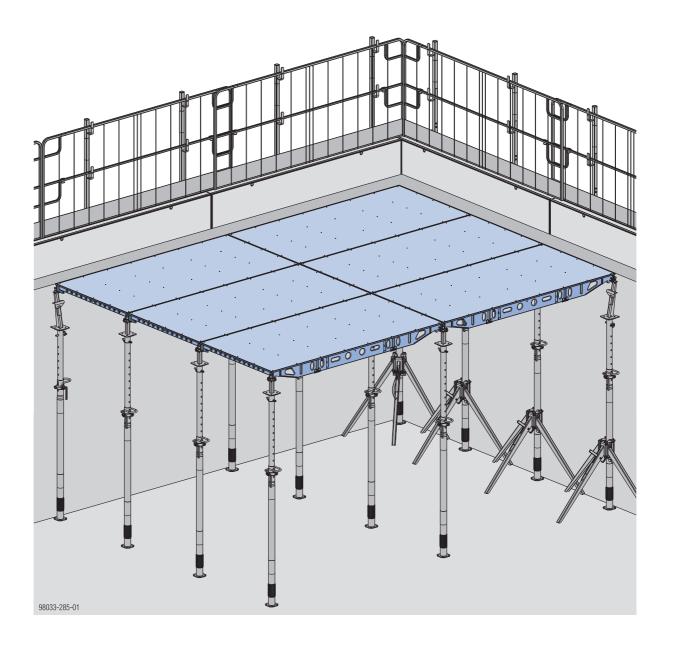


The Formwork Experts.

# Panel floor formwork Dokadek 30 ply

## **User Information**

Instructions for assembly and use (Method statement)



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## Introduction

## **Elementary safety warnings**

#### **User target groups**

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

#### **Hazard assessment**

The customer is responsible for drawing up, documenting, implementing and continually updating a hazard assessment at every job-site.
This booklet serves as the basis for the site-specific hazard assessment, and for the instructions given to users on how to prepare and utilise the system. It does not substitute for these, however.

#### Remarks on this booklet

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

#### **Planning**

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

#### Regulations; industrial safety

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

# Rules applying during all phases of the assignment

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons. These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.
- The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!
- Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).
- Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of 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 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 by the user.
- 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.
- When lifting formwork or formwork accessories with a crane, no persons must be carried along, e.g. on working platforms or in multi-trip packaging.
- 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 kN) are not design values (e.g.  $F_{Rd}$  = 105 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:

- $y_F = 1.5$
- γ<sub>M, timber</sub> = 1.3
- γ<sub>M, steel</sub> = 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.



#### qiT

Points out useful practical tips.



#### Reference

Cross-references other documents.

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#### **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.

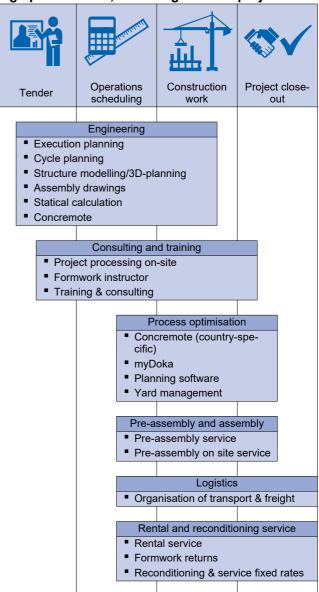
#### Just-in-time availability

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





#### **Digital Services**

for higher productivity in construction

From planning to completion of construction - with our digital services we want to set the pace for boosting productivity in construction. Our digital portfolio includes solutions for planning, procuring and managing to performing on site. Learn more about our digital offer at <a href="mailto:doka.com/digital">doka.com/digital</a>.

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#### Panel floor formwork Dokadek 30

#### **Extraordinarily fast forming**

#### by integrating both the typical and infill zone

- The typical zones are formed simply by tilting up the beam-less panels, each of up to 3 m<sup>2</sup> in area
- Meshes seamlessly with Dokaflex for time-saving closing of infill zones
- Can be connected directly to Dokaflex, permitting grid-independent adaptation to any layout
- Uncluttered logistics, as there are only two sizes of panel: 2.44 m x 1.22 m and 2.44 m x 0.81 m
- The intermeshing work sequence means both members of 2-man forming crews are always occupied

#### **Extra-safe working**

#### as the system is set up working from ground level

- Panels are erected from below, with no ladders or cranes needed
- Can be safely handled by only two people thanks to the ergonomically designed grip-holes in the edgeprofiles
- Integral anti-liftout guard built in to every panel

# Handling-method is easy to understand

#### because the process is logical

- No need to calculate or measure up, as the positions and numbers of props and panels are all made clear by the system
- Safe to operate, even for semi-skilled crew, as the sequence of worksteps is pre-defined
- Short introductory training times, as the system has only a small number of different parts
- 12 m² of Dokadek 30 can be horizontally repositioned on the Dekdrive even through narrow doorways and access openings



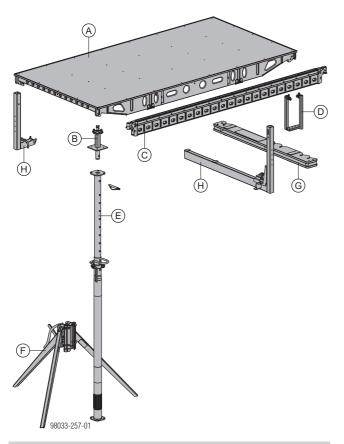
In addition to this document, also follow the directions in the following User Information booklets:

- Alternative methods of assembly
- Structure edge

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## **System overview**

#### **Basic design concept**

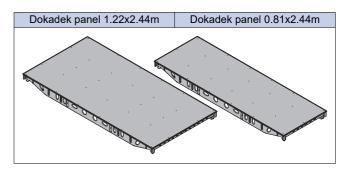


- A Dokadek panel
- **B** Dokadek head
- C Dokadek infill beam
- **D** Dokadek suspension clamp H20
- E Doka floor prop Eurex 30 top
- F Removable folding tripod
- G Dokadek wall clamp
- H Dokadek handrail-post shoes

#### The Dokadek 30 system components

#### Dokadek panels

Are galvanised, yellow coated steel frames with riveted 12 mm thick formwork sheets.

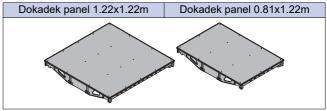




#### **NOTICE**

Impermissible areas of application for Dokadek panels 1.22x1.22m and 0.81x1.22m:

- use at the structure edge
- use with edge head, plumbing strut adapter or handrail-post shoe long



Can be used for purposes that include minimising the closure zone.

#### Dokadek heads

- for holding the Dokadek panels safely
- with a built-in anti-liftout guard for the Dokadek panels

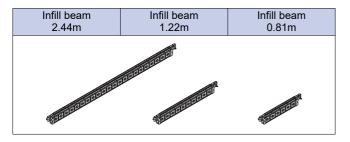
Support head	Edge head 18mm / 21mm / 27mm	Cross head
1)	1)	1)
Corner head	Wall head	

<sup>1)</sup> Spring locked connecting pin 16mm not included with product

9

#### Dokadek infill beams

- for infilling along edges and around columns
- available for formwork-sheet thicknesses of 18mm, 21mm and 27mm
- delivered on Dokadek infill-beam pallets



#### Dokadek suspension clamp H20

These are hooked into the infill beams and make it possible to transition from the Dokadek 30 system to the Dokaflex system.



#### Doka floor props Eurex 30 top

■ EN 1065-compliant floor prop



High load-bearing strength plus many practical details that help to make handling easier.

- numbered pegging holes for height adjustment
- elbowed fastening clamps, reducing the risk of injury and making the props easier to operate
- special geometry of the thread makes the prop easier to release even under high load



Follow the directions in the 'Floor prop Eurex top' User Information booklet.



#### WARNING

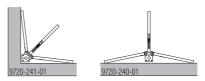
It is not permitted to use the Floor prop extension 0.50m.

#### Removable folding tripod 'top'

- Set-up aid for floor props
- swing-out legs allow flexible placement in constricted situations such as along edges and in corners



#### Setting up tripods in corners or against walls





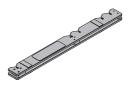
#### **CAUTION**

Not a substitute for the bracing necessary for load-bearing towers.

➤ Use as a set-up aid only!

#### Dokadek wall clamp

- for holding floor props upright next to walls
- with an integrated template for measuring-up the right spacing of the floor props



#### Dokadek handrail-post shoes

These are used with Handrail posts XP 1.20m or 1.80m to set up guardrail systems on the narrowside and broadside of the Dokadek panel.

Handrail-post shoe short	Handrail-post shoe long

Dokadek handrail-post shoe short 1.20m	Dokadek handrail-post shoe long 1.20m

## **Instructions for assembly and use (Method statement)**

#### **Ground rules**

#### **Dokadek panels**



#### **NOTICE**

Impermissible areas of application for Dokadek panels 1.22x1.22m and 0.81x1.22m:

- use at the structure edge
- use with edge head, plumbing strut adapter or handrail post shoe long

#### Permitted slab thickness [cm]1)

Panel size	Without additional pre- cautions	With additional pre-cautions <sup>2)</sup>	Flatness deviation as per DIN 18202, Table 3
1.22x2.44m	30	_	Line 6
1.22x2.44m	> 30 - 35	_	Line 5
1.22x2.44m	_	> 30 - 50	Line 6
1.22x1.22m	35	> 30 - 50	Line 5
0.81x2.44m	45	_	Line 6
0.81x2.44m	> 45 - 50	_	Line 5
0.81x2.44m	_	> 45 - 50	Line 6
0.81x1.22m	50	_	Line 6

<sup>1)</sup> when using Doka floor props Eurex 30 top or Eurex 30 eco

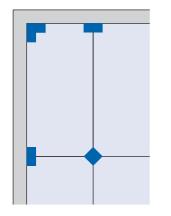
#### **Dokadek heads**

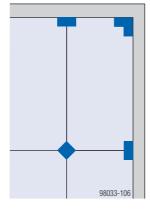


#### **WARNING**

➤ The Dokadek heads must always be fixed to the floor prop with the correct pin.

#### Position of the Dokadek heads





#### Legend

Support head	Corner head	Wall head
1)		

1) Spring locked connecting pin 16mm not included with product

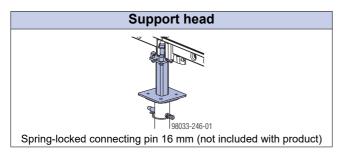


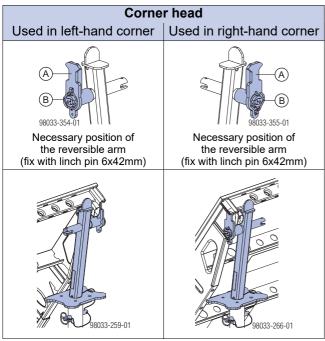
#### **NOTICE**

When placing the panels onto the heads, make sure that the panels are correctly fixed in the heads.

 $<sup>^{\</sup>rm 2)}$  see the section headed 'Additional precautions for slab thicknesses of up to 50 cm'.

#### Installation examples





A Reversible arm

B Linch pin 6x42mm

Wall head		
Used on narrowside of formwork	Used on broadside of formwork	
98033-244-011	98033-245-01	

#### Doka floor props Eurex 30 top

## $\wedge$

#### **WARNING**

Floor props must not be used extended to their full lengths!

This means that the props must be shortened, as follows, before being used:

For slab thicknesses of up to 32 cm:

- minus 16 cm when used with support head
- minus 40 cm when used with corner head or wall head

For slab thicknesses of > 32 - 35 cm without use of additional measures:

- minus 31 cm when used with support head
- minus 55 cm when used with corner head or wall head

Example: Floor prop Eurex 30 top 300 with support head can be extended to max. 284 cm (for a max. floor-to-ceiling height of 308.5 cm).



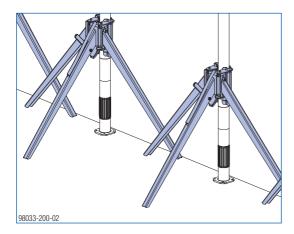
We recommend using props of the same type for the typical and infill zone, i.e. when combining Dokadek and Dokaflex.

#### Removable folding tripod 'top'



#### **NOTICE**

Do not oil or grease the clamping mechanism of the removable folding tripod.





#### **CAUTION**

Risk of floor props tipping over when Dokadek panel is tilted up!

- ➤ Make sure that the Removable folding tripod is facing in the right direction.
- ➤ The leg with the clamping lever must be pointing in the longitudinal direction of the panels.

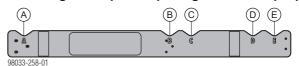


 Once the 1st row of panels has been fixed (e.g. with wall clamps) so that it cannot tip over, the Removable folding tripods can be

However, before the formwork is struck, the Removable folding tripods MUST be put up again!

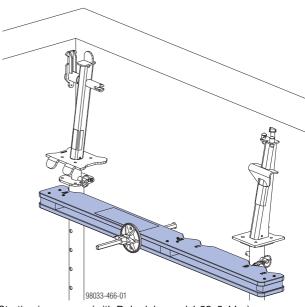
#### **Dokadek wall clamp**

#### Determining the required spacing of the floor props

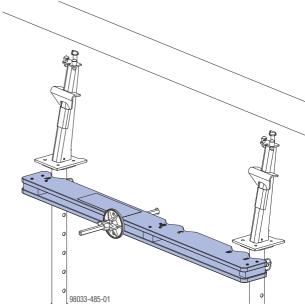


Head on 1st prop is in Position A.	Width of panel to be shored	Position of 2nd prop
Corner head	0.81 m	В
Wall head	0.81 m	С
Corner head	1.22 m	D
Wall head	1.22 m	E

#### **Practical examples**



Starting in a corner (with Dokadek panel 1.22x2.44m)

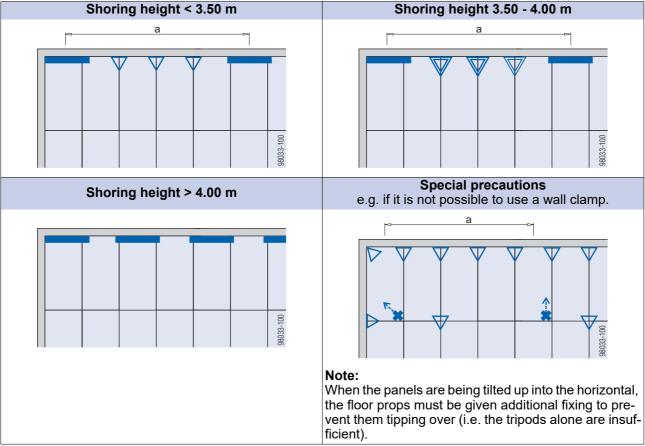


Starting from a wall (with Dokadek panel 1.22x2.44m)

#### Stability of formwork

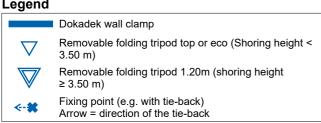
#### Stabilising the starting section during assembly

#### Starting from a wall



a ... fixing-point on 1st panel, every max. 7.50 m and on last panel

#### Legend



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#### Starting from middle of room



#### **NOTICE**

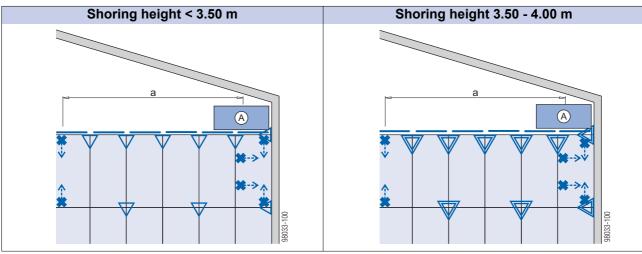
When starting from the middle of a room where it is possible to attach fixing-points to the structure, you MUST proceed in the following order:

- 1. Put up the props and secure them so that they cannot fall over.
- 2. Engage infill beams into the system heads, to fix the props the correct distance apart.
- 3. Engage the first panel into the system heads.
- 4. Swing panel up.
- 5. Fix the panel.

## $\triangle$

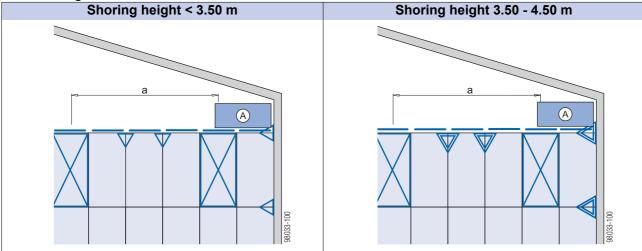
#### **CAUTION**

➤ When engaging and tilting up the panel, give the floor props additional fixing – i.e. as well as with the removable folding tripods – to prevent them tipping over.



- a ... fixing-point on 1st panel, every max. 7.50 m and on last panel
- A Mobile scaffold tower, e.g. Wheel-around scaffold DF

#### With bracing frames Eurex



- a ... 7,5 m and on last panel
- A Mobile scaffold tower, e.g. Wheel-around scaffold DF

#### Legend



Removable folding tripod top or eco (Shoring height < 3.50 m)



Removable folding tripod 1.20m (shoring height ≥ 3.50 m)



Fixing point (e.g. with tie-back) Arrow = direction of the tie-back



Dokadek infill beam



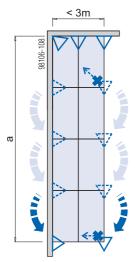
Bracing frames Eurex with diagonal crosses



See the 'Structure edge (Panel floor formwork Dokadek 30)' User Information booklet for information on how to start from the middle of the room if it is not possible to fix to the structure.

#### Rooms < 3 m wide

In rooms < 3 m wide, the props have to be offset in each new row of panels.



a ... Fixing to: fixing-point on 1st panel, every max. 7.50 m  $\boldsymbol{and}$  on last panel

#### Legend



Removable folding tripod top and eco



Fixing point (e.g. with tie-back) Arrow = direction of the tie-back

#### Additional stabilisation during erection work



#### **WARNING**

- ➤ Before anybody steps onto the surface of the formwork, its stability must be ensured by e.g. wall clamps or lashing straps.
- ➤ Transfer of concreting loads must be ensured by other measures (e.g. by transferring these loads into the structure or using tie-backs).

For details on how to make tie-backs with lashing straps, see the section headed 'Floor formwork around edges' and the 'Lashing strap 5.00m' User Information booklet.

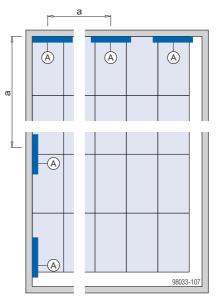
Formwork next to walls must be secured against tipover as shown in the illustrations.



Once the 1st row of panels has been fixed (e.g. with wall clamps) so that it cannot tip over, the Removable folding tripods can be removed.

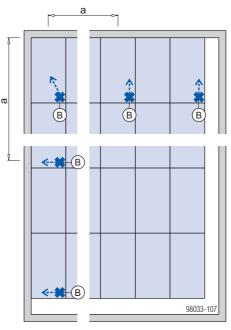
However, before the formwork is stripped out, the removable folding tripods MUST be put up again!

#### Fixing point with wall clamps



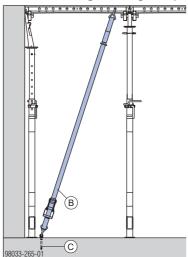
- a ... fixing-point on 1st panel, every max. 7.50 m and on last panel
- A Fixing point with wall clamps

#### Fixing point with lashing straps



- a ... fixing-point on 1st panel, every max. 7.50 m and on last panel
- **B** Fixing point using lashing straps Arrow = direction of the tie-back

## Practical example Tip-over protection using lashing straps

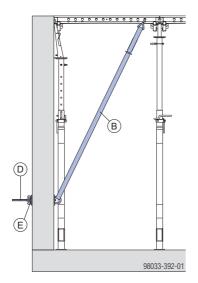


#### B Lashing strap 5.00m

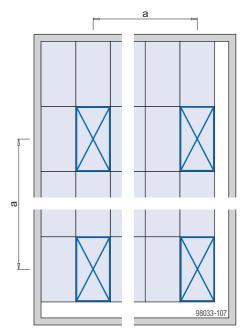
C Doka express anchor 16x125mm



➤ Up to a wall thickness of 40 cm, the Lashing strap (B) can also be fixed to a wall with a Lifting rod 15.0 (D) and a Super plate 15.0 (E).



#### Fixing with Bracing frames Eurex



a ... max. 7.50 m and on last panel

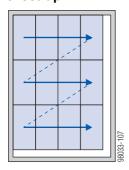
#### Legend



Bracing frames Eurex with diagonal crosses

## Forming up and stripping out

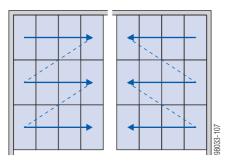
#### Direction of panel set-up



- 1) Start by setting up the panels row by row until only the planned infill zone is left unformed.
- 2) Then install the wall connections and fillers.



If necessary, you can start setting up the panels working from more than one side. The separate sections that have been formed with Dokadek are then joined by fillers (see the section headed "Forming infill zones").



The formwork is stripped out in the same way, but in reverse order.

# Ladder systems and working scaffolds

#### Platform stairway 0.97m

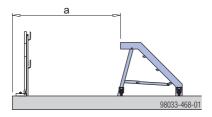


- wheel-around, fold-down platform stairway made of light alloy
- working heights of up to 3.00 m (max. standing height 0.97 m)
- Stair width: 1.20 m



#### **NOTICE**

- 2 platform stairways are needed for hanging the panels into place.
- Minimum distance a from drop-off edge: 2.00 m



Max. load-bearing capacity: 150 kg



Follow all country-specific regulations!

