

The Formwork Experts.

Dokaflex table

User Information

Instructions for assembly and use (Method statement)



Contents

4	Introduction	71	Reshoring props, concrete technology and stripping out
4	Elementary safety warnings		
7	Services		
8	System description	73	Article list
8	Dokaflex table – the tried-and-tested high-speed tableform		
9	System dimensions		
10	Instructions for assembly and use (Method statement)		
15	Adaptation to building layout		
19	Adapting to different slab thicknesses		
21	Assembly		
21	Assembling the table superstructure		
22	Mounting the table heads		
24	Mounting the floor props		
26	Structural design		
28	Tables around edges of slab		
29	Tie-back solutions		
31	Edge table with no downstand beam		
33	Slab stop-ends		
35	Edge table with downstand beam		
37	Repositioning		
37	General instructions on repositioning		
38	Horizontal repositioning / travelling		
41	Vertical repositioning with transport forks		
44	Loading platform		
45	Repositioning operation		
47	Lining-and-levelling the Dokaflex tables		
48	Table Lifting System TLS		
49	Product description		
50	Loading data		
51	Areas of use, possible configurations		
53	Repositioning and aligning the Table Lifting System		
54	Repositioning Doka tableforms		
55	Anchoring on the structure		
58	Possible ways of connecting the landing level safety gates		
59	Computation of quantities for Lifting masts TLS 1.50m		
60	Automatic climbing unit TLS		
62	General		
62	Combining with other Doka systems		
63	Guardrail systems on the structure		
65	Transporting, stacking and storing		

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

Regulations; industrial safety

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

Rules applying during all phases of the assignment

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons. These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.
- The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!
- Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).
- Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of fatality) and considerable damage to property.
- Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated at a correspondingly safe distance from the formwork.
- Customer must give due consideration to any and all effects of the weather on the equipment and regards both its use and storage (e.g. slippery surfaces, risk of slipping, effects of the wind, etc.) and implement appropriate precautionary measures to secure the equipment and surrounding areas and to protect workers.
- All connections must be checked at regular intervals to ensure that they are secure and in full working order.
In particular threaded connections and wedged connections have to be checked and retightened as necessary in accordance with activity on the jobsite and especially after out-of-the-ordinary occurrences (e.g. after a storm).
- It is strictly forbidden to weld Doka products – in particular anchoring/tying components, suspension components, connector components and castings etc. – or otherwise subject them to heating.
Welding causes serious change in the microstructure of the materials from which these components are made. This leads to a dramatic drop in the failure load, representing a very great risk to safety.
It is permissible to cut individual tie rods to length with metal cutting discs (introduction of heat at the end of the rod only), but it is important to ensure that flying sparks do not heat and thus damage other tie rods.
The only articles which are allowed to be welded are those for which the Doka literature expressly points out that welding is permitted.

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in an acceptable condition. Steps must be taken to exclude components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).
- Using our safety and formwork systems together with those of other manufacturers can create risks that may lead to injury and damage to property. This requires separate verification 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. $F_{perm} = 70 \text{ kN}$) are not design values (e.g. $F_{Rd} = 105 \text{ kN}$)!

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

Allowance has been made for the following partial factors:

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

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

Symbols used

The following symbols are used in this document:



DANGER

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



WARNING

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



CAUTION

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



NOTICE

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



Instruction

Indicates that actions have to be performed by the user.



Sight-check

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



Tip

Points out useful practical tips.



Reference

Cross-references other documents.

Services

Support in every stage of the project

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

Project assistance from start to finish

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

Efficient planning for a safe project sequence

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

Optimise construction workflows with Doka

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

Custom formwork and on-site assembly

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

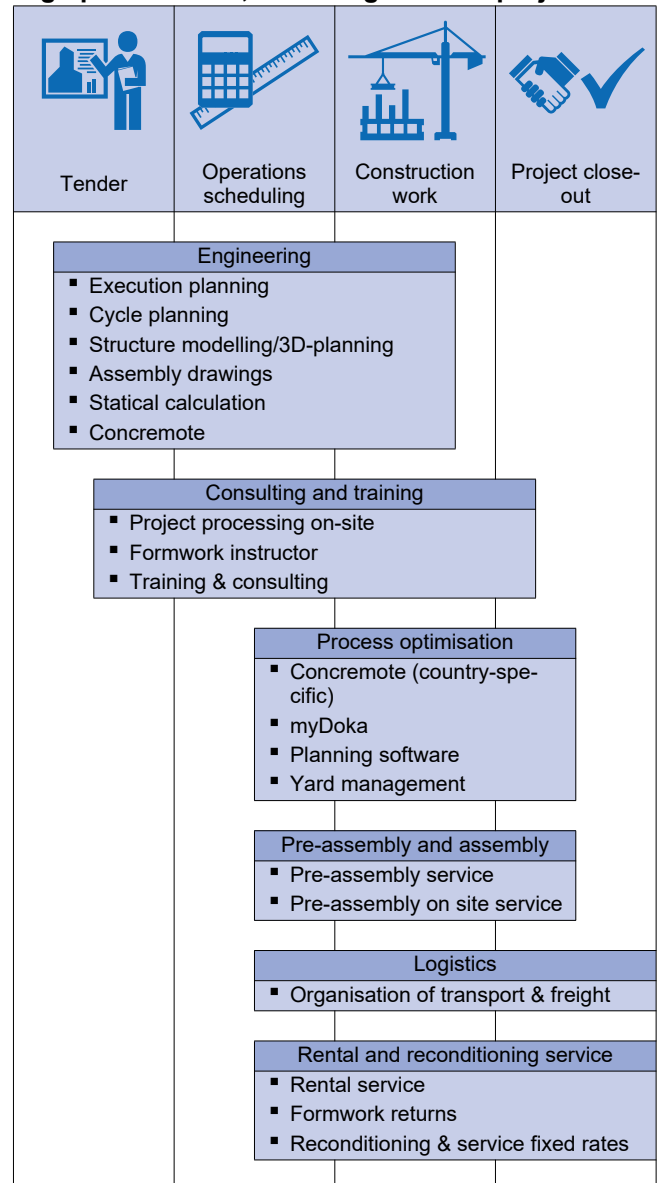
Just-in-time availability

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

Rental and reconditioning service

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

High performance, in all stages of the project



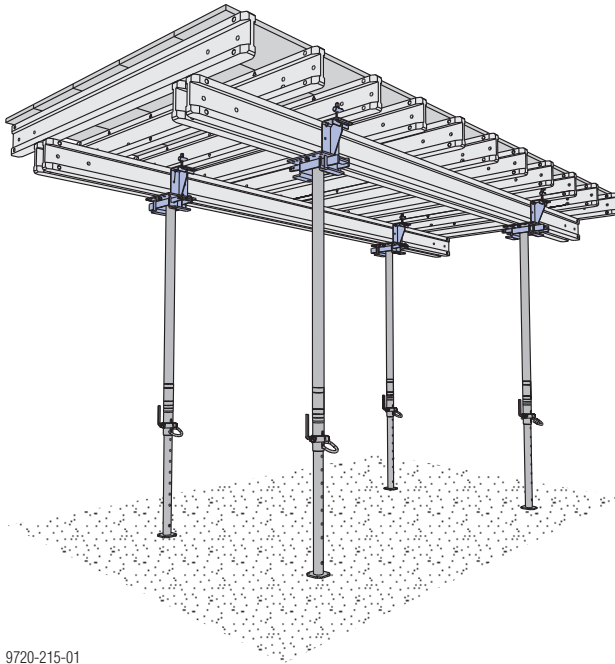
Digital Services

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 doka.com/digital.

System description

Dokaflex table – the tried-and-tested high-speed tableform



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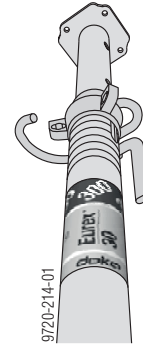
Dokaflex tables are easy and practical to set up and can be shifted and adapted very quickly. This makes them a cost-effective and efficient way of carrying out large-area slab projects.

Dokaflex tables are fully combinable with Dokamatic tables.

- assembled from components of the Dokaflex system
- 4 standard formats with an underlying 'grid' logic:
 - 2.50 x 4.00 m
 - 2.50 x 5.00 m
 - 2.00 x 4.00 m
 - 2.00 x 5.00 m
- tableform faced with 3S top formwork sheets, 21 or 27 mm
- for slab heights up to 5.90 m
- can start to pay off after as few as 2 re-use cycles
- custom formats are also possible where needed
- site-ready, custom-format Dokaflex tables can be supplied by the Doka Pre-assembly Service
- wedge-lock makes quick and easy work of attaching and detaching props
- low stacking height when transported and stored
- safe, fast shifting devices – save time and money
- forming can continue seamlessly into infill zones and closure gaps
- the technically perfected individual components make a big contribution to higher speeds
- commissioning quantities are easy to tailor to the construction schedule – a weekly cycle is no problem

Doka floor props Eurex

EN 1065-compliant floor prop



9720-214-01

Their high load-bearing capacity is complemented by many practical details making them very easy to handle:

- 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

The flexurally rigid link with the tableform superstructure increases the load-bearing capacity of the floor props:

- permitted capacity of Eurex 20 top:
 - when completely extended: 30 kN
 - when inserted by min. 30 cm: 36.7 kN
- permitted capacity of Eurex 30 top: 41.2 kN
- permitted capacity of Eurex 20 LW: 30 kN



Follow the directions in the 'Floor props Eurex top' or 'Floor props Eurex 20 LW' User Information booklet.

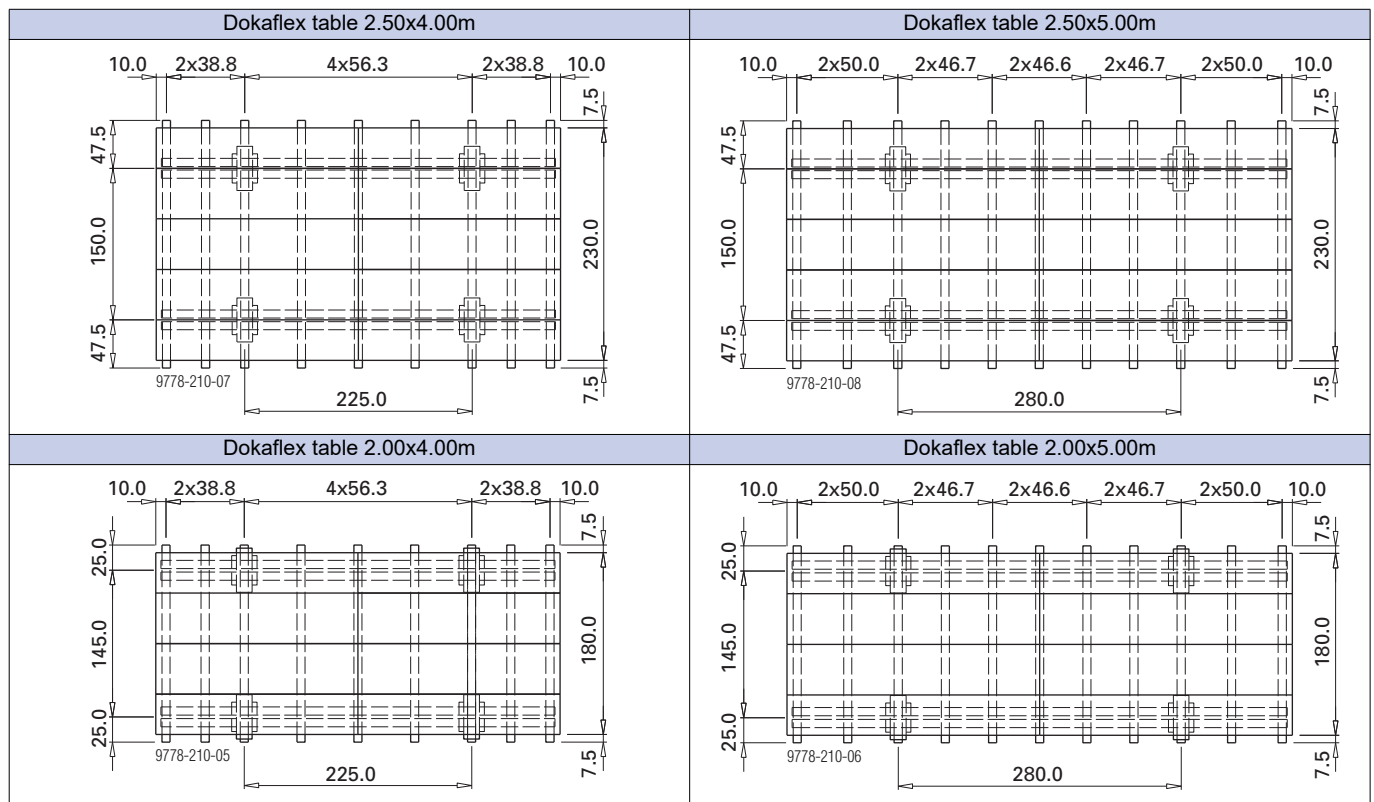


WARNING

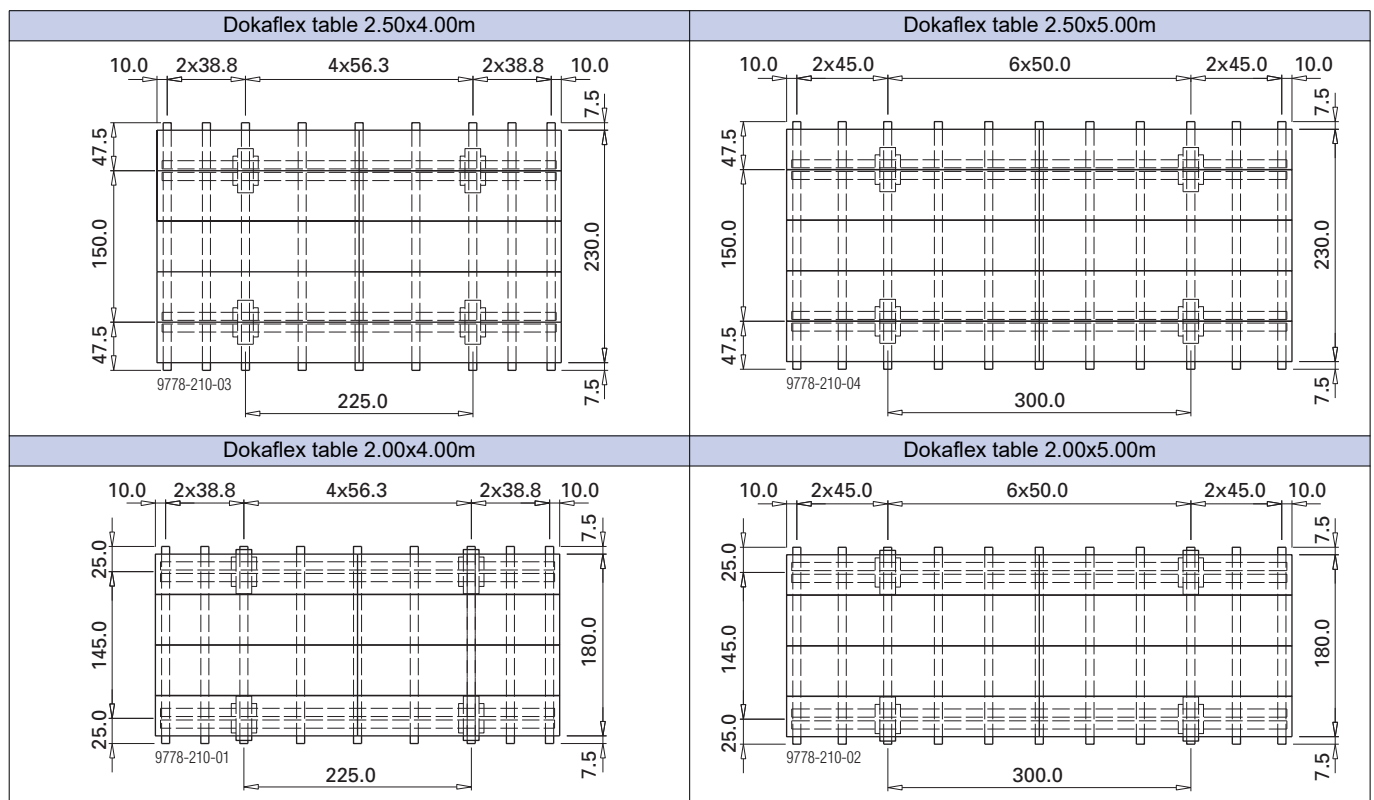
► It is **not permitted** to use Eurex floor props 20 top 700 on Doka tableforms.

System dimensions

Dokaflex table 27mm



Dokaflex table 21mm



Instructions for assembly and use (Method statement)

Dokaflex tables can cover a wide area of practical applications.

Their flexible design enables them to be combined in very versatile ways.

This means that in some projects, they will be put together differently, and a different sequence of operations will be needed, from the scheme shown here (e.g. for sloping walls).



CAUTION

- Dokaflex tables with floor props may only be used to form horizontal slabs.
- It is forbidden to use Dokamatic tables in inclined situations.
- Never place tables with floor props on top of one another.



CAUTION

Before stepping onto the tables, observe the following points:

- Horizontal stability must be ensured (e.g. by back-tying the edge tables, by fixing the tables to the structure, by joining them into one continuous forming area).
- If no fall protection is in place (e.g. during formwork set-up or stripping), a **personal fall-arrest system (PFAS)** must be used (e.g. safety harness).



The FreeFalcon mobile fall protection mast permits a secure attachment point to be created for the safety harness.



User instruction prior to use of the FreeFalcon is mandatory. Follow the directions in the 'FreeFalcon' Operating Instructions.

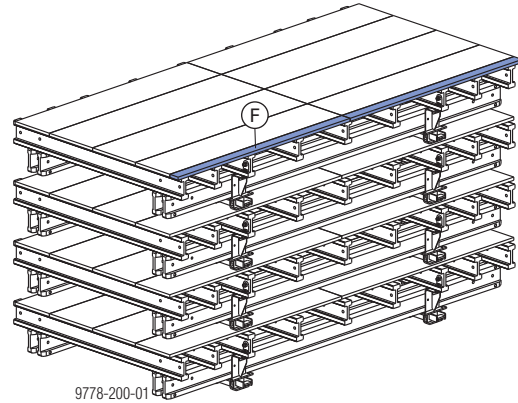


NOTICE

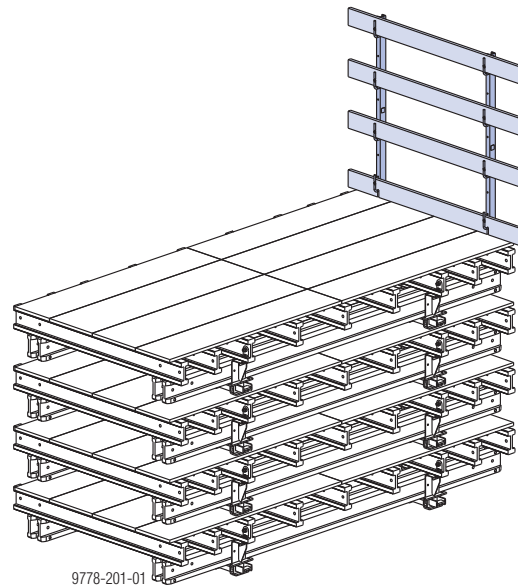
All necessary traffic routes must be prepared at the site!

Pre-assembly

- While the tables are still on the stack, attach an edge strip (**F**) to each table that is going to be placed directly against a wall of the building.



- Also pre-install the sideguards for edge tables while the tables are still on the stack (see the section headed 'Tables around edges of slab'). Where needed, attach side safety railings.

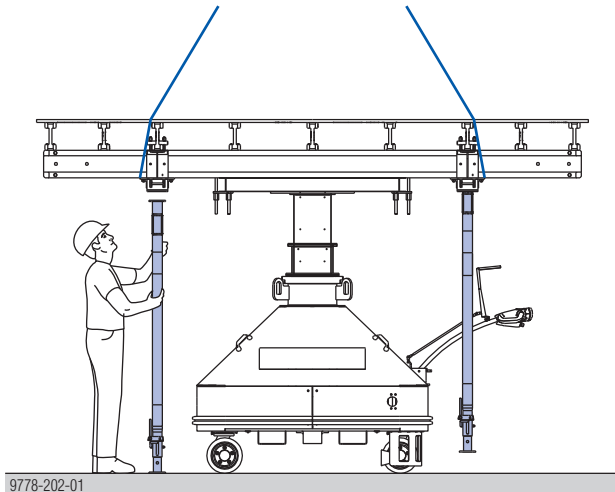


Transporting / handling the panels

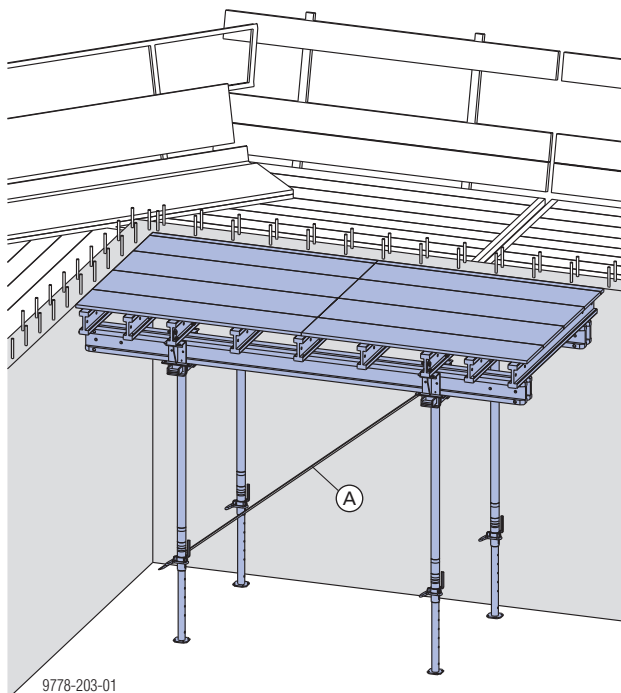
- For offloading panels from a truck, or lifting them on-site a stack at a time, use the Dokamatic lifting strap 13.00m (see the section headed 'Transporting, stacking and storing').

Closing the formwork

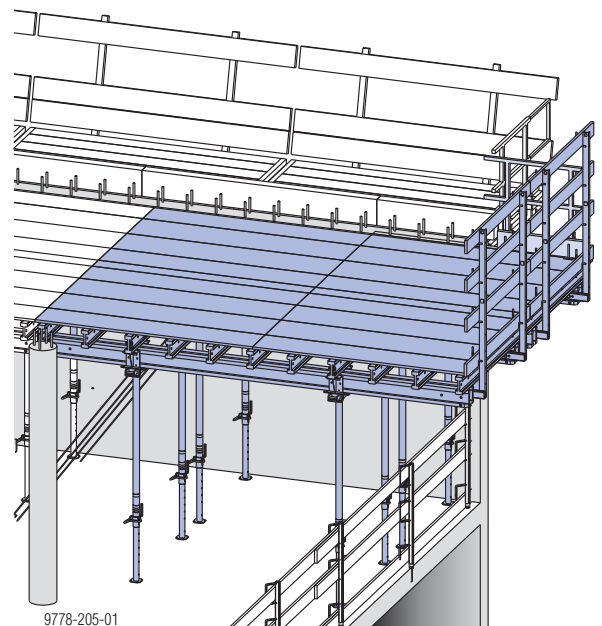
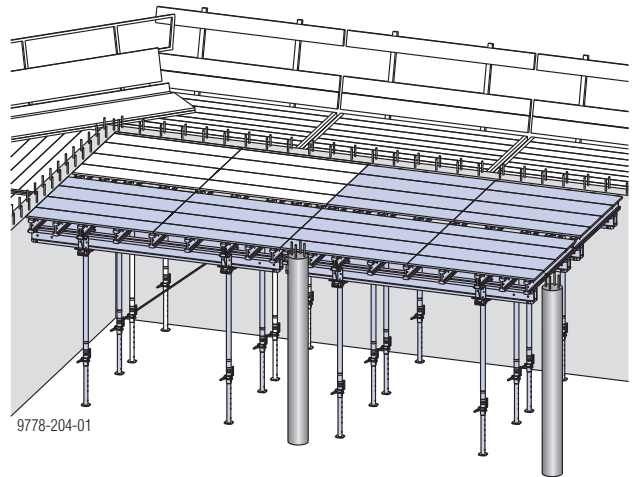
- Use the Dokamatic lifting strap 13.00m to lift the table superstructure onto the DoKart plus, or onto suitable temporary shoring (see the section headed 'Transporting, stacking and storing').
- If necessary, adjust the position and number of the table heads (see the section headed 'Adapting to different slab thicknesses').
- Mount the floor props (see the section headed 'Mounting the floor props').



- Bring the table to its usage location using the Dokamatic lifting strap 13.00m or the DoKart plus. Then raise it to its intended operational height, extend the floor props, and adjust the height. If possible, start by putting up the first table in one corner of the building – with the pre-mounted edge strip facing the wall.
- Fix the first table to the structure (e.g. with braces, Lashing strap 5.00m **(A)** or in-place solutions using e.g. the tie-holes in the wall).



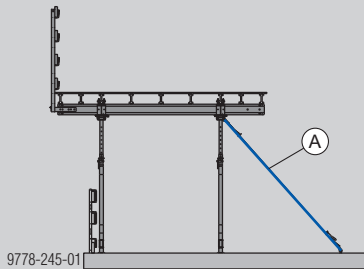
- Bring further tables to the usage location in the same way.



**CAUTION****Risk of edge tables toppling over!**

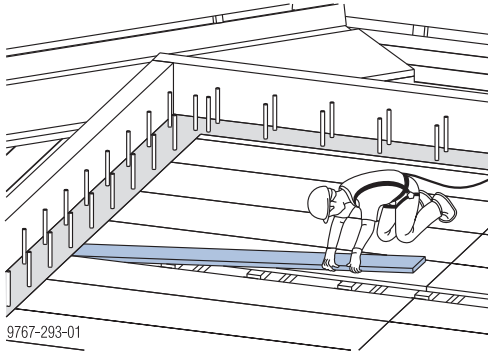
(due to edge props that have been relocated towards the inside, stop-end formworks, down-stand beams)

- Secure all edge tables **by tying back (A)** every primary beam in the inner cantilever zone of the table.
- Do not release the table from the shifting device until tie-backs are fixed to prevent tip-over.
- Also applies when setting down tables or putting them into temporary storage.



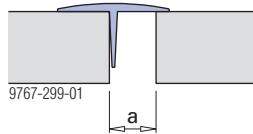
For details of the tie-back, see the section headed 'Tie-back solutions'.

- ▶ Insert standard strips between the tables, and nail where needed (see the section headed 'Adaptation to building layout').



The T-ledge makes it easier to remove the tableforms.

T-ledges are only needed in the area where formwork removal is going to begin.



a ... max. 15 mm

- ▶ Form the closure zones (see the section headed 'Adaptation to building layout').
- ▶ Form the slab stop-ends (see the section headed 'Slab stop-ends').
- ▶ Spray the formwork sheeting with release agent.
- ▶ Place the reinforcement.

