of units on top of one another

Outdoors (on the site) Floor gradients up to 3%	Indoors Floor gradients up to 1%
3	6
It is not allowed to stack empty pallets on top of one another!	



NOTICE

- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- How to use with Bolt-on castor set B:**
 - 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.

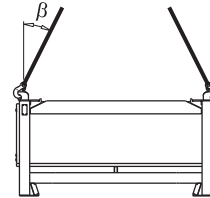
Doka accessory box as transport devices

Lifting by crane



NOTICE

- Multi-trip packaging items must be lifted individually.
- Use a suitable crane lifting tackle (e.g. Doka 4-part chain 3.20m). Do not exceed the permitted load-bearing capacity.
- Spread angle β max. 30°!



92816-206-01

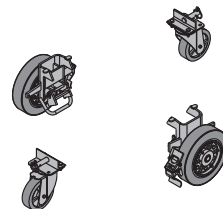
Repositioning by forklift truck or pallet stacking truck

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

Bolt-on castor set B

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

Suitable for drive-through access openings > 90 cm.

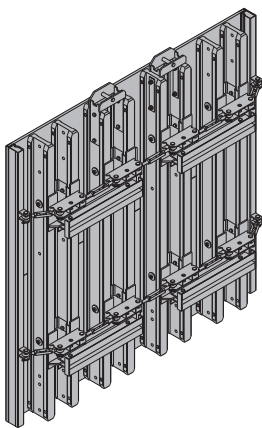
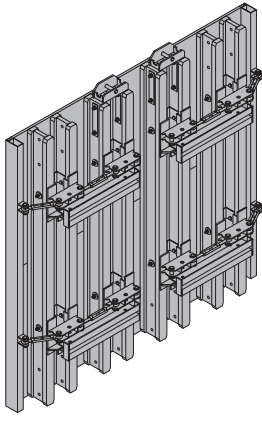

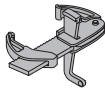
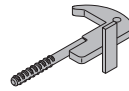
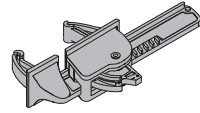
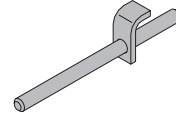
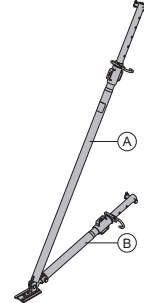
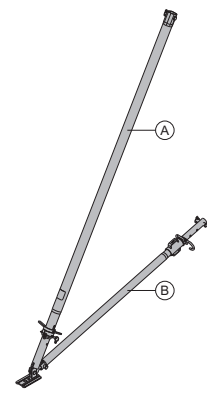


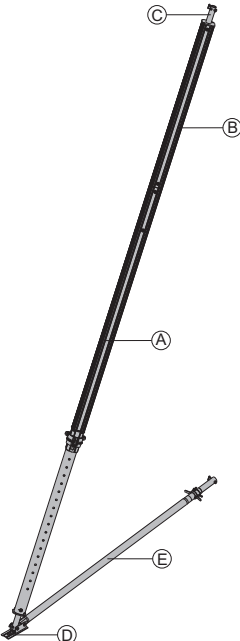

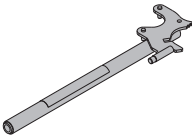


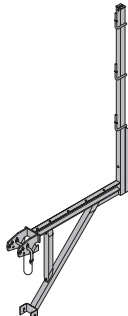
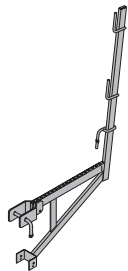
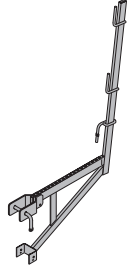
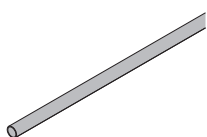


The Bolt-on caster set B can be mounted to the following multi-trip packaging items:

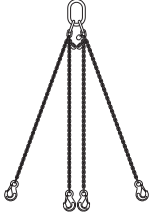
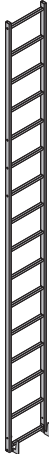

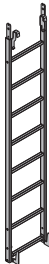
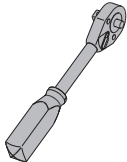
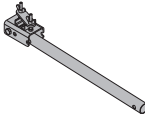