#### Wheel-around scaffold DF



- collapsible wheel-around platform made of light alloy
- variable working heights of up to 3.50 m (max. platform height 1.50 m)
- width of scaffold: 0.75 m



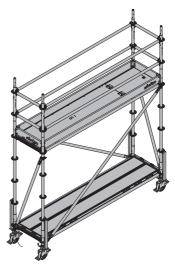
#### **NOTICE**

- The Wheel-around scaffold DF is not allowed to be used for mounting and dismounting the panels.
- When work is being carried out near dropoff edges (i.e. at a distance of < 2 m), the 'Wheel-around scaffold DF accessory set' (consisting of a toeboard and intermediate guardrail) is needed.



Follow the directions in the User Information booklet!

#### Working scaffold Modul



- mobile working scaffold
- variable working heights of up to 3.50 m
- width of scaffold: 0.73 m
- length of scaffold: 2.07 m

#### Ballast weight needed1)

•	
Standing height	Ballast weight
1.41 m	40 kg
1.91 m	100 kg

1) Precondition: max. distance of 25 cm between the working scaffold and the Dokadek panel

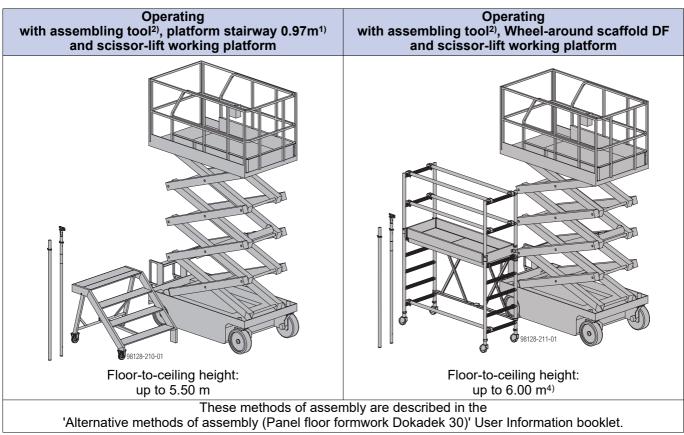


Follow the directions in the User Information booklet!

#### Method statement overview

#### **Operating** Operating with DekLift 4.50m with assembling tool<sup>2)</sup> or suspension tool<sup>3)</sup> + assembling tool2) Working from Platform stairway Working from the ground $0.97m^{1)}$ with assembling tool2) with assembling tool2) with assembling tool2) and suspension tool3) 98033-408-0 Floor-to-ceiling height: Floor-to-ceiling height: Floor-to-ceiling height: Floor-to-ceiling height: from 2.10 m to approx. from 2.10 m to approx. from 2.10 m to approx. 4.20 m from 2.70 m to approx. 4.50 m 3.50 m 4.00 m These methods of assembly are described in the

'Alternative methods of assembly (Panel floor formwork Dokadek 30)' User Information booklet.



- 1) 2 platform stairways are needed for lifting the panels and hooking them into place.
- <sup>2)</sup> From room heights of 3.80 m upward, the assembling tool extension 2.00m is also needed.
- 3) Head part painted yellow.
- <sup>4)</sup> For more information, please contact your Doka technician.

## **Operating with Dokadek assembling tool**



#### **NOTICE**

As well as the instructions given here, you must follow the instructions in the section headed 'Reshoring props, concrete technology and stripping out'.



#### **NOTICE**

For manual transport, grip the floor prop only by the outer and inner tubes.



#### Closing the formwork

#### **Preparations**



- The fastening clamp (A) has to be pushed all the way into the floor prop.
- Adjusting nut (B) has to be tightened into contact with the fastening clamp.



> Set the assembling tools to the required length (= approx. room height). Min. 3 assembling tools needed per site-erection team.

From room heights of 3.80 m upward, the assembling tool extension 2.00m is also needed.



#### WARNING

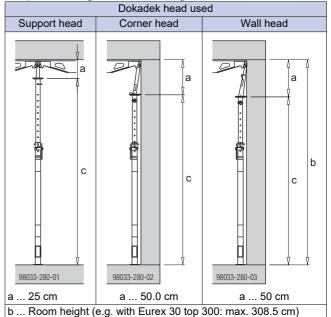
Floor props must not be used extended to their full lengths!

See also the section headed 'Ground rules'.

> Roughly adjust the height of the floor prop, using the fastening clamp.



Required length = room height minus 'a'



(see the section headed 'Ground rules') c ... Extension length of floor prop The pegging holes are all numbered, which makes it

easier to adjust the props to the same height.

> Fit the Dokadek head onto the floor prop and secure it with the bolt.

doka 21 999821102 - 09/2022

#### Putting up the 1st row of floor props

> Put up each removable folding tripod.



#### **CAUTION**

Risk of floor props tipping over when Dokadek panel is tilted up!

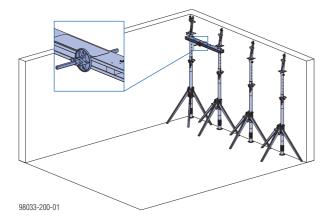
- ➤ Make sure that the Removable folding tripod is facing in the right direction.
- ➤ The leg with the clamping lever must be pointing in the longitudinal direction of the panels.
- ➤ Put up floor props (complete with corner and wall heads) directly against the wall and secure them with Removable folding tripods.
- ➤ Refer to the wall clamp to find out how far apart the floor props have to be spaced.



#### **CAUTION**

Risk of damage to the panel!

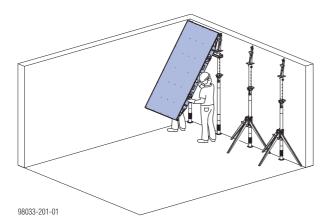
- ➤ Make sure that the tie rod does not stick out too far from the wall clamp, as this would get in the way when the panel is lifted onto the heads.
- ➤ Adjust the 1st and 2nd floor props to the right height and fix them with a wall clamp to prevent them from tipping over. To do this, mount the wall clamp as high up the wall as possible, using a tie rod and super plate. If there are tie-holes near the top of the wall, use these.



#### Mounting the 1st row of panels

#### Mount the 1st panel

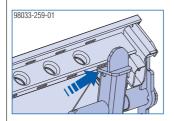
Persons 1 and 2: Hook the panel onto the corner head and the wall head.



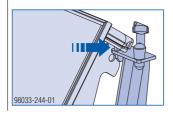


Make sure that the panel is correctly engaged in both heads.

#### **Corner head**



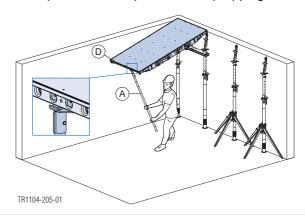
#### Wall head



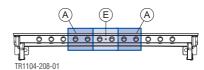


For greater room-heights, use an extra assembling tool (set to a shorter length) or a suspension tool for tilting up the panel.

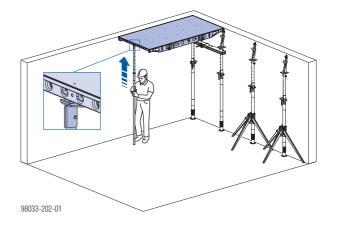
➤ Person 1: Position the assembling tool that is set to a shorter length off-centre in the outside cross profile of the panel and lift up the end for propping.



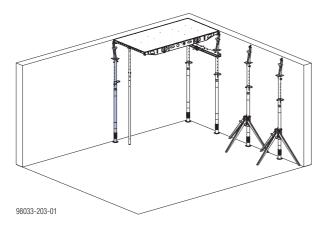
- A Assembling tool set to shorter length, or Dokadek suspension tool
- **D** Dokadek panel



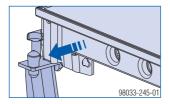
- **A** Position of assembling tool set to shorter length, or Dokadek suspension tool
- E Position of Dokadek assembling tool B
- ➤ Person 2: Hook the assembling tool into the middle of the outside cross profile of the panel, raise the panel and secure the assembling tool so that it cannot tip over.



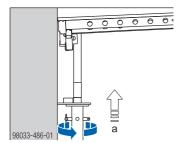
➤ Person 1: Place a floor prop (plus wall head) beneath the panel. The panel must still also be supported by the assembling tool. (Max. inclination of the assembling tool with respect to the perpendicular: 5°)



Make sure that the panel is correctly fitted onto the pin of the head.



➤ Turn the adjusting nut on the floor prop to raise it and the corner head by 2 cm.

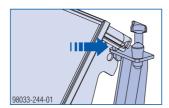


#### Mount further panels

> Persons 1 and 2: Hook the panel into the heads.



Make sure that the panel is correctly fitted onto the pins of both heads.

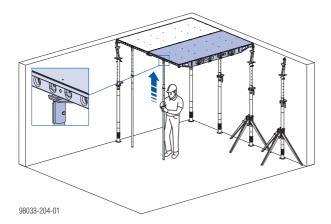


> Person 1: Tilt the panel part-way up.



For greater room-heights, use an extra assembling tool (set to a shorter length) or a suspension tool for tilting up the panel.

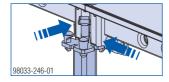
➤ Person 2: Hook the assembling tool into the middle of the outside cross profile of the panel, raise the panel and secure the assembling tool so that it cannot tip over.



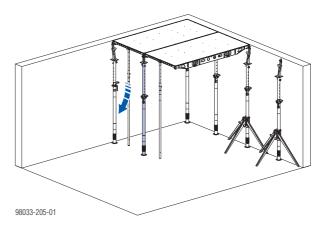
Person 1: Place a floor prop (plus Support head) beneath both panels.



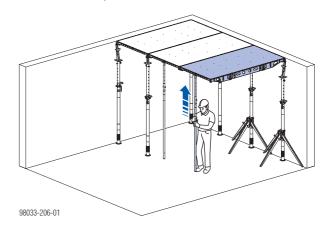
Make sure that the panels are correctly fitted onto the pins of the head.

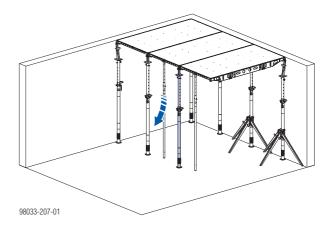


➤ Person 2: Remove the assembling tool from the 1st panel. The 2nd panel must still also be supported by the assembling tool. (Max. inclination of the assembling tool with respect to the perpendicular: 5°)



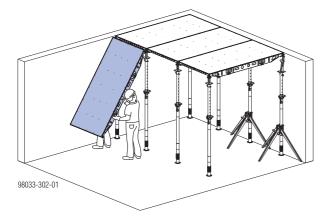
Set up further panels in the same way, until only the planned infill zone is left unformed. Ensure stability during the set-up operations (see the section headed 'Ground rules')!





#### Putting up further rows of panels

➤ Set up further rows of panels in the same way, until only the planned infill zone is left unformed. Ensure stability during the set-up operations (see the section headed 'Ground rules')!





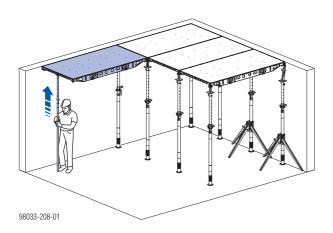
Make sure that the panel is correctly engaged in both heads.

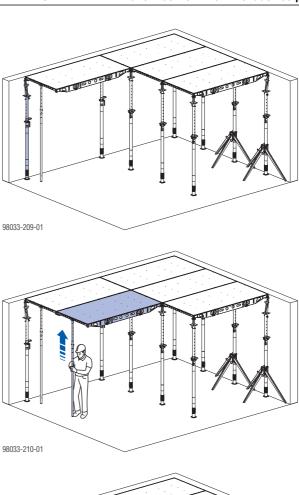
#### Support head

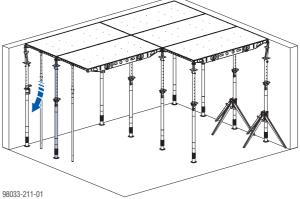


#### Wall head









#### Mounting the bracing frames

The Bracing frames Eurex 1.22m and 0.81m fix the Doka floor props Eurex 20 and Eurex 30 and are a stable set-up aid - especially close to the edges of floorslab formwork.

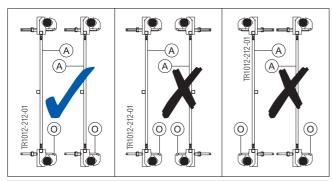
#### Features:

- Suitable for fixing to both the outer and inner tubes.
- Captively integrated quick-fixing mechanism for the Doka floor props
- Can be used in combination with diagonal crosses.
- On uneven surfaces (e.g. gravel fill of load-bearing capability), higher stability is ensured during assembly.



#### NOTICE

- Used as a set-up aid and takes horizontal loads during assembly.
- Not suitable for sustaining horizontal loads during pouring.
- All the floor props must be plumb.
- The prop holders on the bracing frames must always be pointing in the same direction.



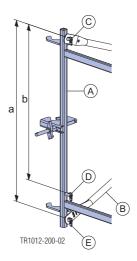
- A Bracing frame Eurex
- O Prop holder with quick-fixing mechanism
- Always set up the bracing frames such that the end with the two safety catches (D) and (E) is at the bottom (see Close-up A).
- It is not possible to use bracing frames directly alongside a wall.
- Use with Deklift only conditionally possible (because the bracing frame has to be removed briefly, particularly at the edge of the structure).

Area	Diagonal cross	Safety catch needed
Dokadek 30 typical zone (panel size 2.44m)	18.200	Pos. C+E
Dokadek 30 structure edge without drop-head (panel size 2.44m)	9.175	Pos. C+E
Dokadek 30 typical zone (panel size 1.22m)	12.100	Pos. C+D

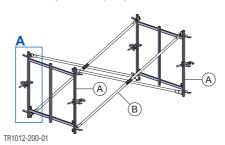


For special uses (e.g. in the infill zone), see the 'Dokaflex' User Information booklet for the necessary spacing of the Bracing frames.

#### Close-up A

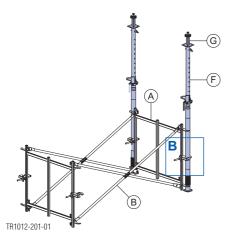


- a ... 101.9 cm
- b ... 87.6 cm
- A Bracing frame Eurex
- **B** Diagonal cross
- C Safety catch 1
- D Safety catch 2
- E Safety catch 3
- ➤ Join both Bracing frames Eurex with diagonal crosses at top and bottom, and secure these with safety catches (Close-up A).



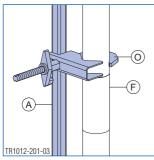
- A Bracing frame Eurex
- **B** Diagonal cross

➤ Fasten floor props to the bracing frame with the quick-fixing mechanism (Close-up B).



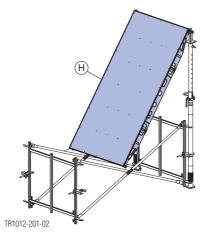
- A Bracing frame Eurex
- **B** Diagonal cross
- F Doka floor prop Eurex
- G Dokadek support head

#### Close-up B - prop-holder



Quick-fixing mechanism closed

- A Bracing frame Eurex
- F Doka floor prop Eurex
- O Prop holder with quick-fixing mechanism
- ➤ Engage the Dokadek panel in the support heads.



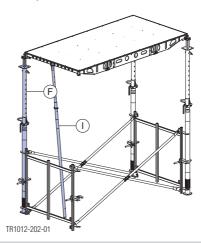
#### H Dokadek panel



Make sure that the Dokadek panels have been hung into place (engaged) correctly.

➤ Tilt up the Dokadek panel with an assembling tool, and put a floor prop under one of the other corners.

➤ Attach the floor prop to the bracing frame with the quick-fixing mechanism (the assembling tool stays in place, as it still has a shoring function. Max. inclination of the assembling tool with respect to the perpendicular: 5°)



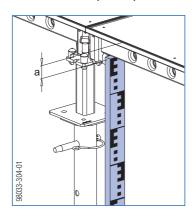
- F Doka floor prop Eurex
- I Assembling tool
- ➤ For details on all other worksteps, see the section headed 'Operating with assembling tool'.
- ➤ For positions and numbers of frames see the 'Structure edge (Panel floor formwork Dokadek 30)' User Information booklet.

#### **Dismantling**

> is carried out in the opposite order from assembly.

#### Levelling the formwork

➤ Adjust the panels at the corners to the desired floorslab height (= room height minus 6.5 cm, with reference to the frame cross-profile).



a ... 6.5 cm

## Additional precautions for slab thicknesses of up to 50 cm

➤ See 'Additional precautions for slab thicknesses of up to 50 cm'.

#### Mounting guardrail systems

See the section headed 'Guardrail systems on the formwork'.

#### Mounting fillers

> See the section headed "Forming infill zones".

#### **Pouring**

Before pouring, recheck all floor props.



- The fastening clamp (A) has to be pushed all the way into the floor prop.
- Adjusting nut (B) has to be tightened into contact with the fastening clamp.





#### NOTICE

Impermissible areas of application for Dokadek panels 1.22x1.22m and 0.81x1.22m:

- use at the structure edge
- use with edge head, plumbing strut adapter or handrail post shoe long

#### Permitted slab thickness [cm]1)

Panel size	Without additional pre- cautions	With additional pre-cautions <sup>2)</sup>	Flatness deviation as per DIN 18202, Table 3
1.22x2.44m	30	_	Line 6
1.22x2.44m	> 30 - 35	_	Line 5
1.22x2.44m	_	> 30 - 50	Line 6
1.22x1.22m	35	> 30 - 50	Line 5
0.81x2.44m	45		Line 6
0.81x2.44m	> 45 - 50		Line 5
0.81x2.44m	_	> 45 - 50	Line 6
0.81x1.22m	50	_	Line 6

<sup>1)</sup> when using Doka floor props Eurex 30 top or Eurex 30 eco

To protect the surface of the form-facing, we recommend using a vibrator with a protective rubber cap.

 $<sup>^{\</sup>rm 2)}$  see the section headed 'Additional precautions for slab thicknesses of up to 50 cm'.

#### Stripping the formwork

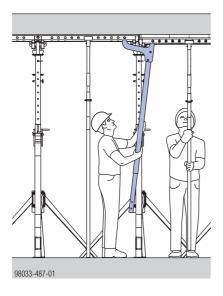


#### **NOTICE**

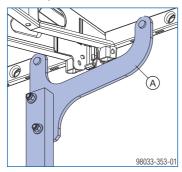
- Observe all stipulated stripping times!
- Always strip out the formwork in reverse order.
- As well as the instructions given here, you MUST follow the instructions in 'Reshoring props, concrete technology and stripping out'.



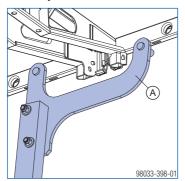
The Dokadek stripping tool **(A)** is an easy, safe way of detaching panels from the concrete where necessary.



#### Used on Dokadek panels 1.22x2.44m



#### Used on Dokadek panels 0.81x2.44m

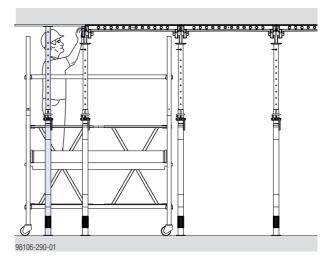


#### **Preparations**



#### **NOTICE**

- ➤ Before striking the formwork, make sure that the floor props in the last row of panels to be struck are still fixed with removable folding tripods or wall clamps.
- ➤ Set the **assembling tools** to the required length (= approx. room height). Min. 3 assembling tools needed per site-erection team.
  - From room heights of 3.80 m upward, the assembling tool extension 2.00m is also needed.
- ➤ Secure the panels so that they cannot suddenly drop.
- Lower the floor formwork in the infill zone (floor props underneath infill beams approx. 2 cm).
- > Remove the Doka beam H20.
- Remove the infill beams, for example using a working scaffold for access.



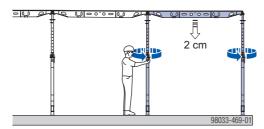
> Remove the panels.

#### Dismantling the floor props and panels



#### NOTICE

- Loosen the adjusting nut with a blow of the hammer and turn the floor prop to lower it.
- ➤ Lower the props in the first row of panels to be stripped out, by approx. 2 cm (= approx. 1 turn of the adjusting nut).



- ➤ Place assembling tools beneath the 1st and 2nd panels. (Max. inclination of the assembling tool with respect to the perpendicular: 5°)
- Remove the 1st and 2nd floor props and place them in a stacking pallet.



#### NOTICE

- Bring the floor prop into a horizontal position.
- ➤ If necessary, open the fastening clamp and push the inner tube into the outer tube.
- ➤ Lay the floor prop on the stacking pallet.



#### **CAUTION**

➤ Use only the Dokadek stripping tool to release the panels from the concrete.



- Using the assembling tool, lower the panel until the 2nd person can take hold of it and tilt it all the way down.
- ➤ Lift the panel off the prop-heads and set it down.
- ➤ Place the assembling tool beneath the 3rd panel, remove the 3rd floor prop and place it in the stacking pallet. (Max. inclination of the assembling tool with respect to the perpendicular: 5°)
- ➤ Unhook the 2nd panel and place it on a panel pallet.
- ➤ Take down all the other panels in the same way.

#### **Cleaning the formwork**

➤ See the section headed "Cleaning and care of your equipment".

#### Reshoring

- ➤ Before pouring the next floor-slab (i.e. above the one that has just been stripped), put up reshoring props.
- ➤ See "Reshoring props, concrete technology and stripping out".