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.



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

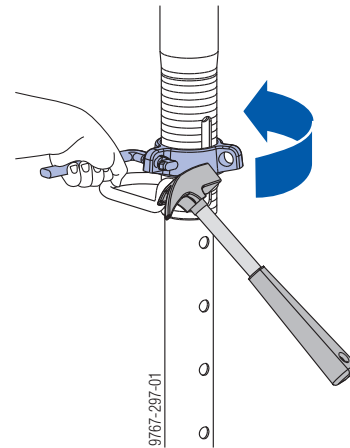
Stripping and repositioning the formwork



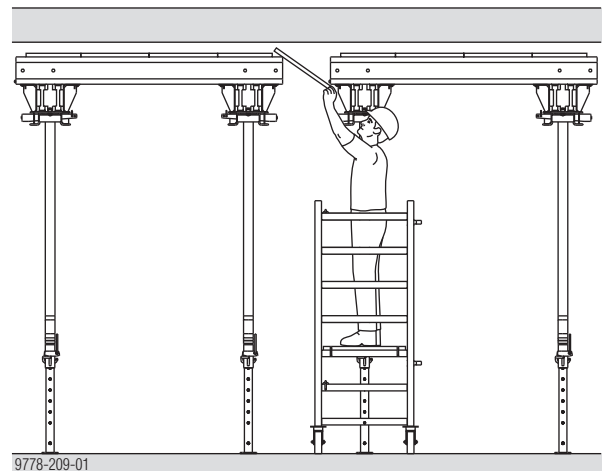
NOTICE

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

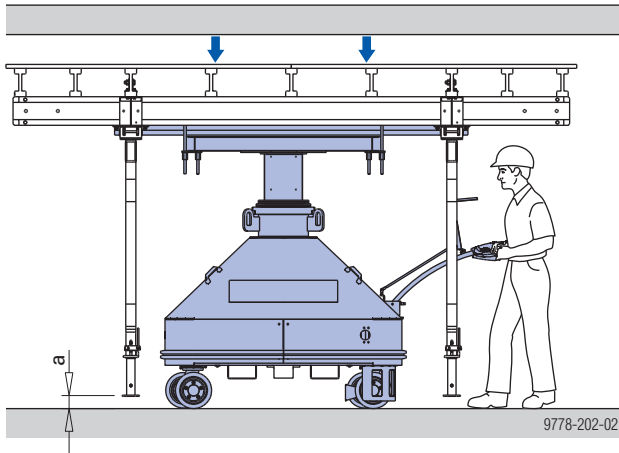
- ▶ Check the concrete strength.
- ▶ Take the load off the floor props of the tables, and lower them approx. 5 cm.



- ▶ Remove the standard strips and closures (see the section headed 'Adaptation to building layout').



- Position the DoKart plus beneath the middle of the table.
- Extend the lifting tower until the table is supported on the distribution beams of the DoKart plus.
- Push the floor props all the way in and, with the DoKart plus, lower the table until it is 10 cm clear of the ground.



a ... max. 10 cm ground clearance

- Reposition the table (see the sections headed 'Horizontal repositioning / travelling', 'Vertical repositioning with transport forks' and 'Table Lifting System TLS').

Reshoring



NOTICE

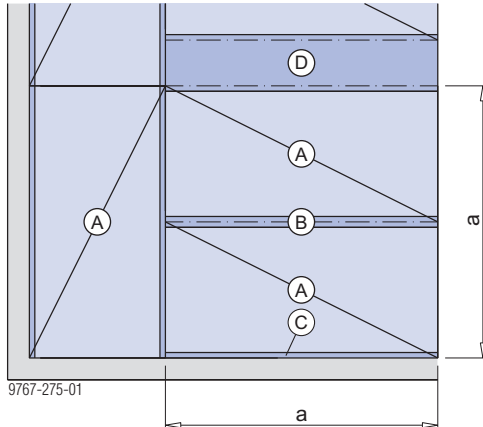
As well as the instructions given here, you must follow the instructions in the section headed 'Reshoring props, concrete technology and stripping out'.

- Before pouring the next floor-slab (i.e. above the one that has just been stripped), put up reshoring props.

Adaptation to building layout

The formwork system can be adapted to the building layout in the following ways:

- combining different sizes of table
- grid logic (arranging the tables lengthways and crossways)
- closure zones with fitting-boards

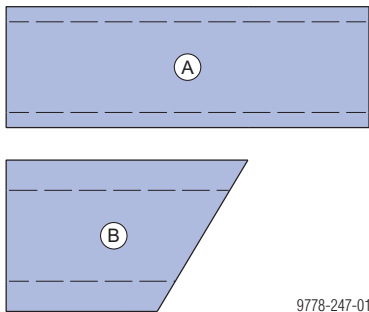


a ... 4.0 m / 5.0 m

- A** e.g. Dokaflex table 2.00 x 4.00m or 2.50 x 5.00m
- B** Typical zone (standard strip)
- C** Wall junction (standard strip)
- D** Closure zone (fitting-board)

- table sizes and table shapes adapted to the project
 - e.g. greater length (**A**) , one side slanted (**B**) etc.

Custom tables (simplified illustration):

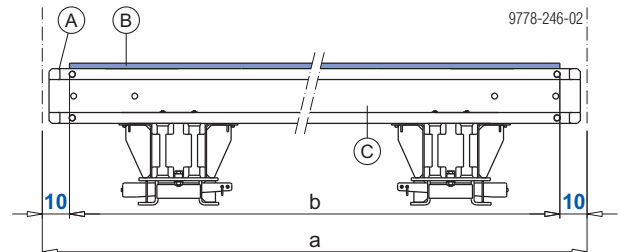


Note:

For assembling custom tables, consult your Doka technician!

in the direction of the secondary beams

The sheet-covered area is 10 cm less than the system dimension on both long sides of the table. The projecting secondary beam acts as a support for the strips of formwork sheeting.



Dimensions in cm

a ... System width of the table (200 cm or 250 cm)

b ... a - 20 cm (180 cm or 230 cm)

A Support for strip of formwork sheeting

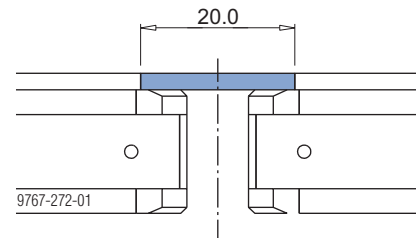
B Sheet-covered area

C Secondary beam

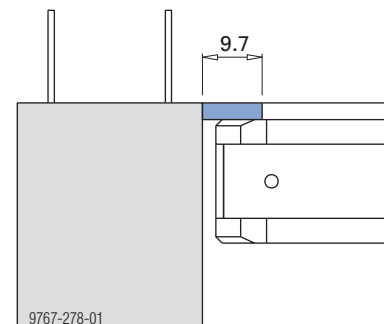
Typical zone

Between the tables and at wall junctions, it is always standard strips that are inserted.

Standard strip (20 cm) between the tables



Standard strip (9.7 cm) at wall junctions



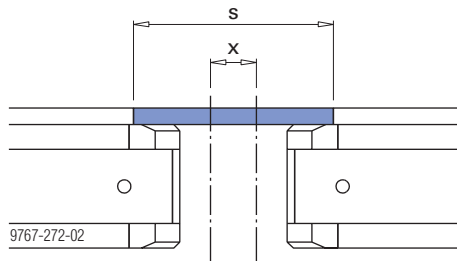
Closure zone

Instead of the standard strips, a fitting-board of variable width is inserted between the tables.

Note:

The width of the fitting-board needed is always 20 cm larger than the actual closure dimension 'x'.

Fitting-board ($x + 20$ cm) between the tables

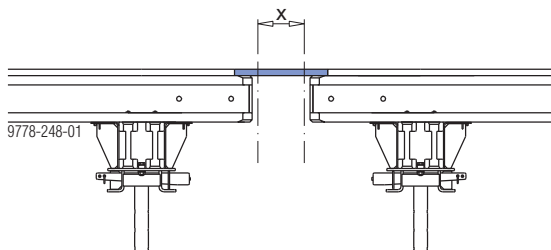


s ... Width of fitting-board ($x + 20$ cm)

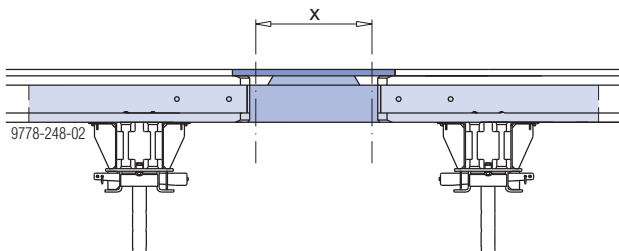
x ... Actual closure dimension

The type of closure is selected depending on the slab thickness and on the necessary closure width 'x' (see the section headed "Structural design").

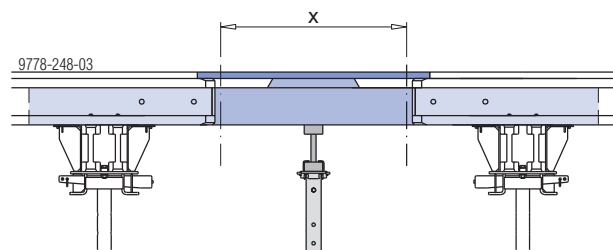
Option 1: fitting-board only



Option 2: fitting-board with insertion beam, with no additional propping

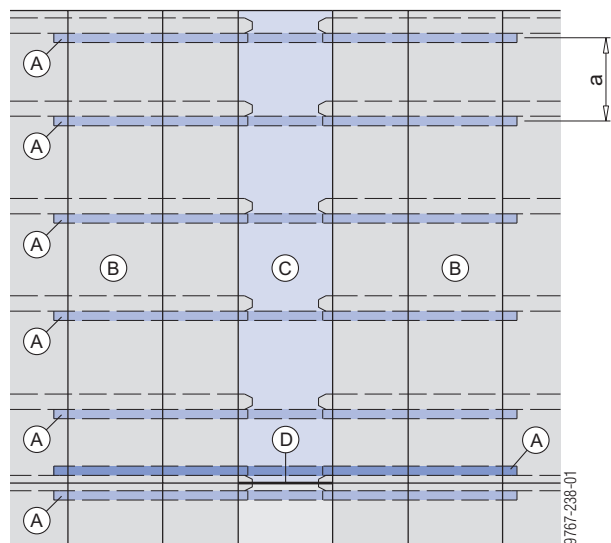


Option 3: fitting-board with insertion beam and additional propping



Forming and stripping closures with insertion beams

Location of insertion beams:



a ... max. spacing of secondary beams of the Dokaflex table

A Insertion beam 1.95m (on 2.00m wide tables)

Insertion beam 2.45m (on 2.50m wide tables)

B Dokaflex table

C Fitting-board

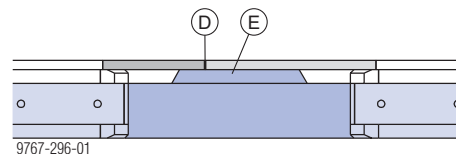
D Joint where the fitting-boards abut

Note:

At the ends of the tables, the insertion beams are placed as close as possible to the edge.

Joint where the fitting-boards abut (D) :

- **in the direction of the primary beams:** an additional insertion beam is necessary.
- **in the direction of the secondary beams:** over the raised support surface (**E**) of the insertion beam. If this is not possible, fit the insertion beam with its raised support surface facing downwards, and wedge it up on the table waling.



**CAUTION**

Before stepping onto the tables, observe the following points:

- Horizontal stability must be ensured (e.g. by back-tying the edge tables, by fixing the tables to the structure, by joining them into one continuous forming area).
- If no fall protection is in place (e.g. during formwork set-up or stripping), a **personal fall-arrest system (PFAS)** must be used (e.g. safety harness).



The FreeFalcon mobile fall protection mast permits a secure attachment point to be created for the safety harness.



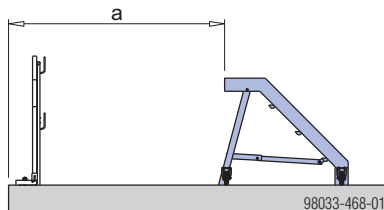
User instruction prior to use of the FreeFalcon is mandatory. Follow the directions in the 'FreeFalcon' Operating Instructions.

Use a mobile scaffold tower (e.g. Working scaffold Modul) or a platform stairway for setting up and stripping the formwork.

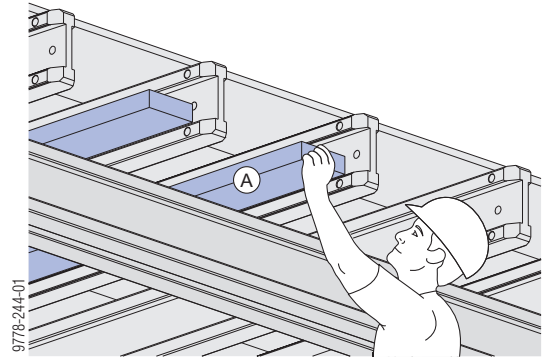
**NOTICE**

When using the **Platform stairway 0.97m** for vertical access, note the following:

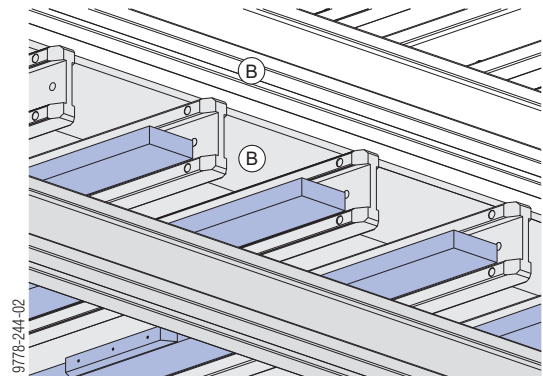
- Minimum distance **a** from drop-off edge: 2.00 m

**Closing the formwork:**

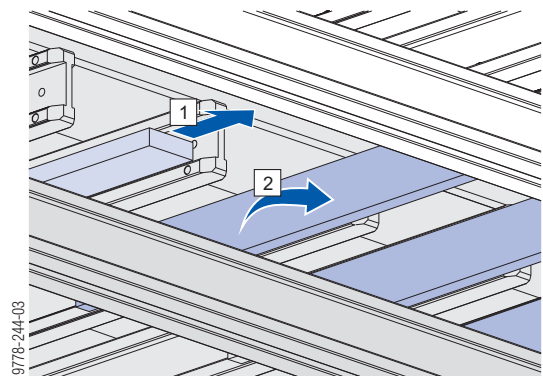
- Push insertion beams into the tableforms alongside the closure zone, flush with the secondary beams.

**A** Insertion beam

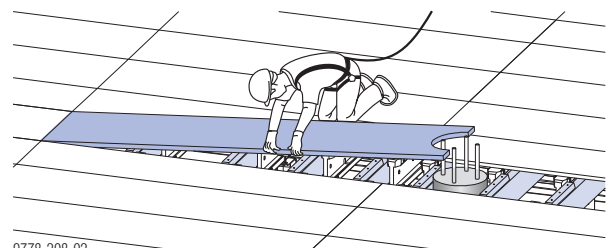
- Put up tables opposite the closure zone.

**B** Dokaflex table

- Pull each insertion beam across the closure zone (1) and turn it into the upright (2).



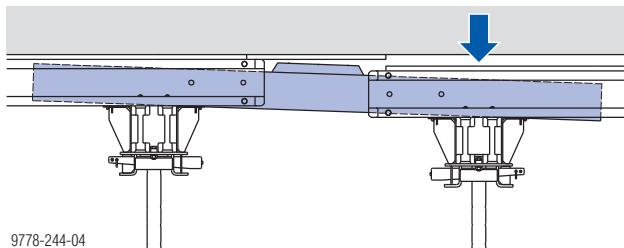
- Place fitting-boards over the closure zone, and nail where needed.



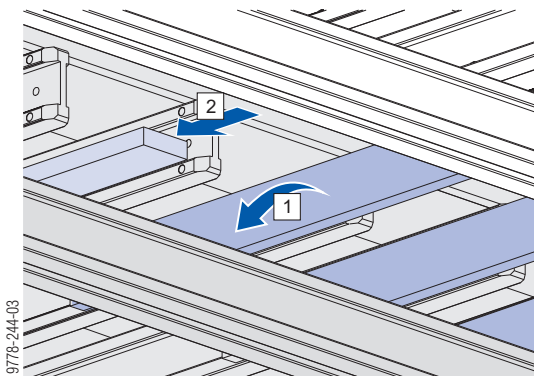
Stripping and repositioning the formwork:**CAUTION****Risk of insertion beams falling out**

- ▶ Do **not** leave insertion beams with a **length of 1.95m** inside **2.50m wide tables** when these are repositioned!

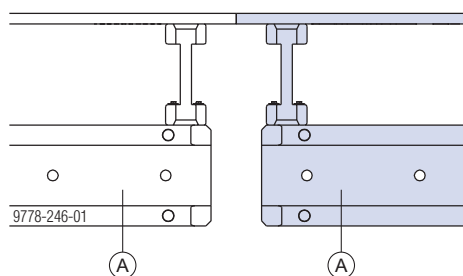
- ▶ Take the load off the floor props of the tables, and lower the tables approx. 5 cm on one side of the closure zone.



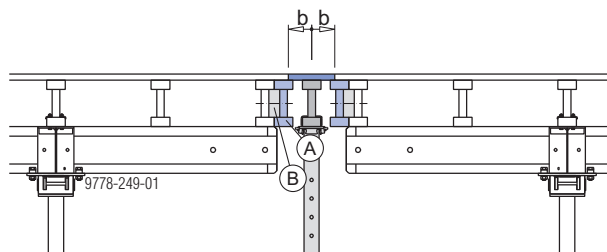
- ▶ Turn the insertion beams on their sides (1) and push them into the tableform (2).



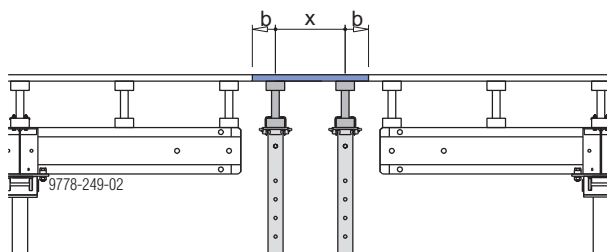
- ▶ Take off the fitting-boards.
 - ▶ Lower the remaining tables.
 - ▶ Reposition the tables together with the insertion beams.
- The insertion beams are available for use again straight away at the new location.

in the direction of the primary beams**Typical zone****A** Dokaflex table**Closure zone****Note:**

The closure zone should be supported by a centrally placed floor prop - this has no implications regarding the dimensioning of the table. Otherwise, statical verification is required.



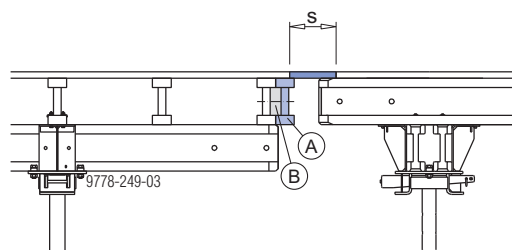
b ... max. 10 cm

A Doka beam H20**B** Squared timber 60x120 mm (site-provided)

b ... max. 10 cm

x ... max. closure

(see the dimensioning table 'Form-facing + closure option 1')

Combining tables in the direction of the secondary beams and of the primary beams

s ... Dimension of sheet

A Doka beam H20**B** Squared timber 60x120 mm (site-provided)**Note:**

The beam **(A)** must be pre-mounted!

Adapting to different slab thicknesses

The tables can be adapted to take account of the required slab thickness by installing extra intermediate props:

- with **Table head 30**
- with **Intermediate head DF**
- with **Supporting head H20 DF**



NOTICE

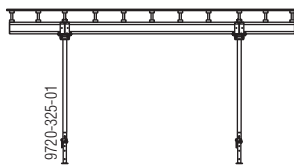
Put up the intermediate props so that they force-fit. It is not allowed to make some props higher than others!

Note:

If the slab thicknesses vary, intermediate props can also be installed temporarily.

Positioning the floor props

2 floor props per primary beam
(standard table)



3 floor props per primary beam
(1 intermediate prop in mid-span)

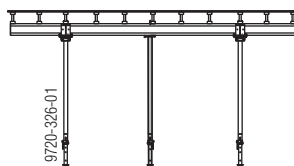
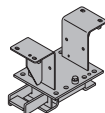


Table head 30



Note:

For mounting the Table heads 30, see the section headed "Mounting the table heads"!

Intermediate head DF



For mounting intermediate props on a **double primary beam**



NOTICE

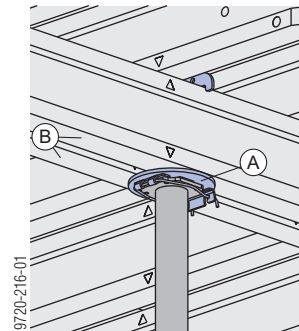
- An increase in the load-bearing capacity of the floor prop, and moment transfer such as with the table head, are not possible here!
- The main props of the table (at least 4 of them) must always be attached with a table head!



WARNING

Risk of intermediate props dropping out when table is lifted

- ▶ Intermediate props that are attached by an **Intermediate head DF** and that are not dis-mounted must be pulled in sufficiently far.

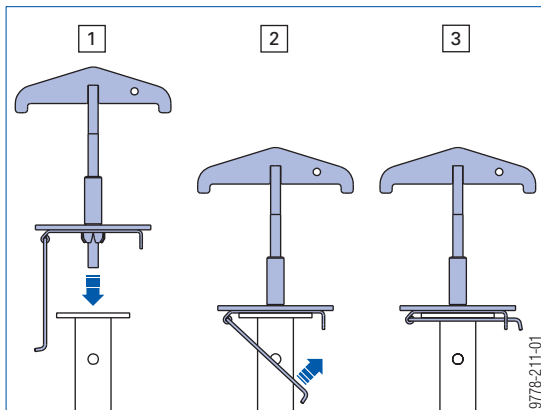


A Intermediate head DF

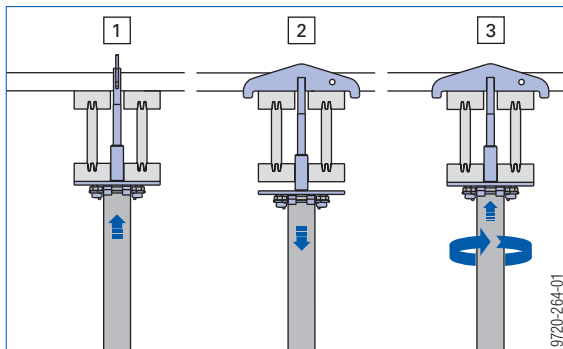
B Doka beam H20

Assembly

- Place the Intermediate head DF on the floor prop and secure it with the integral spring-steel stirrup.



- Push the Intermediate head DF up between the double primary beams, turn it 90° and pull it down.
- Twist the floor prop to fix it firmly onto the double primary beams.



- 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.



Supporting head H20 DF



For mounting intermediate props on a **single primary beam**



NOTICE

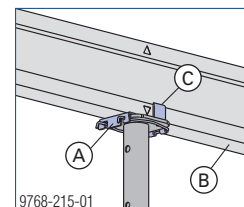
- An increase in the load-bearing capacity of the floor prop, and moment transfer such as with the table head, are not possible here!
- The main props of the table (at least 4 of them) must always be attached with a table head!



WARNING

Risk of intermediate props dropping out when table is lifted

- **Intermediate props** with a Supporting head H20 DF, and props that are only secured against tipping over, must be **removed** before the table is lifted.



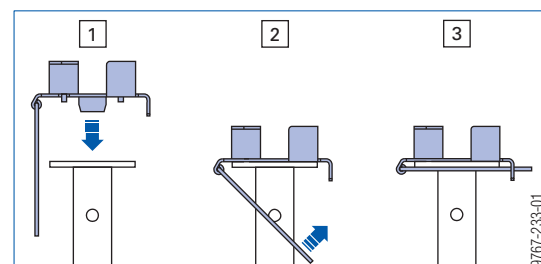
A Supporting head H20 DF

B Doka beam H20

C Bore in the Supporting head
(for fixing with chipboard screw 4x35)

Assembly

- Place the Supporting head H20 DF on the floor prop and secure it with the integral spring-steel stirrup.



- Put up the intermediate 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.



Assembly

Assembling the table superstructure



The professionals from the Doka "Ready-to-Use Service" plan and assemble **site-ready and custom formworks** exactly to your specifications.

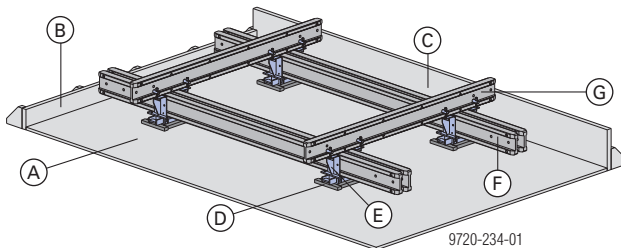
For a clean concrete finish and for the Dokaflex tables to function at their best, it is important to assemble them correctly and precisely.

Assembly floor with stop bars

- ▶ Prepare a flat assembly floor (wooden drawing floor).
- ▶ Attach stop-bars for the table heads, primary beams and secondary beams.

Mount the table heads, primary and secondary beams

- ▶ Insert the table heads between the prepared stop-bars.
- ▶ Place the primary beams into the table heads and push them up against the stop-bar.
- ▶ Lay the secondary beams centrally, directly over the table heads, and push them up against the stop-bar.



A Assembly floor

B Stop-bar for primary beams

C Stop-bar for secondary beams

D Stop-bar for table head

E Table head

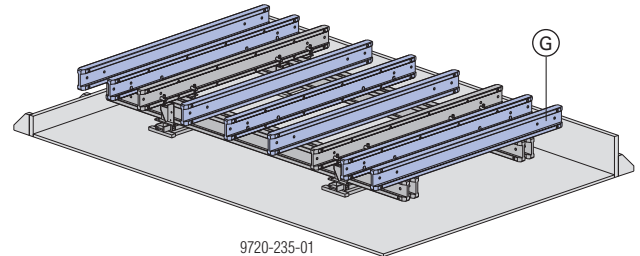
F Primary beam

G Secondary beam

- ▶ Bolt the table heads to the secondary beams (see the section headed "Mounting the table heads").

Mount the remaining secondary beams

- ▶ Place the remaining secondary beams onto the primary beams (use a template if necessary).

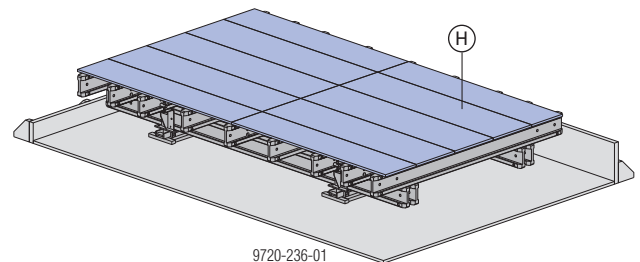


G Secondary beam

- ▶ Screw the secondary beams to the primary beams diagonally, using rack screws 6x80mm.