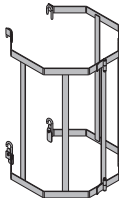
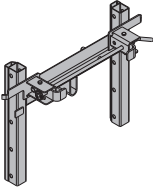
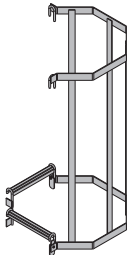
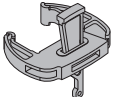
- Doka accessory box
- Doka stacking pallets

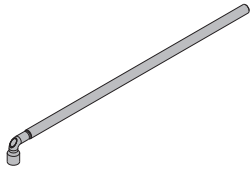


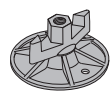

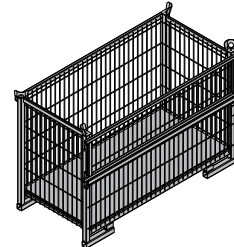
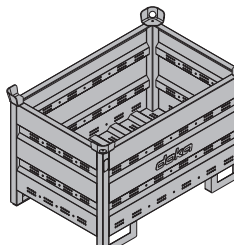
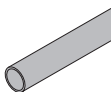
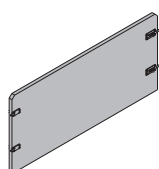
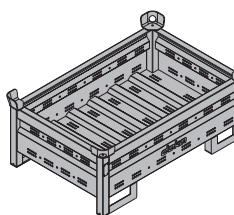

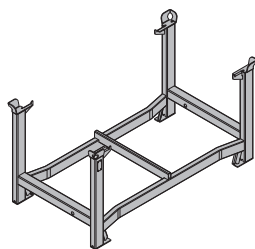

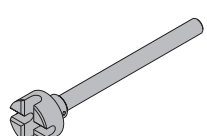
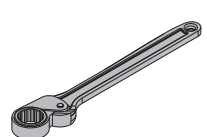


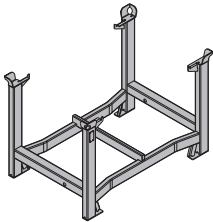
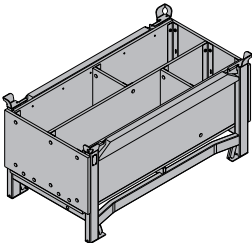
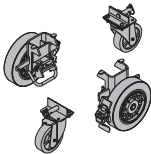
Follow the directions in the 'Bolt-on castor set B' Operating Instructions!

	[kg]	Article N°		[kg]	Article N°
Circular formwork element H20 2.40x0.70m Circular formwork element H20 2.40x1.20m Circular formwork element H20 2.40x2.40m Circular formwork element H20 2.40x3.00m Circular formwork element H20 2.40x3.60m Circular formwork element H20 2.40x4.80m Rundschalungselement H20 2,40m	195.0 244.0 472.0 523.0 699.0 934.0	587820000 587821000 587822000 587813000 587823000 587824000			
Circular formwork element H20 2.50x0.70m Circular formwork element H20 2.50x1.20m Circular formwork element H20 2.50x2.40m Circular formwork element H20 2.50x3.00m Circular formwork element H20 2.50x3.60m Circular formwork element H20 2.50x4.80m Rundschalungselement H20 2,50m	197.0 249.0 480.0 534.0 716.0 942.0	587825000 587826000 587827000 587814000 587828000 587829000			
Stacking plate for circular formwork H20 Aufstocklasche für Rundschalung H20	7.0	587830000	 <p>Galvanised Height: 62 cm</p>		
Adjustable clamp 10cm Ausgleichsspanner 10cm	3.7	587808000	 <p>Galvanised Length: 30 cm</p>		
Framax stop-end tie Framax-Stirnanker	1.5	588143000	 <p>Galvanised Length: 29 cm</p>		
Framax multi function clamp Framax-Uni-Spanner	5.8	588169000	 <p>Galvanised Length: 40 cm</p>		
Wrench for circular formwork H20 Schlüssel für Rundschalung H20	0.70	587807000	 <p>Galvanised Length: 27 cm</p>		
Template f. circular formw. H20mm Schablone für Rundschalung H20mm	6.5	177020000	<p>Weight per m² Project-specific!</p>		
Panel strut 340 IB Elementstütze 340 IB consisting of:	24.3	580365000			
(A) Plumbing strut 340 IB Galvanised Length: 190.8 - 341.8 cm	16.7	588696000			
(B) Adjusting strut 120 IB Galvanised Length: 81.5 - 130.6 cm	7.6	588248500	 <p>Galvanised Delivery condition: folded closed</p>		
Panel strut 540 IB Elementstütze 540 IB consisting of:	41.4	580366000			
(A) Plumbing strut 540 IB Galvanised Length: 310.5 - 549.2 cm	30.7	588697000			
(B) Adjusting strut 220 IB Galvanised Length: 172.5 - 221.1 cm	10.9	588251500	 <p>Galvanised Delivery condition: folded closed</p>		