### Forming infill zones



#### **NOTICE**

- Ideally, fillers should be mounted from below (e.g. from a Wheel-around scaffold DF).
- If fillers have to be mounted from above, the crew must use a personal fall-arrest system (e.g. safety harness).
- Suitable anchorage points must be defined by an approved person appointed by the contractor.

Areas where infills may be needed:

- at wall connections
- between 2 Dokadek forming-sections
- around columns



#### **WARNING**

Falling hazard! Do not step onto loose sheets and infill beams!

Only step onto these once the entire infill zone has been closed and secured by nailing!

Recommended nail lengths:

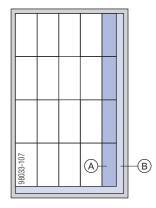
Sheet thickness of 18 mm: approx. 60 mm Sheet thickness of 21 mm: approx. 65 mm Sheet thickness of 27 mm: approx. 70 mm

# Dokadek system components for infill zones

#### Dokadek panel 0.81x2.44m

If Dokadek panels 1.22x2.44m are combined with Dokadek panels 0.81x2.44m, the max. infill width can generally be reduced to 41 cm.

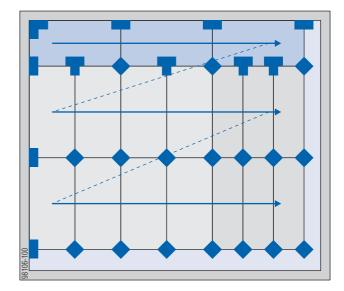
The Dokadek panels 0.81x2.44m are mounted in the same way as the Dokadek panels 1.22x2.44m.



- A Dokadek panel 0.81x2.44m
- B Infill zone (max. width 41 cm)

#### Dokadek cross head to reduce the infill zone

The width of the infill zone can be reduced by turning the panels in the first row. The Dokadek cross head is used for this purpose.



#### Legend

Support head	Corner head	Wall head	Dokadek cross head
•			
1)			1)

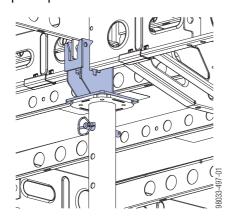
1) Spring locked connecting pin 16mm not included with product

#### Installation of Dokadek cross head



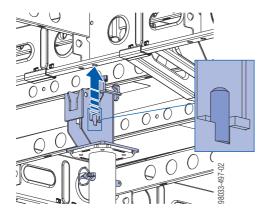
#### **NOTICE**

- ➤ Props with a cross head should only be extended (by turning the adjusting nut) until the prop encounters resistance from above. The panel must not be raised.
- ➤ At the corners, use tripods to secure those floor props that have only 1 panel resting on the heads.
- ➤ Shore the panels with floor props and cross heads at the required position.

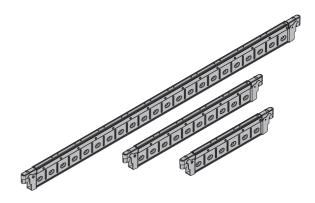




The pins of the cross head must be fitted into the two holes in the panel.



#### Dokadek infill beams

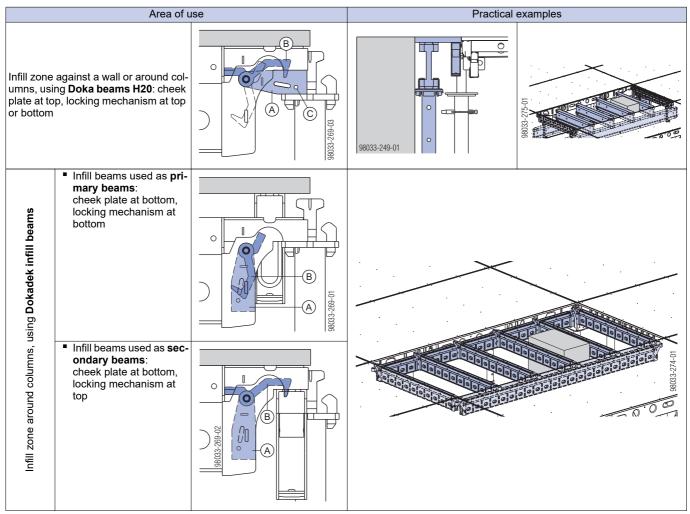


- Permitted moment: 5 kNm
- Permitted shear force: 11 kN
- Flexural stiffness EI: 320 kNm²
- Permissible imposed load where supported by floor prop in mid-span: 22 kN

## Identification mark (D) on infill beam to show matching sheet thickness

matching sheet thickness				
Sheet thickness				
18 mm	21 mm	27 mm		
98033-303-01	98033-303-02	98033-303-03 D		

#### Adjusting the Dokadek infill beams



- A Cheek plate (silver)
- B Locking mechanism (red)
- **C** Position for optional extra anti-liftout guard with spring cotter (included with product)

#### Dokadek suspension clamp H20



Perm. reaction force: 11 kN

#### Note:

The Suspension clamp H20 does not need to be supported by any extra floor prop.

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#### Infilling along wall connections

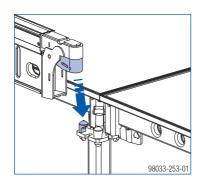
#### Variant 1: Infill width 'a' = 17 - 35 cm

■ max. spacing of infill props (Eurex 30): 244 cm

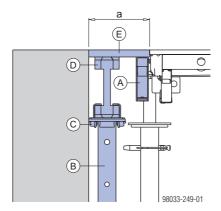
■ Max. slab thickness: 50 cm

#### Assembly:

Hook the infill beams into the support heads (cheek plate at top).



> Mount the fillers.



- A Dokadek infill beam
- B Doka floor prop Eurex 30 top + Removable folding tripod
- C Supporting head H20 DF
- D Doka beam H20 where infill width 'a' is ≥ 17 cm (infill gaps of less than 17 cm can be made up in-situ with a plank or squared timber)
- E Formwork sheeting



#### **NOTICE**

Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

#### Variant 2: Infill width 'a' = 32 - 59 cm

## Max. infill width 'a' for slab thicknesses of up to 35 cm

	Type of sheet		
Sheet thickness	Doka formwork sheet 3-SO 1)	Multi-ply sheet 2)	
18 mm	_	53 cm	
21 mm	38 cm	60 cm	
27 mm	59 cm	_	
max. spacing of infill props (Eurex 30): 244 cm			

## Max. infill width 'a' for slab thicknesses of up to 50 cm

Sheet thickness	Type of sheet	
	Doka formwork sheet 3-SO 1)	Multi-ply sheet 2)
18 mm	_	52 cm
21 mm	35 cm	58 cm
27 mm	52 cm	_
<ul><li>max. spacing of infill props (Eurex 30): 244 cm</li></ul>		

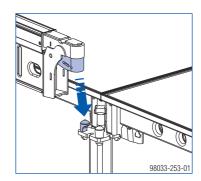
- <sup>1)</sup> The computed values apply to the secondary (i.e. weaker) load-bearing direction, with the longitudinal direction of the sheet parallel to the edge of the floor-slab.
- <sup>2)</sup> Mean flexural modulus of elasticity where sheet moisture content is 10±2%: ≥ 5600 N/mm<sup>2</sup>

Characteristic flexural strength where sheet moisture content is 10±2%:

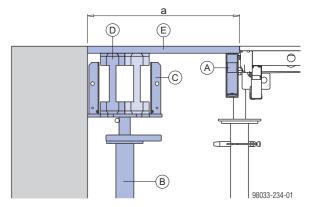
≥ 19 N/mm<sup>2</sup>

#### Assembly:

Hook the infill beams into the support heads (cheek plate at top).



➤ Mount the fillers.



- A Dokadek infill beam
- **B** Doka floor prop Eurex 30 top + Removable folding tripod
- C Lowering head H20
- D Doka beam H20 (telescoped)
- E Formwork sheeting

#### Variant 3: Infill width 'a' = 55 - 270 cm

#### Infill width 'a' for slab thicknesses of up to 35 cm

Primary beam	Infill width 'a'	Recommended secondary beam
1.10 m	55 - 100 cm	
1.80 m	90 - 170 cm	2.90 m
2.90 m	145 - 270 cm	

#### Eurex 30:

- max. prop spacing 'b': 70 cm
- max. primary-beam spacing: 244 cm
- max. secondary-beam spacing: 50 cm (Do not exceed the max. support centres of the formwork sheets!)
- for infill gaps 'a' ≥ 100 cm: intermediate prop (with Supporting head H20) is required

#### Infill width 'a' for slab thicknesses of up to 50 cm

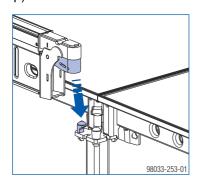
Primary beam	Infill width 'a'	Recommended secondary beam
1.10 m	55 - 100 cm	
1.80 m	90 - 170 cm	2.90 m
2.90 m	145 - 270 cm	
	•	

#### Eurex 30:

- max. prop spacing 'b': 50 cm
- max. primary-beam spacing: 244 cm
- max. secondary-beam spacing: 42 cm (Do not exceed the max. support centres of the formwork sheets!)
- for infill gaps 'a' ≥ 75 cm: intermediate prop (with Supporting head H20) is required

#### Assembly:

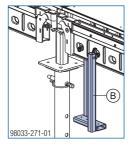
➤ Hook the infill beams into the support heads (cheek plate at top).



➤ Hook the suspension clamps into the infill beams as close to the floor props as possible.

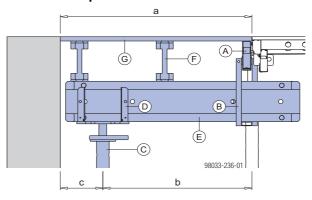
Number of suspension clamps needed:

- next to every floor prop in the longitudinal direction
- next to every other floor prop in the transverse direction



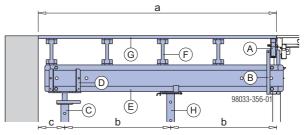
> Mount the fillers.

#### Practical example: Infill width 'a' ≤ 100 cm



c ... 35 cm (up to slab thickness of 35 cm), 25 cm (slab thickness > 35 cm and up to 50 cm)

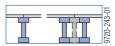
## Practical example: Infill width 'a' > 100 cm (with intermediate prop)



- c  $\dots$  35 cm (up to slab thickness of 35 cm), 25 cm (slab thickness > 35 cm and up to 50 cm)
- A Dokadek infill beam
- B Dokadek suspension clamp H20
- C Doka floor prop Eurex 30 top + Removable folding tripod
- D Lowering head H20
- E Doka beam H20 as primary beam
- F Doka beam H20 as secondary beam
- **G** Formwork sheeting
- H Intermediate prop with Supporting head H20



Place a beam (or double beam) wherever there is to be a joint between the panels.





#### **NOTICE**

Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

#### Dokadek infill-beam shoes

2 Dokadek infill-beam shoes 18mm or 21mm can be used in combination with a squared timber to create economical beams as an alternative to the conventional infill beams.

These beams can be used for closures of up to 50 cm at wall junctions in the Panel floor formwork Dokadek 30 system.

#### Features:

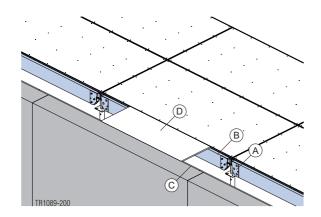
- For form-ply thicknesses of 18 mm and 21 mm
- Can be used with support head, wall head and XF drop head.
- The squared timber 200 x 40 mm is not included in the scope of supply!



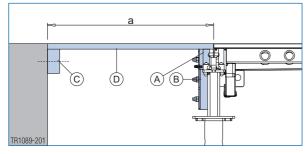
#### **NOTICE**

Use at the structure edge in combination with edge heads or XF edge heads is not possible!

#### Use with support head

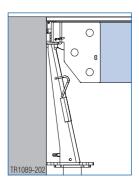


#### Close-up



- a ... max. 45 cm (up to slab thickness of 35 cm) ... max. 36 cm (slab thickness > 35 cm and up to 50 cm)
- A Dokadek infill-beam shoe 18mm or 21mm
- B Squared timber 200 x 40 mm
- C Support timber (site-provided)
- **D** Form-ply of 18mm or 21mm

#### Use with wall head



#### **Assembly**

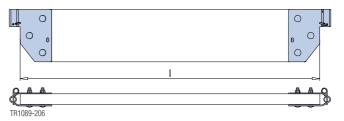
➤ Cut the squared timber to length (±2 mm).



#### **NOTICE**

Squared timber sized 200 x 40 mm with a min. timber quality of C24 (rough-cut).

Dokadek panel length [m]	Squared timber cut to length 'l' [m]
0.81	0.718
1.22	1.128
2.44	2.348



- ➤ Push the infill-beam shoe all the way onto the squared timber until this rests against the inside of the shoe, and mark the 3 holes to be drilled and the bevel to be cut.
- Remove the infill-beam shoe, drill holes with a diameter of 12 mm and bevel the ends of the squared timber
- ➤ Push the infill-beam shoe back on to the squared timber and fix it using the enclosed cup square bolts M10x65mm and hexagon nuts M10 (self-locking).



Make sure that the bolts are tight and fitted correctly!

### Infilling between 2 Dokadek formingsections

#### Variant 1: Infill width 'a' = 17 - 61 cm

## Max. infill width 'a' for slab thicknesses of up to 35 cm

	Туре о	f sheet
Sheet thickness	Doka formwork sheet 3-SO 1)	Multi-ply sheet 2)
18 mm	_	53 cm
21 mm	38 cm	60 cm
27 mm	59 cm	_

## Max. infill width 'a' for slab thicknesses of up to 50 cm

	Туре о	f sheet
Sheet thickness	Doka formwork sheet 3-SO 1)	Multi-ply sheet 2)
18 mm	_	52 cm
21 mm	35 cm	58 cm
27 mm	52 cm	_

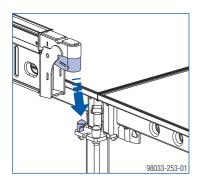
<sup>&</sup>lt;sup>1)</sup> The computed values apply to the secondary (i.e. weaker) load-bearing direction, with the longitudinal direction of the sheet parallel to the edge of the floor-slab.

Characteristic flexural strength where sheet moisture content is 10±2%:

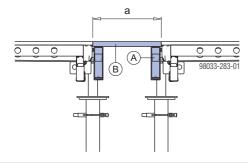
≥ 19 N/mm<sup>2</sup>

#### Assembly:

➤ Hook the infill beams into the support heads (cheek plate at top).



➤ Mount the fillers.



- A Dokadek infill beam
- **B** Formwork sheeting

#### Variant 2: Infill width 'a' = 55 - 270 cm

#### Infill width 'a' for slab thicknesses of up to 35 cm

Primary beam	Infill width 'a'	Recommended secondary beam
1.10 m	55 - 100 cm	
1.80 m	90 - 170 cm	2.90 m
2.90 m	145 - 270 cm	

#### Eurex 30:

- max. prop spacing 'b': 70 cm
- max. primary-beam spacing: 244 cm
- max. secondary-beam spacing: 45 cm (Do not exceed the max. support centres of the formwork sheets!)
- for infill gaps 'a' ≥ 80 cm: intermediate prop (with Supporting head H20) is required

#### Infill width 'a' for slab thicknesses of up to 50 cm

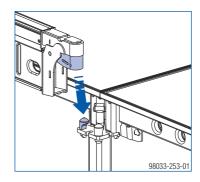
Primary beam	Infill width 'a'	Recommended secondary beam
1.10 m	55 - 100 cm	
1.80 m	90 - 170 cm	2.90 m
2.90 m	145 - 270 cm	

#### Eurex 30:

- max. prop spacing 'b': 47 cm
- max. primary-beam spacing: 244 cm
- max. secondary-beam spacing: 36 cm (Do not exceed the max. support centres of the formwork sheets!)
- for infill gaps 'a' ≥ 72 cm: intermediate prop (with Supporting head H20) is required

#### Assembly:

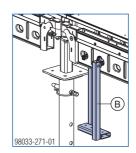
Hook the infill beams into the support heads (cheek plate at top).



➤ Hook the suspension clamps into the infill beams as close to the floor props as possible.

Number of suspension clamps needed:

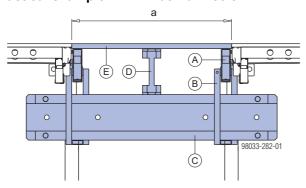
- next to every floor prop in the longitudinal direction
- next to every other floor prop in the transverse direction



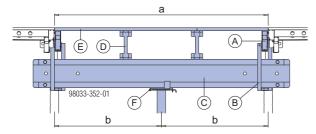
 $<sup>^{2)}</sup>$  Mean flexural modulus of elasticity where sheet moisture content is 10±2%:  $\geq$  5600 N/mm²

#### Mount the fillers.

#### Practical example: Infill width 'a' ≤ 80 cm



## Practical example: Infill width 'a' > 80 cm (with intermediate prop)



- A Dokadek infill beam
- B Dokadek suspension clamp H20
- C Doka beam H20 as primary beam
- D Doka beam H20 as secondary beam
- E Formwork sheeting
- F Intermediate prop with Supporting head H20



Place a beam (or double beam) wherever there is to be a joint between the panels.



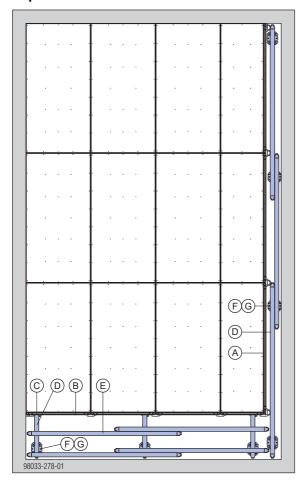


#### **NOTICE**

Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

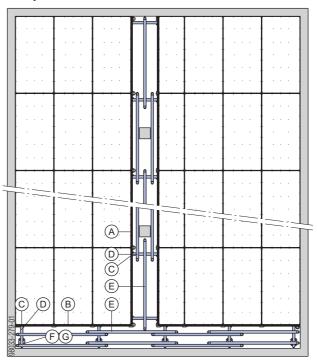
### **Practical examples**

### L-shaped infill zone

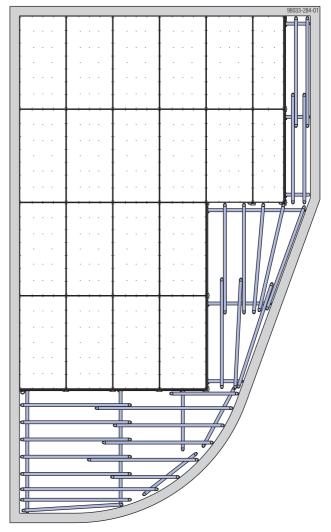


- A Dokadek infill beam 2.44m
- **B** Dokadek infill beam 1.22m or 0.81m
- C Dokadek suspension clamp H20
- D Doka beam H20 used as primary beam
- E Doka beam H20 used as secondary beam
- F Doka floor prop Eurex 30 top + Removable folding tripod
- **G** Lowering head H20

#### T-shaped infill zone



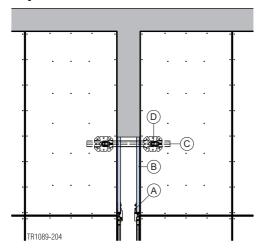
### Adapting to difficult layout shapes



Symbolic representation

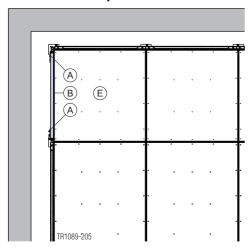
#### Dokadek infill-beam shoes

#### at T-wall junctions



- A Dokadek infill-beam shoe 18mm or 21mm
- **B** Squared timber 200 x 40 mm
- C Doka beam H20
- **D** Doka floor prop Eurex 30 top + Removable folding tripod top + Lowering head H20

#### with Dokadek custom panels

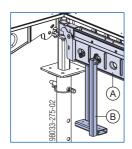


- A Dokadek infill-beam shoe 18mm or 21mm
- **B** Squared timber 200 x 40 mm
- E Dokadek custom panel

#### Infill zones around columns

## using Dokadek infill beams and Doka beams H20

- ➤ Hook 2 Infill beams 1.22m or 0.81m into the support heads in the transverse direction (cheek plate at top).
- ➤ Hook 4 suspension clamps into the infill beams as close to the floor props as possible.



- ➤ Fit 2 Doka beams H20 into the suspension clamps, to serve as primary beams.
- ➤ E.g. with 1.22 m wide panels: place Doka beams H20 (e.g. Dokadek system beams H20 eco P 1.10m for a panel width of 1.22 m) onto the primary beams, in the transverse direction.



Place a beam (or double beam) wherever there is to be a joint between the panels.



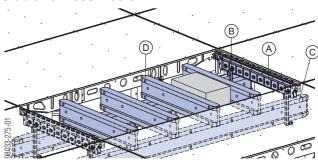


#### **NOTICE**

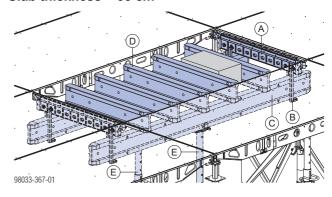
Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

#### Practical examples - Column located inside panelfield (variant 1)

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores per primary beam
≤ 35 cm	50 cm 1)	_
> 35 cm	42 cm 1)	1 (in mid-span)

<sup>1)</sup> Do not exceed the max. support centres of the formwork sheets!