Mount the formwork sheets

- ▶ Decide how the sheets are to be arranged. If necessary, mark the position of the first row of sheets with a chalk line.
- ▶ Lay the formwork sheets and pull them tight with the Strip tensioner B 5.00m.
- ▶ Nail the sheets to the secondary beams with ring nails 3.1x60mm.



H Formwork sheet

The Lifting hook DF, or Dokamatic lifting straps 13.00 m, are ideal for lifting the pre-assembled units away from the assembly area.

Mounting the table heads

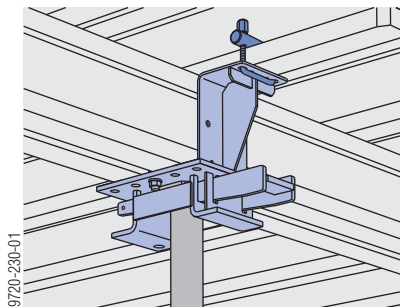
The Table head 30 firmly links the Doka formwork beams H20 to the Doka floor props Eurex.

with Connection unit DF 20/30

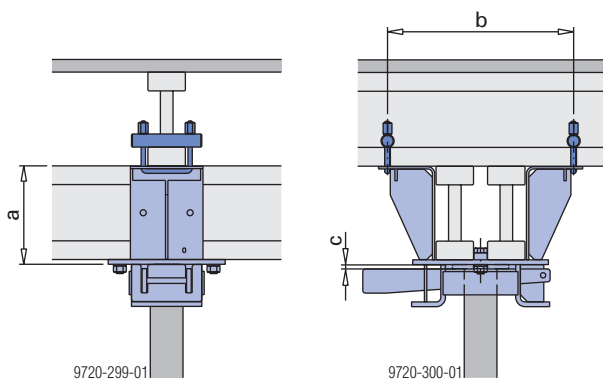
for longer assignments involving high numbers of repeat uses.

Tools needed:

- Centre bit DF 30
- Box nut 19 1/2" L
- Reversible ratchet 1/2"

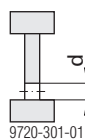


2 Connection units DF 20/30 are needed for each Table head 30.



- a ... 210 mm
- b ... 396 mm
- c ... 4 to 12 mm

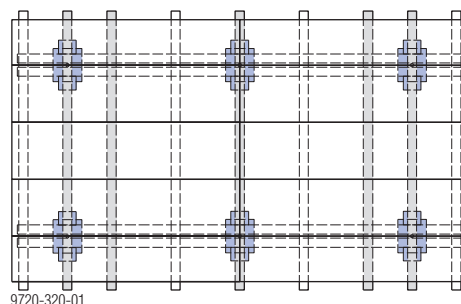
Use the Centre bit DF 30 to drill the holes in the webs.



- d ... diam. 30 mm



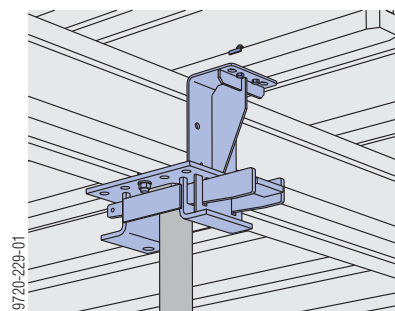
The Dokaflex tables include secondary beams with the extra holes needed for the Table head 30. This means that they can quickly and easily be modified for 6 floor props.



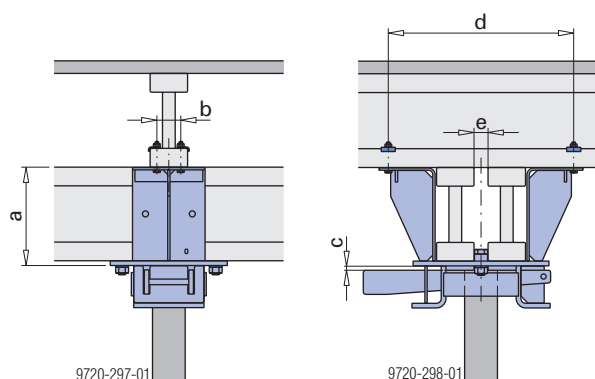
with Beam screw S 8/60

Tools needed:

- Wood drill, diam. 10 mm
- Box nut 13 1/2"
- Reversible ratchet 1/2"



4 Beam screws S8/60 are needed for each Table head 30.



- a ... 210 mm
- b ... 51 mm
- c ... 4 to 12 mm
- d ... 39.6 mm
- e ... approx. 30mm

A Drilling template DF is available on request, to speed up the job of drilling the holes in the beams.

Table head for single primary beam

Converting the Table head 30

Although designed as standard for double primary beams, the Table head 30 can easily be converted for use with a single primary beam by using different holes for its two M16x45 hexagon bolts.

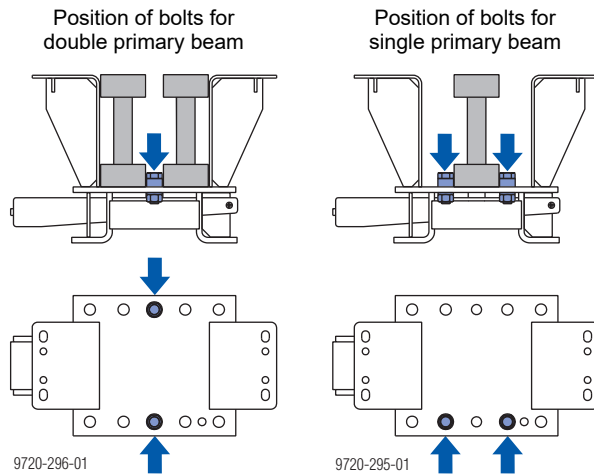
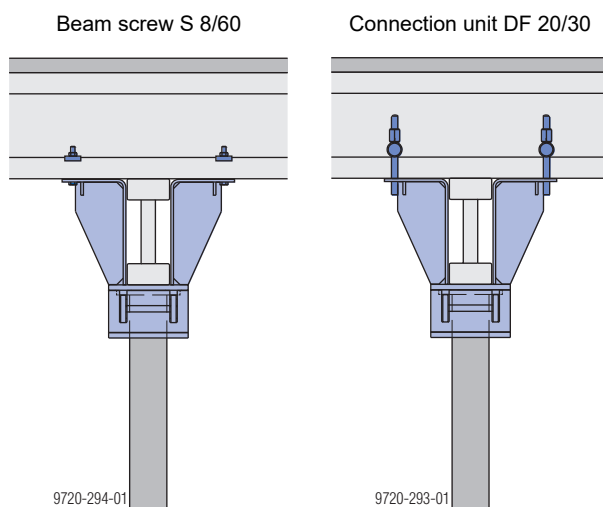
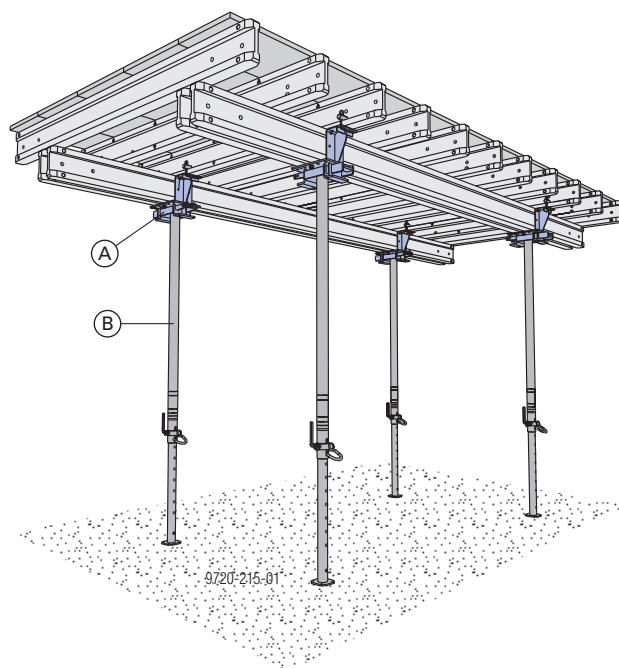


Table head 20

Where Dokaflex tables are assembled with single primary beams, it is also possible to use the Table head 20 instead of the Table head 30.



Mounting the floor props

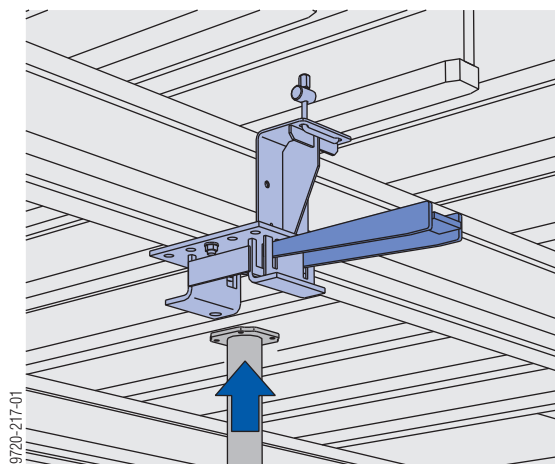


A Table head 30

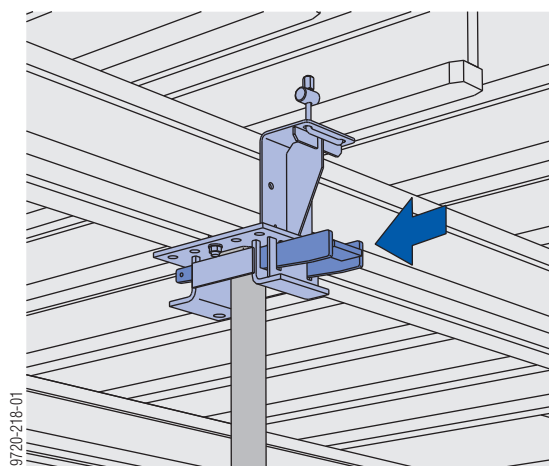
B Floor props Eurex 20 top, Eurex 20 LW or Eurex 30 top

The floor prop is quickly and securely fixed onto the Table head 30 with the aid of the double wedge.

- Pull back the wedge of the Table head 30 and insert the prop.



- Tighten the wedge with the hammer.



NOTICE

- Having the outer tube at the top increases stability
- To make it easier to get at the adjusting nut, it is also possible to have the outer tube at the bottom.
- Where the floor-slab height is 3.50 m and upward, secure the wedge with a spring cotter 5mm, as at this height and above it is difficult to do a sight-check.

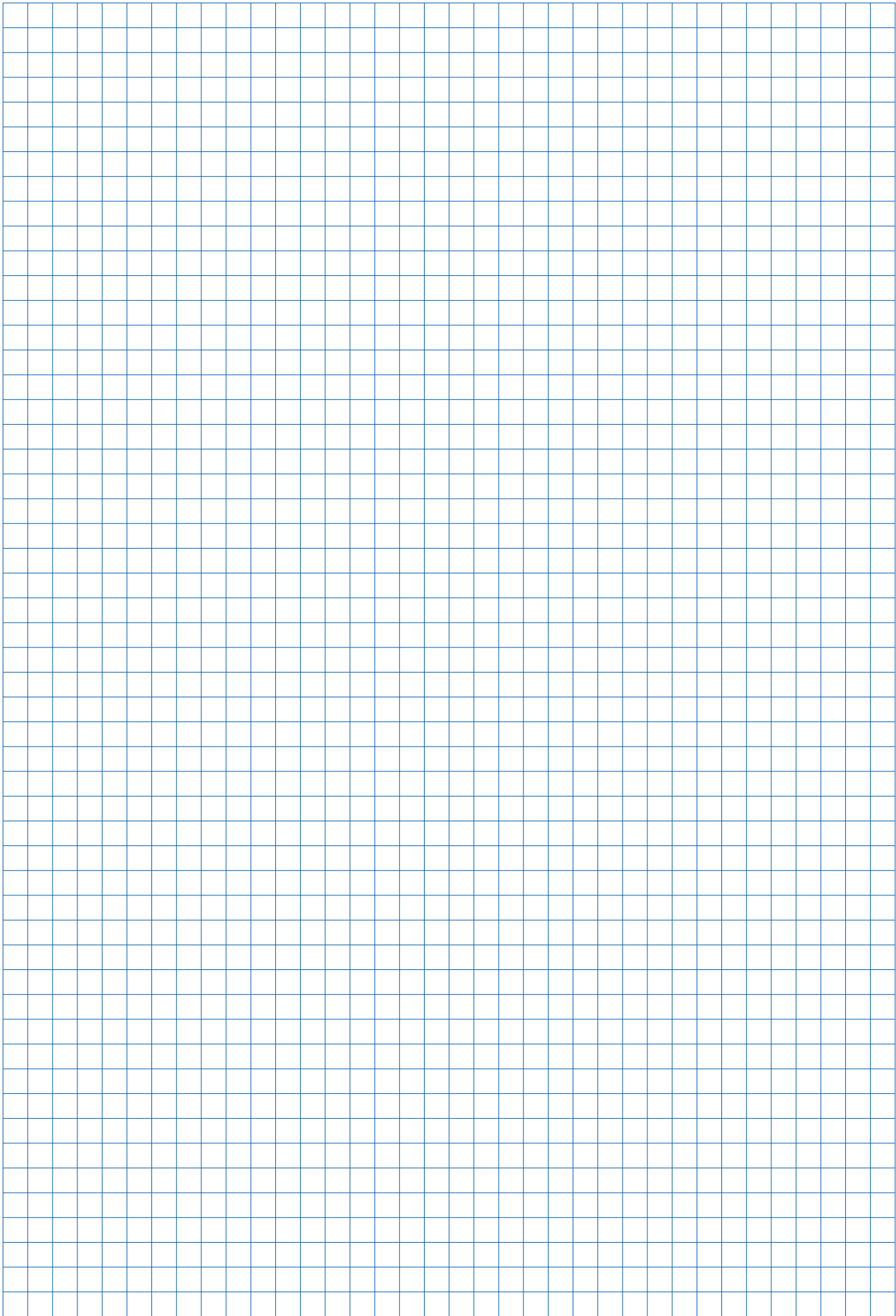


- The fastening clamp (**A**) has to be pushed all the way into the floor prop.
- Adjusting nut (**B**) has to be tightened into contact with the fastening clamp.



Note:

Where the Doka floor prop Eurex 20 top 550 is used, the Table head 30 can only be attached to the inner tube.



Structural design

Note:

In accordance with EN 12812, a service load of 0.75 kN/m² and a variable load of 10% of a massive concrete floor-slab, totalling at least 0.75 kN/m², but no more than 1.75 kN/m², are allowed for (assuming a fresh-concrete density of 2500 kg/m³).

The tables can be fitted with different formwork sheets. The structural design is therefore split in two parts:

- **Supporting construction with floor props**
- **Form-facing and closure options**

Supporting construction with floor props

Table format	see the section headed 'System dimensions'
Number of floor props per primary beam	see the section headed 'Adapting to different slab thicknesses'
Form-facing and closure options	to be selected depending on the slab thickness (see 'Form-facing and closure options' in the 'Structural design' section)

Table format	Type of prop	Max. slab thickness 'd' [cm]		Max. closure 'x' [cm]		
		Number of floor props per table waling		Form-facing and closure options		
		2	3	Opt. 1	Opt. 2	Opt. 3
2.50x5.00	Eurex 20 (top or LW)	30	32	0 (= standard strip)		
		29	31	10	10	20
		28	30	20	20	40
		27	29	30	30	60
		25	27	40	40	80
		24	26	50	50	—
		23	25	60	60	—
		22	24	60	70	—
	Eurex 30	21	23	60	80	—
		35	42	0 (= standard strip)		
		33	40	10	10	20
		32	39	20	20	40
		31	38	30	30	60
		30	36	40	40	80
		29	34	50	50	—
		28	33	60	60	—
2.50x4.00	Eurex 20 (top or LW)	27	32	60	70	—
		26	31	60	80	—
		40	42	0 (= standard strip)		
		38	40	10	10	20
		36	38	20	20	40
		35	37	30	30	60
		33	35	40	40	80
		32	34	50	50	—
	Eurex 30	31	33	60	60	—
		30	32	60	70	—
		29	31	60	80	—
		50	55	0 (= standard strip)		
		48	53	10	10	20
		46	51	20	20	40
		44	49	30	30	60
		42	47	40	40	80
2.00x5.00	Eurex 20 (top or LW)	40	45	50	50	—
		39	43	60	60	—
		38	42	60	70	—
		37	41	60	80	—
		46	52	0 (= standard strip)		
		44	50	10	10	20
		42	48	20	20	40
		40	46	30	30	60
2.00x4.00	Eurex 30	37	44	40	40	80
		35	42	50	50	—
		33	40	60	60	—
		32	38	60	70	—
		31	36	60	80	—
		45	50	0 (= standard strip)		
		43	47	10	10	20
		41	45	20	20	40
2.00x5.00	Eurex 20 (top or LW)	40	43	30	30	60
		38	41	40	40	80
		36	39	50	50	—
		34	37	60	60	—
		32	36	60	70	—
		31	35	60	80	—
		60	70	0 (= standard strip)		
		57	66	10	10	20
2.00x4.00	Eurex 30	54	63	20	20	40
		51	60	30	30	60
		49	58	40	40	80
		47	55	50	50	—
		45	53	60	60	—
		43	51	60	70	—
		42	49	60	80	—
		60	80	0 (= standard strip)		

Table format	Type of prop	Max. slab thickness 'd' [cm]		Max. closure 'x' [cm]		
		Number of floor props per table waling		Form-facing and closure options		
		2	3	Opt. 1	Opt. 2	Opt. 3
2.00x5.00	Eurex 20 (top or LW)	37	40	0 (= standard strip)		
		35	38	10	10	20
		33	36	20	20	40
		31	34	30	30	60
		29	32	40	40	80
		28	30	50	50	—
		27	29	60	60	—
		26	28	60	70	—
2.00x4.00	Eurex 30	25	27	60	80	—
		46	52	0 (= standard strip)		
		44	50	10	10	20
		42	48	20	20	40
		40	46	30	30	60
		37	44	40	40	80
		35	42	50	50	—
		33	40	60	60	—
2.00x5.00	Eurex 20 (top or LW)	32	38	60	70	—
		31	36	60	80	—
		45	50	0 (= standard strip)		
		43	47	10	10	20
		41	45	20	20	40
		40	43	30	30	60
		38	41	40	40	80
		36	39	50	50	—
2.00x4.00	Eurex 30	34	37	60	60	—
		32	36	60	70	—
		31	35	60	80	—
		60	70	0 (= standard strip)		
		57	66	10	10	20
		54	63	20	20	40
		51	60	30	30	60
		49	58	40	40	80

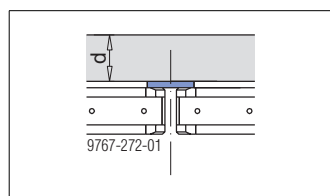
Form-facing and closure options

Note:

For detailed information on the formwork sheet and closure options, see the section headed 'Adaptation to building layout'.

Notes on dimension (x):

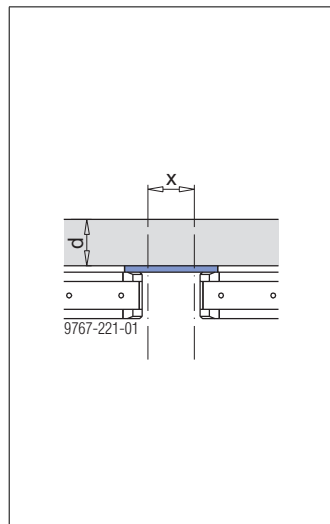
- The influence of the closure on the table will vary depending on which closure option (1 to 3) has been selected.
- The relevant table and the number of floor props needed is selected from the table 'Supporting construction with floor props', with reference to the values 'x' and the slab thickness 'd'.
- The width of the fitting-board needed is always 20 cm larger than the actual closure dimension 'x'.

Formwork sheet with no closure (standard strip)**Max. slab thickness 'd' [cm]**

Formwork sheet					
3-SO 21mm	3-SO 27mm	Dokaplex 18mm	Dokaplex 21mm	DokaPly eco 18mm	DokaPly eco 21mm
50	85	70	95	35	50

Max. closure 'x' [cm]

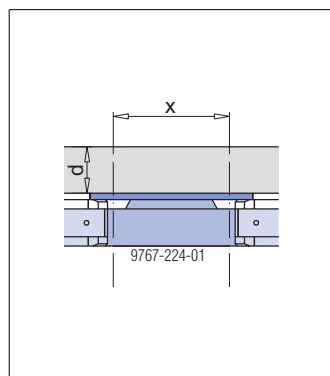
Standard strip
0

Formwork sheet + closure option 1**Max. slab thickness 'd' [cm]**

Formwork sheet					
3-SO 21mm	3-SO 27mm	Dokaplex 18mm	Dokaplex 21mm	DokaPly eco 18mm	DokaPly eco 21mm
35	65	60	90	30	45
25	50	55	75	25	40
20	40	50	65	25	35
—	35	45	60	20	30
—	25	40	55	—	25
—	20	35	45	—	20
—	—	30	40	—	20
—	—	25	35	—	—
—	—	25	35	—	—
—	—	20	30	—	—
—	—	—	25	—	—
—	—	—	25	—	—

Max. closure 'x' [cm]

Fitting-board only (Opt. 1)
5
10
15
20
25
30
35
40
45
50
55
60

Formwork sheet + closure option 2**Max. slab thickness 'd' [cm]**

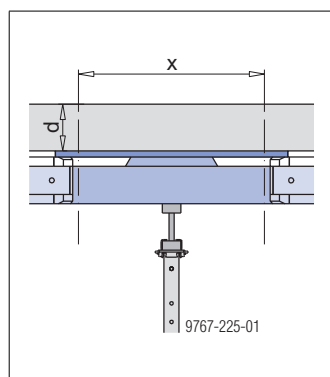
Formwork sheet					
3-SO 21mm	3-SO 27mm	Dokaplex 18mm	Dokaplex 21mm	DokaPly eco 18mm	DokaPly eco 21mm
60	95	60	95	40	70
60	95	60	95	40	70
50 / 35 ¹⁾	85 / 65 ¹⁾	60	95	25	45
35	65 / 40 ¹⁾	60	85	20	45
25	50 / 25 ¹⁾	55	70	—	40
—	40	50	55	—	35
—	35	45	45	—	30

Max. closure 'x' [cm]

Fitting-board with inser- tion beam, with no addi- tional propping (Opt. 2)
20
30
40
50
60
70
80

Values apply only for tables covered with same-size sheeting 'wall-to-wall' (e.g. 60 cm wide) or with uniformly divided sheets (e.g. 30+30 cm) with the insertion beam set in the middle.

¹⁾ Value for sheets not uniformly divided (e.g. 50+10 cm).

Formwork sheet + closure option 3**Max. slab thickness 'd' [cm]**

Formwork sheet					
3-SO 21mm	3-SO 27mm	Dokaplex 18mm	Dokaplex 21mm	DokaPly eco 18mm	DokaPly eco 21mm
60	95	60	95	40	70
60	95	60	95	40	70
50 / 35 ¹⁾	85 / 65 ¹⁾	60	95	25	45
35	65 / 40 ¹⁾	60	85	20	45
25	50 / 25 ¹⁾	55	70	—	40
—	40	50	55	—	35
—	35	45	45	—	30

Max. closure 'x' [cm]

Fitting-board with inser- tion beam and additional propping (Opt. 3)
20
30
40
50
60
70
80

Values apply only for tables covered with same-size sheeting 'wall-to-wall' (e.g. 60 cm wide) or with uniformly divided sheets (e.g. 30+30 cm) with the insertion beam set in the middle.

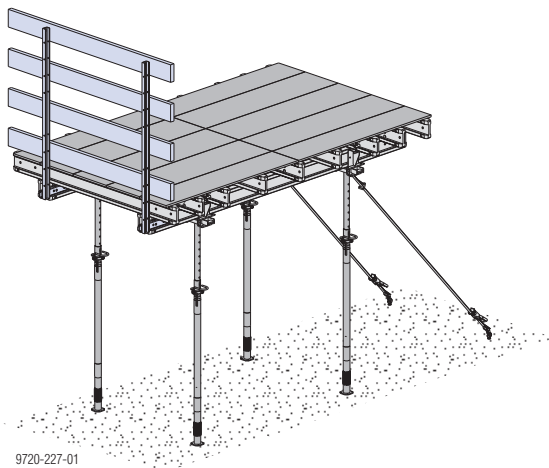
¹⁾ Value for sheets not uniformly divided (e.g. 50+10 cm).

Tables around edges of slab

Dokaflex tables for the edge zones can be assembled with the downstand-beams, stop-end formwork and sideguards already integrated into the tables.



If possible, pre-mount the attachments to the table elements on the floor, while these are still on the stack.

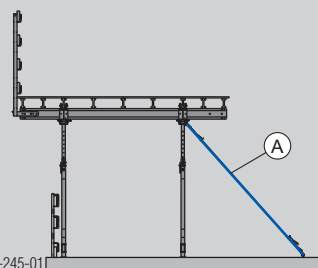


CAUTION

Risk of edge tables toppling over!

(due to edge props that have been relocated towards the inside, stop-end formworks, downstand beams)

- Secure all edge tables **by tying back (A)** every primary beam in the inner cantilever zone of the table.
- Do not release the table from the shifting device until tie-backs are fixed to prevent tip-over.
- Also applies when setting down tables or putting them into temporary storage.



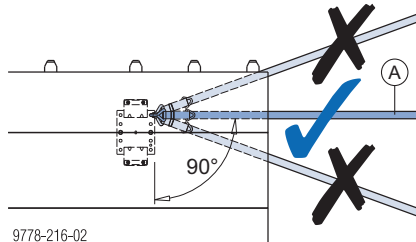
For details of the tie-back, see the section headed 'Tie-back solutions'.

Tie-back solutions



NOTICE

- When calculating the leg loads, allow for the additional forces imposed by the back-stay!
- Attach the back-stay in such a way that the tableform is held in both directions and secured against twisting.
- Direction of pull of the back-stay **(A)** always 90° to the tableform. Oblique pull is not permitted!



with Lashing strap 5.00m and Doka express anchor 16x125mm

Permitted tensile force per lashing strap: 10 kN



Follow the directions in the 'Lashing strap 5.00m' User Information booklet.

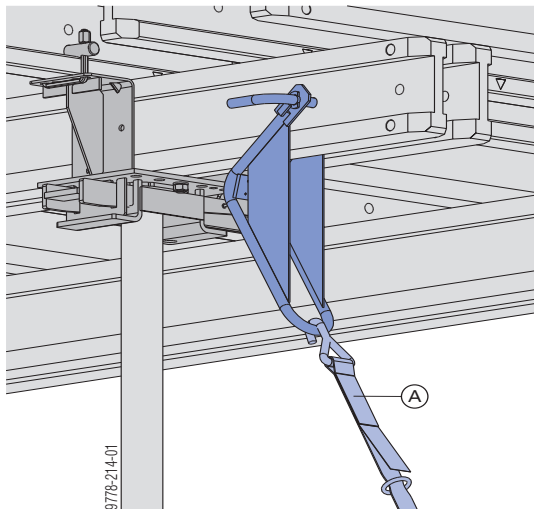
Tie-back using the Lifting hook DF



NOTICE

Do not exceed the max. permitted tensile force of 3.0 kN of the Lifting hook DF!