	[kg]	Article N°		[kg]	Article N°
Eurex 60 550 Eurex 60 550 depending on length, comprising: (A) Plumbing strut Eurex 60 550 Powder-coated blue Aluminium Length: 343 - 553 cm (B) Extension Eurex 60 2.00m Powder-coated blue Aluminium Length: 250 cm (C) Connector Eurex 60 IB Galvanised Length: 15 cm Width: 15 cm Height: 30 cm (D) Plumbing strut shoe Eurex 60 EB Galvanised Length: 31 cm Width: 12 cm Height: 33 cm (E) Adjusting strut 540 Eurex 60 IB Galvanised Length: 303.5 - 542.2 cm					
					
Delivery condition: separate parts					
Prop head RD EB Stützenkopf RD EB	1.9	587806000		Galvanised Length: 19 cm Width: 8 cm	
Universal dismantling tool Universal-Lösewerkzeug	3.7	582768000		Galvanised Length: 75.5 cm	
Doka express anchor 16x125mm Doka-Expressanker 16x125mm	0.31	588631000		Galvanised Length: 18 cm Follow the directions in the "Fitting instructions"!	
Doka coil 16mm Doka-Coil 16mm	0.009	588633000		Galvanised Diameter: 1.6 cm	
Universal bracket 90 Universal-Konsole 90	30.4	580476000		Galvanised Length: 121 cm Height: 235 cm	
Top scaffold bracket L Betonierkonsole L	12.6	587153500		Galvanised Length: 101 cm Height: 159 cm	
Top scaffold bracket L painted Betonierkonsole L lackiert	12.0	587153000		Painted blue Length: 101 cm Height: 159 cm	
Scaffold tube 48.3mm 0.50m	1.7	682026000			
Scaffold tube 48.3mm 1.00m	3.6	682014000			
Scaffold tube 48.3mm 1.50m	5.4	682015000			
Scaffold tube 48.3mm 2.00m	7.2	682016000			
Scaffold tube 48.3mm 2.50m	9.0	682017000			
Scaffold tube 48.3mm 3.00m	10.8	682018000			
Scaffold tube 48.3mm 3.50m	12.6	682019000			
Scaffold tube 48.3mm 4.00m	14.4	682021000			
Scaffold tube 48.3mm 4.50m	16.2	682022000			
Scaffold tube 48.3mm 5.00m	18.0	682023000			
Scaffold tube 48.3mm 5.50m	19.8	682024000			
Scaffold tube 48.3mm 6.00m	21.6	682025000			
Scaffold tube 48.3mmm	3.6	682001000			
Gerüstrohr 48,3mm				Galvanised	
Scaffold tube connection Gerüstrohranschluss	0.27	584375000		Galvanised Height: 7 cm	
Screw-on coupler 48mm 50 Anschraubkupplung 48mm 50	0.84	682002000		Galvanised Width-across: 22 mm Follow the directions in the "Fitting instructions"!	