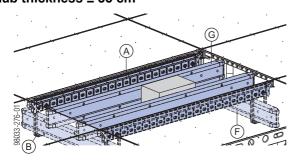
- A Dokadek infill beam 1.22m or 0.81m
- **B** Dokadek suspension clamp H20
- C Doka beam H20 2.90m used as primary beam
- D Doka beam H20 used as secondary beam (e.g. Dokadek system beam H20 eco P 1.10m for a panel width of 1.22 m)
- E Extra shore in mid-span):
  - Doka floor prop Eurex 30 top
  - Supporting head H20 DF

#### Practical examples - Column located inside panelfield (variant 2)

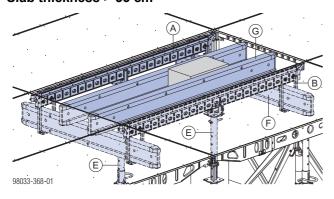


If necessary, the infill beams and Doka beams H20 can also be arranged the other way round, i.e. the Infill beams 2.44m on which the suspension clamps are mounted are fixed in the longitudinal direction.

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



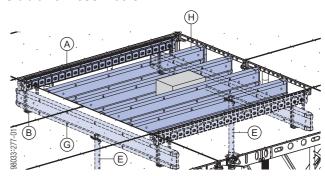
Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores per infill beam
≤ 35 cm	50 cm 1)	_
> 35 cm	42 cm <sup>1)</sup>	1 (in mid-span)

<sup>1)</sup> Do not exceed the max. support centres of the formwork sheets!

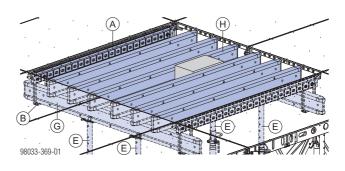
- A Dokadek infill beam 2.44m
- B Dokadek suspension clamp H20
- E Extra shore in mid-span)
  - :- Doka floor prop Eurex 30 top
  - Dokadek edge head + Spring locked connecting pin 16mm
- **F** Doka beam H20 used as primary beam (e.g. Doka beam H20 1.80m for a panel width of 1.22 m)
- **G** Doka beam H20 2.45m used as secondary beam

## Practical examples - Column is exactly beneath the panel joint

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores per primary beam
≤ 35 cm	50 cm 1)	1 (in mid-span)
> 35 cm	42 cm <sup>1)</sup>	2 (at the one-third points)

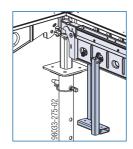
- <sup>1)</sup> Do not exceed the max. support centres of the formwork sheets!
- A Dokadek infill beam 2.44m
- **B** Dokadek suspension clamp H20
- E Extra shore:
  - Doka floor prop Eurex 30 top
  - Supporting head H20 DF
- **G** Doka beam H20 used as primary beam (e.g. Doka beam H20 2.90m for a panel width of 1.22 m)
- H Doka beam H20 2.45m used as secondary beam

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# with Dokadek panel 1.22x1.22m or 0.81x1,22m, Dokadek infill beam and Dokabeam H20

#### Note:

- The Dokadek support heads (B) have to be levelled approx. 5 cm lower than the other heads to avoid offsets.
- Set up the surrounding Dokadek panels 2.44m first, then engage the Dokadek panels 1.22m and swing them up into position.
- Engage the Dokadek panel 1.22x1.22m or 0.81x1.22m and swing it up into position in the longitudinal direction.
- ➤ Hook two infill beams 1.22m or 0.81m into the support heads in the transverse direction (cheek plate at top).
- ➤ Hook 4 suspension clamps into the infill beams as close to the floor props as possible.

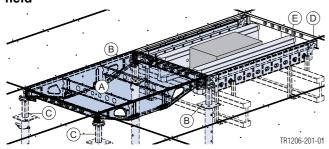


- ➤ Fit 2 Doka beams H20 into the suspension clamps, to serve as primary beams.
- ➤ Place Doka beams H20 onto these primary beams, in the transverse direction.



Up to a room height of 3.74 m, the suspension tool can be used for setting up and stripping out the panels from floor level.

## Practical examples - Column located inside panel-field



Dokadek panel	Slab thickness	N° of extra shores per primary beam
1.22x1.22m	≤ 35 cm	_
0.81x1.22m	≤ 50 cm	_

- **A** Dokadek panel 1,22x1,22m or 0,81x1,22m
- **B** Dokadek support head + Doka floor prop Eurex 30 top (in the middle of the closure)
- C Dokadek support head + Doka floor prop Eurex 30 top (at the inter-panel joint)
- D Dokadek infill beam 1.22m
- E Doka beam H20 used as secondary beam

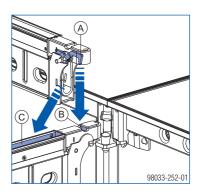
#### using Dokadek infill beams

- ➤ Hook 2 Infill beams 2.44m into the support heads in the longitudinal direction (cheek plate and locking mechanism at bottom).
- ➤ Place Infill beams 1.22m or 0.81m on the Infill beams 2.44m in the transverse direction (cheek plate at bottom, locking mechanism at top).



Position (A) of the locking mechanism of the transverse Infill beam 1.22m or 0.81m:

- at all 4 corners, in the recesses (B) on the Infill beams 2.44m
- between these, in the profile slots (C) on the Infill beams 2.44m





Be sure to place 2 infill beams wherever there is to be a joint between the panels.



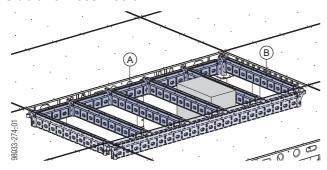


#### NOTICE

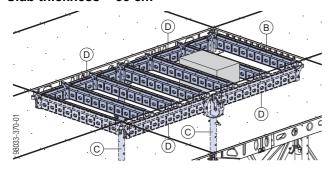
Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

#### Practical examples - Column located inside panelfield (variant 1)

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores
≤ 35 cm	50 cm <sup>1)</sup>	_
> 35 cm	42 cm <sup>1)</sup>	1

<sup>1)</sup> Do not exceed the max. support centres of the formwork sheets!

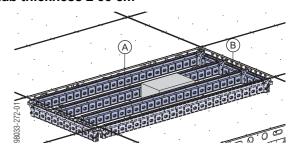
- A Dokadek infill beam 2.44m
- B Dokadek infill beam 1.22m or 0.81m
- C Extra shore:
  - Doka floor prop Eurex 30 top
  - Dokadek cross head + Spring locked connecting pin 16mm
- D Dokadek infill beams 1.22m (4 in all)

#### Practical examples - Column located inside panelfield (variant 2)

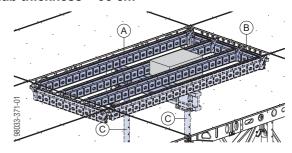


If necessary, the infill beams can also be arranged the other way round, i.e. the Infill beams 2.44m are laid onto the underlying Infill beams 1.22m or 0.81m.

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores on infill beams
≤ 35 cm	50 cm <sup>1)</sup>	<u> </u>
> 35 cm	42 cm <sup>1)</sup>	1 (in mid-span)

<sup>1)</sup> Do not exceed the max. support centres of the formwork sheets!

- A Dokadek infill beam 2.44m
- **B** Dokadek infill beam 1.22m or 0.81m
- C Extra shore for Dokadek infill beam 2.44m (Pos. A):
  - Doka floor prop Eurex 30 top
  - Removable folding tripod top
  - Lowering head / 4-way head H20
  - Doka beam H20 1.25m when using Dokadek panels
  - 1.22x2.44m

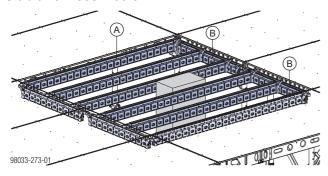


#### **NOTICE**

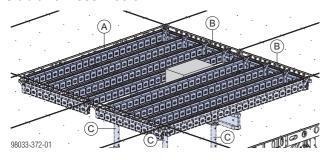
The extra prop must only be used for Dokadek infill beams 2.44m, and not for Dokadek panels.

## Practical examples - Column is exactly beneath the panel joint

#### Slab thickness ≤ 35 cm



#### Slab thickness > 35 cm



Slab thickness	Max. spacing of sec- ondary-beams	N° of extra shores on infill beams
≤ 35 cm	50 cm <sup>1)</sup>	_
> 35 cm	42 cm <sup>1)</sup>	1

- 1) Do not exceed the max. support centres of the formwork sheets!
- A Dokadek infill beam 2.44m
- B Dokadek infill beam 1.22m or 0.81m
- C Extra shore for Dokadek infill beam 2.44m (Pos. A):
  - Doka floor prop Eurex 30 top
  - Removable folding tripod top
  - Lowering head / 4-way head H20
  - Intermediate prop with Supporting head H20 DF
  - Doka beam H20 2.45m when using Dokadek panels
  - 1.22x2.44m



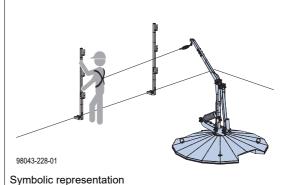
#### **NOTICE**

The extra prop must only be used for Dokadek infill beams 2.44m, and not for Dokadek panels.

#### **FreeFalcon**



A fall arrester such as the FreeFalcon provides a mobile anchorage point for the safety harness





#### **WARNING**

Risk of falling at open edges!

- ➤ The crew must use personal fall-arrest systems (e.g. safety harnesses) until all fall protection has been installed.
- Suitable anchorage points must be defined by an approved person appointed by the contractor.

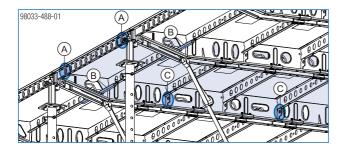


User instruction prior to use of the FreeFalcon is mandatory.

Follow the directions in the 'FreeFalcon' Operating Instructions.

### Floor formwork around edges

# with Lashing strap 5.00m and Doka express anchor 16x125mm



#### Permissible tie-back force [kN]

	Anchorage point in frame profile for longitudinal and transverse tie-backs	5 kN
В	Tie rod 20.0 in panel joint for longitudinal tie-back	5 kN
С	Anchorage point at the one-third point for longitudinal and transverse tie-backs	2.5 kN



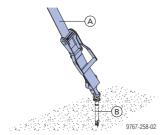
#### WARNING

- Do NOT exceed the permitted tie-back angle and tie-back force, so as to prevent damage to the Dokadek panel and to ensure that all forces from horizontal loads can be transferred in conformity with EN 12812.
- ➤ Use tie-backs to transfer horizontal forces. These forces can also be transferred into existing structural members such as concrete columns or walls.



#### **NOTICE**

- ➤ Only attach the Lashing strap 5.00m to the points shown above and tension it in the required direction of the profile.
- ➤ It is forbidden to fix tie-backs to the inside cross-profiles!
- ➤ Prepare an anchorage point in the ground with the Doka express anchor.
- > Attach the lashing strap and tighten it.



- A Lashing strap 5.00m
- B Doka express anchor 16x125mm

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

Permitted load in young (new) concrete and in cured C20/25 concrete with a characteristic cube compressive strength of f<sub>ck,cube</sub>≥14 N/mm²:

 $F_{perm.} = 5.0 \text{ kN } (R_d = 7.5 \text{ kN})$ 



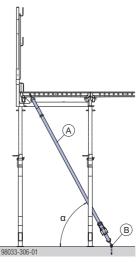
Follow the directions in the 'Doka express anchor 16x125mm' Fitting Instructions and the 'Lashing strap 5.00m' User Information booklet.

Always perform a static check if other-make heavyduty dowels are used to fabricate anchorages in the floor slab.

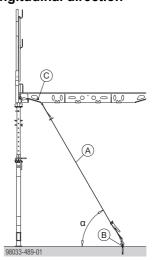
Follow the manufacturers' applicable fitting instructions.

#### Practical examples

#### Tie-back in transverse direction



#### Tie-back in longitudinal direction



- α ... Bracing angle approx. 60°
- A Lashing strap 5.00m
- B Doka express anchor 16x125mm
- **C** Tie rod 20.0

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Safetv barrier

### Guardrail systems on the formwork



#### **CAUTION**

- The handrail-post shoe short and handrailpost shoe long may only be used in combination with the Handrail post XP 1.20m.
- ➤ The Handrail-post shoe short 1.20m may only be used in combination with the Handrail post XP 1.20m or 1.80m.
- Use of Handrail post shoe long 1.20m with Handrail post XP 1.80m not permitted.



#### **NOTICE**

- Ideally, guardrail systems etc. should be mounted from below (e.g. using a Wheelaround scaffold DF).
- When mounting/dismounting edge protection from above, the crew must use a personal fall-arrest system (e.g. safety har-
- Suitable anchorage points must be defined by an approved person appointed by the contractor.



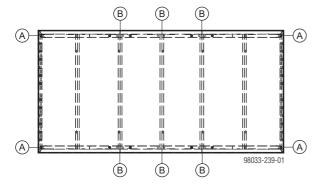
Follow the directions in the 'Edge protection system XP' User Information booklet.

#### Guardrail system with transfer of concreting loads

The Dokadek handrail-post shoes are fixed to defined positions on the previously-mounted Dokadek panel. They are used for holding Handrail posts XP 1.20m or 1.80m (see the section headed 'Slab stop-ends').

Dokadek handrail-post shoe short	Dokadek handrail-post shoe long

#### Possible fixing points for the handrail-post shoes



- A Dokadek handrail-post shoe short
- B Dokadek handrail-post shoe long

#### Permitted influence width [cm] of the handrail-post shoes for slab thicknesses of up to 32 cm (without additional precautions)

	Odioty Barrior								
	Guardrail board 15 cm <sup>1)</sup>	Guardrail board 20 cm <sup>1)</sup>	Scaffold tube 48.3mm	Protective grating XP 2.70x1.20m					
Dynamic pressure q [kN/m²]	With concrete load								
0.2	137	137	137	137					
		Without co	ncrete load						
0.2	259	259	259	259					
0.6	259	137	259	259					
1.1	137	_	259	259					
1.3	_	_	259	244					
1) Minimum thickness 3 c	m for influe	ence width	greater tha	n 137 cm					

Permitted influence width [cm] of the handrail-post shoes for slab thicknesses of up to 50 cm (with additional precautions)

Safety barrier

	Guardrail board 15 cm	Guardrail board 20 cm	Protective grating XP 2.70x1.20m				
Dynamic pressure q [kN/m²]	With concrete load						
0.2	137 <sup>2)</sup>	137	137				
	Witho	ut concrete	load				
0.2	259 <sup>2)</sup>	259	259				
0.6	259 <sup>2)</sup>	137	259				
1.1	137 <sup>2)</sup>	_	259				
1.3	_	_	244				

)2)

<sup>2)</sup> Guardrail boards 15 cm are only permitted up to a slab thickness of



- The span of the handrail posts is roughly equal to the influence width if
  - they are evenly spaced
  - the guardrail boards are either continuous or are jointed at the handrail posts, and
  - there are no cantilevering projections.
- The wind conditions likely to be encountered in Europe, in accordance with EN 13374, are largely recognised by the dynamic pressure q=0.6 kN/m<sup>2</sup> (highlighted grey in the tables).

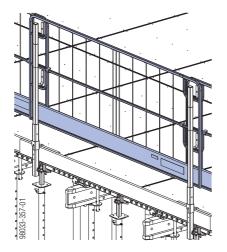
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<sup>1)</sup> Minimum thickness 3 cm for influence width greater than 137 cm.



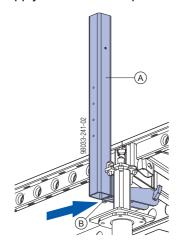
#### **NOTICE**

For slab thicknesses > 30 cm, raise the Protective grating XP into the position shown here, so as to obtain the required railing height after pouring.



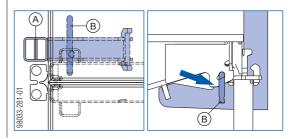
#### Attaching a 'Handrail-post shoe - short'

➤ Working from below, push the handrail-post shoe short onto the longitudinal profile of the Dokadek panel and fix it with bolts (these are included in the scope of supply of the handrail-post shoe short).





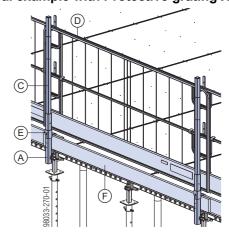
Make sure that the handrail-post shoe short **(A)** and the bolt (vertical!) **(B)** are in the correct position!



Animation: https://player.vimeo.com/video/263298687

- ➤ Push on the Handrail post XP 1.20m until it locks ('Easy-Click' function).
- ➤ Mount the sideguards.

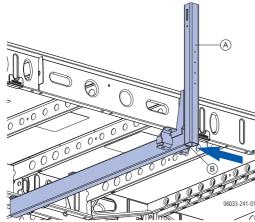
#### Practical example with Protective grating XP

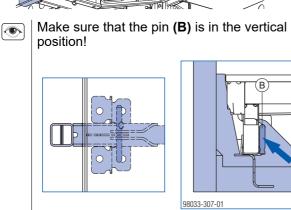


- A Dokadek handrail-post shoe short
- **B** Pin
- C Handrail post XP 1.20m
- **D** Protective grating XP 2.70x1.20m
- E Toeboard holder XP 0.60m
- F Toeboard

#### Attaching a 'Handrail-post shoe - long'

➤ Working from below, push the handrail-post shoe long onto the longitudinal profile of the Dokadek panel, in the transverse direction, and fix it to the cross profile with pins (these are included in the scope of supply of the handrail-post shoe long).

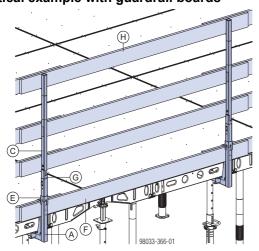




Animation: https://player.vimeo.com/video/263298834

- ➤ Push on the Handrail post XP 1.20m until it locks ('Easy-Click' function).
- > Mount the sideguards.

#### Practical example with guardrail boards



- A Dokadek handrail-post shoe long
- **B** Pin
- C Handrail post XP 1.20m
- E Toeboard holder XP 0.60m
- F Toeboard
- G Toeboard holder XP 1.20m
- **H** Guardrail boards

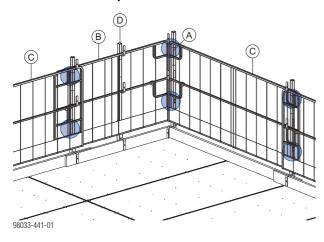
#### **Guardrail systems at corners**



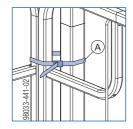
#### **NOTICE**

- In corner zones, the Protective gratings XP must be attached to the Handrail posts XP with cable ties or binding wire (see the blue markings in the examples illustrated here). It is not permitted to use the Velcro® fastener 30x380mm.
- On the broadside of the panel, the first grating to be placed (starting from the corner) must always be a Protective grating XP 2.00m. After this, Protective gratings XP 2.70m can be used.
- For slab thicknesses > 32 cm, an extra Toeboard holder XP must be mounted on the corner Handrail post XP.

#### Practical example for slab thickness ≤ 32 cm

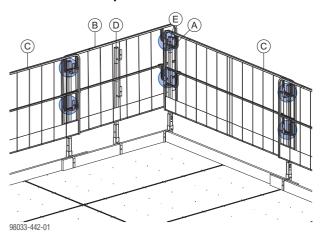


Close-up: attachment method

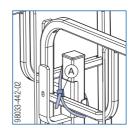


- A Attached with cable tie or binding wire
- B Protective grating XP 2.00x1.20m
- C Protective grating XP 2.70x1.20m
- **D** Handrail post XP 1.20m
- E Toeboard holder XP 1.20m

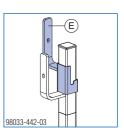
#### Practical example for slab thickness > 32 cm



Close-up: attachment method



Close-up: extra Toeboard holder XP 1.20m

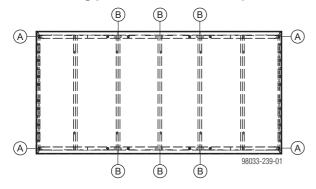


## Guardrail system without transfer of concreting loads

The Dokadek handrail-post shoes 1.20m are fixed to defined positions on the previously-mounted Dokadek panel. They are used for holding Handrail posts XP 1.20m or 1.80m.

Dokadek handrail-post shoe short 1.20m	Dokadek handrail-post shoe long 1.20m

#### Possible fixing points for the handrail-post shoes



- A Dokadek handrail-post shoe short 1.20m
- B Dokadek handrail-post shoe long 1.20m



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



#### **CAUTION**

➤ When using the Handrail-post shoe short and Handrail-post shoe long 1.20m with a Handrail post XP 1.20m, allowance must be made for a walkway at least 60 cm in width in accordance with DIN 4420.

Consequently, use of the Handrail-post shoe short 1.20m and a Handrail post XP 1.20m is not permitted on cantilevered panels at the edge of the structure.

#### Note:

The information stated here is compliant with the German DIN standards and the rules set out by the German Employers Liability Insurance Association for the Construction Industry and consequently, they are particularly applicable within Germany. However, this ruling can be used as a recommendation in other countries, unless other, stricter national regulations apply. It is the responsibility of the national organisation in the country in question to establish whether this is the case.

## Permitted influence width [cm] of the handrail-post shoes with Handrail posts XP 1.20m

	Safety barrier							
	Guardrail board 15 cm <sup>1)</sup>	Guardrail board 20 cm <sup>1)</sup>	Scaffold tube 48.3mm	Protective grating XP 2.70x1.20m				
Dynamic pressure q [kN/m²]		Without co	ncrete load					
0.2	259	259	259	259				
0.6	259	137	259	259				
1.1	137	_	259	259				
1.3	_	_	259	244				
1) Minimum thickness 3 c	m for influe	nco width	groater tha	n 127 cm				

<sup>1)</sup> Minimum thickness 3 cm for influence width greater than 137 cm.