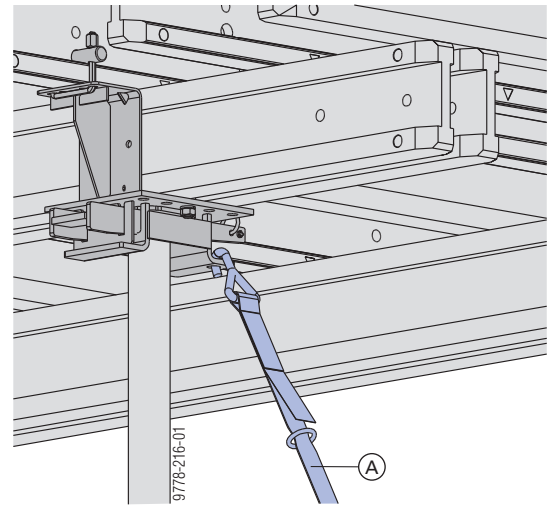
- Hook the Lashing strap 5.00m onto the Lifting hook DF.



A Lashing strap 5.00m

Tie-back from the Table head 30

- Hook the Lashing strap 5.00m directly onto the Table head 30.



A Lashing strap 5.00m

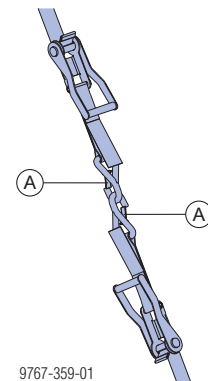
Tie-backs for high tableforms

If necessary, two Lashing straps 5.00m can be joined together to form a longer back-stay.



NOTICE

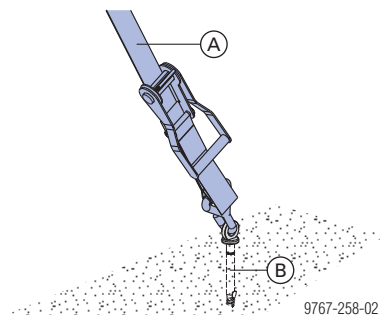
Only Lashing straps 5.00m **with spring-loaded locking flap** may be used!



A Lashing strap 5.00m (with spring-loaded locking flap)

Anchoring in the ground

- Prepare an anchorage point in the ground with the Doka express anchor – hook in the lashing strap and tension it.



- A** Lashing strap 5.00m
B Doka express anchor

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

Permitted load where $f_{ck,cube,current} \geq 10 \text{ N/mm}^2$:
 $F_{perm.} = 10.0 \text{ kN}$ ($R_d = 15.0 \text{ kN}$)
(values apply to uncracked concrete)



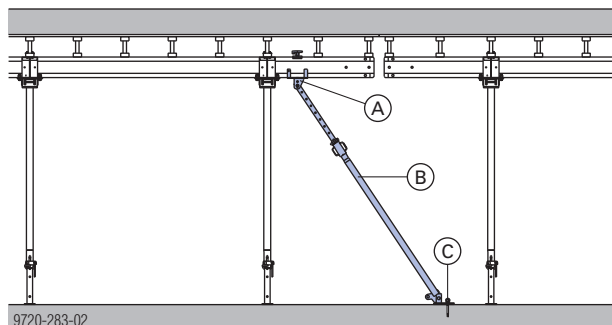
Follow the Fitting Instructions!

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

Follow the manufacturers' applicable fitting instructions.

with plumbing struts

Using plumbing struts fitted with a U-head D, Dokaflex tables can be fixed so that they are resistant to either tensile or compressive forces.



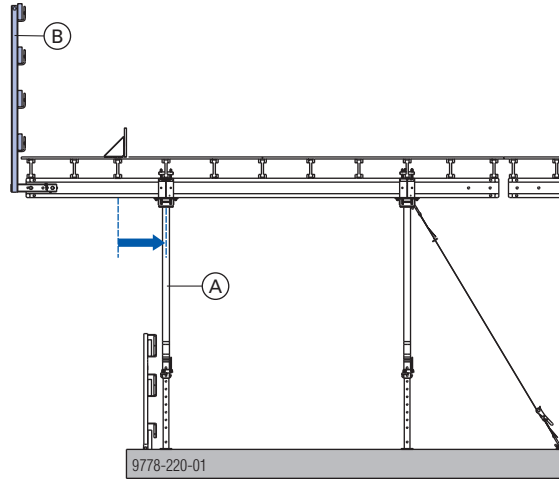
- A** U-head D
B Plumbing strut
C Doka Express anchor 16x125mm

Edge table with no downstand beam

The floor prop (**A**) is located further towards the inside than on the standard table.

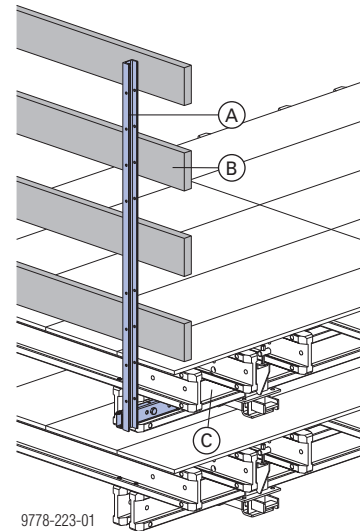
This leaves a sufficiently large area of table free to work on beyond the stop-end.

Safety railings can be erected using e.g. the **Handrail post T 1.80m** or **Xsafe edge protection XP**.



B Handrail post T 1.80m or Xsafe edge protection XP

Handrail post T 1.80m



A Handrail post T 1.80m

B Protective grating or guard-rail boards (site-provided)

C Doka formwork beam

Required nuts & bolts etc.

- 2 hexagon screws M20x90
- 2 hexagon nuts M20
- 2 washers R22

(not included with product)

How to mount:

- Mount the Handrail post T 1.80m in the ready-drilled holes in the beam.
(Can be used on both primary and secondary beams)
- Fit on a Protective grating XP or guard-rail boards, and fix them in place.

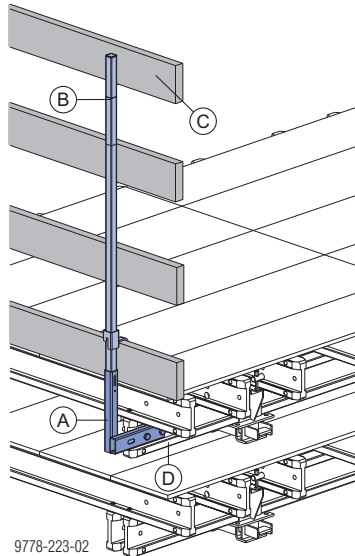
Xsafe edge protection XP



Follow the directions in the 'Xsafe edge protection XP' User Information booklet.

Insertion adapter XP

- Suitable for railing-heights of 1.20 m and 1.80 m.



- A** Insertion adapter XP
- B** Handrail post XP
- C** Protective grating or guard-rail boards (site-provided)
- D** Doka formwork beam

Required nuts & bolts etc.

- 2 hexagon screws M20x90
- 2 hexagon nuts M20
- 2 washers R22

(not included with product)

How to mount:

- Mount the Insertion adapter XP in the ready-drilled holes in the beam.
(Can be used on both primary and secondary beams)
- Working from below, push the Toeboard holder XP 0.60m onto the Handrail post XP 1.80m (not needed when using the Protective grating XP).
- Push the Handrail post XP into the post-holding fixture on the Insertion adapter XP until the locking mechanism engages.



The locking mechanism must engage.

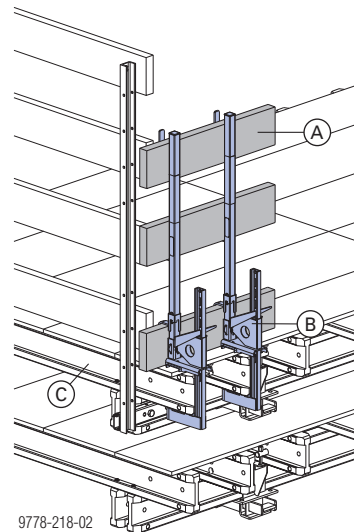
- Fit on a Protective grating XP or guard-rail boards, and fix them in place.

Handrail clamp S

For erecting sideguards on tables that project beyond the slab-edge.



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



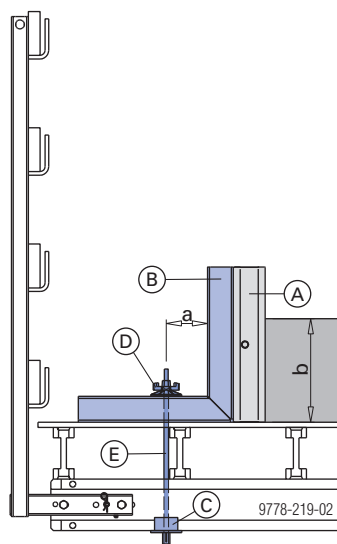
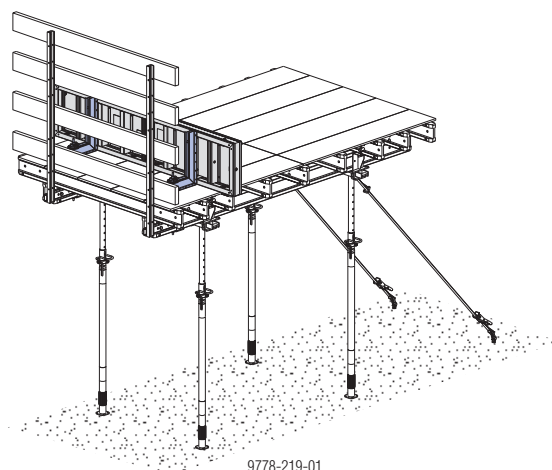
- A** Guard-rail board (site-provided)
- B** Handrail clamp S
- C** Doka formwork beam

How to mount:

- Wedge the Handrail clamps firmly to the secondary beams (clamping range 2 – 43 cm).
- Secure the guardrail boards to the loops on the Handrail clamp S with one 28 x 65 nail per loop.

Slab stop-ends

with Framax universal corner waling



a ... 6 to 16 cm

b ... slab thickness max.40 cm

A Framax panel

B Framax universal corner waling

C Retaining plate 15.0

D Super-plate 15.0

E Tie-rod 15.0 approx. 70 cm long



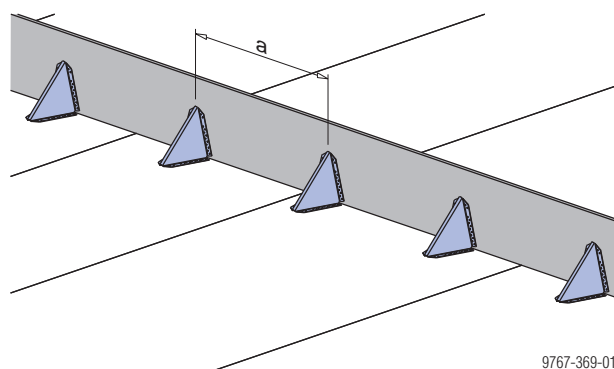
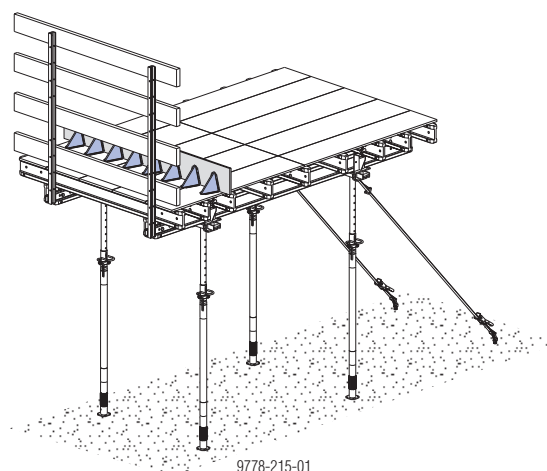
Use a 20 mm diameter bit to drill the hole through the form-ply.

Unneeded clamping holes should be closed off on the site with Universal plugs R20/25.



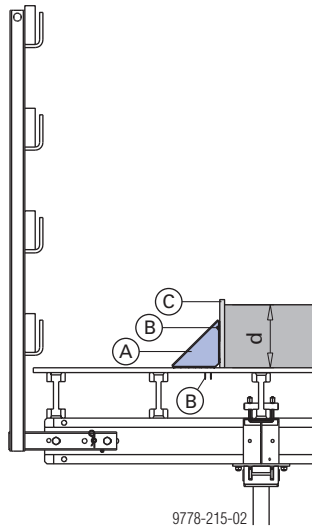
Wherever possible, use tables in the same way every time, e.g. always as edge tables - this prevents holes being drilled in the tables unnecessary.

with Universal end-shutter support 30cm



How fastened:	Configuration	Max. influence width: a for slab thickness of [cm]		
		20	25	30
4 nails 3.1x80	A	90	50	30
4 Spax screws 4x40 (fully threaded)	B	220	190	160

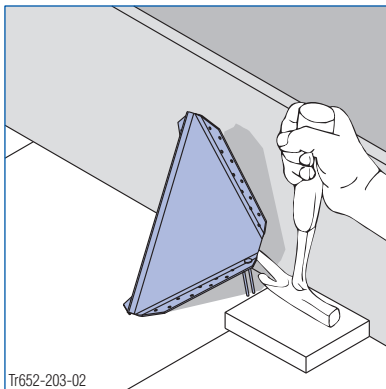
fastened with nails (configuration A)



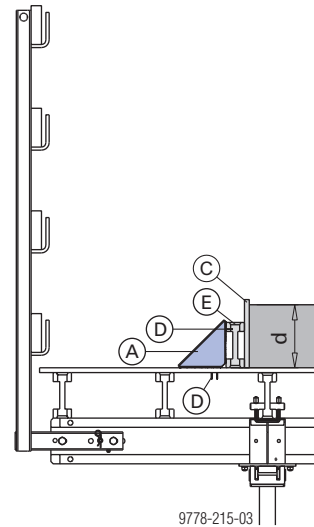
d ... slab thickness max.30 cm

A Universal end-shutter support 30cm**B** Nail 3.1x80**C** Doka formwork sheet 3-SO**Tip for striking formwork:**

- Take out the nails on the stop-end side.
- Put the claw of a hammer under the corner (put a piece of wood under it to protect the formwork sheeting)
- Lever up the end-shutter support



fastened with Spax screws (configuration B)

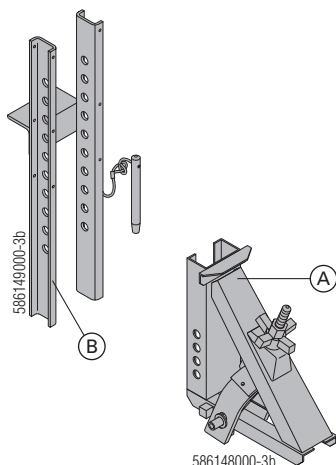


d ... slab thickness max.30 cm

A Universal end-shutter support 30cm**C** Doka formwork sheet 3-SO**D** Spax screws 4x40 (fully threaded)**E** Doka beam H20

Edge table with downstand beam

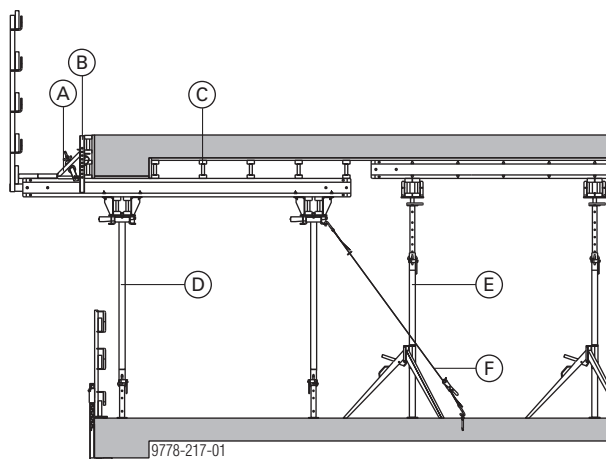
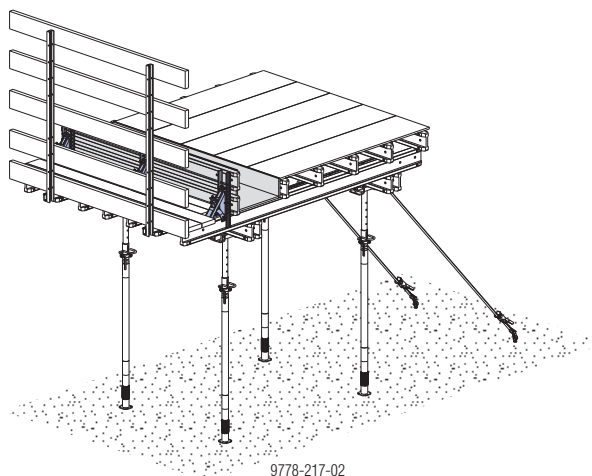
with Beam forming support 20 and Extension for beam forming support 60cm



A Beam forming support 20

B Extension for beam forming support 60cm

The Beam forming support 20 is the professional way of forming drop beams and slab stop-ends. In conjunction with the Extension for beam forming support 60cm, exact height adjustment to within 1 cm is possible. This does away with time-consuming jobsite squared-timber constructions. The Beam forming support automatically clamps the formwork tight, resulting in clean concrete surfaces and grout-tight edges.



A Beam forming support 20

B Extension for beam forming support 60cm

C Height compensation with squared timbers or formwork beams

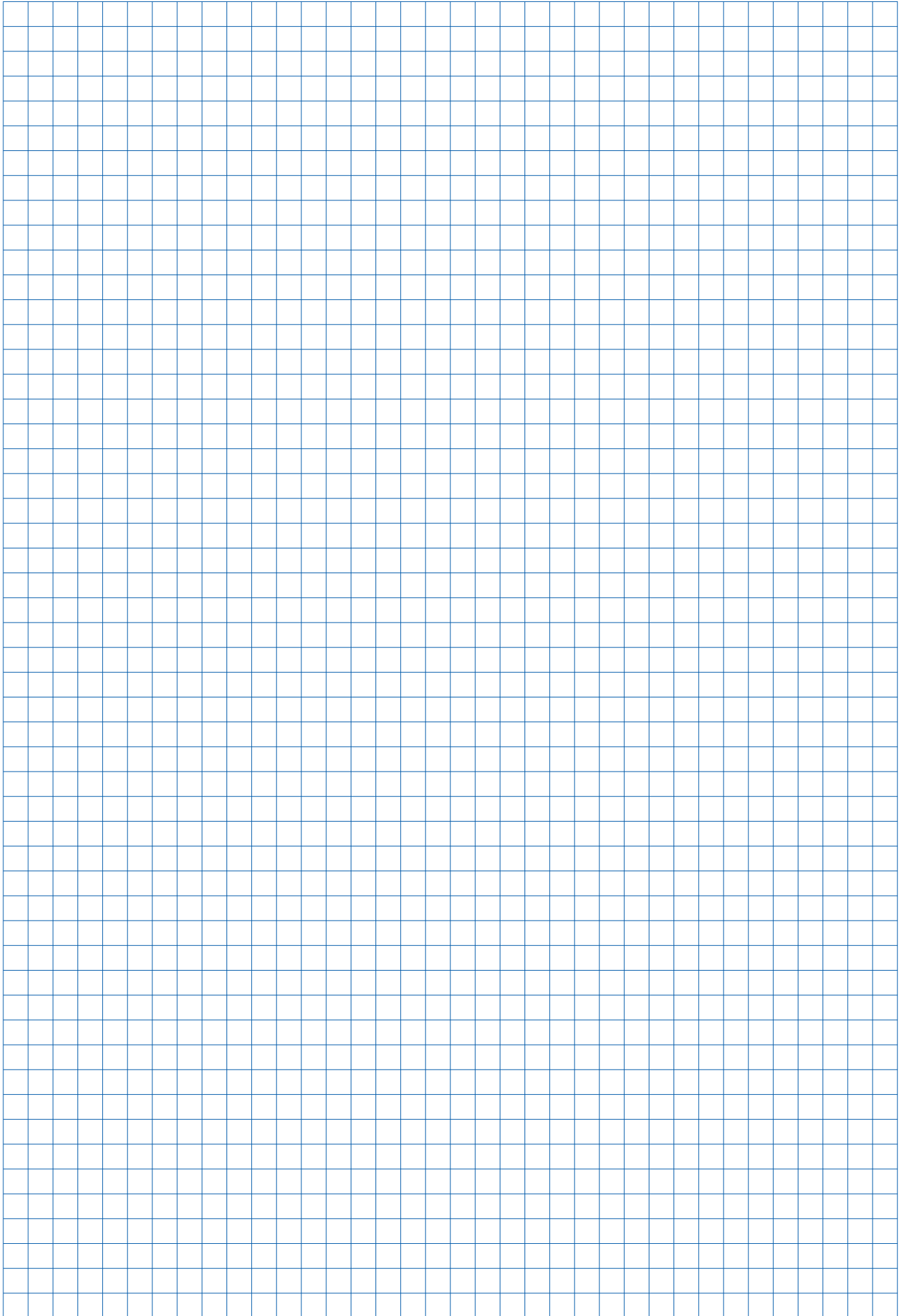
D Edge table

E Dokaflex table

F Tie-back



For more information on forming downstand beams and slab stop-ends, see the 'Dokaflex' User Information booklet.



Repositioning

General instructions on repositioning



WARNING

- 'Passenger transportation' is forbidden!
- Before repositioning the tableform, remove all loose items (e.g. fitting boards) from it.
- Check the connections between the floor props and the tableform before repositioning it.



WARNING

Risk of intermediate props dropping out when table is lifted

- **Intermediate props** with a Supporting head H20 DF, and props that are only secured against tipping over, must be **removed** before the table is lifted.
- Intermediate props that are attached by an **Intermediate head DF** and are not dis-mounted must be pulled in sufficiently far.

For information on fitting intermediate props, see the section headed 'Mounting the floor props'.



NOTICE

Observe the following points when repositioning / travelling tableforms horizontally:

- There must be a flat, firm (e.g. concrete), adequately dimensioned floor that is capable of supporting the load.
- Max. permitted inclination of trackway: 3%
- Min. height of tables: 2.00 m.
- Take particular care with:
 - height offsets
 - steps
 - floor holes and wall openings
 - tight spaces
 - strong winds
- It is forbidden to use any other mechanical assistance for the travelling operation!
- For longer breaks between operations, or when the shifting device is permanently parked, it must not be carrying any form-work.



NOTICE

When tableforms are left free-standing (short-term intermediate storage), the following conditions must be met:

- There must be a firm horizontal surface.
- No attachments such as table platforms, safety barriers, downstand beams, etc.
- Max. height of tables 3.0 m.
- Max. wind speed: 72 km/h.

If these conditions are not met, the tables must be secured with a suitable **tie-back** (see the section headed 'Tie-back solutions')!



NOTICE

- The table must not be loaded - not even temporarily with e.g. a stack of panels - until it has been completely erected according to plan (i.e. with all intermediate props).

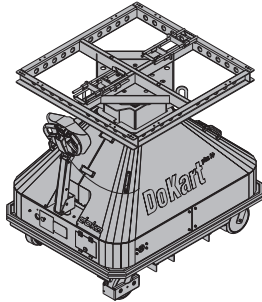
Horizontal repositioning / travelling

DoKart plus

The DoKart plus is a battery-powered lifting appliance that allows Doka tableforms to be travelled by just one man.

The battery is designed to allow 1 whole day's operation before being recharged on mains electricity overnight.

The tableforms are lifted and lowered hydraulically.



Max. travel speed: 5 km/h (walking pace)

Max. load, where load is applied centrally:

- without Stacking frame DF: 1950 kg
- with one Stacking frame DF: 1868 kg
- with two Stacking frames DF: 1786 kg
- with three Stacking frames DF: 1704 kg



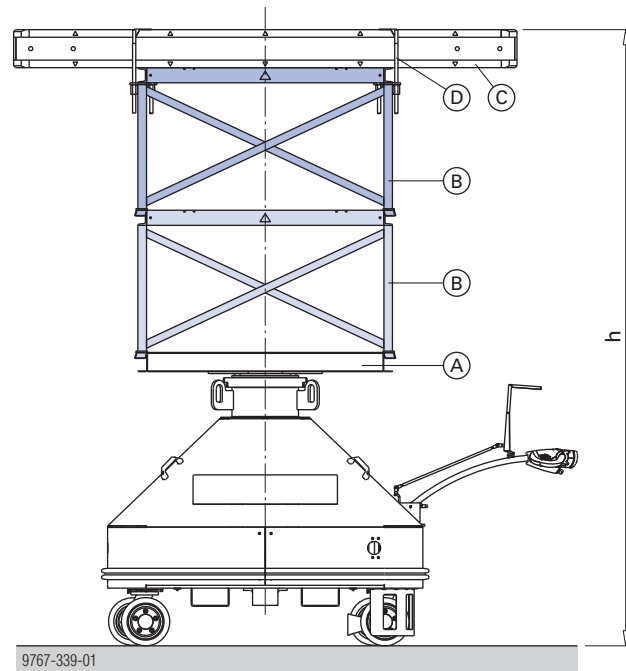
Follow the directions in the Operating Instructions!

Intended use

The DoKart plus and the stacking frames may only be used for repositioning Dokaflex, Dokamatic and DokaXdek tables.

Height adjustment

The **Stacking frame DF** is used for increasing the height range.



A DoKart plus carrying frame

B Stacking frame DF

C Distribution beam (Doka beam H20 2.65m)

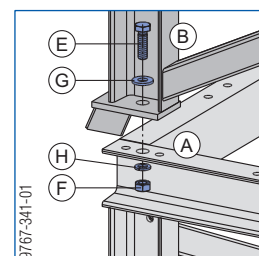
D Brace stirrup 8

Height ranges incl. distribution beams

Number of Stacking frames DF	h min. [cm]	h max. [cm]
0	174.0	344.0
1	249.0	419.0
2	324.0	494.0
3	399.0	569.0

Assembly instructions for Stacking frame DF:

- Bolt the stacking frame to the carrying frame of the DoKart plus with M12 threaded fasteners (4 of), or to another stacking frame already bolted into position.



Nuts, bolts etc. are included in the scope of supply of the Stacking frame DF.

A Carrying frame of DoKart plus, or another Stacking frame DF

B Stacking frame DF

E Hexagon bolt M12x40

F Hexagon nut M12

G Washer A13

H Spring washer A12

Distribution beams



NOTICE

Before tableforms can be repositioned, 2 extra distribution beams must be installed.



WARNING

Risk of injury when the DoKart plus with projecting distribution beams is moved!

- Use distribution beams **1.80m** long on the DoKart plus without stacking frame!