	[kg]	Article N°		[kg]	Article N°
Doka 4-part chain 3.20m Doka-Vierstrangkette 3,20m  <p>Follow the directions in the "Operating Instructions"!</p>	15.0	588620000	System ladder XS 4.40m System-Leiter XS 4,40m  <p>Galvanised</p>	33.2	588640000
Framax fitting timber 2x12cm 2.70m Framax fitting timber 3x12cm 2.70m Framax fitting timber 5x12cm 2.70m Framax fitting timber 10x12cm 2.70m Framax-Passholz 2,70m  <p>Varnished yellow</p>	3.1 4.7 7.8 15.5	176020000 176022000 176024000 176026000	Ladder extension XS 2.30m Leiternverlängerung XS 2,30m  <p>Galvanised</p>	19.1	588641000
Reversible ratchet 1/2" Umschaltknarre 1/2"  <p>Galvanised Length: 30 cm</p>	0.73	580580000	Securing barrier XS Sicherungsschranke XS  <p>Galvanised Length: 80 cm</p>	4.9	588669000
Box nut 24 1/2" Stecknuss 24 1/2" 	0.12	580584000	Ladder cage XS 1.00m Ladder cage XS 0.25m Rückenschutz XS  <p>Galvanised</p>	16.5 10.5	588643000 588670000
Connector XS Wall formwork Anschluss XS Wandschalung  <p>Galvanised Width: 89 cm Height: 63 cm</p>	20.8	588662000	Ladder cage exit XS Rückenschutz-Ausstieg XS  <p>Galvanised Height: 132 cm</p>	17.0	588666000
Framax quick acting clamp RU Framax-Schnellspanner RU  <p>Galvanised Length: 20 cm</p>	3.3	588153400			

	[kg]	Article N°		[kg]	Article N°
Tie rod system 15.0			Box spanner 27 0.65m		
			Steckschlüssel 27 0,65m	1.9	581854000
Tie rod 15.0mm galvanised 0.50m	0.72	581821000		Galvanised	
Tie rod 15.0mm galvanised 0.75m	1.1	581822000			
Tie rod 15.0mm galvanised 1.00m	1.4	581823000			
Tie rod 15.0mm galvanised 1.25m	1.8	581826000			
Tie rod 15.0mm galvanised 1.50m	2.2	581827000			
Tie rod 15.0mm galvanised 1.75m	2.5	581828000			
Tie rod 15.0mm galvanised 2.00m	2.9	581829000			
Tie rod 15.0mm galvanised 2.50m	3.6	581852000			
Tie rod 15.0mm galvanisedm	1.4	581824000			
Tie rod 15.0mm non-treated 0.50m	0.73	581870000			
Tie rod 15.0mm non-treated 0.75m	1.1	581871000			
Tie rod 15.0mm non-treated 1.00m	1.4	581874000			
Tie rod 15.0mm non-treated 1.25m	1.8	581886000			
Tie rod 15.0mm non-treated 1.50m	2.1	581876000			
Tie rod 15.0mm non-treated 1.75m	2.5	581887000			
Tie rod 15.0mm non-treated 2.00m	2.9	581875000			
Tie rod 15.0mm non-treated 2.50m	3.6	581877000			
Tie rod 15.0mm non-treated 3.00m	4.3	581878000			
Tie rod 15.0mm non-treated 3.50m	5.0	581888000			
Tie rod 15.0mm non-treated 4.00m	5.7	581879000			
Tie rod 15.0mm non-treated 5.00m	7.2	581880000			
Tie rod 15.0mm non-treated 6.00m	8.6	581881000			
Tie rod 15.0mm non-treated 7.50m	10.7	581882000			
Tie rod 15.0mm non-treatedm	1.4	581873000			
Ankerstab 15,0mm					
			Multi-trip packaging		
Super plate 15.0			Doka skeleton transport box 1.70x0.80m		
Superplatte 15,0	1.1	581966000	Doka-Gitterbox 1,70x0,80m	87.0	583012000
				Galvanised	
Galvanised				Height: 113 cm	
Height: 6 cm			Doka multi-trip transport box 1.20x0.80m		
Diameter: 12 cm			Doka-Mehrwegcontainer 1,20x0,80m	70.0	583011000
Width-across: 27 mm				Galvanised	
				Height: 78 cm	
Plastic tube 22mm 2.50m			Multi-trip transport box partition 0.80m		
Kunststoffrohr 22mm 2,50m	0.45	581951000	Multi-trip transport box partition 1.20m	3.7	583018000
			Mehrwegcontainer Unterteilung	5.5	583017000
PVC				Steel parts galvanised	
Grey				Timber parts varnished yellow	
Diameter: 2.6 cm			Doka multi-trip transport box 1.20x0.80x0.41m		
Universal cone 22mm			Doka-Mehrwegcontainer 1,20x0,80x0,41m	42.5	583009000
Universal-Konus 22mm	0.005	581995000		Galvanised	
					
Grey			Doka stacking pallet 1.55x0.85m		
Diameter: 4 cm			Doka-Stapelpalette 1,55x0,85m	41.0	586151000
Protective cap 15.0/20.0				Galvanised	
Schutzkappe 15,0/20,0	0.03	581858000		Height: 77 cm	
					