## Permitted influence width [cm] of the Handrail-post shoe short 1.20m with Handrail post XP 1.80 m

	Safety barrier							
	Guardrail board 15 cm <sup>1)</sup>	Guardrail board 20 cm <sup>1)</sup>	Scaffold tube 48.3mm	Protective gratings XP 2.70x1.20m + 2.70x0.60m				
Dynamic pressure q [kN/m²]		Without co	ncrete load					
0.2	259	244	259	259				
0.6	259	137	259	259				
1.1	122	61	259	259				
1.3	61	61	259	244				
1) Minimum thickness 3 c	m for influe	ance width	areater tha	n 137 cm				

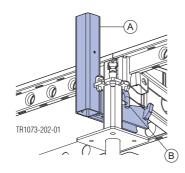
<sup>1)</sup> Minimum thickness 3 cm for influence width greater than 137 cm.



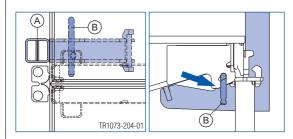
- The span of the handrail posts is roughly equal to the influence width if
  - they are evenly spaced
  - the guardrail boards are either continuous or are jointed at the handrail posts, and
  - there are no cantilevering projections.
- The wind conditions likely to be encountered in Europe, in accordance with EN 13374, are largely recognised by the dynamic pressure q=0.6 kN/m² (highlighted grey in the tables).

## Secure the Dokadek handrail-post shoe short 1.20m

➤ Working from below, push the handrail-post shoe short 1.20m onto the longitudinal profile of the Dokadek panel and fix it with bolts (these are included in the scope of supply of the handrail-post shoe short).



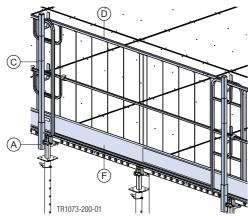
Make sure that the handrail-post shoe short **(A)** and the bolt (vertical!) **(B)** are in the correct position!



Animation: https://player.vimeo.com/video/263298915

- ➤ Push on the Handrail post XP 1.20m until it locks ('Easy-Click' function).
- > Mount the sideguards.

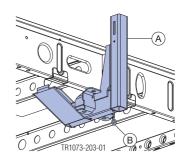
#### **Practical example with Protective grating XP**



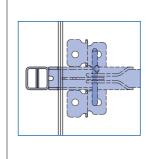
- A Dokadek handrail-post shoe short 1.20m
- **R** Pin
- C Handrail post XP 1.20m
- **D** Protective grating XP 2.70x1.20m
- F Toeboard

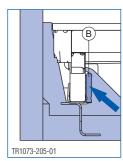
#### Secure the Dokadek handrail-post shoe long 1.20m

➤ Working from below, push the handrail-post shoe long 1.20m onto the longitudinal profile of the Dokadek panel, in the transverse direction, and fix it to the cross profile with pins (these are included in the scope of supply of the handrail-post shoe long).



Make sure that the pin **(B)** is in the vertical position!

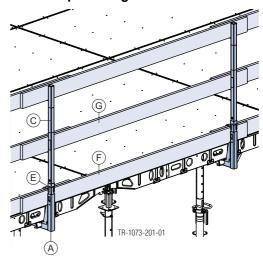




Animation: https://player.vimeo.com/video/263299062

- ➤ Push on the Handrail post XP 1.20m until it locks ('Easy-Click' function).
- ➤ Mount the sideguards.

#### Practical example with guardrail boards



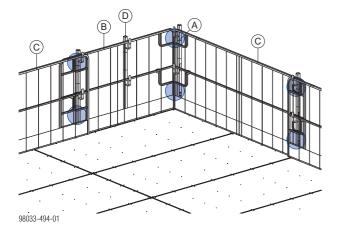
- A Dokadek handrail-post shoe long 1.20m
- **B** Pir
- C Handrail post XP 1.20m
- E Toeboard holder XP 1.20m
- F Toeboard
- **G** Guardrail boards

#### **Guardrail systems at corners**

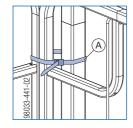


#### **NOTICE**

- In corner zones, the Protective gratings XP must be attached to the Handrail posts XP with cable ties or binding wire (see the blue markings in the examples illustrated here). It is not permitted to use the Velcro® fastener 30x380mm.
- On the broadside of the panel, the first grating to be placed (starting from the corner) must always be a Protective grating XP 2.00m. After this, Protective gratings XP 2.70m can be used.



#### Close-up showing how fastened:

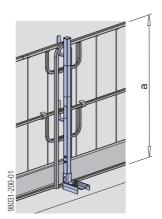


- A Attached with cable tie or binding wire
- **B** Protective grating XP 2.00x1.20m
- C Protective grating XP 2.70x1.20m
- D Handrail post XP 1.20m

#### 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, guardrail boards or scaffold tubes can be used as the safety barrier



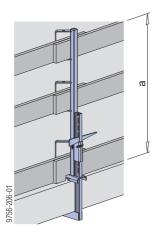
a ... > 1.00 m



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

#### Handrail clamp S

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



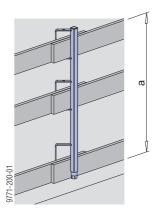
a ... > 1.00 m



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

#### 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



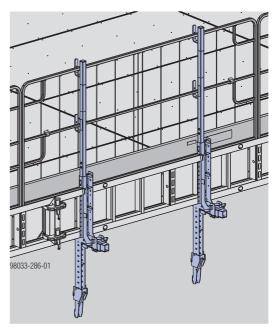
a ... > 1.00 m



Follow the directions in the 'Handrail post 1.10m' User Information!

#### Doka floor end-shutter clamp

Slab stop-ends and fall-arrest barriers in one system





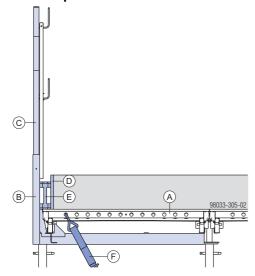
Follow the directions in the "Doka floor endshutter clamp" User Information booklet!

### Slab stop-ends

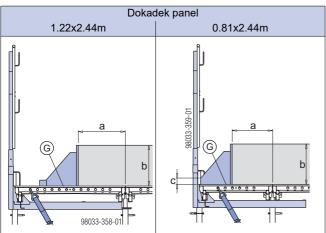
Permissible influence width of the Dokadek handrailpost shoes with slab stop-ends: 137 cm

### in the longitudinal direction

#### Practical example for slab thickness ≤ 32 cm



#### Practical example for slab thickness > 32 cm

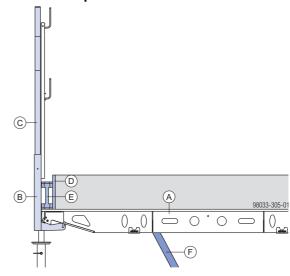


b ... max. 50 cm c ... max. 5 cm

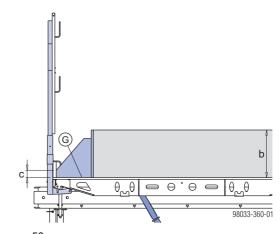
Dokadek panel	Max. projecting concrete cover on Dokadek panel <b>a</b> [cm]	Max. slab thickness <b>b</b> [cm]
1.22x2.44m	52	50
0.81x2.44m	All remainder of panel	45

#### in the transverse direction

#### Practical example for slab thickness ≤ 32 cm



#### Practical example for slab thickness > 32 cm



- b ... max. <u>5</u>0 cm
- c ... max. 5 cm
- A Dokadek panel
- **B** Dokadek 'handrail-post shoe long' or 'handrail-post shoe short'
- C Handrail post XP 1.20m
- **D** Formwork sheeting
- E Doka beam H20
- F Lashing strap 5.00m
- **G** Spax screws for attaching the stop-end to the Dokadek panel

999821102 - 09/2022 **doka** 

## Forming downstand beams

# Forming drop beams with Dokadek 30 panels

## $\wedge$

#### **WARNING**

Transfer of horizontal loads as defined by EN 12812 must be catered for by other measures (e.g. by transferring loads into the structure or using tie-backs).



#### **NOTICE**

- Throughout assembly and dismantling of the formwork, it is essential that adequate fall protection is in place at all times. For example, a wheel-around working scaffold.
- Follow all country-specific regulations.

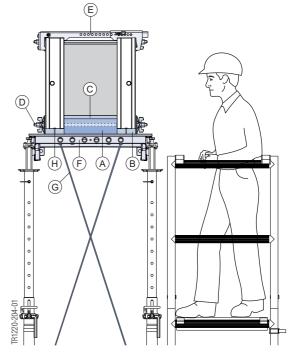


#### **NOTICE**

 For forming drop beams, only use the Dokadek panel in the longitudinal direction.



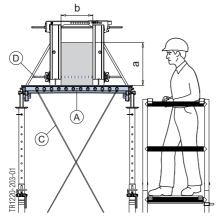
- Centre the drop beam on the panel.
- Allow up to 3 mm extra height for the side formwork.
- Install bracing frames or crossed tie-backs to ensure stability of assembly.
- Handrail-post shoes long are not allowed, because it is not permissible to introduce forces from the side formwork.
- If form-tie points in the drop beam are not allowed, squared timbers have to be placed alongside each other in virtually full-surface contact (see illustration below).



- A Squared timber (site-provided)
- B Squared timber min. 4 cm (site-provided)
- C Formwork sheeting
- **D** Tie rod 15.0 + Super plate 15.0
- E Framax head anchor
- F Dokadek panel
- **G** Lashing strap
- **H** Nail

#### Drop-beam not integrated into the slab

## Drop-beam height up to 50 cm without additional formwork sheeting



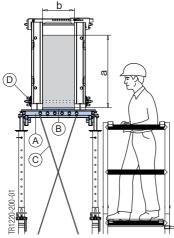
- a ... max. drop-beam height 50 cm
- b ... max. drop-beam width 60 cm
- A Dokadek Panel panel 1.22x2.44m or 0.81x2.44m
- C Lashing strap
- D Tie rod 15.0 + Super plate 15.0

## Drop-beam height > 50 cm to 100 cm with additional formwork sheeting



#### **NOTICE**

 The Dokadek panel 1.22x2.44m must not be used for forming drop beams of 50 cm to 100 cm high.



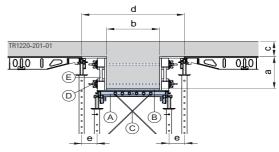
- a ... max. drop-beam height 100 cm
- b ... max. drop-beam width 45 cm
- A Dokadek panel 0.81x2.44m
- B Formwork sheeting (must be used)
- C Lashing strap
- **D** Tie rod 15.0 + Super plate 15.0

#### Drop-beam integrated into the floor-slab



#### **NOTICE**

- The Dokadek panel 1.22x2.44m must not be used for forming drop beams integrated into the slab.
- Additional formwork sheeting must be used.
- Secure the Doka beam H20 in position, for example by nailing.
- Position the structure for forming the drop beam symmetrically on the Dokadek panel.



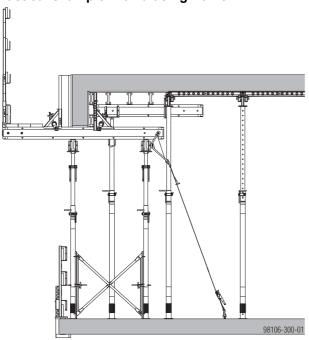
- a ... drop-beam height
- b ... drop-beam width
- c ... height of floor-slab
- d ... max. 116 cm
- e ... max. 17.5 cm
- A Dokadek panel 0.81x2.44m
- B Formwork sheeting (must be used)
- **C** Lashing strap
- **D** Tie rod 15.0 + Super plate 15.0
- E Doka beam H20

Drop beam	with slab 20 cm	with slab 30 cm
max. height 'a'	45 cm	35 cm
max. width 'b'	≤ 60 cm	≤ 60 cm

# Forming drop beams in combination with Dokaflex

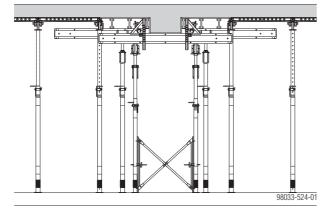
### Practical example 1

### Practical example with bracing frame



### Practical example 2

### **Practical example with Dokaflex**

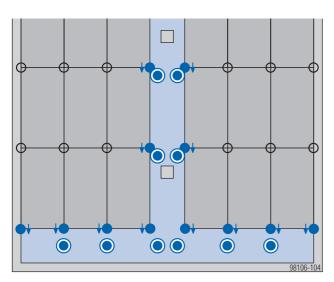


## Early stripping without drop head without activation of the slab

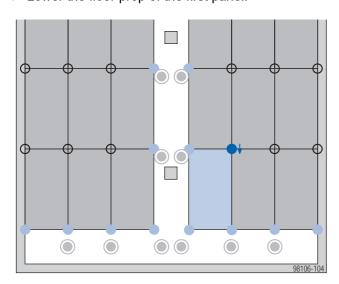
The precondition for this is the presence of an upper reinforcement layer (minimum reinforcement is sufficient) to sustain the stresses occurring above the props.

#### **Explanation of symbols:**

- O System prop under load
- Floor prop for lowering
- Temporary reshore for installation floor props of same type as system props
- Temporary reshore already under load
- Lowered floor props
- ➤ Lower all floor props of the panels in the edge area of the infill.
- Position floor props to shore up the formwork panels of the infill zone.

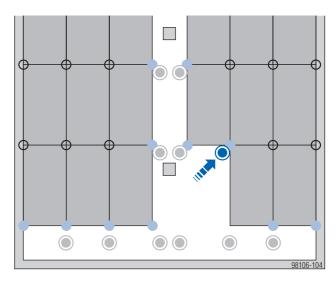


- ➤ Remove the supporting structure in the infill zone, leaving the reshored formwork sheeting in place.
- Lower the floor prop of the first panel.

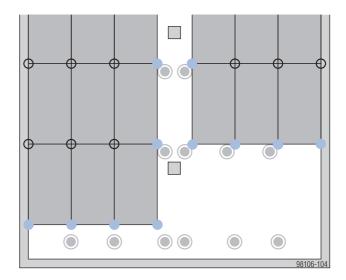


> Strike the panel.

➤ Use the floor prop as a temporary reshore.



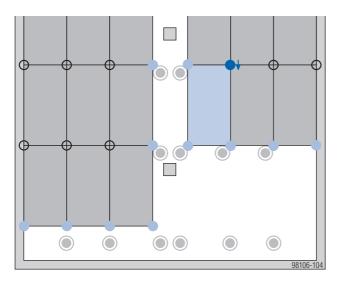
➤ In the same way, lower the floor props of the next panel in the row, strike the panel and use the floor prop for temporary reshoring, and proceed to the next panel.



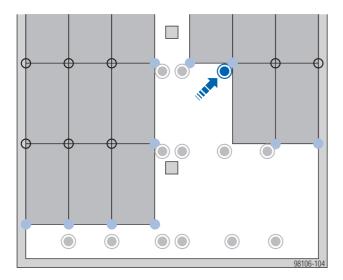
#### Note:

An extra floor prop for temporary reshoring is not necessary at the wall area.

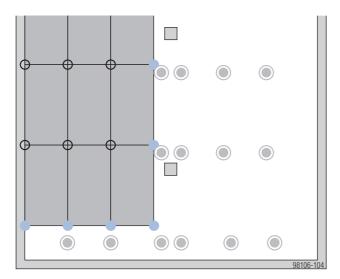
- Proceed in the same way with each row of panels in turn.
- Lower the floor props.



- > Strike the panel.
- ➤ Use the floor prop for temporary reshoring.



Working on the same principle, strike the remaining panels and use the floor props for temporary reshoring.



Strike the formwork in the remainder of the room in the same way. This leaves only the temporary reshoring in place.



#### **NOTICE**

All systems in which the floor props are reinstalled directly after section-by-section stripping out, with the result that the floor slab is not activated.

In early striping without drop head without activation of the slab, the formwork is removed section by section, with the props being reinstalled immediately to reshore each section as it is stripped.

One possibility with Dokaflex 1-2-4 is to insert strips of formwork sheeting that can be propped to carry the slab, permitting the actual formwork to be stripped out.

Strips of formwork sheeting can also be positioned between tables, and propped.

Important parts of the procedure:

- As each floor prop is placed it has to be prestressed by a blow with a hammer against the adjusting nut.
- The entire slab is not stripped out at once, because it does not yet have the strength necessary to support its own weight; instead, stripping out proceeds by small degrees, section by section.
- At the time of striking, the slab must have sufficient strength to carry itself between the floor props.

A minimum concrete strength of C8/10 and the presence of top reinforcement suffice for a span of max. 2.6 m between props.

Top reinforcement of 1.88 cm<sup>2</sup>/m is required. If slab thickness is less than 16 cm the top reinforcement has to be at least 2.1 cm<sup>2</sup>/m.

- Consequently, the floor slab is not activated
- Before the next floor-slab is poured, the floor props must be completely stressrelieved, so that they can be subsequently re-used as temporary reshores.
- It is important to allow for adequate curing.

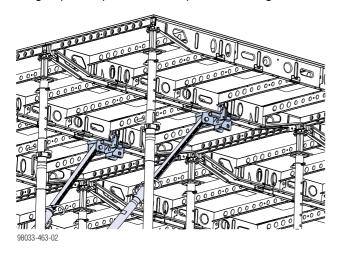
#### Note:

For more information about correct positioning of the reshoring props, see the section headed 'Reshoring props, concrete technology and stripping out'.

### Additional areas of use

### **Sloping slabs**

The Dokadek plumbing-strut connector is used for transferring horizontal loads via plumbing struts in situations where Panel floor formwork Dokadek 30 is being used to form e.g. sloping slabs, or sections of slab along exposed (= no side wall) structure-edges.



Permitted compressive force: 13.5 kN

Permitted tensile force: 5 kN

#### Features:

- For connecting Plumbing struts 340 IB and Plumbing struts 540 IB.
- For use at slab-edges instead of tie-backs (e.g. Lashing strap 5.00m).



#### **CAUTION**

➤ If the slab is inclined a separate structuraldesign appraisal is needed, and the necessary additional precautions (e.g. plumbing struts) must be defined.



#### **NOTICE**

Transfer of horizontal loads from the following points must be ensured by the plumbing strut connector:

- imperfection
- inclinations
- work operations
- props not vertical
- concrete pressure
- wind



#### **NOTICE**

Take the angle of inclination of the working surface into account for the edge protection system! (See EN 13374).



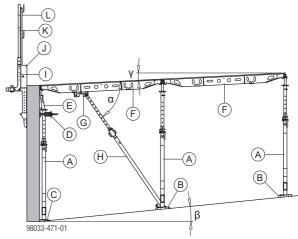
Compensating plates can be used to compensate for floor-slab angles of inclination up to 16 % in all directions.



Follow the directions in the 'Doka express anchor 16x125mm' Fitting Instructions!

### Forming inclined floor-slabs

## Usage situation A: Doka floor props are in the vertical

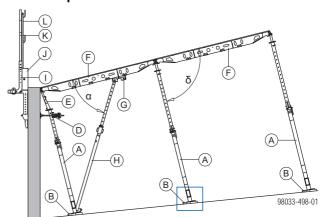


α ... approx. 60°

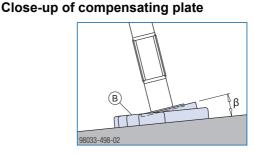
β ... max. 16%

y... max. 5% without drop head and max. 3% with drop-head (in both the longitudinal and transverse directions)

## Usage situation B: Doka floor props are at 90° to the formwork plane



α ... approx. 60°



β ... max. 16%

- A Doka floor prop Eurex
- **B** Compensating plate
- C Wooden wedge
- D Dokadek wall clamp

- E Dokadek wall head
- F Dokadek panel
- G Dokadek plumbing-strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB
- I Doka floor end-shutter clamp
- J Framax Xlife panel
- K Handrail post XP 1.20m
- L Protective grating XP 2.70x1.20m



#### **NOTICE**

Because the floor props are out-of-vertical, additional horizontal forces occur!

#### Closing the formwork

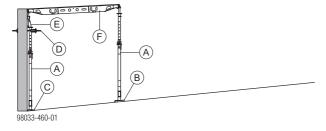


#### **NOTICE**

Ensure the stability of all components and units during all phases of the construction work!

#### e.g. Usage situation A:

- ➤ Set up the Doka floor props and use compensating plates to plumb the props. Use wooden wedges close to the edge of the slab where space is restricted.
- ➤ Use Dokadek wall clamps to secure the floor props against tip-over.
- Fit a Dokadek wall head.
- Engage the panel, raise the free end and fix it.



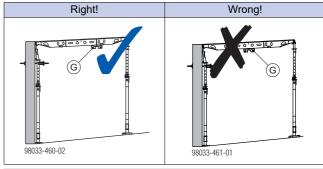
- A Doka floor prop Eurex
- **B** Compensating plate
- C Wooden wedge
- D Dokadek wall clamp
- E Dokadek wall head
- F Dokadek panel

## How to mount the Dokadek plumbing-strut connector

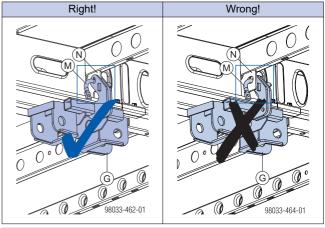


#### **NOTICE**

The plumbing-strut connector is only allowed to be fitted 1/3 of the way along the Dokadek panel.