Selecting the right distribution beams:

	Length of distribution beams (Doka beams H20)
without stacking frames	<p>L = 1.80m</p>
with stacking frames	<p>L_{min} = 2.65m</p>

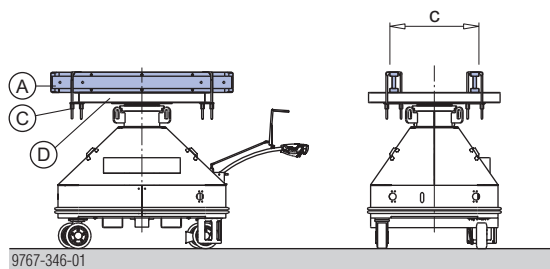
A Distribution beam (Doka beam H20)

B DoKart plus carrying frame

C Stacking frame DF

Fitting the distribution beams:

- Attach both (Doka beams H20) to the carrying frame of the DoKart plus, or to the Stacking frame DF, with two Brace stirrups 8 in each case. Arrange the distribution beams symmetrically, spaced max. 900 mm apart.



c ... max. 900 mm

A Distribution beam (Doka beam H20)

C Brace stirrup 8 (four of these are supplied with the DoKart plus)

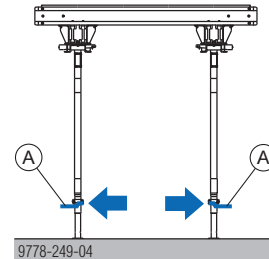
D Carrying frame of DoKart plus or Stacking frame DF

Positioning under the tableform



NOTICE

- Bolt on the fastening clamps (**A**) of the floor props from the inside to the outside, so that they are facing outward and do not obstruct the DoKart plus when it moves in under the table.



- The outriggers of the DoKart plus extension set (if fitted) must also be completely pushed in.

Depending on the size of the table and the situation on the site, the DoKart plus is travelled under the table either from one end or one side of the table.



The carrying frame of the DoKart plus and the Stacking frame DF come with centre markings (red arrows).

These make it easier for them to be positioned centrally beneath the tables.



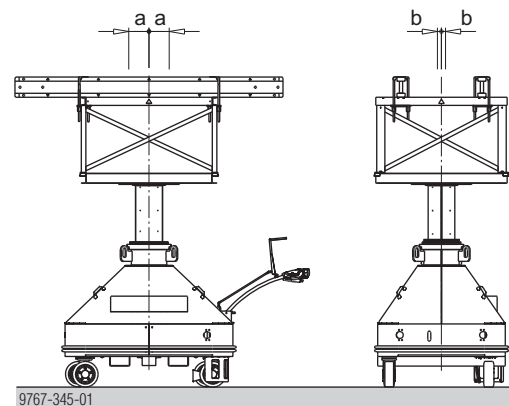
NOTICE

Points to remember with unsymmetrical tables:

'Central positioning' means 'central' in terms of the load centre.

Take particular care with unsymmetrical tables (edge tables, tables with stop-ends).

Max. permitted eccentric position for the load centre:
a = max. 200 mm
b = max. 100 mm.



Travelling the tableform



WARNING

Risk of tipping over!

- ▶ Do not extend the lifting tower of the DoKart plus farther than necessary.
- ▶ Push the floor props all the way in.
- ▶ Lower the tableform to max. 10 cm above the ground.
- ▶ If necessary, extend the outriggers of the DoKart plus extension set.



WARNING

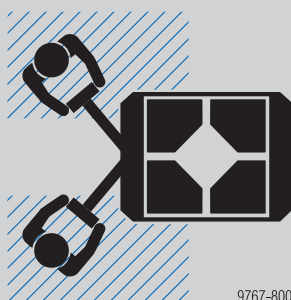
Risk of injury when the DoKart plus with projecting distribution beams is moved!

- ▶ Use distribution beams **1.80m** long on the DoKart plus without stacking frame!



WARNING

- ▶ Special care is necessary in the occupation area of the turned draw-bar of the DoKart plus shown here!



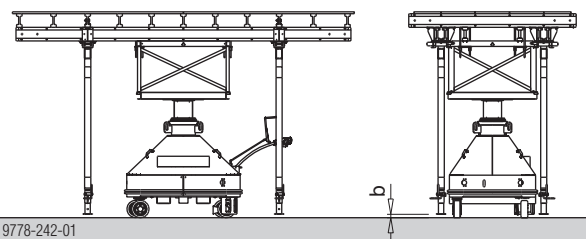
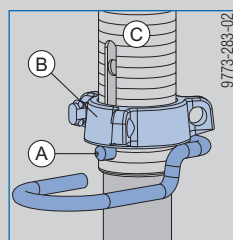
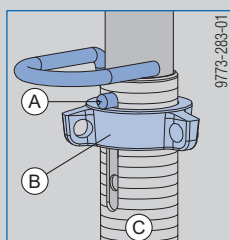
9767-800



CAUTION

The fastening clamp of the floor prop can work loose during transport and possibly drop out.

- ▶ Use the adjusting nut **(B)** to hold the fastening clamp **(A)** in place at the top or bottom end of the slot (depending on whether the outer tube **(C)** is at the bottom or the top).



9778-242-01

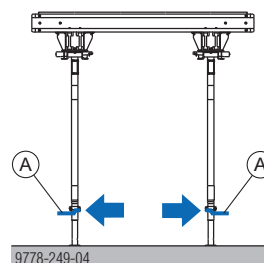
b ... max. 10 cm

Setting down and positioning the tableform



NOTICE

Before setting down the table, push the fastening clamps **(A)** of the floor props through from the inside to the outside so that they are not an obstruction when the DoKart plus is moved out from under the table.



9778-249-04



- 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.



98017-202-01



NOTICE

- The outriggers of the DoKart plus extension set (if fitted) must be completely pushed in.
- Check the wedge-clamped joints between the floor props.

Vertical repositioning with transport forks

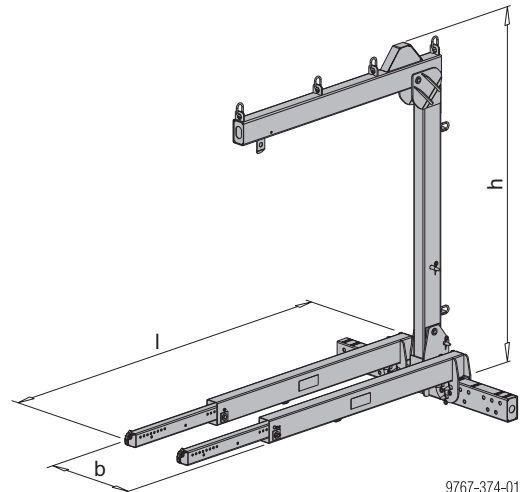
The transport fork can be used to move tableforms out from under the cast floor-slab and to reposition them.

Note:

- Ensure correct centre-of-gravity position!
 - Required minimum width of the forks: $\frac{1}{3}$ of the width of the table
 - Required minimum length of the forks: $\frac{2}{3}$ of the length of the table
- For additional measures for repositioning tables carried at right angles to the forks or repositioning custom tables (downstand beams, 2 connected tables, ...) consult your Doka technician!

Transport fork 1.3t adjustable

- Adjustable fork width
- Adjustable fork length
- Integrated tag-lines
- Three attachment possibilities for 2-part lifting chains for optimum (horizontal) transport of the table
- Attaching/detaching the 2-part lifting chain is easy in the parking position (bracket tilts down when lowered to the ground)



b ... 90, 137, 204 or 227 cm
l ... 275, 324, 373 or 422 cm
h ... 385 cm

Max. working load limit: 1300 kg (2870 lbs)



Follow the Operating Instructions!

Table along the forks

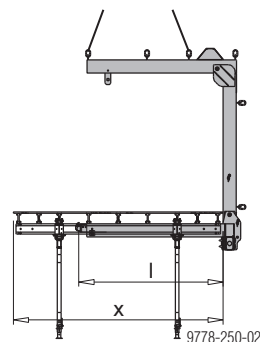
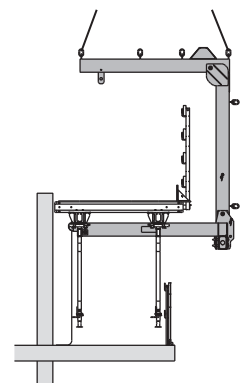


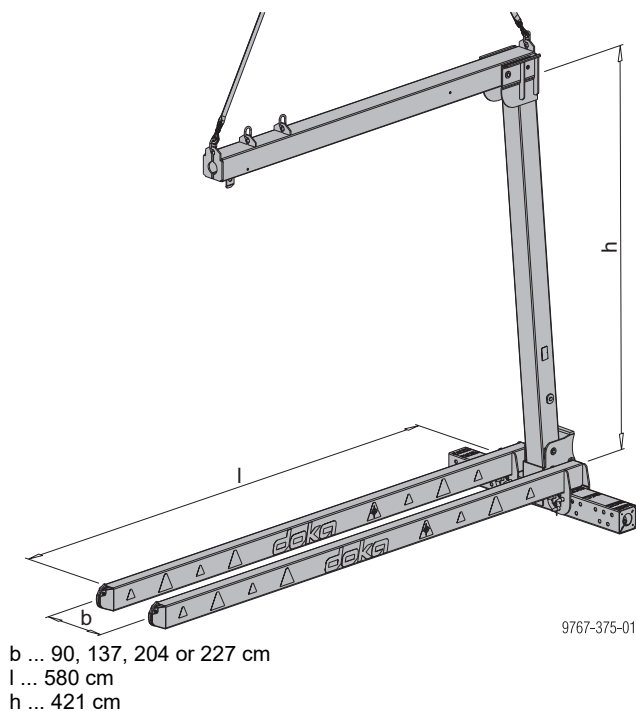
Table at right angles to the forks
(e.g. balcony table)



l ... Fork length (min. $\frac{2}{3}$ table length)
x ... Length of table

Transport fork DM 1.5t (adjustable)

- Adjustable fork width
- Integrated tag-lines
- Fork marks for optimum (horizontal) transport of the table
- Attaching/detaching the 2-part lifting chain is easy in the parking position (bracket tilts down when lowered to the ground)
- Additional vertical extension (art. n° 586235000) for repositioning tableforms over two storeys

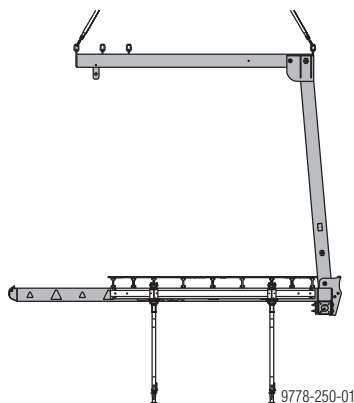


Max. working load limit: 1500 kg (3300 lbs)



Follow the Operating Instructions!

Table along the forks

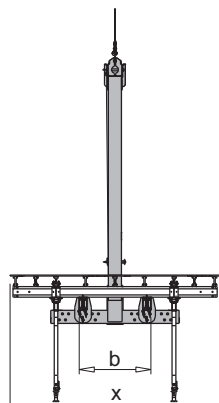


b ... Fork width

x ... max. 3 x fork width (otherwise table has to be secured)

When lifting a table at right angles to the forks, secure Doka beams H20 to the fork profiles at right angles to the fork axis.

Table at right angles to the forks



WARNING

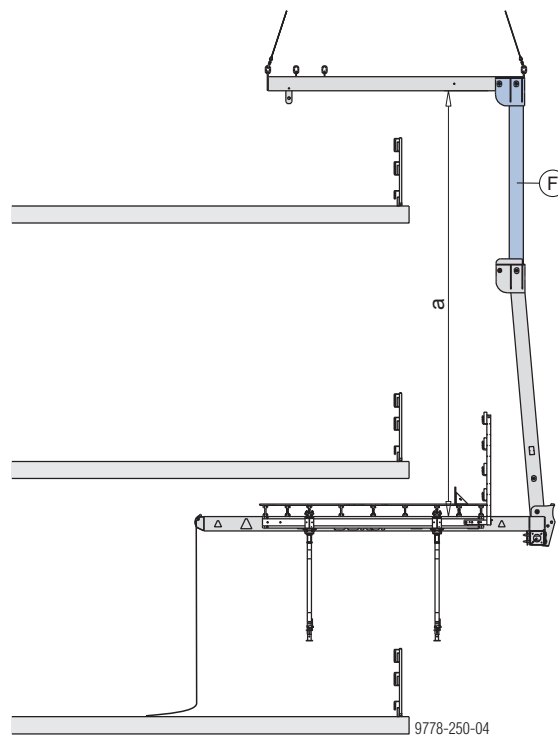
Tableform falling-hazard!

Using the Doka beams H20 in this way deactivates the lever-latch so that it no longer acts as an anti-slide-off guard.

- Do not use the transport fork for regular lifting operations if Doka beams H20 are mounted to it!

Lifting tables over two storeys

The Lifting extension bracket of the transport fork is lengthened with the Vertical extension DM 3.30m.



a ... 7500 mm

F Vertical extension DM 3.30m

Lifting extension bracket DF 1t / Transport fork DF 1t 0.90m

The transport forks are made up of a:

- **Lifting extension bracket DF** and a
- **Transport fork DF** of the appropriate width

For standard sizes of table, a 90 cm wide fork is recommended.

For heavy tables with attached platforms, choose the 1.5 t system.

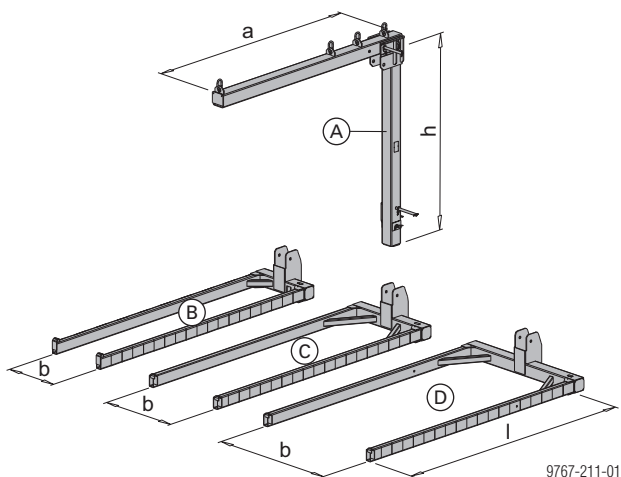


Table along the forks

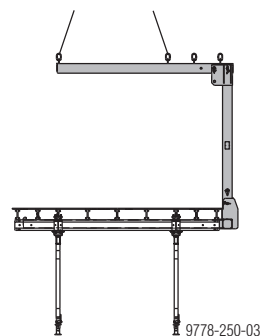
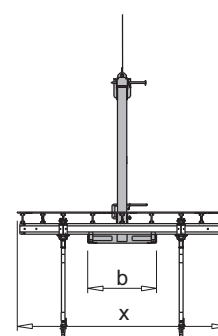


Table at right angles to the forks



b ... Fork width

x ... max. 3 x fork width (otherwise table has to be secured)

Overview of variants

max. load-bearing capacity (table weight)	1000 kg	1500 kg
max. table size (length x width)	5.0 x 4.0 m	8.0 x 5.0 m

Item (A)	Lifting extension bracket DF 1t	Lifting extension bracket DF 1.5t
Bracket length (a)	336 cm	456 cm
Clear opening (h)	280 cm	350 cm

Item (B)	Transport fork DF 1t 0.90m	Transport fork DF 1.5t 0.90m
Fork width (b)	90 cm	90 cm

Item (C)	Transport fork DF 1t 1.30m	Transport fork DF 1.5t 1.30m
Fork width (b)	128 cm	128 cm

Item (D)	Transport fork DF 1t 2.00m	Transport fork DF 1.5t 2.00m
Fork width (b)	200 cm	200 cm
Fork length (l)	380 cm	600 cm

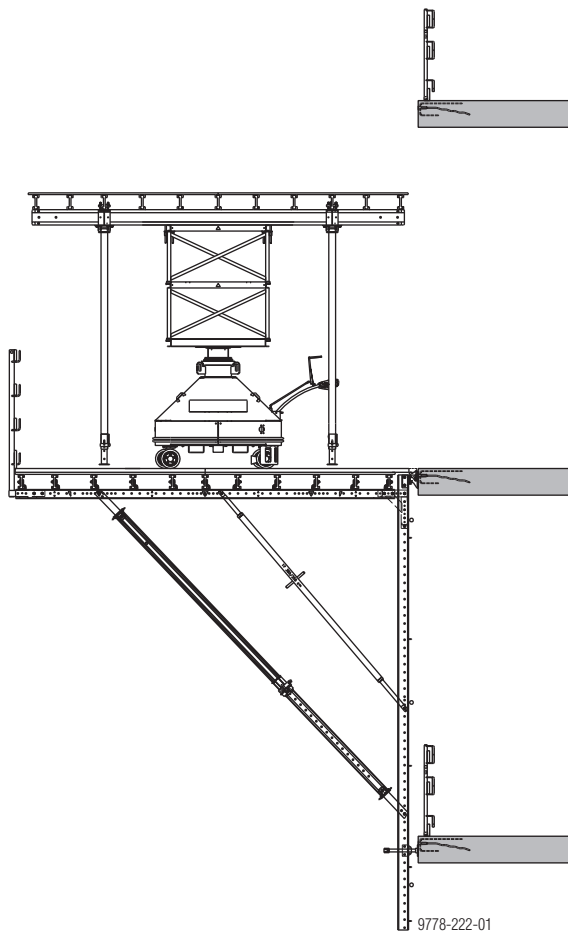


Follow the directions in the Operating Instructions!

Loading platform

Where necessary, a loading platform can be assembled from Doka standard components.

Using the Lifting hook DF or Dokamatic lifting straps 13.00m, the Dokaflex tables are lifted off the loading platform and up to the next level.

**Note:**

For assembling a loading platform, consult your Doka technician!

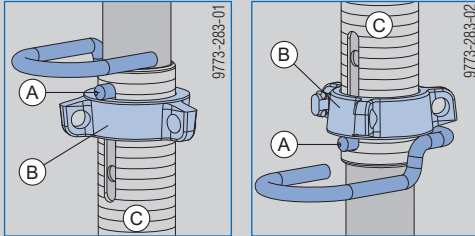
Repositioning operation



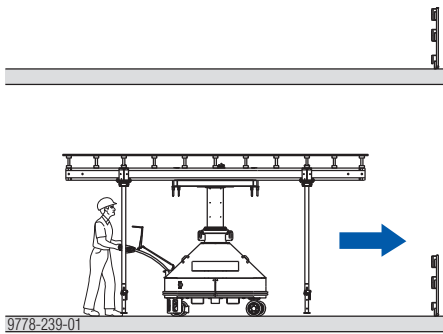
CAUTION

The fastening clamp of the floor prop can work loose during transport and possibly drop out.

- Use the adjusting nut (B) to hold the fastening clamp (A) in place at the top or bottom end of the slot (depending on whether the outer tube (C) is at the bottom or the top).



- Wheel the table to the pick-up point with the DoKart plus.

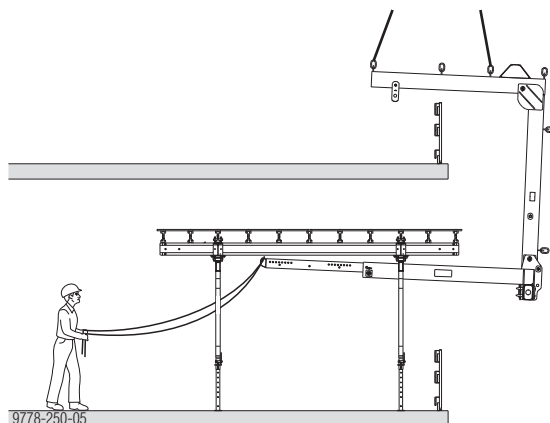


- Set the table down.
- Wheel out the DoKart plus from under the table (the next table can now be prepared for repositioning).



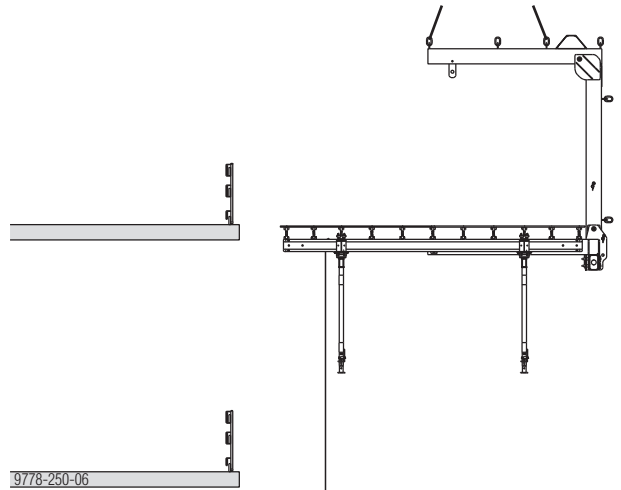
Check that the intermediate props are held firmly in the Intermediate head DF!

- Manoeuvre the transport fork under the table.

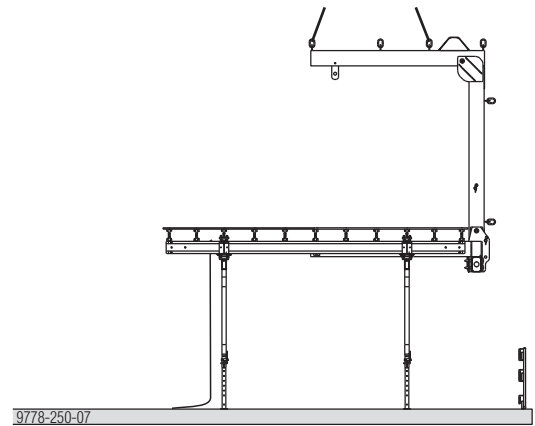


- Pick up the table with the transport fork.

- Lift the table out, and up to next storey.

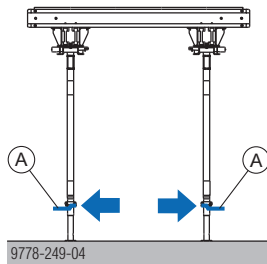


- Set the table down at its new location.



**NOTICE**

Before setting down the table, push the fastening clamps **(A)** of the floor props through from the inside to the outside so that they are not an obstruction when the DoKart plus is moved out from under the table.



- 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**

- The outriggers of the DoKart plus extension set (if fitted) must be completely pushed in.
- Check the wedge-clamped joints between the floor props.

Lining-and-levelling the Dokaflex tables



NOTICE

- Before lining-and-levelling, check whether all the floor props are under load. Only props that are actually standing on the ground can be lined-and-levelled.
- Check the wedge-clamped joints between the floor props and the tableform.



- 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

Follow the directions in the section headed 'Setting down and positioning the tableform'!



Plastic mallet 4kg:

- For fine-positioning a tableform quickly without using any shifting devices.
- Integrated base makes it easy to put the mallet on 'stand-by'.
- The mallet has been designed with just the right weight and with plastic of the right hardness to prevent damage.



NOTICE

- Use only moderate force when striking with the plastic mallet. Max. mallet backswing distance 50 cm!
- Give just one knock to each floor prop at a time, then move on to the next prop!
- Strike only the bottom part of the floor prop.

Table Lifting System TLS

Doka Table Lifting System TLS - for vertical lifting of Doka tableforms with no need for a crane

The Doka Table Lifting System TLS is used for moving Doka tableforms up to the next floor.

It is also suitable for transporting Doka equipment between floors, in suitable multi-trip packaging containers (always comply with the loading data and loading rules for the Table Lifting System).



NOTICE

'Passenger transportation' with the Table Lifting System TLS is forbidden. (Exception: for carrying out site-assembly and maintenance work)

A comprehensive system of safety features makes for fast, safe working, both when operating the Table Lifting System itself and when cycling tables.

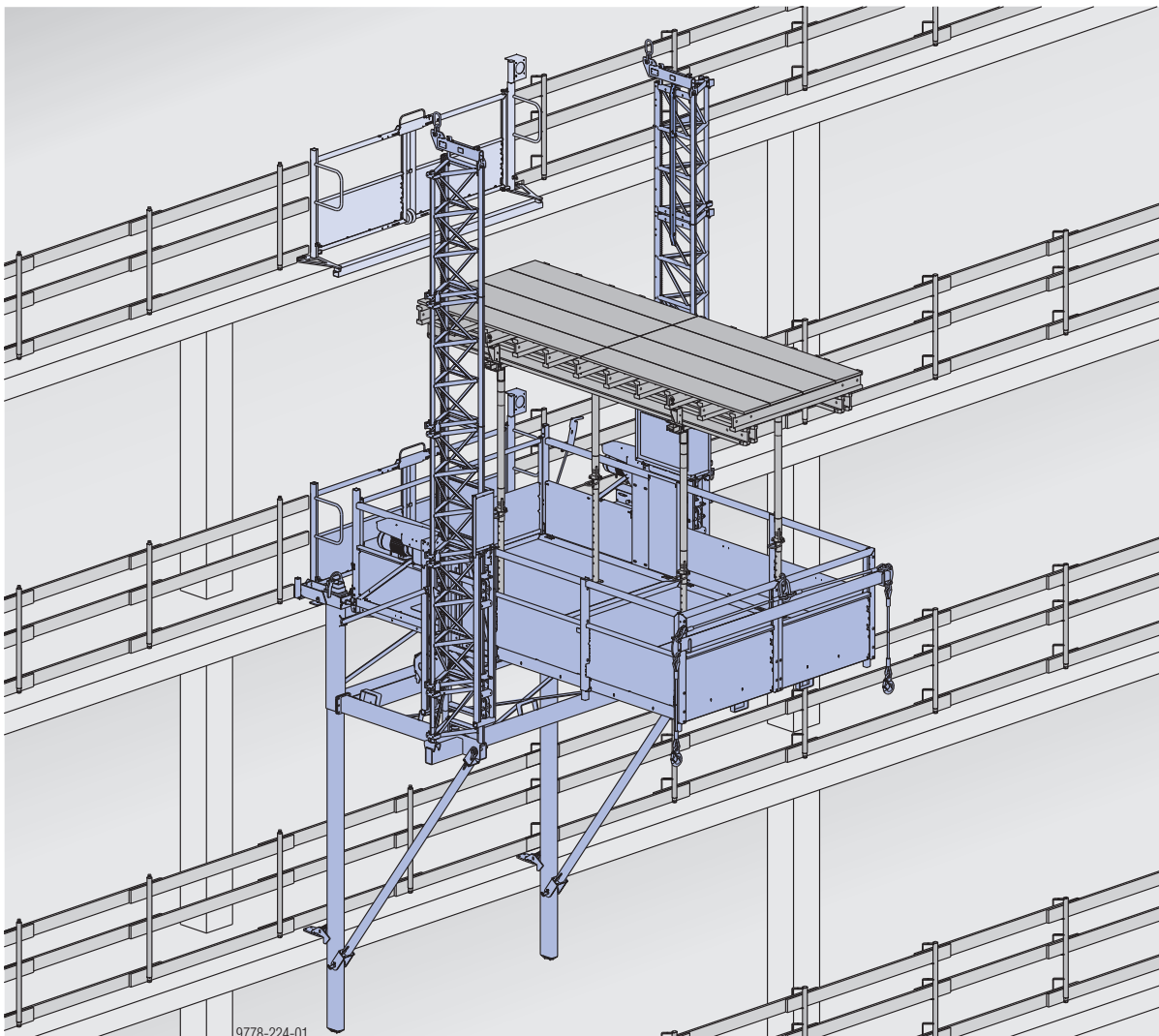
With the Doka Table Lifting System TLS you can even carry on cycling tables safely during strong winds (up to max. 72 km/h).