Yellow					
Length: 6 cm					
Diameter: 6.7 cm					
Tie-rod wrench 15.0/20.0					
Ankerstabschlüssel 15,0/20,0	1.9	580594000			
					
Galvanised					
Length: 37 cm					
Diameter: 8 cm					
Friction type ratchet SW27					
Freilaufknarre SW27	0.49	581855000			
					
Manganese-phosphated					
Length: 30 cm					

	[kg]	Article N°		[kg]	Article N°
Doka stacking pallet 1.20x0.80m Doka-Stapelpalette 1,20x0,80m  Galvanised Height: 77 cm	38.0	583016000			
Doka accessory box Doka-Kleinteilebox  Timber parts varnished yellow Steel parts galvanised Length: 154 cm Width: 83 cm Height: 77 cm	106.4	583010000			
Bolt-on castor set B Anklemm-Radsatz B  Painted blue	33.6	586168000			

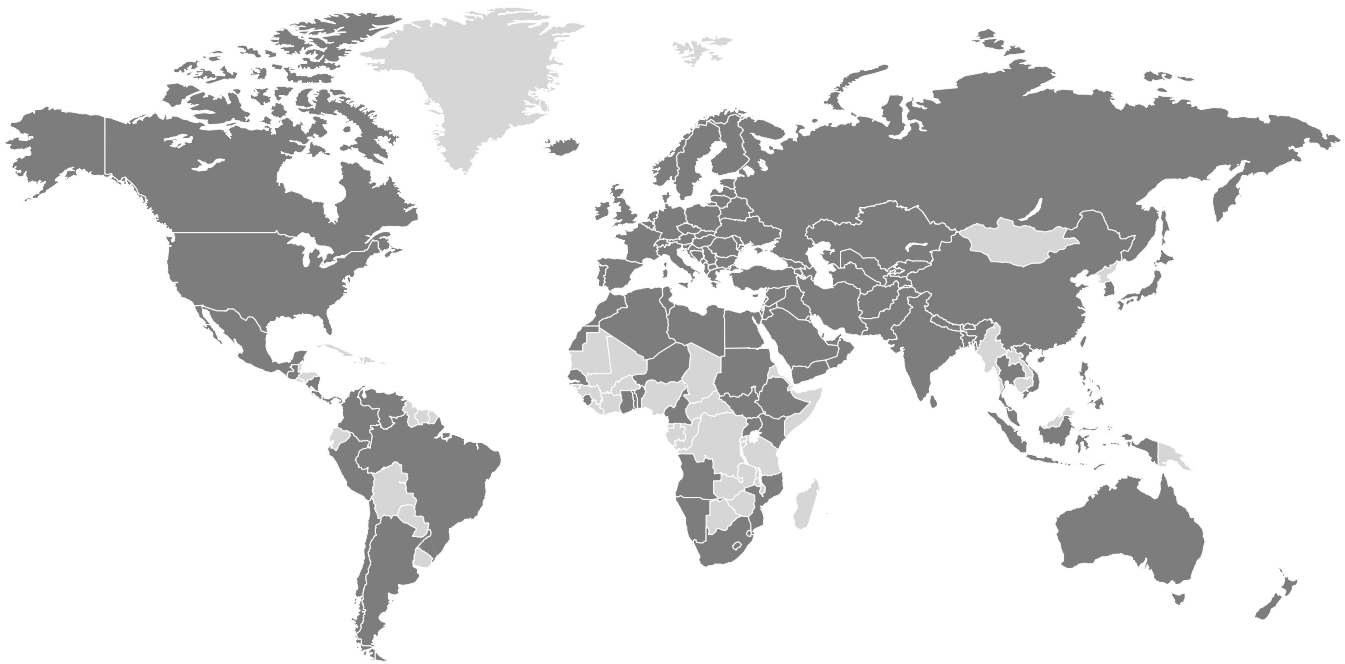
Near to you, worldwide

Doka is one of the world leaders in developing, manufacturing and distributing formwork technology for use in all fields of the construction sector.

With more than 160 sales and logistics facilities in over 70 countries, the Doka Group has a highly efficient distribution network which ensures that equipment and

technical support are provided swiftly and professionally.

An enterprise forming part of the Umdasch Group, the Doka Group employs a worldwide workforce of more than 6000.



www.doka.com/circular-formwork-h20