- G Dokadek plumbing strut connector
- > Pull both safety pins out of the stand-by position.
- ➤ Fit the plumbing-strut connector onto the longitudinal girder of the panel.
- ➤ Pin the connector to the transverse stiffening plates of the panel with the safety pins.



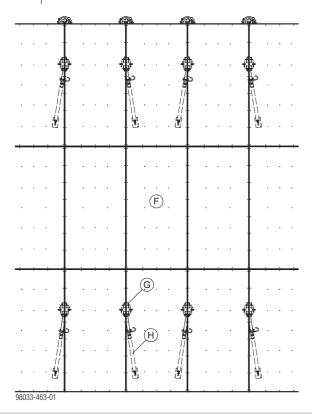
- M Safety pin
- N Transverse stiffening plate

## Correct arrangement of plumbing-strut connectors in free-standing systems



#### **NOTICE**

- Fit additional plumbing-strut connectors as statically required.
- On free-standing systems, make sure that the plumbing-strut connectors are fitted facing in alternate directions.

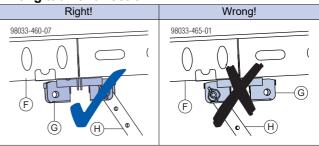


- F Dokadek panel
- G Dokadek plumbing-strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB

#### Attaching the plumbing strut

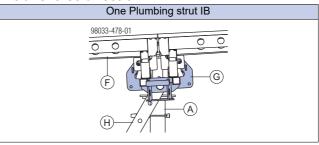
- ➤ Take the fastening bolt out of the plumbing strut.
- ➤ Attach the plumbing strut in either the longitudinal or transverse direction, depending on the inclination of the slab.

#### In longitudinal direction:



- F Dokadek panel
- G Dokadek plumbing strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB

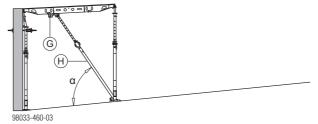
#### In transverse direction:



- A Doka floor prop Eurex
- F Dokadek panel
- G Dokadek plumbing strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB
- ➤ Pin the plumbing strut onto the plumbing-strut connector with the fastening bolt.

Animation: https://player.vimeo.com/video/258967173

- > Extend the plumbing strut to the desired length.
- ➤ Fix the plumbing strut to the floor with a Doka express anchor.



- α ... approx. 60°
- G Dokadek plumbing strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB



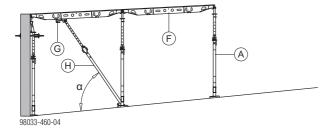
#### **NOTICE**

When extending the Plumbing strut IB, only turn the adjusting nut until the strut encounters resistance from above. The panel must not be raised.

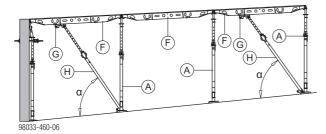


Follow the directions in the 'Doka express anchor 16x125mm' Fitting Instructions!

> Put up further panels.



- α ... approx. 60°
- A Doka floor prop Eurex
- F Dokadek panel
- **G** Dokadek plumbing strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB
- ➤ Then fit plumbing-strut connectors as needed.
- ➤ Pin a plumbing strut to each connector and fix each strut to the floor with a Doka express anchor.



- α ... approx. 60°
- A Doka floor prop Eurex
- F Dokadek panel
- **G** Dokadek plumbing strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB

#### **Pouring**

Before pouring, recheck all floor props.



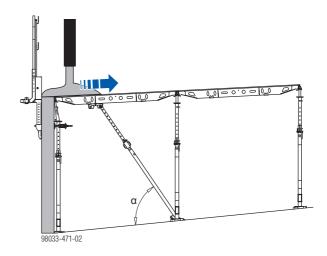
- The fastening clamp (A) has to be pushed all the way into the floor prop.
- Adjusting nut (B) has to be tightened into contact with the fastening clamp.





#### **WARNING**

- Only start pouring on a supported panelfield
- Make sure that pouring is carried out in the correct direction (from 'bottom to top')!



#### Stripping the formwork

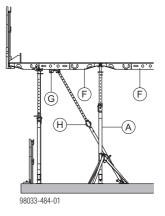


#### **NOTICE**

- Comply with the stipulated stripping times.
- Always strip out the formwork in reverse order.
- As well as the instructions given here, the section headed 'Reshoring props, concrete technology and stripping out' must also be observed.

#### Forming at slab-edges

#### **Usage situation C:**



- A Doka floor prop Eurex
- F Dokadek panel
- G Dokadek plumbing-strut connector
- H Plumbing strut 340 IB or Plumbing strut 540 IB

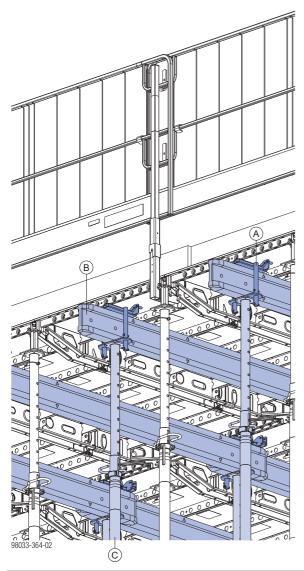
#### Note:

A Dokadek plumbing-strut connector can be mounted 1/2-way along the Dokadek panel and used – together with a plumbing strut – as a tie-back.



Follow the directions in the 'Structure edge (Panel floor formwork Dokadek 30)' User Information booklet.

## Additional precautions for slab thicknesses of up to 50 cm



- A Timber-beam seat H20
- B Doka beam H20 (recommended length: 2.90m)
- C Doka floor prop Eurex 30 top

## Permitted slab thickness [cm] with additional precautions

Panel size		Flatness deviation as per DIN 18202, Table 3
1.22x2.44m	> 30 - 50	Line 6
0.81x2.44m	> 45 - 50	Line 6



#### **NOTICE**

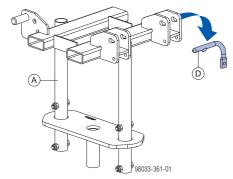
The additional propping is mounted AFTER the formwork has been secured against tipover.

# Mounting additional shores (in the typical zone)

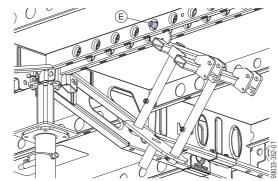
Mounting the Timber beam seat H20 (in the typical zone)

#### at a panel joint

➤ Remove the safety pin of the Timber-beam seat H20, from its stand-by position.

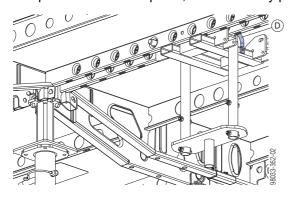


- A Timber-beam seat H20
- D Safety pin
- ➤ Mount the Timber-beam seat H20 to the middle of the cross profile of the panel. To do this, insert a d16mm bolt into the 2nd hole of the cross profile (from the middle) of one of the two panels.

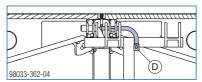


E Bolt, d16mm

➤ Tilt up the Timber-beam seat H20 and fix it in the cross profile of the other panel, with the safety pin.



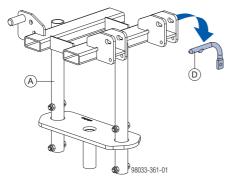
#### Close-up of safety pin



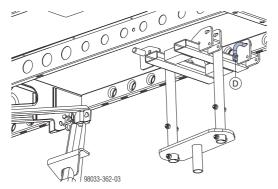
**D** Safety pin

#### on an edge panel

➤ Remove the safety pin of the Timber-beam seat H20, from its stand-by position.



- A Timber-beam seat H20
- D Safety pin
- ➤ Mount the Timber-beam seat H20 to the middle of the cross profile of the panel. To do this, fix the safety pin in the 2nd hole of the cross profile (from the middle).



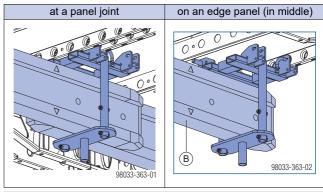
**D** Safety pin

#### Inserting Doka beams H20



#### **NOTICE**

- ➤ When beams need to be telescoped past each other, always do this in the same Timber beam seat H20.
- ➤ At the edge of the formwork, the single beam must be resting in the middle of the Timber beam seat H20, and touching the wall.
- ➤ Use the Alu beam fork H20 to insert the Doka beams H20 into the Timber beam seats.



B Doka beam H20 (recommended length: 2.90m)

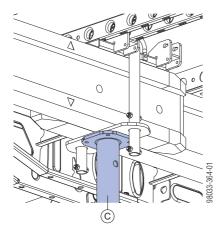
Animation: https://player.vimeo.com/video/258743381

#### Fitting the floor props



#### **NOTICE**

- The Doka beams H20, the Timber-beam seat H20 and the Dokadek panel must be form-locked.
- The ends of the beams must be resting solidly on the Timber-beam seats H20.
- Secure with tripods the standard-system floor props that have only 1 panel resting on the heads.
- When extending the props, only turn the adjusting nut until the prop encounters resistance from above. The panel must NOT be raised.
- ➤ Roughly adjust the height of the floor props, using the fastening clamp.
- Fit the floor prop into the Timber-beam seat H20, and adjust it.



- C Doka floor prop Eurex 30 top
- ➤ After fitting all the floor props, raise the Doka beams H20 by turning the adjusting nut on each prop.



Do not fit and extend the floor props until the reinforcement has been placed. This lessens the risk of panels being lifted out of the Dokadek heads.

# Mounting additional shores (at the structure edge)



For more information, see the 'Structure edge (Panel floor formwork Dokadek 30)' User Information booklet.

### Stripping the formwork



#### **NOTICE**

- Comply with the stipulated stripping times.
- Always strip out the formwork in reverse order.
- As well as the instructions given here, you must follow the instructions in the section headed 'Reshoring props, concrete technology and stripping out'.

On slabs with thicknesses of between 30 cm and 50 cm, early removal of all the extra shores from the typical zone is permitted even in cases where service loads and live loads are present. The resulting prop loads are of max. 40 kN per prop, which is permissible for temporary reshores.

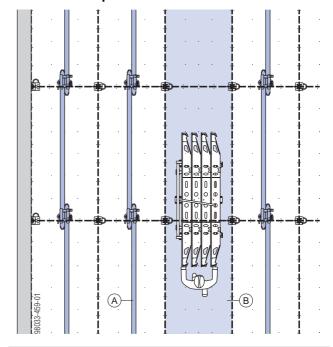
Minimum concrete strength required before the extra shores are removed: C8/10

#### Creating an access alley

To make it easier to transport the panels to their next usage location (e.g. with the DekDrive), it is permitted to remove 1 row of extra shores.

Minimum concrete strength required before the extra shores are removed: C8/10

#### **Practical example**



- A Extra shore
- **B** Access alley

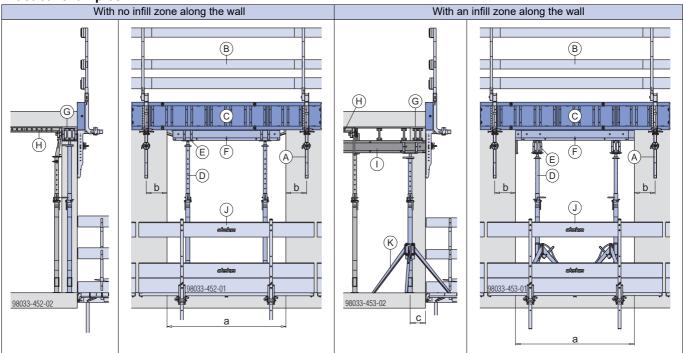
## Forming past room-high openings in walls

Where necessary, the slab-forming operations can also incorporate room-high wall openings.



Follow the directions in the 'Doka floor endshutter clamp' User Information booklet!

#### **Practical examples**



- a ... see the 'Doka floor end-shutter clamp' User Information booklet
- b ... min. 15 cm
- c ... 25 cm
- A Doka floor end-shutter clamp
- **B** Guardrail system
- C Slab stop-end
- D Doka floor prop Eurex 30 top
- E Lowering head H20
- F Doka beam H20 top
- G Formwork sheet (nailed-on)
- H Dokadek panel
- I Infill zone
- J Folding platform K or protection platform
- **K** Removable folding tripod



- The Doka floor end-shutter clamp can be fixed to the wall by the Bridge edge beam anchor 30kN 15.0.
- Large box-outs can be formed as described in the 'Structure edge (Panel floor formwork Dokadek 30)' User Information booklet.

## Using Doka floor props Eurex 20 top, Eurex 20 eco or Eurex 20 LW



#### **WARNING**

- ➤ In the typical and infill zones, and/or when mixing Dokadek and Dokaflex, the props used must all be of the same type.
- ➤ It is forbidden to use the Doka floor prop Eco 20!
- ➤ Additional measures, such as those described in the section headed 'Additional precautions for slab thicknesses of up to 50 cm', are forbidden!

#### Note:

The table takes account of the props' higher load-bearing capacity when their extension-length is reduced; for this reason, it is only valid for the room heights and types of props specified.



Follow the directions in the 'Doka floor prop Eurex 20 top 700' User Information booklet and, for room heights greater than 4.50 m, in the 'Alternative methods of assembly (Panel floor formwork Dokadek 30)' User Information booklet!

Permitted slab thicknesses [cm]

Pern	Permitted slab thicknesses [cm]																		
=							Eurex 20					1							
Room height [m]	වි <u>250 300</u> Panel Panel		300 LW 300 350			LW 350 400 Panel Panel						50 700							
m [m]				nel		nel	Pa							nel		nel		nel	
Sool	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	1.22m	0.81m	.22m	0.81m	
	7.	9.0		0.0		0.0		0.8		0.8	7.	0.8		0.0		9.0	_		
7.08																	24.2		
6.98																	25.4		
6.88																	26.5	42.3	
6.78																	27.9	44.2 46.0	
6.68 6.58																	29.3 30.6		
6.48																	32.0		
6.38																	33.3	40.0	
6.28																	34.8		
6.18																	00		
6.08																	-		
5.98																			
5.88																			
5.78																			
5.68																			
5.58															21.1	34.9			
5.48															22.4	36.7			
5.38															23.7	38.4		50.0	
5.28															25.2	40.4	35.0		
5.18															26.5	42.3			
5.08 4.98															28.0	44.4			
4.88															30.1	47.1 49.9			
4.78															33.7	49.9			
4.68															33.7				
4.58													26.7	42.5					
4.48													28.2						
4.38													30.1						
4.28													31.8	49.8					
4.18													33.7	35.0	25.0	50.0			
4.08											21.5	35.4				35.0			
3.98											23.4	38.0							
3.88											25.3	40.6							
3.78												43.4							
3.68								0.1.1		20.0	29.7								
3.58								34.1		33.3	31.7	49.6	35.0	50.0					
3.48							22.4	36.7	21.9		33.7								
3.38							24.5 26.5	39.5 42.3	24.2 26.3										
3.28							28.8	45.5	28.8										
3.18			18.6	31.5	18.0	30 4	31.0	48.5		49.1	35.0	50.0							
2.98			21.1	34.9	20.5		32.1	70.0	33.8	70.1	55.0								
2.88			23.0	37.5	22.5		33.1												
2.78			25.7	41.2	25.9		34.3	50.0		50.0									
2.68			27.6	43.8	29.0			-	35.0										
2.58	10.5	20.0	28.7	45.3	31.7		35.0												
2.48	19.5	32.6	29.8	46.8	34.0	50.0													
2.38	19.7	33.0	30.9	48.3	35.0	50.0													
2.28			32.0	50.0	35.0														
2.18	20.3	33.7																	
2.08																			
1.98																			
1.88																			
1.78																			

Allow for deflections as per DIN 18218 (see 'Ground rules').

<sup>1)</sup> available only in the Eurex 20 eco version

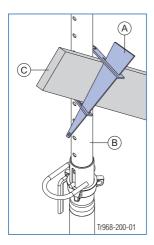
### **Bracing clamp B**

Planks can be attached to the floor props as diagonal braces, using the Bracing clamp B.



#### **NOTICE**

- Only allowed to be used as a set-up aid.
- Not suitable for sustaining horizontal loads during pouring.
- Always hammer in the wedge from top to bottom!



- A Bracing clamp B
- **B** Doka floor prop Eurex 20
- C Plank

## Possible plank/floor-prop combinations with the Bracing clamp B

		Plank											
Eurex 20	2.4 x 15		3 x 15		4 x 15		5 x 10		5 x 12		5 x 15		
	IT	ОТ	IT	ОТ	IT	ОТ	IT	ОТ	IT	ОТ	IT	ОТ	
150	_	✓	_	✓	✓	✓	<b>\</b>	✓	✓	✓	<b>\</b>	✓	
250	_	✓	_	✓	✓	✓	✓	✓	✓	✓	<b>√</b>	✓	
300	_	✓	_	✓	✓	✓	✓	✓	✓	✓	<b>√</b>	✓	
350	_	✓	✓	✓	✓	✓	<b>✓</b>	✓	✓	✓	<b>\</b>	<b>√</b>	
400	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>√</b>	✓	
450	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	<b>√</b>	
550	✓	✓	✓	✓	<b>\</b>	✓	>	_	✓	_	>	_	

### Legend:

IT Inner tube
OT Outer tube

✓ Possible to combine
Not possible to combine



For bracing possibilities of the Doka floor prop Eurex 20 top 700, see the 'Doka floor prop Eurex 20 top 700' User Information booklet.

#### **General**

### **Combining with other Doka systems**

#### **Dokaflex 30 tec and Dokaflex**

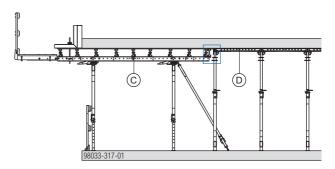
Dokaflex is the fast and versatile floor-slab formwork for any layout - also for drop beams, stepped floors and filigree slabs. Because the quantities can easily be computed using a slide-rule, no detailed formwork planning work is needed. Any type of form-facing can be used, enabling all architectural wishes regarding the concrete surface to be met.



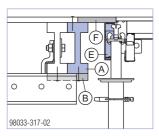
For more information, please refer to the 'Dokaflex' 30 tec' and 'Dokaflex' User Information booklets.

#### **Dokamatic and Dokaflex tables**

The Doka tables are pre-assembled, and save on both labour and crane time. With the DoKart, the tables can easily be wheeled across to their next location by just one man working on his own. The system is optimised to give the very shortest forming-times on large areas, and copes well even with varying structural-design and geometrical requirements.



#### Close-up of extra beam:



- A Doka beam H20
- B Nailing board (provided at site)
- C Dokamatic table
- **D** Dokadek panel
- E Dokadek infill beam
- F Formwork sheeting



#### **NOTICE**

The beam (A) must be pre-mounted!



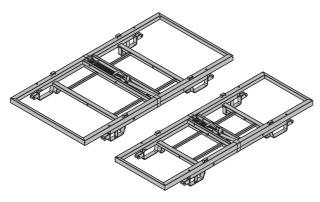
For more information, see the "Dokamatic table" and "Dokaflex table" User Information booklets.

### 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.

#### **Dokadek panel pallets**



Storage and transport device for Dokadek panels.

- durable
- stackable



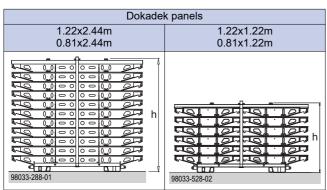
#### **CAUTION**

- ➤ Observe the maximum number of Dokadek panels (see tables).
- ➤ It is forbidden to stack panels of different widths on the same pallet.



#### **NOTICE**

- The type plate must be in place and clearly legible.
- Load the items centrically.



h ... max. stack height (see tables)

#### Dokadek panel pallet 1.22x2.44m

=				
	Dokadek panel			
	1.22x2.44m	1.22x1.22m		
Max. n° of panels	11	12 (2x6)		
Max. stack height h [cm]	215	128		
Max. load	650 kg (1430 lbs)			
Permitted imposed load:	1450 kg (3200 lbs)			

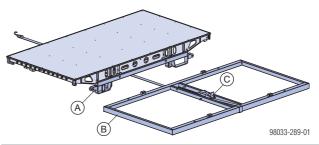
#### Dokadek panel pallet 0.81x2.44m

	Dokadek panel		
	0.81x2.44m	0.81x1.22m	
Max. n° of panels	11	11 12 (2x6)	
Max. stack height h [cm]	stack height h [cm] 215 1:		
Max. load	550 kg (1210 lbs)		
Permitted imposed load:	1250 kg (2755 lbs)		

#### Stacking the panels

#### Dokadek panels 1.22x2.44m or 0.81x2.44m

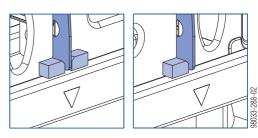
- ➤ Undo the lashing strap and remove the cover.
- > Set down the 1st panel on the middle of the pallet.



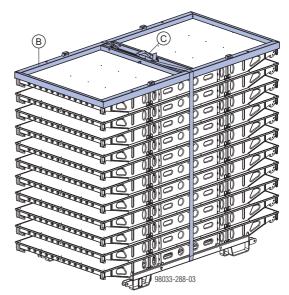
- A Pallet
- B Cover (unlosable)
- C Lashing strap



Make sure that the panel is correctly positioned!

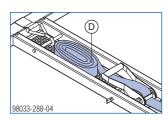


- > Set down further panels, exactly over one another.
- ➤ Place the cover over the top panel and tighten the stack with the lashing strap.





- We recommend using a standard platform ladder to make it easier to operate the lashing strap.
- Coil up the end of the lashing strap and put it in the storage tray **(D)** .