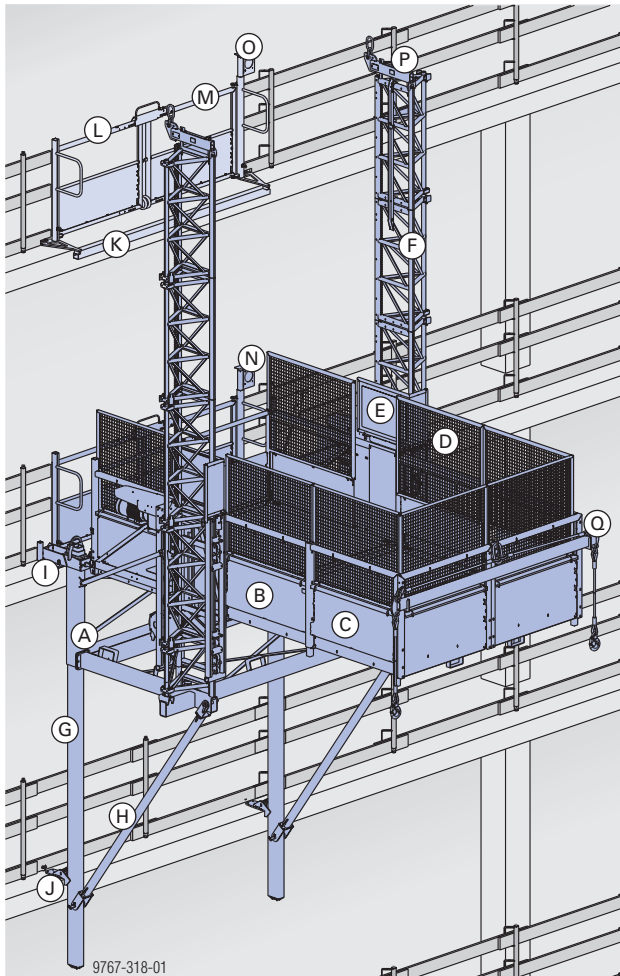
NOTICE

All work in connection with assembly & erection, dismantling, and the first time of putting into service, must be supervised by certified Doka specialists.

- The crew who are going to operate the Doka Table Lifting System TLS need **special skills and knowledge** which can only be passed on by certified Doka specialists.
- As proof that they have received such special instruction, a certificate is issued to persons who have undergone this training.
- Persons who do not have this certificate are not allowed to start up or use the Doka Table Lifting System TLS.



Product description



- A** Basic unit TLS
- B** Lifting platform TLS centre 3.00x1.60m
- C** Lifting platform TLS back 3.00x1.60m
- D** Protective grating TLS 1.80m
- E** Protecting metal sheet TLS
- F** Lifting mast TLS 1.50m
- G** Supporting profile TLS 5.15m
- H** Pressure strut TLS 3.70m
- I** Floor support TLS 0.40m
- J** Adjusting device TLS
- K** Beam for landing level safety gate TLS 0.40m
- L** Landing level safety gate TLS with handle
- M** Landing level safety gate TLS w. limit switch
- N** Switch box TLS ground control
- O** Switch box TLS landing level safety gate
- P** Lifting cross-bar TLS
- Q** Lifting beam TLS 67kN (in 'parked' position)

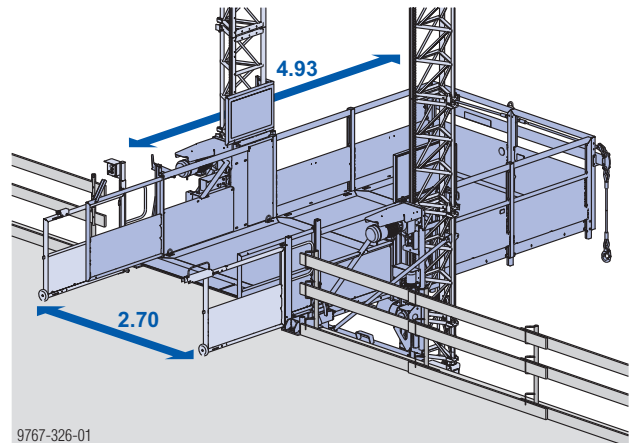
Bottom to top-floor height

- standing on ground and working from ground level: max. 100 m
- when suspended from floor-slab: max. 15 m

Lifting platform TLS

Max. load:
when lifting: 1650 kg
during loading: 2650 kg

- Loading area:
 - Entrance width: 2.70 m
(3.20 m between lifting masts)
 - Length: 4.93 m



- Integral railings
- Integral loading gates
- Integral loading ramp
- Protective grating TLS 1.80m may also be mounted if desired

Landing level safety gates

- For safeguarding the loading and offloading points
- Landing level safety gates for every floor
- Integral control for every floor

Drive mechanism

The Table Lifting System is driven electromechanically.

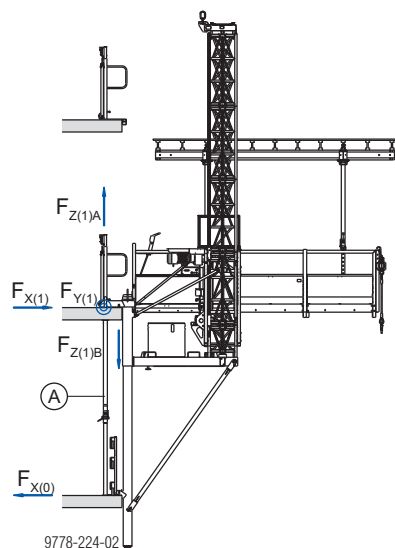
- Required supply voltage: 400V/50Hz (fuse protection min. 3 x 32A, slow-blow)

Lifting speed

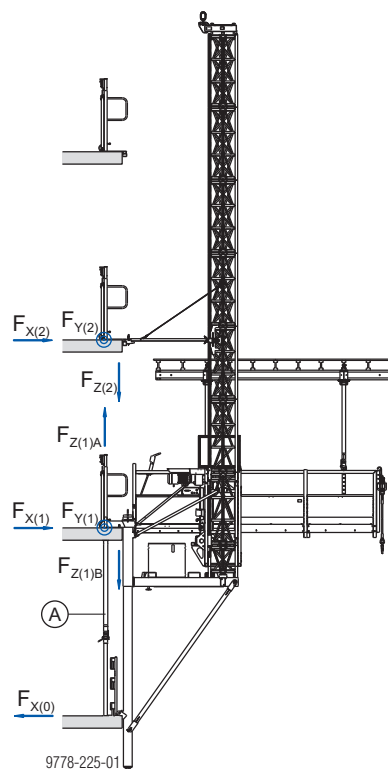
- Starting speed: 5 m/min.
- Lifting speed: 10 m/min.

Loading data

Anchoring forces per suspension point



A Temporary reshore (locate as statically required)



A Temporary reshore (locate as statically required)

Floor support TLS 0.40m for max. 7 lifting mast sections (max. bottom to top-floor height 10.5 m)

Inter-floor distance	Vertical reaction force $F_{Z(1)B,k}$	Tension $F_{Z(1)A,k}$	Forces on dowel		Horizontal shoring force $F_{X(0),k}$
			Shear $F_{Y(1),k}$ (90° to F_x)	$F_{X(1),k}$	
2.65 m	73 kN	26 kN	4 kN	32 kN	37 kN
3.00 m	73 kN	26 kN	4 kN	28 kN	33 kN
4.50 m	73 kN	26 kN	4 kN	18 kN	22 kN

Floor support TLS 0.40m for max. 10 lifting mast sections (max. bottom to top-floor height 15 m)

Inter-floor distance	Vertical reaction force $F_{Z(1)B,k}$	Tension $F_{Z(1)A,k}$	Forces on dowel		Horizontal shoring force $F_{X(0),k}$
			Shear $F_{Y(1),k}$ (90° to F_x)	$F_{X(1),k}$	
2.65 m	79 kN	28 kN	5 kN	34 kN	39 kN
3.00 m	79 kN	28 kN	5 kN	30 kN	35 kN
4.50 m	79 kN	28 kN	5 kN	20 kN	25 kN

Lifting mast anchoring TLS cross bar 0.40m

Inter-floor distance	Vertical reaction force $F_{Z(2),k}$	Forces on dowel	
		Shear $F_{Y(2),k}$ (90° to F_x)	$F_{X(2),k}$
2.65 m	2 kN	16 kN	16 kN
3.00 m	2 kN	16 kN	14 kN
4.50 m	2 kN	16 kN	11 kN
7.00 m	2 kN	8 kN	10 kN

Lifting mast anchoring TLS wall

Inter-floor distance	Vertical reaction force $F_{Z(2),k}$	Forces on dowel	
		Shear $F_{Y(2),k}$ (90° to F_x)	$F_{X(2),k}$
2.65 m	2 kN	4 kN	20 kN
3.00 m	2 kN	4 kN	20 kN
4.50 m	2 kN	4 kN	20 kN
7.00 m	2 kN	3 kN	17 kN

Subgrade reaction when stood on ground

Bottom to top-floor height	10 m	20 m	30 m	40 m	50 m	60 m	70 m	80 m	90 m	100 m
Total weight per mast-side	3551 kg	4166 kg	4701 kg	5316 kg	5956 kg	6491 kg	7106 kg	7721 kg	8281 kg	8896 kg
Subgrade reaction	143 kN/m ²	167 kN/m ²	189 kN/m ²	213 kN/m ²	239 kN/m ²	260 kN/m ²	285 kN/m ²	309 kN/m ²	332 kN/m ²	356 kN/m ²

Areas of use, possible configurations



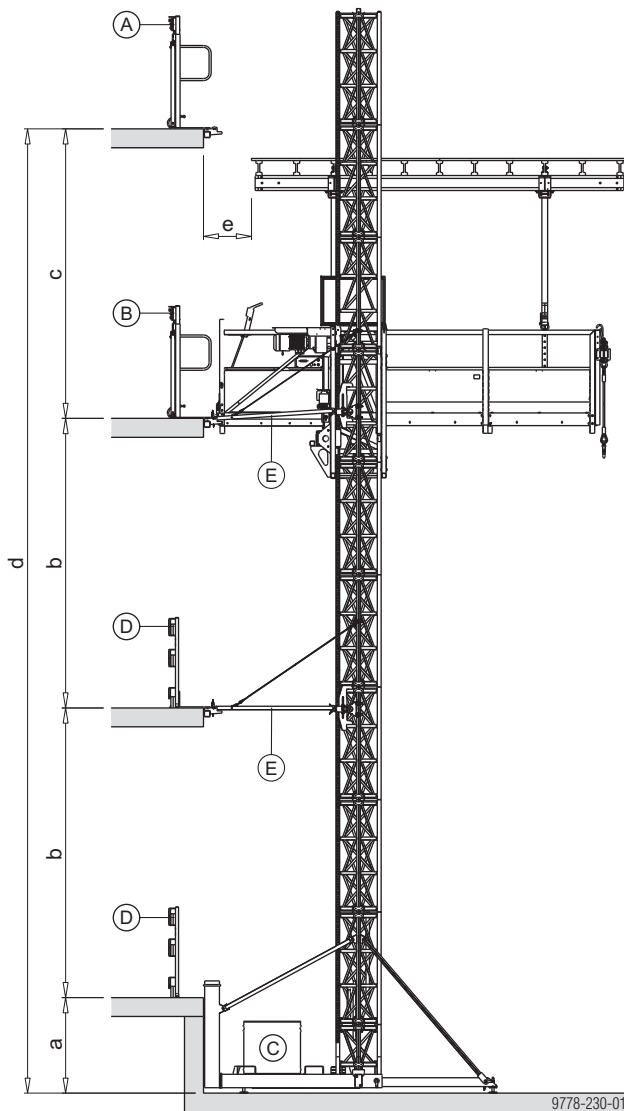
Follow the directions in the 'Doka Table Lifting System TLS' Operating Instructions!

Note:

Check the Doka Table Lifting System TLS after assembly and every time before start-up, as described in the Operating Instructions.

Standing on ground and working from ground level

System dimensions:



- a ... 1.35 m (landing level safety gates mounted to the floor supports)
- a ... 1.60 m (landing level safety gates mounted to the Beam for landing level safety gate)
- b ... max. 7.00 m (spacing between the anchorages)
- c ... max. 4.50 m (lifting height above the top lifting mast anchoring)
- d ... max. 100 m
- e ... min. 0.30 m

A Switch box TLS landing level safety gate

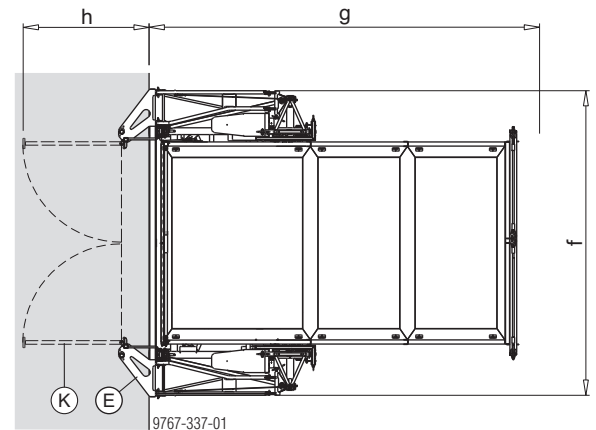
B Switch box TLS ground control

C Cable reel

D Safety barrier at edge of slab

E Lifting mast anchoring TLS

Space required:



f ... 4.60 m

g ... 5.80 m

h ... 1.90 m

E Lifting mast anchoring TLS

K Landing level safety gate TLS

Note:

If the bottom to top-floor height is between 40 m and 100 m, then the Cable-reel set TLS 100.00m must be used instead of the Cable reel TLS 40.0m (mounted to the Basic unit TLS).

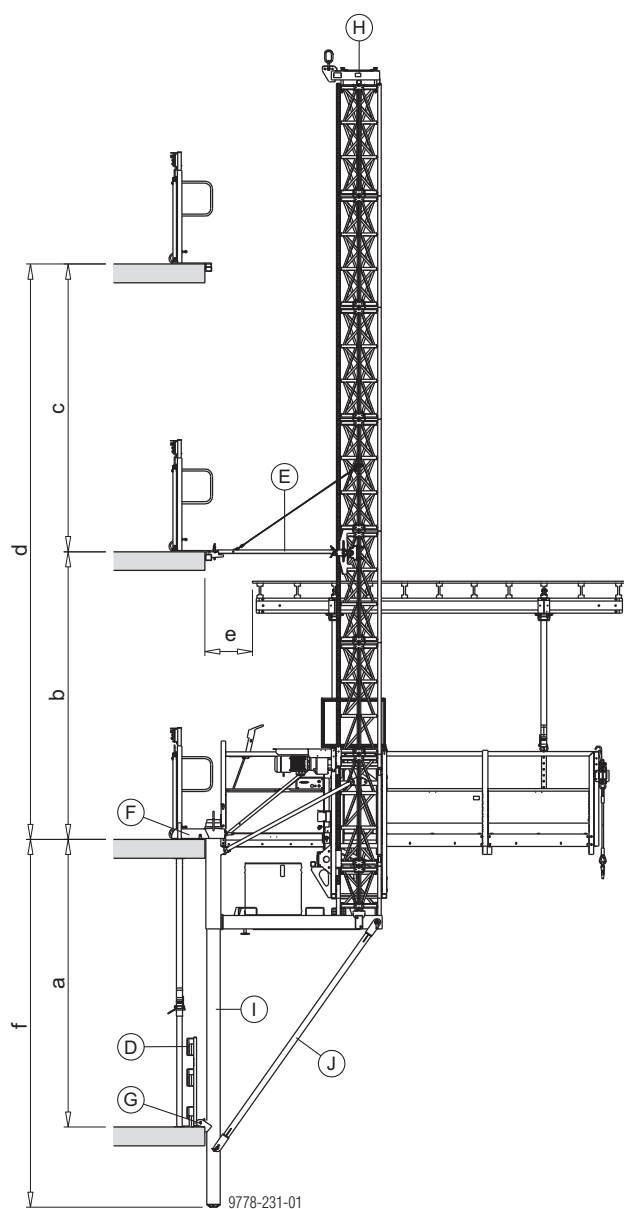
Note:

The Switch box TLS ground control and the Switch box TLS landing level safety gate each come with a 10 m control cable permanently attached.

If these switch boxes are too far (> 10 m) away from the Switch box for cable-reel, then Control cables TLS 20.0m will be needed as extension cables.

Suspended from the floor-slab

System dimensions:



- a ... min. 2.65 - 4.50 m
 b ... max. 7.00 m (spacing between the anchorages)
 c ... max. 4.50 m
 (lifting height above the top lifting mast anchoring)
 d ... max. 14.80 m
 e ... min. 0.30 m
 f ... 4.95 m

D Safety barrier at edge of slab

E Lifting mast anchoring TLS

F Floor support TLS 0.40m

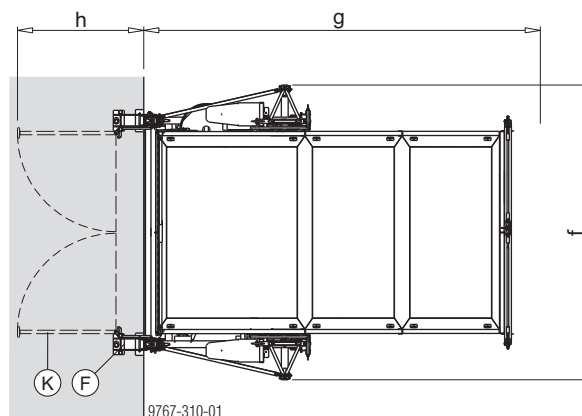
G Adjusting device TLS

H Lifting cross-bar TLS

I Supporting profile TLS 5.15m

J Pressure strut TLS 3.70m

Space required:



f ... 4.60 m

g ... 5.80 m

h ... 1.90 m

F Floor support TLS

K Landing level safety gate TLS

Note:

If the total lifting height does not exceed 4.50 m (1 storey), then no lifting mast anchoring is needed.

Loading platform

The Doka Table Lifting System TLS can also be used as a loading platform.

Usage situation:

- After the top floor has been completed, the Doka tableforms are craned off the building using Doka-matic lifting straps 13.00m or Transport forks.

Repositioning and aligning the Table Lifting System

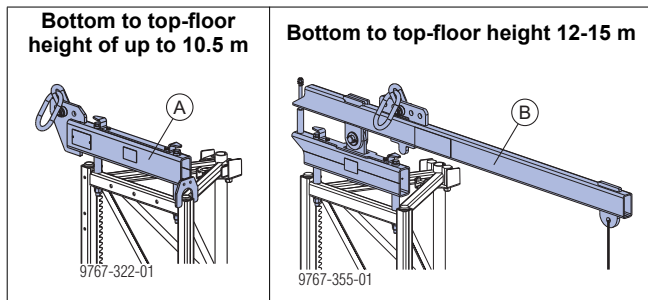


Follow the directions in the 'Doka Table Lifting System TLS' Operating Instructions!

Note:

Only position the Table Lifting System in slab-edge zones that have no projecting parts.

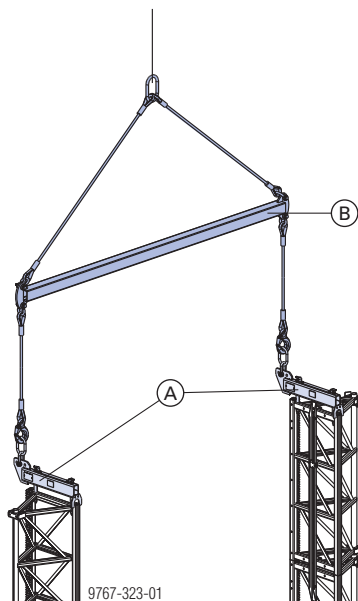
A Lifting cross-bar TLS must be mounted to each of the Lifting masts TLS (with the lugs on the side nearest the motor) before the Table Lifting System can itself be lifted and repositioned).



A Lifting cross-bar TLS 10.50m

B Lifting cross-bar TLS 15.00m

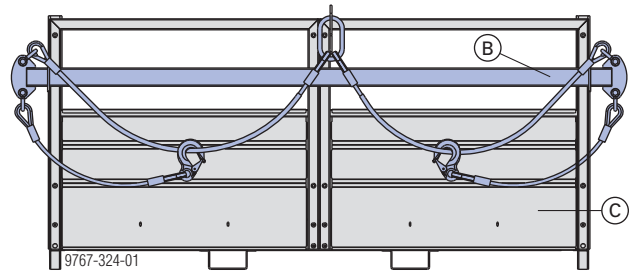
Later, the Lifting beam TLS 67kN (which is guided by the crane hook) will be attached to these Lifting cross-bars TLS.



A Lifting cross-bar TLS

B Lifting beam TLS 67kN

After the crane-lifting operation, the Lifting beam TLS 67kN is replaced in the holding fixture on the Lifting platform TLS.



B Lifting beam TLS 67kN

C Lifting platform TLS back 3.00x1.60m



In order to shorten the distances travelled when setting up and striking the formwork, it may be helpful to reposition the Table Lifting System several times on one floor.

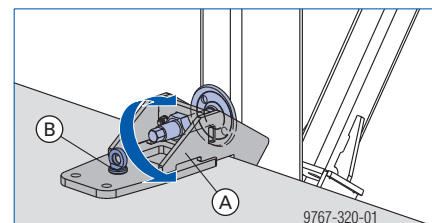


Follow the directions in the 'Lifting beam TLS 67kN' Operating Instructions!

Aligning the Table Lifting System

Depending on how far the slab-edges are out of true in the vertical, there are two possible alignment methods:

- Spindles in the Floor supports TLS
- Fitting wedges between the Supporting profiles and the floor-slab, or setting the distance with the Adjusting device TLS



A Adjusting device TLS

B Doka Express anchor 16x125mm

Repositioning Doka tableforms

With the DoKart plus, only one person is needed on each storey to manoeuvre the Doka tableforms. During the automatic lifting operation, the next Doka tableform is readied for lifting, while on the floor above, the previous tableform is moved to its proper location.



Follow the directions in the 'DoKart plus' Operating Instructions!

General instructions on repositioning



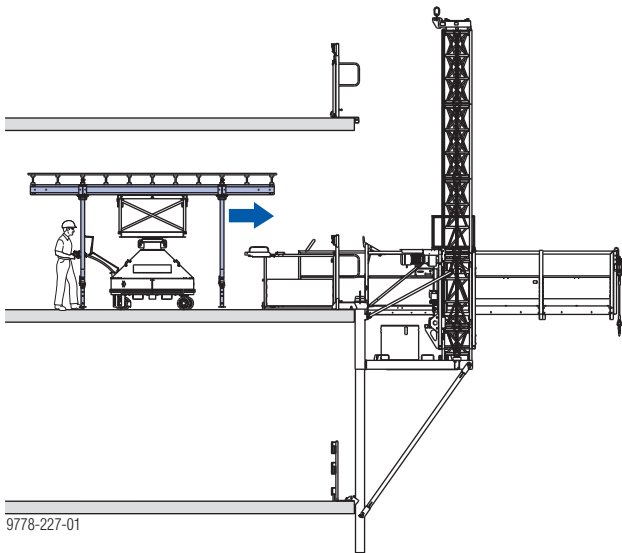
NOTICE

- Tables must be stood stably, and able to withstand wind loads, in every phase of the construction work.
- Max. wind speed during resetting: 72 km/h.
- No persons or unsecured objects are allowed to be on the table or the Table Lifting System TLS during lifting and travelling.

Repositioning operation

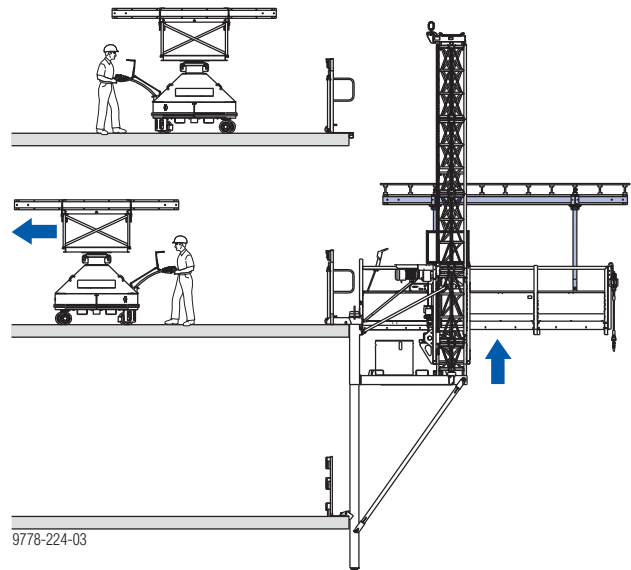
Floor below

- Send the Lifting platform TLS to the floor in question.
- Open the landing level safety gates.
- Lower the loading ramp and open the gates of the lifting platform.



- Set down the table on the lifting platform. The person operating the DoKart plus must always be on the building side.
- Move out the DoKart plus from under the table.
- Secure and tie down the table if necessary (required for edge tables with an integral downstand beam, platforms, ...). There are crane eyes on the lifting platform for tying back the Doka tables if necessary.
- Close the gates of the Lifting platform and tilt up the loading ramp.

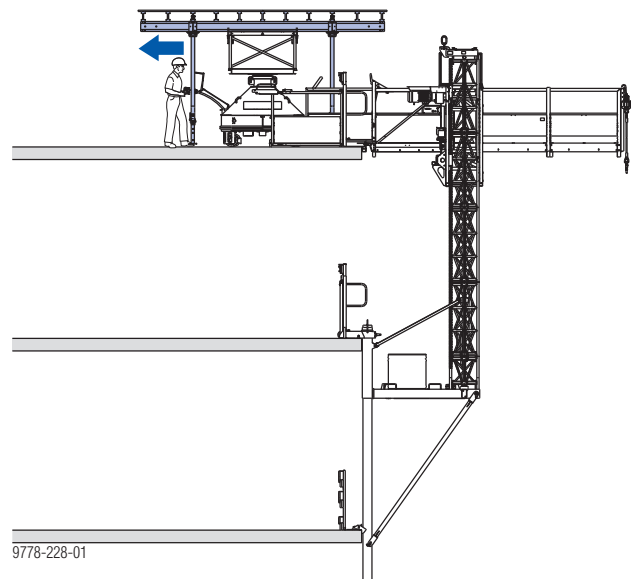
- Close the landing level safety gates.



- Raise the table to the next floor on the lifting platform.

Floor above:

- Open the landing level safety gates.
- Lower the loading ramp and open the gates of the lifting platform.
- Wheel the table off the platform.



- Close the gates of the Lifting platform and tilt up the loading ramp.
- Close the landing level safety gates.
- Send the Lifting platform TLS back down to the floor below.