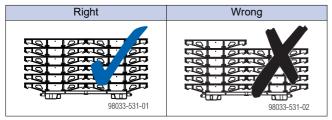
#### Dokadek panels 1.22x1.22m or 0.81x1.22m

The Dokadek supporting timber 1.73m (HT) acts as a support for the Dokadek 30 panels 1.22x1.22m and 0.81x1.22m in Dokadek panel pallets (2 supporting timbers per panel pallet).



#### WARNING

➤ Always stack the panels on the pallet in pairs.



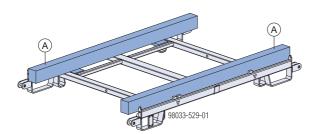
Illustrations without pallet covers



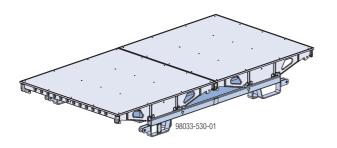
#### **NOTICE**

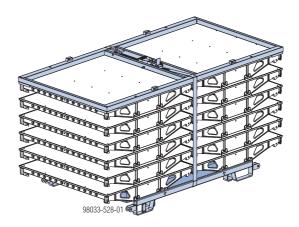
- 2 supporting timbers are needed per pallet.
- Store the panel pallet and supporting timbers separately.

All the other work steps are the same as for large-sized panels.



#### A Dokadek supp. timber 1.73 (HT)





#### Dokadek panel pallet as a storage unit

#### Max. number of units on top of one another

Outdoors (on the site)	Indoors		
of Dokadek pan- els in the pallet Floor gradients up to 3%			
Dokadek panel 1.22x2.44m or 0.81x2.44m			
≤ 6 1 3			
> 6 1			
Dokadek panel 1.22x1.22m or 0.81x1.22m			
1	3		
	site) Floor gradients up to 3% panel 1.22x2.44m or 0.		

#### Dokadek panel pallet as a transport device

Suitable transport appliances:

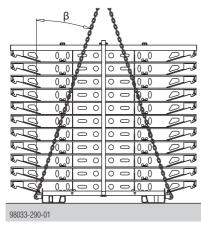
- crane
- forklift truck
- pallet stacking truck
- Attachable wheelset

#### Lifting by crane

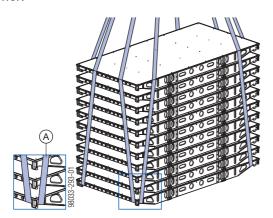


#### **NOTICE**

- Multi-trip packaging items may only be lifted one at a time.
- Secure the stack of panels with the cover and the lashing strap.
- Use a suitable crane suspension tackle (do not exceed permitted load capacity).
- Spread angle β max. 30°!



 Lifting the panels without a panel pallet is only allowed using 4 separate lifting slings, with a protective sleeve (A) over every corner



#### Shifting with forklift or pallet stacking truck

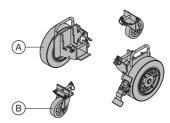


#### **NOTICE**

- Multi-trip packaging items may only be lifted one at a time.
- Load the items centrically.
- Secure the stack of panels with the cover and the lashing strap.

#### **Shifting with Attachable wheelset**

The 'Attachable wheelset' turns the panel pallet into a fast and manoeuvrable transport device.

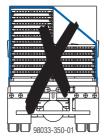


#### Correct loading of trucks (lorries)

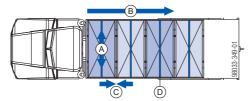


#### NOTICE

• Ideally, arrange the Dokadek panel pallets at right-angles to the cargo floor. (A) If the stacks are not of the same height, then the panels must always be arranged at right angles to the cargo floor.



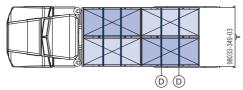
- Load the truck from front to back with Dokadek panel pallets. (B)
- Arrange the Dokadek panel pallets so that they are positively locked. (C)
- Secure every Dokadek panel pallet with a lashing strap. (D)



#### Animation:

https://player.vimeo.com/video/256036570

 If the pallets have to be loaded lengthways to the cargo floor, secure each pair of Dokadek panel pallets with 2 lashing straps.
 (D)



#### Animation:

https://player.vimeo.com/video/256029891

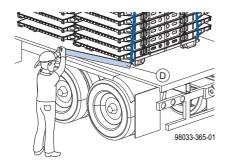


#### With closely stacked panel bundles:

lever-up a panel bundle (e.g. with a squared timber (D)), to make a space for threading in the slings.

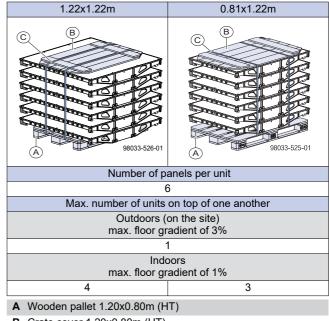
#### Caution!

Always make sure that the panel bundle remains stable!



#### Wooden pallet 1.20x0.80m (HT)

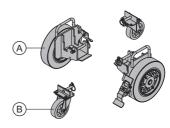
Is used for packaging and storing Dokadek panels 1.22x1.22m or 0.81x1.22m.



- B Crate cover 1.20x0.80m (HT)
- C Strapping tape

#### Attachable wheelset

#### **Product description**



- A 2 heavy-duty wheels
- B 2 swivel casters

The Attachable wheelset turns the panel pallet into a fast and manoeuvrable transport device.

Suitable for drive-through access openings > 150 cm.



#### NOTICE

- When the panel pallet is parked or is being shifted by crane or forklift, always apply the fixing brake.
- When setting down a panel pallet with loosely stacked panels, secure these against wind liftout (e.g. by strapping them together).

#### Wheeling



#### **NOTICE**

- Max. gradient of floor 3%.
- Max. travel speed: 4 km/h (walking pace)
- Either close structure openings with decking of adequate strength secured so that it cannot slip out of place, or cordon off the openings with edge railings of adequate strength!
- Keep the travel route clean and free of any obstacles.
- It is forbidden to use any other mechanical assistance for the travelling operation!
- It is forbidden to wheel panel pallets that have been stacked on top of one another!
- Where necessary, secure loosely stacked panels so that they cannot slip.

#### Lifting by crane

The Attachable wheelset can stay fixed to the Dokadek panel pallet while it is being lifted.



#### NOTICE

- Secure the stack of panels with the cover and the lashing strap.
- ➤ Before attaching the lifting chain, check that:

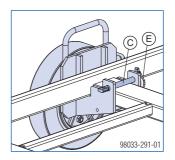


- the fixing brake is applied
- linch pins have been fitted to the fastening bolts of the heavy-duty wheels and the swivel casters.

#### Assembly

#### Heavy-duty wheel

- ➤ Apply the fixing brake on the heavy-duty wheel.
- ➤ Working from below, push the heavy-duty wheel onto the longitudinal profile of the panel pallet and fix it in place with a fastening bolt and linch pin.

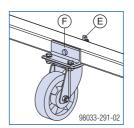


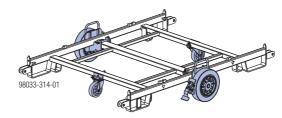


If necessary, the braking force can be adjusted with the setting screw (w/f 24).

#### **Swivel caster**

➤ Working from the outside, push the wheel-pin of the swivel caster into the hole in the cross profile, and secure it with a linch pin.



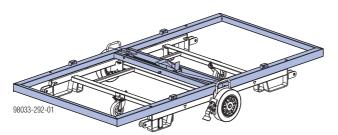


- A Heavy-duty wheel
- **B** Swivel caster
- C Fastening bolt
- E Linch pin
- F Wheel-pin

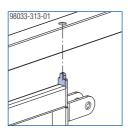
Animation: https://player.vimeo.com/video/262156196

#### Variant 1: Panels stacked loosely

➤ Place the cover on the panel pallet and tighten it with the lashing strap.

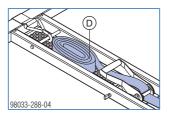


Make sure it is in the correct position!





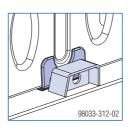
Coil up the end of the lashing strap and put it in the storage tray  $(\mathbf{D})$  .



➤ Place the 1st panel on the middle of the cover.



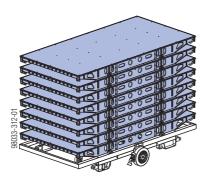
Make sure it is in the correct position!





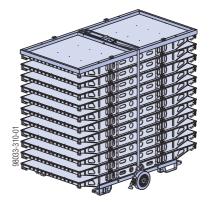
➤ Max. number of loose Dokadek panels: 8 units

➤ Set down further panels, exactly over one another.

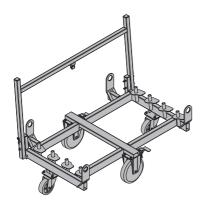


### Variant 2: Panels secured and stacked with the cover and the lashing strap

> See the section headed 'Dokadek panel pallets'

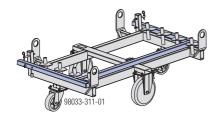


#### **DekDrive**



Transport device for Dokadek panels

- durable
- stackable
- suitable for drive-through access openings > 90 cm.
- state in which delivered and transported: railing folded down



Max. number of Dokadek panels: 4

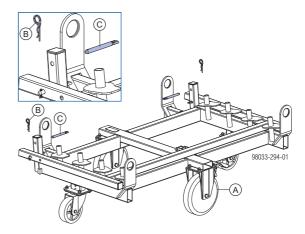


#### NOTICE

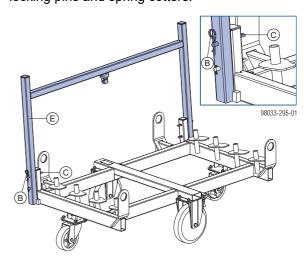
- The type plate must be in place and clearly legible.
- Load the items centrically.
- It is allowed to stack panels of different widths.
- Not suitable for use as a storage unit.
- When the DekDrive is parked or is being crane-lifted, always apply the fixing brake.
- Always secure the panels with webbing.

#### Loading the DekDrive

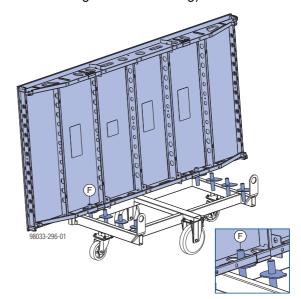
- > Apply the fixing brake on the heavy-duty wheel.
- ➤ Remove the top spring cotters and self-locking pins, at both ends of the DekDrive.



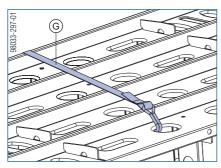
➤ Tilt up the railing and secure it at both ends with selflocking pins and spring cotters.



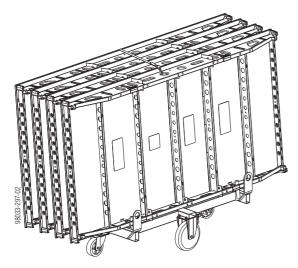
➤ Starting at the railing side, push the Dokadek panels centrally onto the holding pins (always with the formwork sheeting toward the railing).



➤ Secure the panels with webbing. Fit the hook into one of the openings in the longitudinal profile of the front (i.e. outermost) panel, and tighten the webbing.



- A Heavy-duty wheel
- **B** Spring cotter
- C Self-locking pin
- E Railing
- F Holding pin
- **G** Webbing



Animation: https://player.vimeo.com/video/262155511

#### Wheeling



#### NOTICE

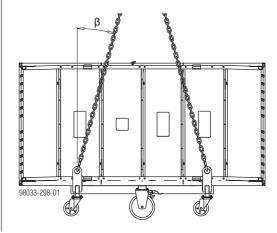
- Max. gradient of floor 3%.
- Max. travel speed: 4 km/h (walking pace)
- Either close structure openings with decking of adequate strength secured so that it cannot slip out of place, or cordon off the openings with edge railings of adequate strength!
- Keep the travel route clean and free of any obstacles.
- It is forbidden to use any other mechanical assistance for the travelling operation!

#### Lifting by crane



#### **NOTICE**

- Use a suitable crane suspension tackle (do not exceed permitted load capacity), e.g.: Doka 4-part chain 3.20m
- DekDrives may only be lifted one at a time.
- Spread angle β max. 30°!



➤ Before attaching the lifting chain, check that:



• the fixing brake is applied

#### **Alternative transport options**

#### With timber trolley

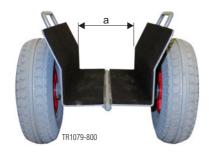
A standard timber trolley provides a safe and easy way of moving Dokadek panels without any great physical effort.

#### Features:

- Clamping jaws
- Clamping sides, felt-padded on inside
- The weight of the material being transported securely closes the clamping mechanism

Designation: M-Timber trolley 170mm-CT Weight: 7.0 kg Dimensions:

39 x 31 x 35 cm (L x W x H) width including wheels



Max. load: 300 kg

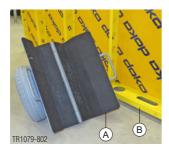
#### State during transport



A M-Timber trolley 170 mm-CT

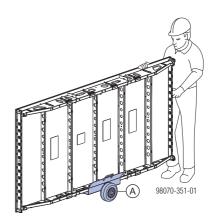
#### How to load

➤ Position the Timber trolley beside the Dokadek panel, midway along the panel.



- A M-Timber trolley 170 mm-CT
- **B** Dokadek panel

➤ Lift one end of the Dokadek panel, lower the panel centred on to the Timber trolley and wheel it to the desired location.



A M-Timber trolley 170 mm-CT

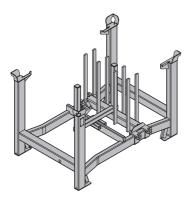
#### Manual transport



With the aid of 2 tie rods (each min. 1.00 m long) **(A)**, Dokadek panels can also be transported easily by hand.



#### **Dokadek infill-beam pallet**



Storage and transport device for Dokadek infill beams:

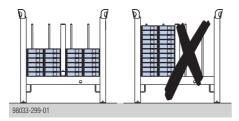
- durable
- stackable
- Infill beams 2.44m and 1.22m are supplied ex-works in the Dokadek infill-beam pallet, while Infill beams 0.81m are supplied in the Doka multi-trip transport box 1.20x0.80m.

Max. number of Dokadek infill beams: 44 Max. load-bearing capacity: 800 kg Permitted imposed load: 5900 kg

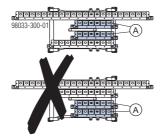


#### **NOTICE**

- Load Infill beams 2.44m and 1.22m onto the pallet centrically, so that they are braced against the uprights of the pallet.
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- Always stack in complete layers.



- It is permitted to stack infill beams of different lengths on the same pallet.
  - When the pallet is transported by lorry, Infill beams 0.81m (A) must be stacked on the inside.



- Before the infill beams are transported by lorry, they must be firmly connected to the pallet, e.g. by bundling with steel strapping.
- The type plate must be in place and clearly legible.

# Using the Dokadek infill-beam pallet as a storage unit

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

• • • • • • • • • • • • • • • • • • •			
Outdoors (on the site)	Indoors		
Floor gradients up to 3%	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 castor set mounted to it

# Using the Dokadek infill-beam pallet as a transport device

Suitable transport appliances:

- crane
- forklift truck
- pallet stacking truck
- Bolt-on castor set B



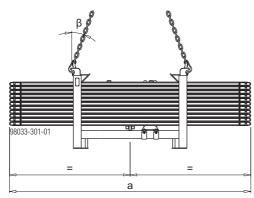
Follow the directions in the "Bolt-on castor set B" Operating Instructions!

#### Lifting by crane



#### **NOTICE**

- Multi-trip packaging items may only be lifted one at a time.
- Use a suitable crane suspension tackle (e.g. Doka 4-part chain 3.20m).
   Do not exceed the permitted load-bearing capacity.
- Load the items centrically.
- When lifting stacking pallets to which Bolton castor sets B have been attached, you must also follow the directions in these Operating Instructions!
- Spread angle β max. 30°!



a ... 244 cm or 122 cm

### Repositioning by forklift truck or pallet stacking truck



#### **NOTICE**

Load the items centrically.

**84** 999821102 - 09/2022

#### **Transporting Bracing frames Eurex**



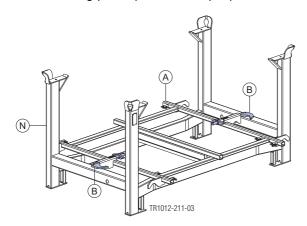
#### **NOTICE**

It is not allowed to mix different sizes of bracing frames!

#### Loading the pallet

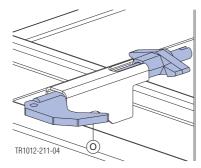
e.g. Bracing frame Eurex 1.22m

➤ Turn the prop-holders (= the quick-fixing mechanisms) by 90°, fix them and place the frame into the Doka stacking pallet (see Close-up C).



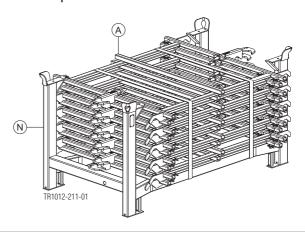
- A Bracing frame Eurex
- **B** Prop-holder (= quick-fixing mechanism)
- N Doka stacking pallet 1.55x0.85m

#### Close-up C



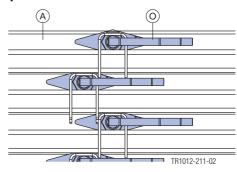
- O Prop-holder (= quick-fixing mechanism)
- Stack the other bracing frames alternate ways round (as shown in Close-up D).

➤ Fasten the load to the stacking pallet so that it cannot slide or tip out.



- A Bracing frame Eurex
- N Doka stacking pallet 1.55x0.85m

#### Close-up D



O Prop-holder (= quick-fixing mechanism)

#### Load quantities

•		
Bracing frame Eurex	Doka stacking pallet	Units
1.22m	1.55x0.85m	10
0.81m	1.20x0.80m	10

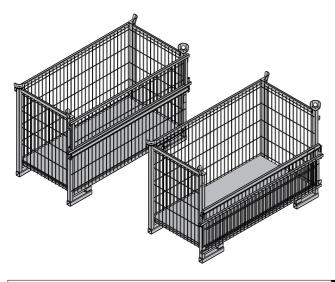


Follow the directions in the 'Bolt-on castor set B' Operating Instructions!

Animation: https://player.vimeo.com/video/262344460

# 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

mana ii oi aiiiio oii top oi oiio aiioiioi		
Outdoors (on the site)	Indoors	
Floor gradients up to 3%	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.

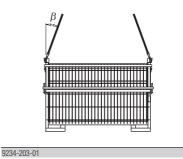
# Using Doka skeleton transport boxes 1.70x0.80m as transport devices

#### 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°!



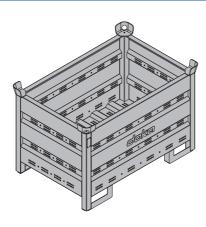
Repositioning by forklift truck or pallet stacking truck

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

#### **Doka multi-trip transport box**

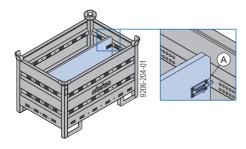
Storage and transport device for small items

#### 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**.

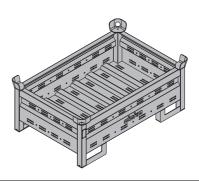


A Slide-bolt for fixing the partition

Possible ways of dividing the box

Multi-trip transport box partition	direction	in the transverse direction	
1.20m	max. 3 partitions	-	
0.80m	-	max. 3 partitions	
	9206-204-02	9206-204-03	

### 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	s (on the site)	Indoors		
	Floor gradients up to 3%		Floor gradients up to 1%		
	Doka multi-trip transport box		Doka multi-trip transport box		
1.20x0.80m   1.20x0.80x0.41m		1.20x0.80m	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.

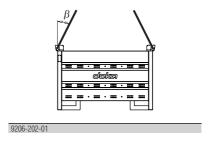
# Using Doka multi-trip transport boxes as transport devices

#### 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°!

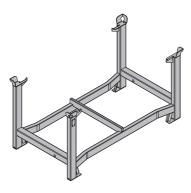


### Repositioning by forklift truck or pallet stacking truck

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)	Indoors
Floor gradients up to 3%	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 castor set mounted to it.

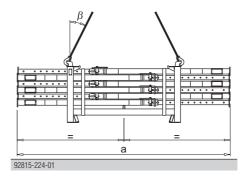
# Using Doka stacking pallets as transport devices

#### Lifting by crane



#### **NOTICE**

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



	а
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

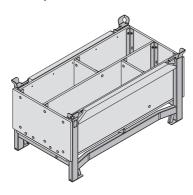


#### **NOTICE**

- Load the items centrically.
- 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)	Indoors
Floor gradients up to 3%	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 caster set mounted to it.

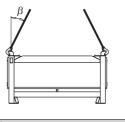
#### Doka accessory box as transport devices

#### 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°!



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### 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**

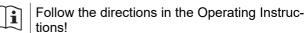
The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport trolley.

Suitable for drive-through access openings > 90 cm.



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

- Dokadek infill-beam pallet
- Doka accessory box
- Doka stacking pallets



### Cleaning and care of your equipment

The **special coating on the Xlife sheet** greatly reduces the amount of cleaning that is needed.



#### **WARNING**

Risk of slippage when surface is wet!

#### **Cleaning**



#### **NOTICE**

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



#### Cleaning equipment

#### High-pressure spray cleaner



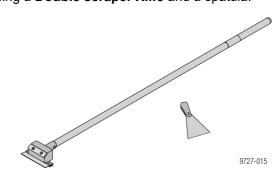


#### **NOTICE**

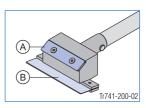
- Appliance pressure rating: 200 to max.
   300 har
- Keep the water-jet the correct distance from the formwork, and move it at the right speed:
  - The higher the pressure, the further away from the formwork you must keep the jet and the faster you must move it across the surface.
- Do not aim the jet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

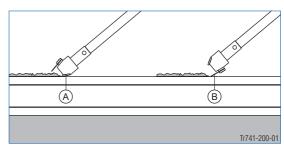
#### Concrete scraper

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



#### **Functional description:**





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



#### **NOTICE**

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



#### **Release agents**

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





Follow the directions in the 'Doka releaseagent sprayer' Operating Instructions and on the containers of release agent.



#### **NOTICE**

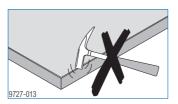
- Before every pour:
  - Apply release agent to the formwork sheet and the end faces extremely thinly, evenly and in a continuous layer.
- Make sure there are no drips of releaseagent running down the formwork sheet.
- Applying too much release agent will spoil the concrete finish.



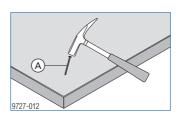
To determine the right dosage and to make sure that you are using the agent correctly, test it on less important parts of the structure first.

#### Care

No hammer-blows to the frame profiles



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



#### A max. I=60 mm

- Never push over panels or allow them to fall
- Do not use the panels as a climbing aid.



### Reshoring props, concrete technology and stripping out



Follow the directions in the Calculation Guide entitled 'Stripping out formwork from floors in building construction', and/or ask your Doka technician.

# When is the best time to strip out the formwork?

The concrete strength needed before the formwork can be stripped out will depend upon the load factor  $\alpha$ . This can be read off from the following table.

#### Load factor a

This is calculated by:

$$\alpha = \frac{DL_{concrete} + LL_{construction \ state}}{DL_{concrete} + DL_{finishing} + LL_{final}}$$
state

Slab thickness 'd' [m]	Dead load DL <sub>concrete</sub> [kN/m²]	2.00 kN/m²		actor α al state 4.00 kN/m²	5.00 kN/m²
0.14	3.50	0.67	0.59	0.53	0.48
0.16	4.00	0.69	0.61	0.55	0.50
0.18	4.50	0.71	0.63	0.57	0.52
0.20	5.00	0.72	0.65	0.59	0.54
0.22	5.50	0.74	0.67	0.61	0.56
0.25	6.25	0.76	0.69	0.63	0.58
0.30	7.50	0.78	0.72	0.67	0.62
0.35	8.75	0.80	0.75	0.69	0.65

Valid for a finishing-load DL $_{finishing}$  = 2.00 kN/m $^2$  and a live load in the early-stripped state of LL $_{construction\ state}$  = 1.50 kN/m $^2$ 

 $DL_{concrete}$ : calculated with  $\gamma_{concrete}$  = 25 kN/m<sup>3</sup>

DL<sub>finishing</sub>: load for floor finish, etc.

Example: Slab thickness 0.20 m with a final live load of  $5.00 \text{ kN/m}^2$  results in a load factor  $\alpha$  of 0.54.

This means that formwork removal / stress-release can take place once the concrete has reached 54% of its 28-day strength. The load-bearing capacity will then correspond to that of the finished structure.



#### **NOTICE**

If the floor props are not stress-relieved, meaning that the slab has not been activated, then the props will remain loaded with the dead weight of the floor-slab.

When the floor above is concreted, this may lead to a doubling of the load that is being applied to the floor props.

The floor props are not designed to cope with such an overload, and the result may be damage to the formwork, the floor props and the structure.

# Why put up reshoring props after stripping out the formwork?

After the formwork has been stripped and the slab has been stress-relieved or dismantled, the slab is able to bear its dead load and live loads resulting from the construction state, but not the concreting loads from subsequent floor-slabs.

The temporary reshoring serves to support the floorslab and distribute the concreting loads across several floors.

# Positioning the reshoring props correctly

Reshoring props have the job of spreading loads between the new floor-slab and the floor beneath it. The load distribution will depend on the relationship between these two floor-slabs and their rigidity.



#### **NOTICE**

#### Ask an expert!

As a rule, the question of using reshoring props should be referred to the responsible experts (e.g. structural engineers), regardless of the information given above.

Observe all local standards and regulations!



The **Floor prop spring clamp** provides extra stability of the floor prop.

 This accessory reduces the risk of the floor prop tipping over when the load on it is relieved in the course of construction work.



➤ The spring clamp is designed to be pushed into the top end of the inner tube of the floor prop.

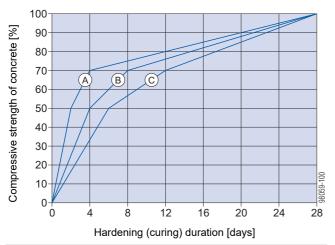
# Strength development in the new concrete

Rough reference values can be found in DIN 1045-3:2008, Table 2. The length of time until 50 percent of the final (28-day) strength is reached can be read off from this Table as a function of the temperature and the type of concrete.

The values are only valid if the concrete is given correct, appropriate curing throughout the entire period. For a concrete with medium strength development, the following inferred graph may thus be used.

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#### Concrete-strength development - medium



**A** ϑ≥15°

**B** ϑ≥10°

**C** ϑ≥5°

#### **Deflection of the new concrete**

The concrete's modulus of elasticity develops faster than compressive strength. At 60 % of its compressive strength  $f_{ck}$ , the concrete has already reached approximately 90% of its modulus of elasticity  $E_{c(28)}$ .

The increase in the elastic deformation taking place in the new concrete is thus only negligible.

The creep deformation, which only finally ceases after several years, is several times more than the elastic deformation.

Early striking – e.g. after 3 days instead of 28 – thus only leads to an increase in the total deformation of less than 5%.

The part of this deformation accounted for by creep deformation, however, may be anything between 50% and 100% of the standard value, due to such variable influences as the strength of the aggregates, and the atmospheric humidity. This means that the total deflection of the floor-slab is practically independent of the time at which the formwork was struck.

#### Cracks in new concrete

The bonding strength between the reinforcement steel and the concrete develops more rapidly in the new concrete than does its compressive strength. This means that early stripping does not have any negative influence upon the size and distribution of cracks on the tension side of reinforced concrete constructions.

Other cracking phenomena can be countered effectively by appropriate curing methods.

### **Curing of new concrete**

New site-placed concrete is exposed to influences which may cause cracking and slow down its strength development:

- premature drying
- over-rapid cooling in the first few days
- excessively low temperatures or frost

- mechanical damage to the surface of the concrete
- hydration heat
- etc.

The simplest precaution is to leave the formwork on the concrete surface for longer. As well as the familiar extra curing measures, this measure should be carried out in any case.

# Removing the load from the formwork from wide-spanned floor-slabs with support centres of over 7.5m

In the case of thin, wide-spanned concrete floor-slabs (e.g. in multistorey car parks), the following points must be remembered:

- When the formwork beneath these floor-slab spans is released (i.e. when the load is taken off the floor props), the floor props that are still in place are briefly subjected to additional loads. This may lead to overloading, and to the floor props being damaged.
- Please consult your Doka technician.



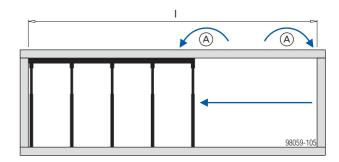
#### **NOTICE**

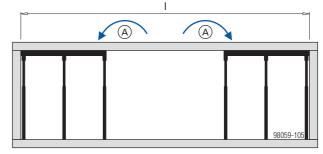
#### As a basic rule:

 Stress-release should always be carried out working from one side towards the other, or from the middle of the floor slab (midspan) towards the slab-edges.

For wide spans, this procedure MUST be followed!

Stress-release must NEVER be carried out from both sides towards the middle!





I ... Effective floor-slab spans of 7.50 m and over

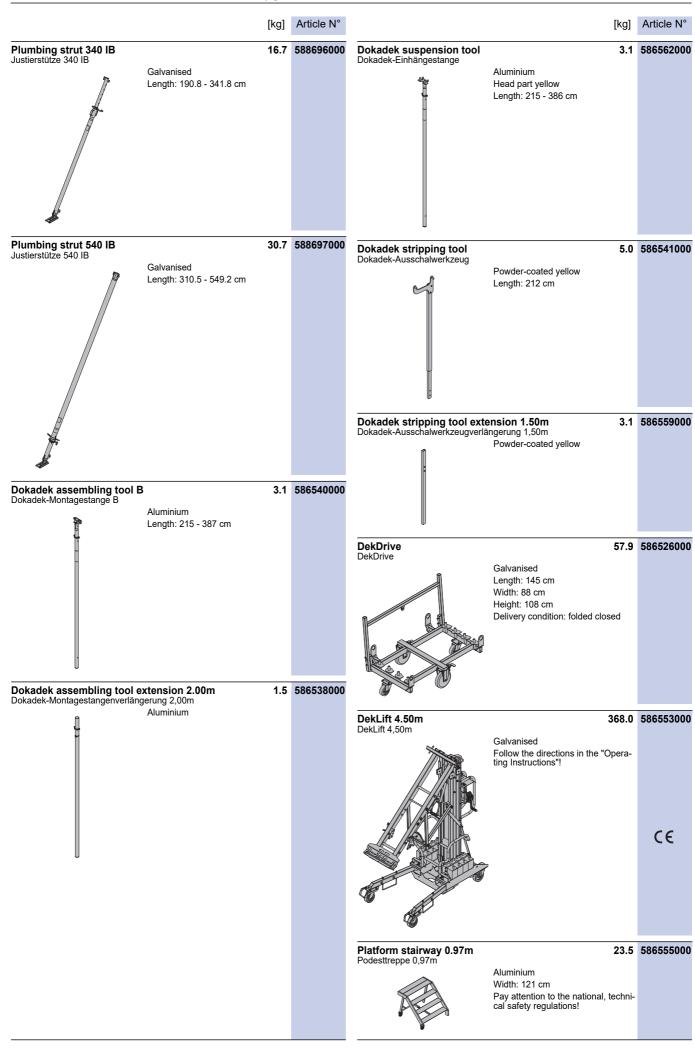
A Load redistribution

- Triole list			Oser information i uner floor formwork	DOM	addit do pry
	[kg]	Article N°		[kg]	Article N°
Dokadek panel 1.22x2.44m ply		586501600	Doka floor prop Eurex 30 eco 250	12.8	586000000
Dokadek panel 0.81x2.44m ply Dokadek panel 1.22x1.22m ply	27.4	586502600 586566600	Length: 148 - 250 cm  Doka floor prop Eurex 30 eco 300	16.3	586001000
Dokadek panel 0.81x1.22m ply Dokadek-Element ply	22.2	586567600	Length: 173 - 300 cm  Doka floor prop Eurex 30 eco 350	20.7	586002000
Galvanised Painted yellow			Length: 198 - 350 cm  Doka floor prop Eurex 30 eco 400	24.2	586003000
			Length: 223 - 400 cm  Doka floor prop Eurex 30 eco 450	28.5	586004000
The state of the s			Length: 248 - 450 cm Doka-Deckenstütze Eurex 30 eco		
The state of the s			Galvanised		
Doka floor prop Eurex 30 top 250	12.8	586092400			
Length: 148 - 250 cm  Doka floor prop Eurex 30 top 300		586093400			
Length: 173 - 300 cm  Doka floor prop Eurex 30 top 350	20.7				
Length: 198 - 350 cm		586095400			
Doka floor prop Eurex 30 top 400 Length: 223 - 400 cm Doka floor prop Eurex 30 top 450		586119400			
Length: 248 - 450 cm		586129000			
Doka floor prop Eurex 30 top 550 Length: 303 - 550 cm Doka-Deckenstütze Eurex 30 top	30.0	500129000			
Galvanised					
Ĭ			Doka floor prop Eurex 20 eco 250 Length: 148 - 250 cm	11.5	586270000
			Doka floor prop Eurex 20 eco 300 Length: 173 - 300 cm	14.0	586271000
			Doka floor prop Eurex 20 eco 350 Length: 198 - 350 cm	16.9	586272000
			Doka floor prop Eurex 20 eco 400 Length: 223 - 400 cm	20.5	586273000
			Doka floor prop Eurex 20 eco 450 Length: 248 - 450 cm	24.1	586275000
			Doka floor prop Eurex 20 eco 550 Length: 298 - 550 cm	32.0	586276000
•			Doka-Deckenstütze Eurex 20 eco Galvanised		
Doka floor prop Eurex 20 top 250 Length: 148 - 250 cm	12.7	586086400	Calvanised		
Doka floor prop Eurex 20 top 300 Length: 173 - 300 cm	14.3	586087400			
Doka floor prop Eurex 20 top 350 Length: 198 - 350 cm	17.4	586088400			
Doka floor prop Eurex 20 top 400 Length: 223 - 400 cm	21.6	586089400			
Doka floor prop Eurex 20 top 550 Length: 298 - 550 cm	32.3	586090400			
Doka floor prop Eurex 20 top 700 Length: 383 - 700 cm	48.0	586139000			
Doka-Deckenstütze Eurex 20 top  Galvanised					
Galvanised			Doka floor prop Eurex 20 LW 300	11 5	586876000
			Length: 173 - 300 cm  Doka floor prop Eurex 20 LW 350		586877000
			Length: 198 - 350 cm Doka-Deckenstitze Eurex 20 LW	13.3	300077000
			Galvanised		
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User Information Panel floo	or formwork Dokadek 30 ply				Article list
	[kg]	Article N°		[kg]	Article N°
Removable folding tripod to Stützbein top	Galvanised Height: 80 cm Delivery condition: folded closed	586155500	Dokadek wall head Dokadek-Wandkopf	4.3 Galvanised Height: 56 cm	586536000
Removable folding tripod Stützbein	Galvanised Height: 80 cm Delivery condition: folded closed	586155000	Dokadek edge head 18mm Dokadek edge head 21mm Dokadek edge head 27mm Dokadek-Randkopf	3.9	586544000 586545000 586546000
Removable folding tripod en Stützbein eco	Galvanised Height: 67.5 cm Delivery condition: folded closed	586294000	Dokadek cross head Dokadek-Kreuzkopf	2.6 Galvanised Height: 32 cm	586543000
Removable folding tripod 1. Stützbein 1,20m	Galvanised Height: 120 cm Delivery condition: folded closed	300143000	Spring locked connecting prederbolzen 16mm  Floor prop spring clamp Federklammer Deckenstütze	Galvanised Length: 15 cm	582528000 586169000
Dokadek wall clamp Dokadek-Wandhalter	4.5  Dark brown  Length: 138 cm	183063000	Dokadek infill beam 2.44m 2 Dokadek infill beam 1.22m 2 Dokadek infill beam 0.81m 2 Dokadek infill beam 2.44m 2	18mm 8.7 18mm 6.0 21mm 16.6	58650900 58651000 58651100 58651200
Dokadek support head Dokadek-Auflagerkopf	2.4 Galvanised Height: 33 cm	586506000	Dokadek infill beam 1.22m 2 Dokadek infill beam 0.81m 2 Dokadek infill beam 1.22m 2 Dokadek infill beam 1.22m 2 Dokadek infill beam 0.81m 2 Dokadek-Ausgleichsträger	21mm 6.0 27mm 16.7 27mm 8.6	586513000 586514000 586515000 586516000 586517000
Dokadek corner head Dokadek-Eckkopf	5.6 Galvanised Height: 54 cm	586539000	Dokadek infill-beam shoe 1 Dokadek infill-beam shoe 2 Dokadek-Ausgleichsträgerschuh		

	[kg	Article N°			Article N°
Dokadek suspension clamp Dokadek-Einhängebügel H20	H20 1. Galvanised Width: 15 cm Height: 35 cm	5 586518000	Doka coil 16mm Doka-Coil 16mm	0.009 Galvanised Diameter: 1.6 cm	58863300
			Scaffold tube 48.3mm 0.50m Gerüstrohr 48,3mm 0,50m	n 1.7 Galvanised	68202600
Ookadek timber beam seat Dokadek-Trägeraufnahme H20	H20 5.6 Galvanised Height: 35 cm	58655000			
	riegit. 33 dii		Bracing frame Eurex 1.22m Bracing frame Eurex 0.81m Aufstellrahmen	16.0 14.5 Galvanised Height: 111 cm	58655700 58655800
Dokadek handrail-post shoo Dokadek-Stirngeländerschuh	e short 4. Galvanised Length: 23 cm Height: 56 cm	3 586519000			
Dokadek handrail-post shoo Dokadek-Stirngeländerschuh 1,20	e short 1.20m 3.	586598000	Diagonal cross 18.200	4.6	58233400 58261000 58262400
	Galvanised Length: 23 cm Height: 27 cm		Diagonalkreuz	Galvanised Delivery condition: folded closed	
Dokadek handrail-post sho	e long 10.	1 58652000			
Ookadek-Längsgeländerschuh	Galvanised Length: 125 cm Height: 66 cm				
			Bracing clamp B Verschwertungsklammer B	1.4 Painted blue Length: 36 cm	58619500
<b>Dokadek handrail-post sho</b> Dokadek-Längsgeländerschuh 1,2	e long 1.20m 5. 20m Galvanised	58656000			
	Length: 47 cm Height: 37 cm		Brace stirrup 8 Spannbügel 8	2.7 Galvanised Width: 19 cm Height: 46 cm Width-across: 30 mm	58275100
_ashing strap 5.00m Zurrgurt 5,00m	2.	3 586018000			
	Yellow		Safety plate for brace stirru Sicherungsblech für Spannbügel		58275300
Doka express anchor 16x12 Doka-Expressanker 16x125mm	5mm 0.3	58863100	Dokadek plumbing strut co Dokadek-Justierstützenanschluss	nnector 4.1	58653700
	Galvanised Length: 18 cm Follow the directions in the "Fitting instructions"!			Galvanised Length: 28.5 cm Width: 26 cm Height: 16.6 cm	



Article list			USEI IIIIOIIIIat	on Panel Hoor formwork L	JUK	idek 30 piy
	[kg]	Article N°		Į)	kg]	Article N°
Width Heigh		586157000	Wooden pallet 1.20x0.80m (HT)  Holzpalette 1,20x0,80m (HT)  Crate cover 1.20x0.80m (HT)	Height: 17.6 cm		176125000 176124000
	•	586164000	Kistendeckel 1,20x0,80m (HT)	Height: 3.6 cm		
Dokadek system beam H20 eco P Dokadek-Systemträger H20 eco P 1,10m		189959000	Attachable wheelset Aufsteck-Radsatz	2 Galvanised	7.3	586525000
	ihed yellow		Dokadek infill beam pallet Dokadek-Ausgleichsträgerpalette		2.0	586528000
Ooka beam H20 eco P 1.10m Ooka-Träger H20 eco P 1,10m Varnis	5.8 shed yellow	189958000	Doka multi-trip transport bo Doka-Mehrwegcontainer 1,20x0,8	<b>ox 1.20x0.80m 7</b> 30m Galvanised Height: 78 cm	0.0	583011000
Multi-trip packaging  Dokadek panel pallet 1.22x2.44m	75.0	586523000				
Dokadek-Elementpalette 1,22x2,44m Galva Heigh	nised t: 26 cm		Multi-trip transport box par Multi-trip transport box par Mehrwegcontainer Unterteilung	tition 0.80m tition 1.20m Steel parts galvanised Timber parts varnished yellow		583018000 583017000
Dokadek panel pallet 0.81x2.44m Dokadek-Elementpalette 0,81x2,44m Galva Heigh		586524000	Doka multi-trip transport bo Doka-Mehrwegcontainer 1,20x0,8	<b>bx 1.20x0.80x0.41m 4</b> 30x0,41m Galvanised	2.5	583009000
	5.7 : 18 cm t: 11.8 cm	176179000				
98				999821102 - 09/2022		doko

Article N° 106.4 583010000

Article N°

### Doka accessory box Doka-Kleinteilebox



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

Galvanised Height: 113 cm

Galvanised Height: 77 cm

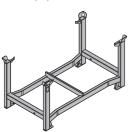
Doka skeleton transport box 1.70x0.80m Doka-Gitterbox 1,70x0,80m

87.0 583012000



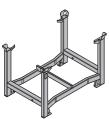
Doka stacking pallet 1.55x0.85m Doka-Stapelpalette 1,55x0,85m





Doka stacking pallet 1.20x0.80m Doka-Stapelpalette 1,20x0,80m





Galvanised Height: 77 cm

Bolt-on castor set B Anklemm-Radsatz B

33.6 586168000





Painted blue

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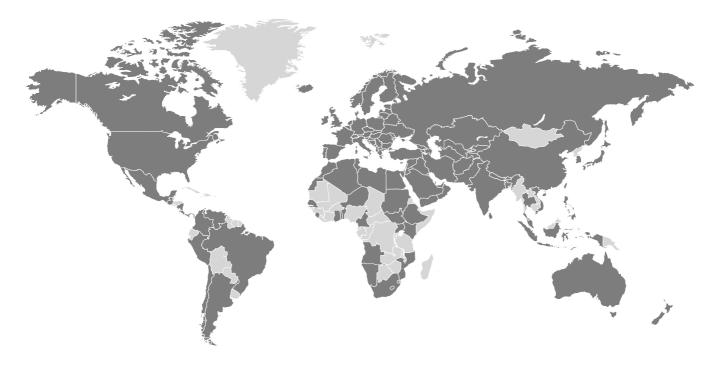
### Near to you, worldwide

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