After the last table has been repositioned, the DoKart plus can then be moved up to the next floor by the Table Lifting System.

Anchoring on the structure



NOTICE

The system is typically anchored to the structure using the **Tie rod system 15.0**.

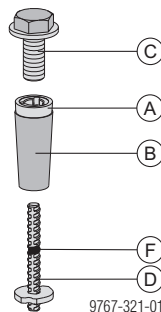


Risk of confusion!

► When the system is combined with Doka automatic climbing systems, the **Tie rod system 20.0** must be used throughout the entire project.

This also applies to combinations with guided climbing systems (e.g. Guided climbing formwork Xclimb 60).

Positioning point and suspension point



- A Universal climbing cone 15.0
- B Sealing sleeve K 15.0 (expendable anchoring component)
- C Cone screw B 7cm
- D Stop anchor 15.0 (expendable anchoring component)
- F Depth mark

▪ Universal climbing cone 15.0

- The positioning point and the suspension point are both prepared using this one single type of cone

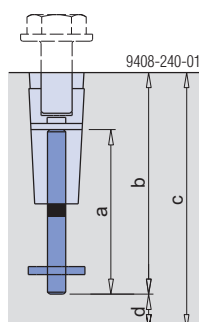
▪ Stop anchor 15.0

- Expendable anchoring component for anchoring the universal climbing cone (and thus the climbing unit) in the concrete from one side.

▪ Cone screw B 7cm

- On the positioning point – for fastening the universal climbing cone.
- On the suspension point - for safe fastening of the floor support, of the beam for landing level safety gate, and of the lifting mast anchoring.

Stop anchor



Stop anchor 15.0			
	11.5cm	16cm	40cm
a	11.5 cm	16.0 cm	40.0 cm
b	17.0 cm	22.0 cm	46.0 cm
c	Where the concrete cover 'd' = 2 cm		
	19.0 cm	24.0 cm	48.0 cm
	Where the concrete cover 'd' = 3 cm		
	20.0 cm	25.0 cm	49.0 cm

a ... tie-rod length

b ... installation depth

c ... minimum slab thickness

d ... concrete cover

Note:

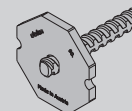
Stop anchors of different lengths should not be mixed in the same project.



WARNING

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

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



WARNING

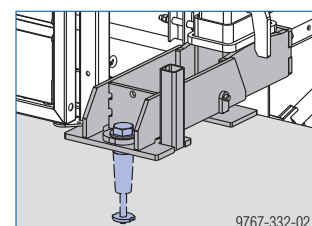
The **Stop anchor 15.0 11.5cm 90** may accidentally come unscrewed from the universal climbing cone while low-viscosity concrete is being poured.

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

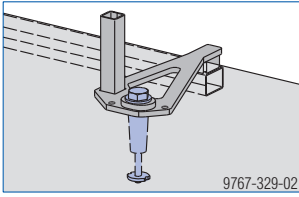
The following components are fastened to the Universal climbing cone by means of the Cone screw B 7cm.

▪ Floor support TLS 0.40m

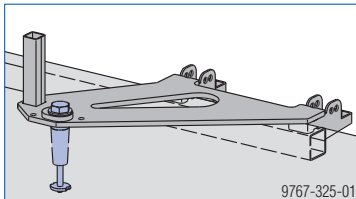
- For safe suspension of the table lifting system in all phases of the work.



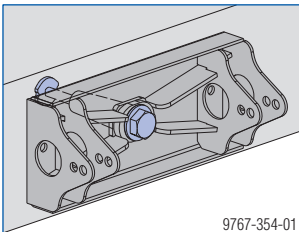
- **Beam for landing level safety gate 0.40m**
 - For fixing the landing level safety gates.



- **Lifting mast anchoring TLS cross bar 0.40m**
 - For back-staying the Lifting masts TLS to the structure.



- **Lifting mast anchoring TLS wall**
 - As an alternative to the Lifting mast anchoring TLS cross bar 0.40m, for back-staying the Lifting masts TLS to the structure.



Dimensioning the suspension point

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

- load actually occurring
- length of the stop anchor
- reinforcement / extra reinforcement steel
- distance from edge

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

The required cube compressive strength $f_{ck, cube, current}$ must be at least 10 N/mm², however.

Preparing the positioning point

The instructions given below for preparing the positioning point apply, analogously, to all components that are fastened to the Universal climbing cone using the Cone screw B 7cm.



WARNING

- Always screw the stop anchor into the universal climbing cone until it fully engages (up to the depth mark). Not screwing the stop anchor sufficiently far into the cone may subsequently lead to reduced load-bearing capacity and to the failure of the suspension point – resulting in injury and damage.
- Use only the Cone screw B 7cm for the positioning point and suspension point (head of screw is **red**)!



WARNING

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



NOTICE

- The axis of the universal climbing cone must be at right angles to the surface of the concrete – maximum angle of deviation: 2°.
- The universal climbing cone must be embedded so that it is flush with the concrete surface.
- Do not exceed the tolerances for the locations of the positioning point and suspension point.
- Protect the thread from soiling.
- Universal climbing cones are supplied with Sealing sleeves K. **Every time** the cones are **re-used**, fit them with **new sealing sleeves** first.

Tools needed:

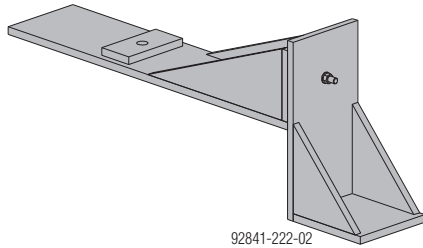
- Reversible ratchet 3/4"
- Universal cone spanner 15.0/20.0 (for universal climbing cone)
- Extension 20cm 3/4"
- Box nut 50 3/4" (for Cone screw B 7cm)

These tools are all included in the Tool box TLS.

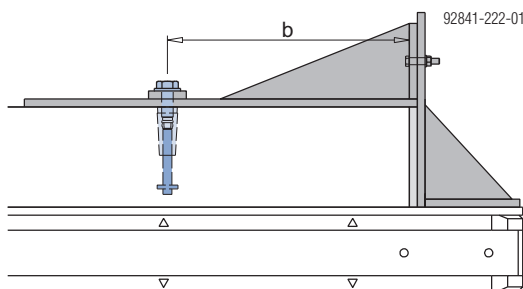
- Push the sealing sleeve all the way onto the universal climbing cone.
- Screw the stop anchor into the universal climbing cone, until it engages (up to the depth mark).
- Fasten the universal climbing cone to the installation template with a Cone screw B 7cm.



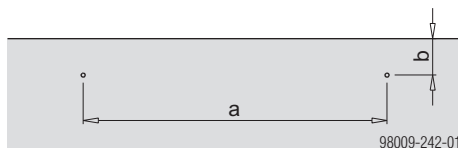
The installation template ensures that the positioning point is correctly located.



- Fix the installation template to the stop-end form-work.

**NOTICE**

- The positioning point must align with the suspension point beneath it (± 10 mm in the horizontal).
- Tie the stop anchor tightly to the reinforcements with binding wire.



- a ... 3270 mm (± 20 mm)
b ... 400 mm (± 10 mm)

Pouring

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

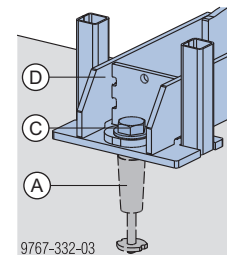


- The axis of the universal climbing cone must be at right-angles to the surface of the concrete – maximum angle of deviation: 2° .
 - The universal climbing cone must be embedded so that it is flush with the concrete surface.
 - Do not exceed the tolerances for the locations of the positioning point and suspension point.
 - The sealing sleeve must be completely pushed onto the Universal climbing cone.
 - The depth mark on the stop anchor must be right up against the Universal climbing cone = must be screwed in to the full depth.
 - Protect the thread from soiling.
- Do not touch positioning points with the vibrator.
 - Do not place concrete directly above the positioning points.

Preparing the suspension point

The instructions given below for preparing the suspension point apply, analogously, to all components that are fastened to the Universal climbing cone using the Cone screw B 7cm.

- Fix the Floor support TLS in the Universal climbing cone 15.0 with a Cone screw B 7cm. A tightening torque of 100 Nm (20 kg, assuming a ratchet-length of approx. 50 cm) is sufficient.



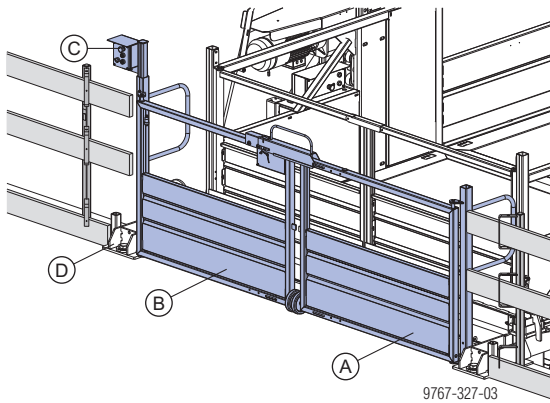
- A Universal climbing cone
- C Cone screw B 7cm
- D Floor support TLS

Forcibly tightening the Cone screw B 7cm any more than this may cause damage and even cause the form tie to break!

The Reversible ratchet 3/4" must be used for screwing in and fixing the Cone screw B 7cm into the universal climbing cone.

Reversible ratchet 3/4"	Reversible ratchet 3/4" with extension	Ratchet MF 3/4" SW50
Tr687-200-01	Tr687-200-01	Tr687-200-01

Possible ways of connecting the landing level safety gates



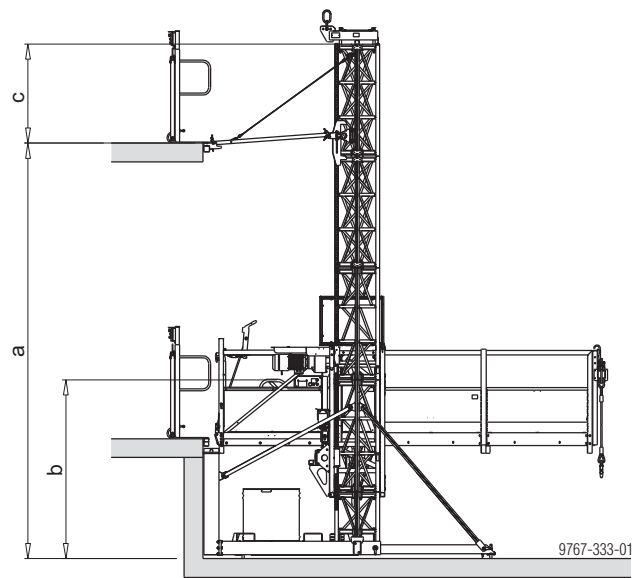
- A** Landing level safety gate TLS with handle
- B** Landing level safety gate TLS with limit switch
- C** Switchbox TLS
- D** Floor support TLS 0.40m

Push the corner post of the landing level safety gate down onto the mounting fixture (**E**) and secure with the eyebolt (**F**) .

Floor support TLS 0.40m	Beam for Landing level safety gate TLS 0.40m	Lifting mast anchoring TLS cross-bar 0.40m

Computation of quantities for Lifting masts TLS 1.50m

Standing on ground and working from ground level



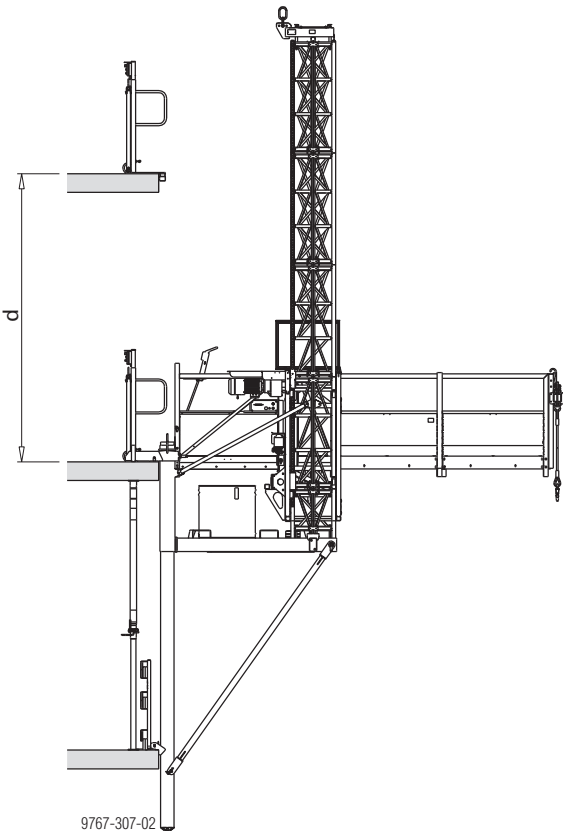
a ... Operational height
b ... 2.40 m
c ... min. 1.30 m

n ... number ¹⁾ =
$$\frac{\text{Operational height(a)} - 2.40 \text{ m(b)} + 1.30 \text{ m (c)}}{1.50 \text{ m}}$$

¹⁾ Round up the result to a whole number.

Total number of Lifting masts TLS 1.50m = 2 x n

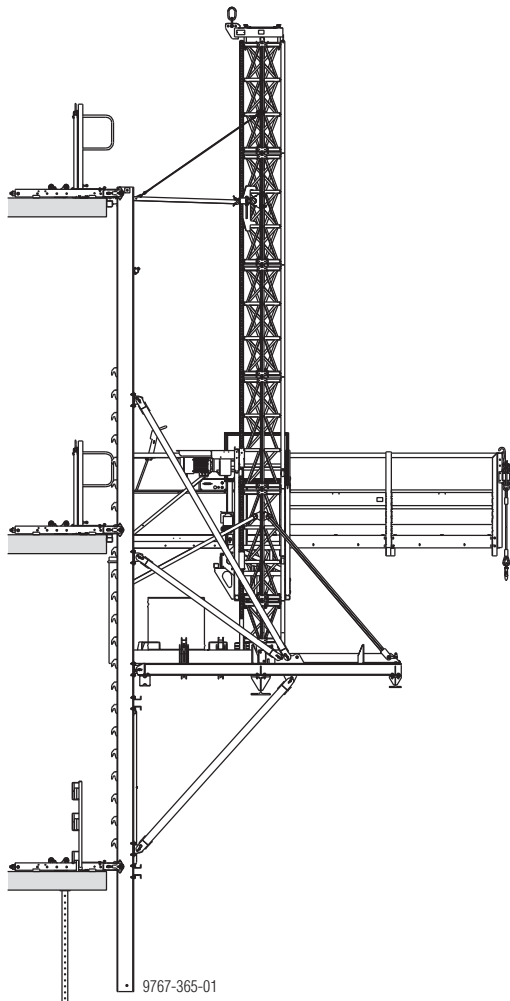
Suspended from the floor-slab



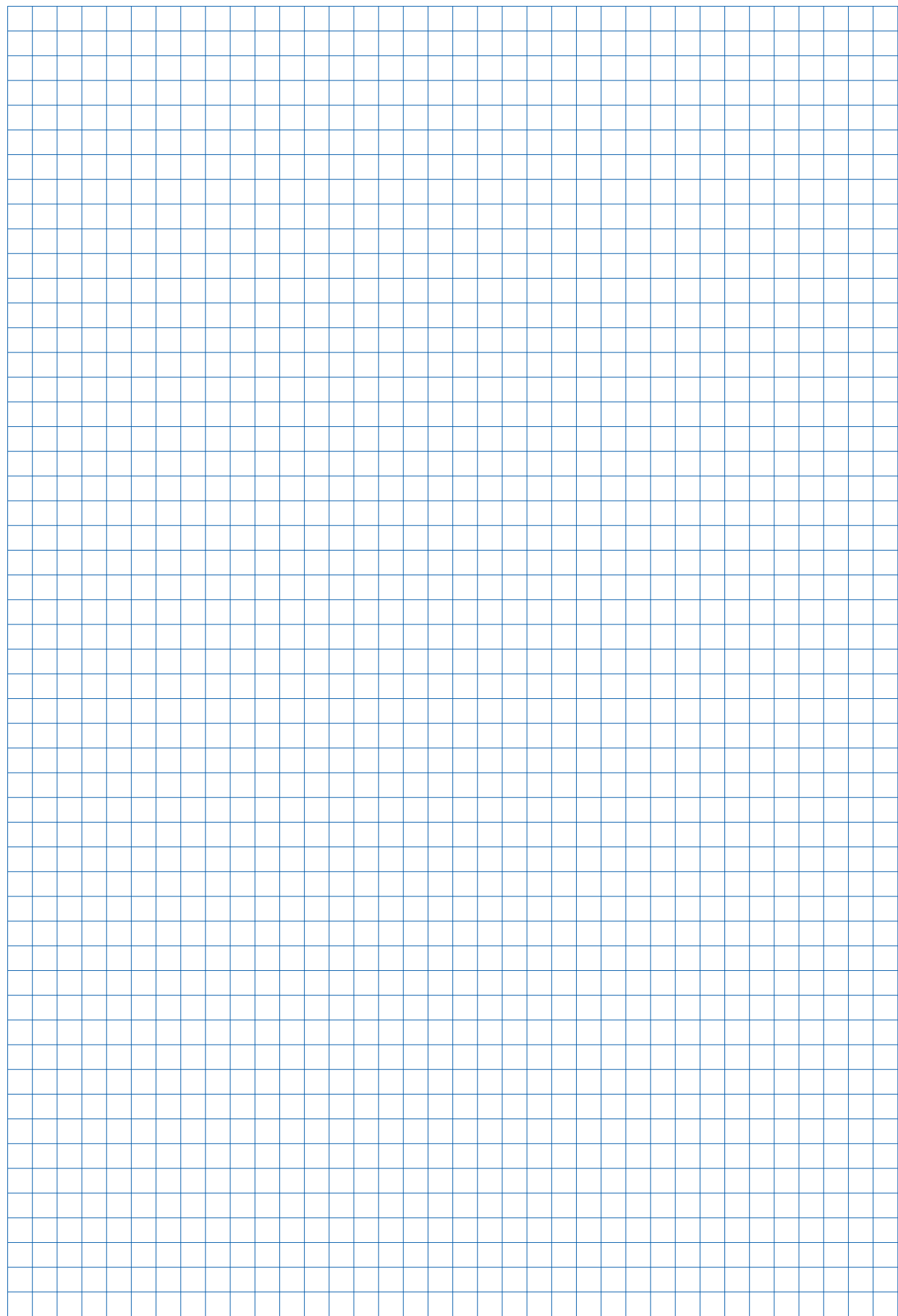
d ... Lifting height	Total number of Lifting masts TLS 1.50m
Up to 2.80m	4
Up to 4.30m	6
Up to 5.80m	8
Up to 7.30m	10
Up to 8.80m	12
Up to 10.30m	14
Up to 11.80m	16
Up to 13.30m	18
Up to 14.80m	20

Automatic climbing unit TLS

The Automatic climbing unit TLS is a lifting appliance that is used for automatic, fast and safe raising of the Table Lifting System TLS in construction operations, without crane assistance.



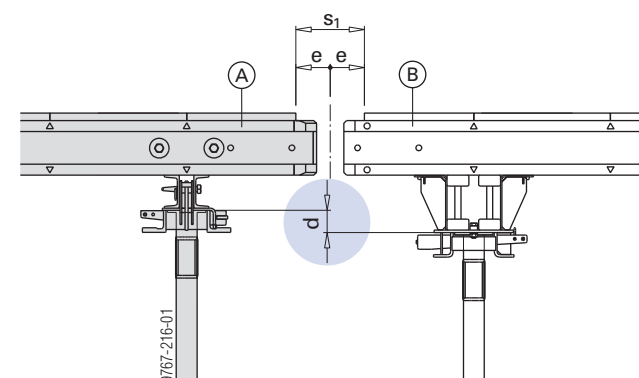
Follow the directions in the 'Automatic climbing unit TLS' Operating Instructions!



General

Combining with other Doka systems

Combining with Dokamatic tables



d ... Difference 8.2 cm

e ... 10.0 cm

s₁ ... 20.0 cm

A Dokamatic table

B Dokaflex table



NOTICE

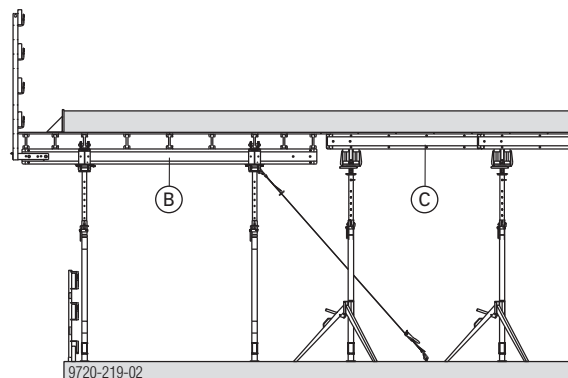
The Dokamatic table and the Dokaflex table have different overall heights.

When selecting the props, allow for the difference **d** of 8.2 cm!



Follow the directions in the "Dokamatic table" User Information booklet!

Combining with Dokaflex or Doka Xtra



B Dokaflex table

C Dokaflex or Doka Xtra



NOTICE

On projects with stringent quality requirements regarding the visible underside of the slab, pay attention to the different deflections at the transitions between the areas formed with tables and those formed with Dokaflex!

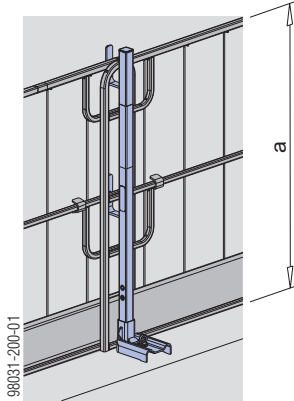


Follow the directions in the 'Dokaflex' and 'Doka Xtra' User Information booklets!

Guardrail systems on the structure

Handrail post XP 1.20m

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



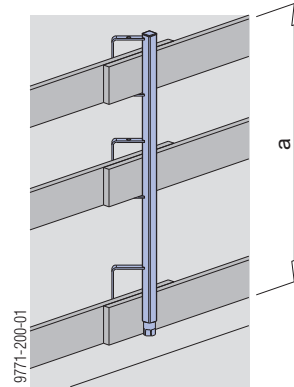
a ... > 1.00 m



Follow the directions in the 'Xsafe edge protection XP' User Information booklet.

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



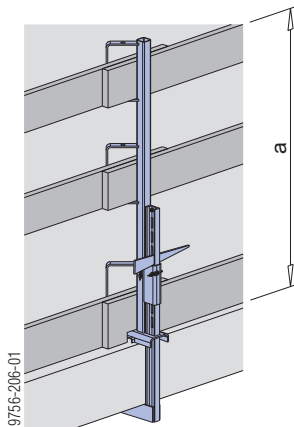
a ... > 1.00 m



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

Handrail clamp S

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



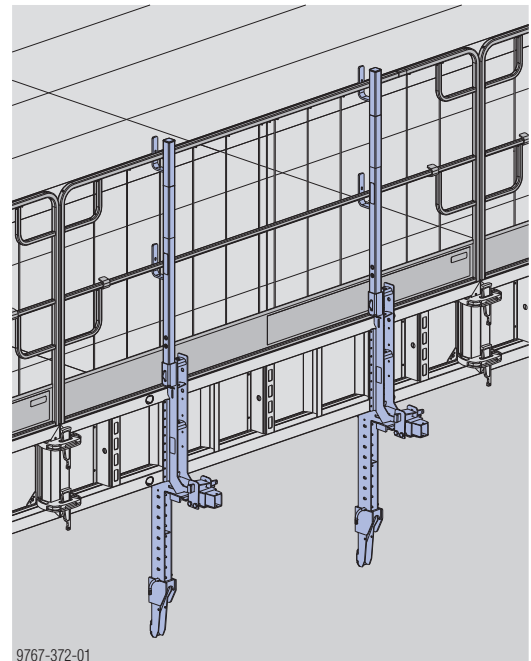
a ... > 1.00 m



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

Doka floor end-shutter clamp

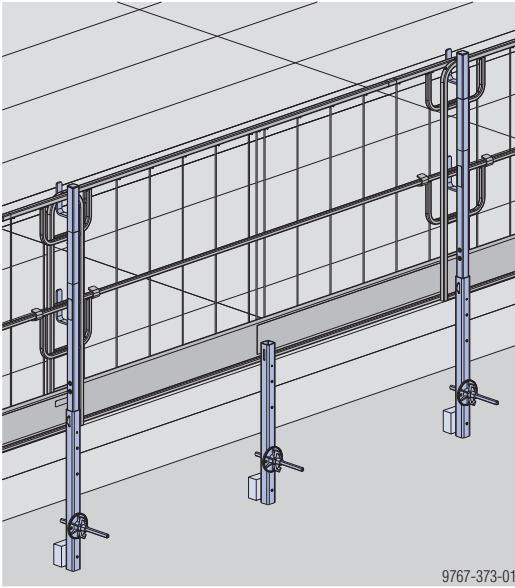
- Slab stop-ends and fall-arrest barriers in one system



Follow the directions in the 'Doka floor end-shutter clamp' User Information booklet!

Floor end-shutter profile XP

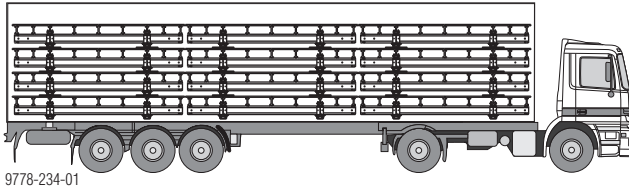
- Slab stop-ends and safety barriers in one system



Follow the directions in the 'Xsafe edge protection XP' User Information booklet.

Transporting, stacking and storing

Thanks to their compact design, up to 5 Dokaflex tables can be loaded onto a truck on top of one another - making for improved logistics and reduced shipping costs.

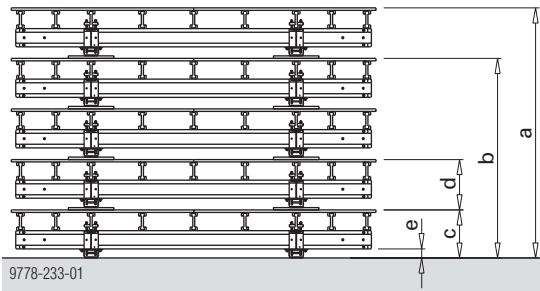


Stacking and delivery condition



NOTICE

- Stack max. 5 elements on top of one another!
- Never climb onto the stack of table elements.
- Before being transported by truck, the table elements must be strapped down securely.



Dimensions in cm	Dokaflex table 27mm	Dokaflex table 21mm
a (5 elements)	274.3	268.9
b (4 elements)	218.9	214.7
c	52.7	52.1
d (c+packing strips)	55.4	54.2
e	10.0	10.0

Precautions to prevent damage to the formwork sheets:

- Insert packing strips of formwork sheeting between the table heads and the sheets.
- Make sure the clamping wedges are pushed all the way in, and fix them in this position with Spring cotters 5mm.

Intermediate storage of tables



NOTICE

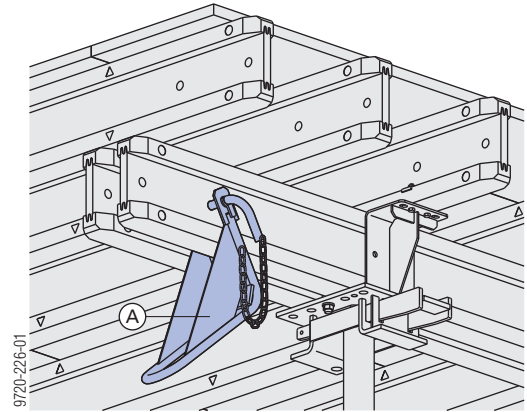
Observe the following regarding intermediate storage of completely assembled tables:

- Only set down tables on level, firm surfaces.
- Never place ready-to-use tables on top of one another.
- In exposed locations, secure against wind pressure.

Lifting by crane

Lifting hook DF

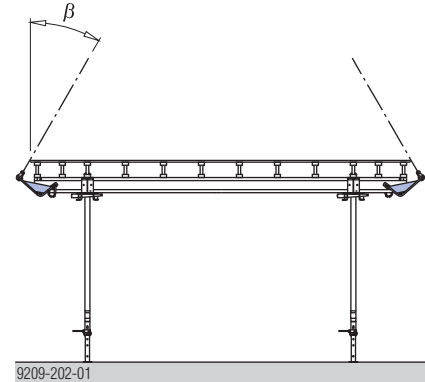
The Lifting hook DF can be used to hoist tableform superstructures and ready-assembled tables. Four Lifting hooks DF are needed for each table.



A Lifting hook DF

Max. load: 300 kg per Lifting hook DF

Max. weight of table: 1200 kg



$\beta \dots \max. 30^\circ$



Follow the directions in the Operating Instructions!

Dokamatic lifting strap 13.00m

The Dokamatic lifting strap 13.00m is a lifting accessory that is only suitable for lifting Doka tableforms and stacked Doka panels.

2 Dokamatic lifting straps are needed for each unit to be lifted.



Max. working load limit:
2000 kg / Dokamatic lifting strap 13.00m

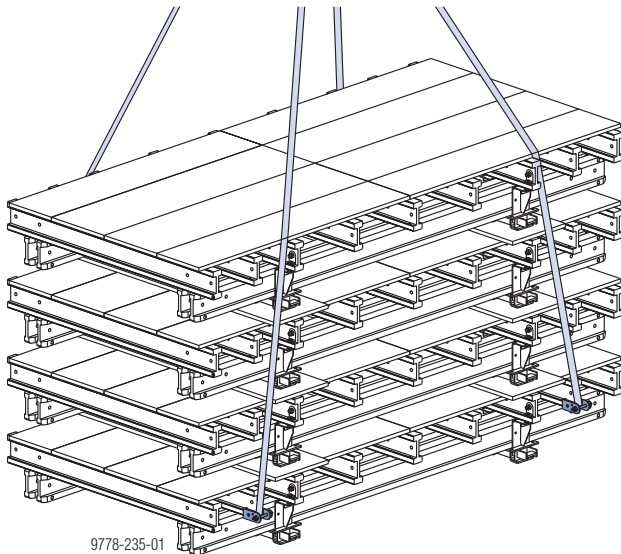
- Strap shoes for safe lifting of stacked tableform superstructures.
- Anti-dropout safeguard for strap shoes
- Moveable, 8 m long protective sleeve makes it possible to lift in a horizontal position, and protects the strap fabric.



Follow the directions in the Operating Instructions!

Lifting of stacks

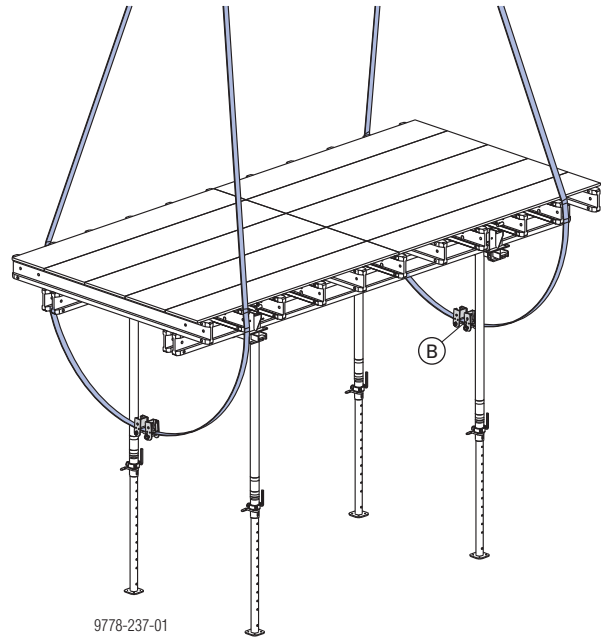
To lift **stacked tableform superstructures**, the Dokamatic lifting strap 13.00m is used **with integrated strap shoes**.



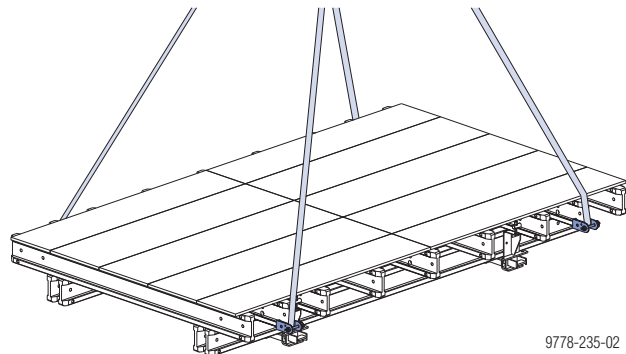
Lifting single tables

The integrated **strap shoes** are **not** pushed onto the secondary beams. This makes it possible to operate the Lifting strap 13.00m when working from ground level.

The strap shoes can either remain on the strap, or be detached from it as needed.



B Strap shoes

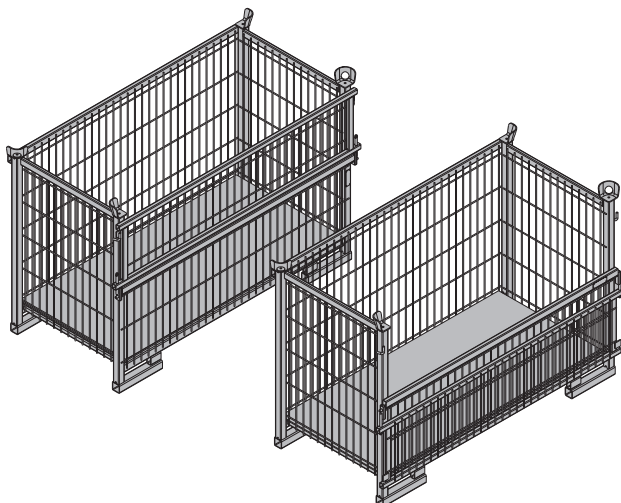


Utilise the benefits of Doka multi-trip packaging on your site.

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

Doka skeleton transport box 1.70x0.80m

Storage and transport device for small items



Max. load-bearing capacity: 700 kg (1540 lbs)

Permitted imposed load: 3150 kg (6950 lbs)

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

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

Max. n° of units on top of one another

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



NOTICE

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

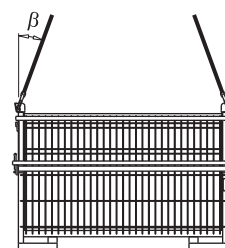
Using Doka skeleton transport boxes 1.70x0.80m as transport devices

Lifting by crane



NOTICE

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



9234-203-01

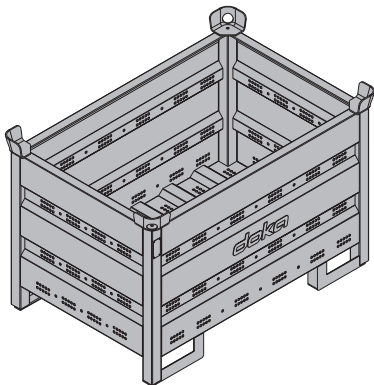
Repositioning by forklift truck or pallet stacking truck

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

Doka multi-trip transport box

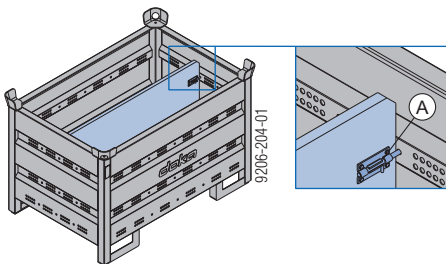
Storage and transport device for small items

Doka multi-trip transport box 1.20x0.80m



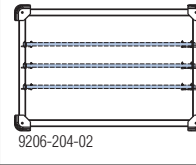
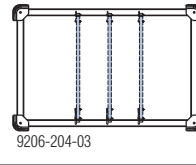
Max. carrying capacity: 1500 kg (3300 lbs)
Permitted imposed load: 7850 kg (17300 lbs)

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

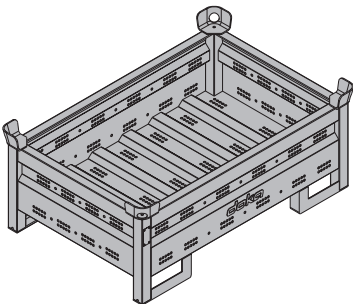


A Slide-bolt for fixing the partition

Possible ways of dividing the box

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

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



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

Using Doka multi-trip transport boxes as storage units

Max. n° of units on top of one another

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

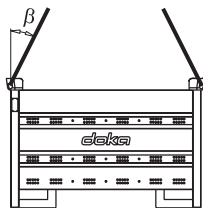
Using Doka multi-trip transport boxes as transport devices

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 working load limit.
- Sling angle β max. 30°!



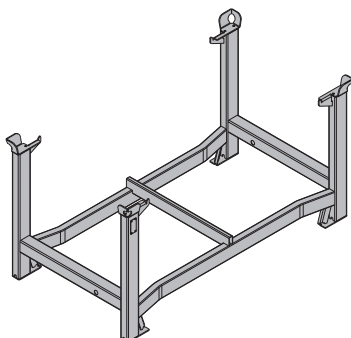
9206-202-01

Repositioning by forklift truck or pallet stacking truck

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

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

Storage and transport devices for long items.



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

Using Doka stacking pallets as storage units

Max. n° of units on top of one another

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



NOTICE

- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- How to use with Bolt-on castor set B:**
 - Always apply the fixing brake when the container is 'parked'.
 - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on castor set mounted to it.

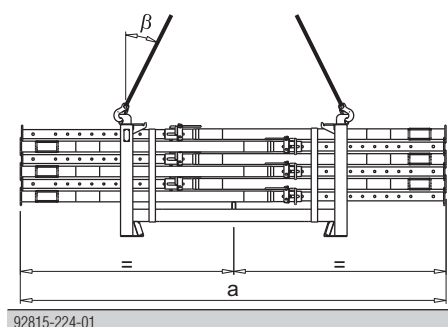
Using Doka stacking pallets as transport devices

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 working load limit.
- Load the items centrically.
- Fasten the load to the stacking pallet (e.g. with strapping tape or lashing strap) so that it cannot slide or tip out.
- Sling angle β max. 30°!



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

Repositioning by forklift truck or pallet stacking truck

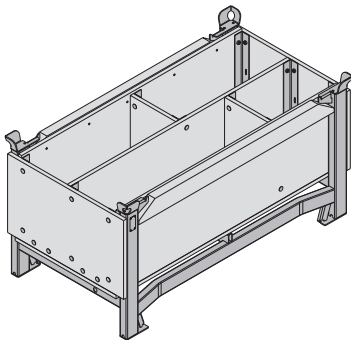


NOTICE

- Load the items centrically.
- Fasten the load to the stacking pallet (e.g. with strapping tape or lashing strap) so that it cannot slide or tip out.

Doka accessory box

Storage and transport device for small items



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

Doka accessory boxes as storage units

Max. n° of units on top of one another

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



NOTICE

- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- How to use with Bolt-on castor set B:
 - Always apply the fixing brake when the container is 'parked'.
 - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

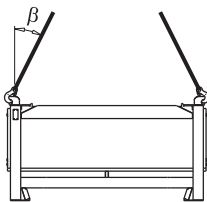
Doka accessory box as transport devices

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 working load limit.
- When lifting accessory boxes to which Bolt-on castor sets B have been attached, you must also follow the 'Bolt-on castor set B' User Information booklet!
- Sling angle β max. 30°!



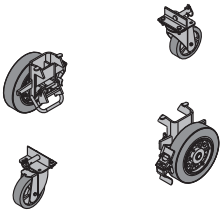
92816-206-01

Repositioning by forklift truck or pallet stacking truck

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

Bolt-on castor set B

The Bolt-on castor set B turns multi-trip packaging items into fast and manoeuvrable transport devices. Suitable for drive-through access openings > 90 cm.



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

- Doka accessory box
- Doka stacking pallets
- Protective barrier Z pallets



Follow the directions in the 'Bolt-on castor set B' User Information booklet!

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 α . This can be read off from the following table.

Load factor α

This is calculated by:

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

Slab thickness d [m]	Dead load DL _{concrete} [kN/m ²]	Load factor α LL _{final state}			
		2.00 kN/m ²	3.00 kN/m ²	4.00 kN/m ²	5.00 kN/m ²
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 $DL_{\text{finishing}} = 2.00 \text{ kN/m}^2$ and a live load in the early-stripped state of $LL_{\text{construction state}} = 1.50 \text{ kN/m}^2$

DL_{concrete}: calculated with $\gamma_{\text{concrete}} = 25 \text{ kN/m}^3$

DL_{finishing}: load for floor finish, etc.

Example: Slab thickness 0.20 m with a final live load of 5.00 kN/m^2 results in a load factor α 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 floor-slab 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. This load distribution will depend on the relationship between the rigidities of these two floor-slabs.



NOTICE

Ask an expert!

As a rule, the question of using reshoring props should be referred to the responsible experts, regardless of the information given above.

Observe all local standards and regulations!

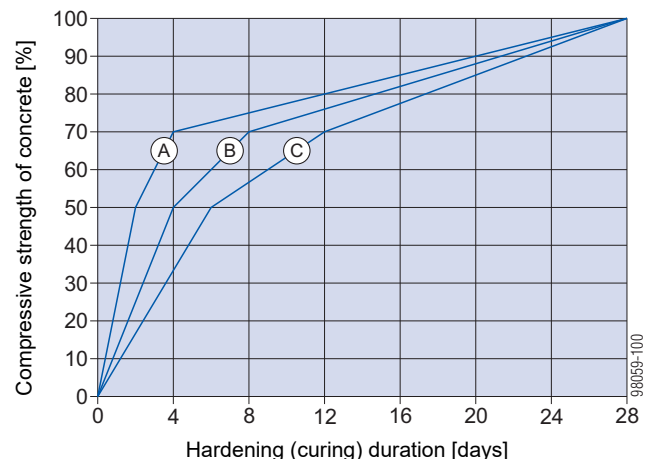
Strength development in the new concrete

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 diagram may thus be used.

Concrete-strength development – medium



A $\vartheta \geq 15^\circ$

B $\vartheta \geq 10^\circ$

C $\vartheta \geq 5^\circ$

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.



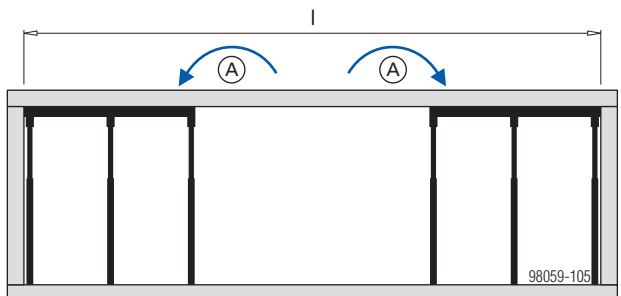
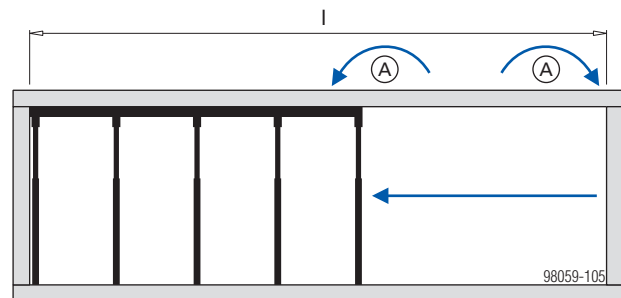
NOTICE

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 (mid-span) towards the slab-edges**.

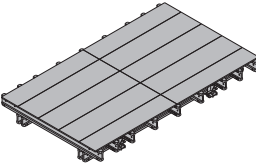
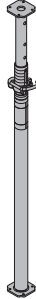
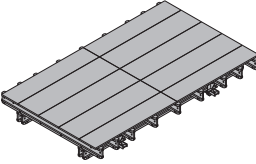
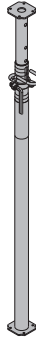



For wide spans, this procedure **MUST** be followed!

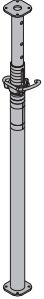
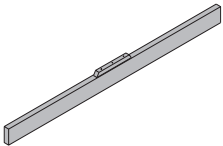
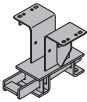
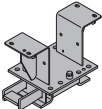







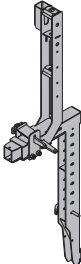
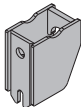


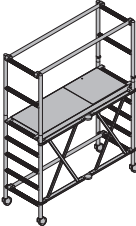
- Stress-release must **NEVER** be carried out **from both sides towards the middle!**

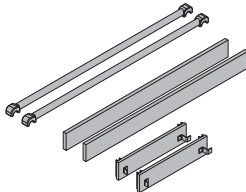
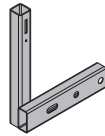

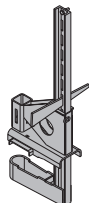
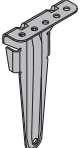
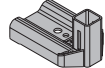
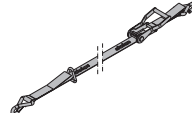





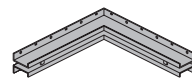

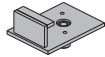



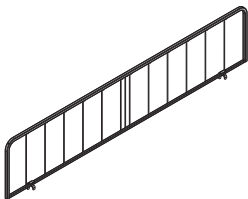

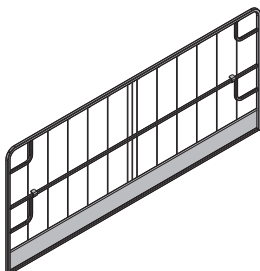

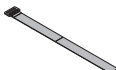

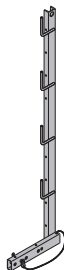

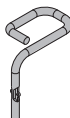



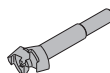
I ... Effective floor-slab spans of 7.50 m and over

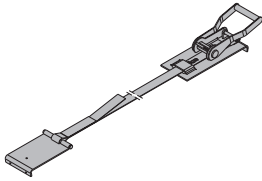
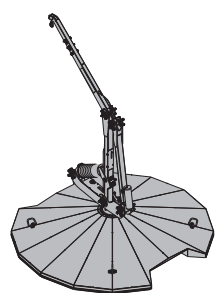
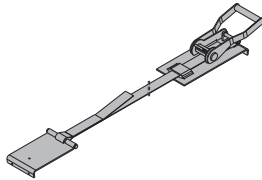

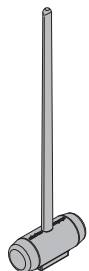

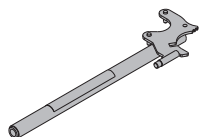

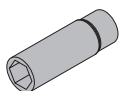



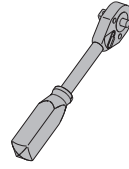
A Load redistribution



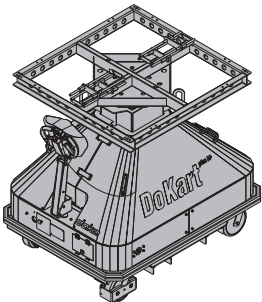
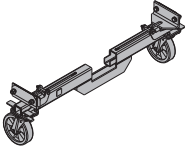
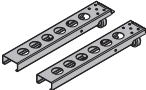


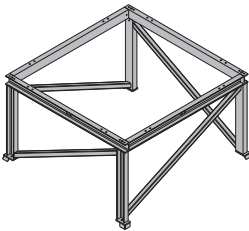
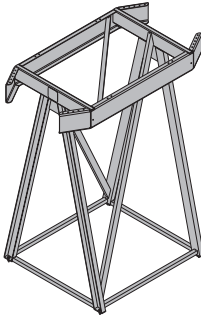
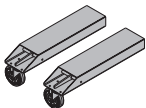
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Dokaflex table 2.50x4.00m 27mm Dokaflex table 2.50x5.00m 27mm Dokaflex table 2.00x4.00m 27mm Dokaflex table 2.00x5.00m 27mm Dokaflex-Tisch	405.0 485.0 337.0 411.0	586054000 586055000 586056000 586057000		Doka floor prop Eurex 20 LW 300 Length: 173 - 300 cm Doka floor prop Eurex 20 LW 350 Length: 198 - 350 cm Doka-Deckenstütze Eurex 20 LW Galvanised	11.5 13.9	586876000 586877000	
Doka floor prop Eurex 20 top 150 Length: 92 - 150 cm Doka floor prop Eurex 20 top 250 Length: 148 - 250 cm Doka floor prop Eurex 20 top 300 Length: 173 - 300 cm Doka floor prop Eurex 20 top 350 Length: 198 - 350 cm Doka floor prop Eurex 20 top 400 Length: 223 - 400 cm Doka floor prop Eurex 20 top 550 Length: 298 - 550 cm Doka-Deckenstütze Eurex 20 top Galvanised	8.0 12.7 14.3 17.4 21.6 32.3	586096000 586086400 586087400 586088400 586089400 586090400		Doka floor prop Eurex 30 top 250 Length: 148 - 250 cm Doka floor prop Eurex 30 top 300 Length: 173 - 300 cm Doka floor prop Eurex 30 top 350 Length: 198 - 350 cm Doka floor prop Eurex 30 top 400 Length: 223 - 400 cm Doka floor prop Eurex 30 top 450 Length: 248 - 450 cm Doka floor prop Eurex 30 top 550 Length: 303 - 550 cm Doka-Deckenstütze Eurex 30 top Galvanised	12.8 16.4 20.7 24.6 29.1 38.6	586092400 586093400 586094400 586095400 586119400 586129000	
Doka floor prop Eurex 20 eco 250 Length: 148 - 250 cm Doka floor prop Eurex 20 eco 300 Length: 173 - 300 cm Doka floor prop Eurex 20 eco 350 Length: 198 - 350 cm Doka floor prop Eurex 20 eco 400 Length: 223 - 400 cm Doka floor prop Eurex 20 eco 450 Length: 248 - 450 cm Doka floor prop Eurex 20 eco 550 Length: 298 - 550 cm Doka-Deckenstütze Eurex 20 eco Galvanised	11.5 14.0 16.9 20.5 24.1 32.0	586270000 586271000 586272000 586273000 586275000 586276000					

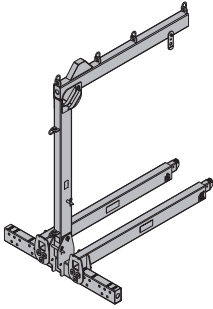

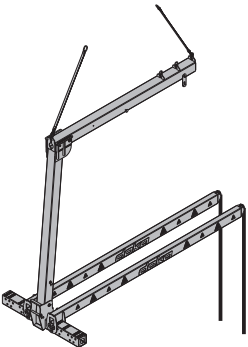
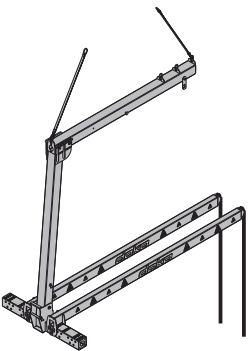
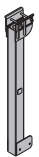
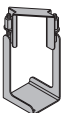
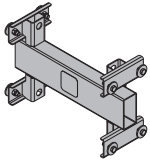
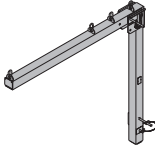
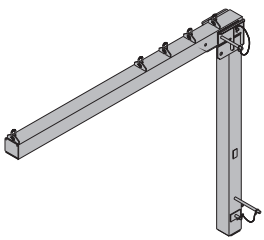
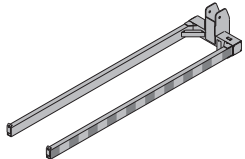
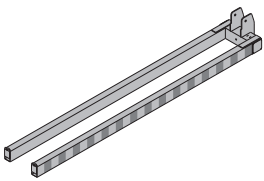

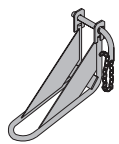
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Doka floor prop Eurex 30 250 Length: 152 - 250 cm Doka floor prop Eurex 30 300 Length: 172 - 300 cm Doka floor prop Eurex 30 350 Length: 197 - 350 cm Doka floor prop Eurex 30 400 Length: 227 - 400 cm Doka floor prop Eurex 30 450 Length: 248 - 450 cm Doka-Deckenstütze Eurex 30	14.8	586092000			
			Galvanised		
Insertion beam 1.95m Insertion beam 2.45m Einschubträger	7.1 8.9	183074000 183075000			
			Varnished yellow		
Table head 20 Tischkopf 20	16.5	586085000			
			Galvanised Powder-coated blue Length: 41 cm Width: 33 cm Height: 30 cm		
Table head 30 Tischkopf 30	18.5	586078000			
			Galvanised Powder-coated blue Length: 44 cm Width: 25 cm Height: 30 cm		
Spring cotter 5mm Federvorstecker 5mm	0.03	580204000			
			Galvanised Length: 13 cm		
Intermediate head DF Zwischenkopf DF	3.6	586058000			
			Galvanised Length: 25 cm Width: 24 cm Height: 34 cm		
Connection unit DF 20/30 Spanneinheit DF 20/30	0.93	586084000			
			Galvanised Width: 15 cm Height: 12 cm Width-across: 19 mm		
Supporting head H20 DF Haltekopf H20 DF	0.77	586179000			
			Galvanised Length: 19 cm Width: 11 cm Height: 8 cm		
Beam screw S 8/60 Riegelverschraubung S 8/60	0.06	580116000			
			Galvanised Length: 7 cm Width-across: 13 mm		
Beam connecting plate H20 Gurtverbinder H20	0.07	586263000			
			Galvanised Height: 8 cm		
Universal end-shutter support 30cm Universal-Abschalwinkel 30cm	1.0	586232000			
			Galvanised Height: 21 cm		
Doka floor end-shutter clamp Doka-Deckenabschalcklemme	12.5	586239000			
			Galvanised Height: 137 cm		
End-shutter shoe Abschalshuh	1.6	586257000			
			Galvanised Height: 13.5 cm		
End-shutter tie rod 15.0 15-40cm Abschalanker 15,0 15-40cm	0.91	586258000			
			Galvanised Length: 55 cm		
Floor end-shutter profile XP Deckenabschalprofil XP	4.2	586481000			
			Galvanised Height: 77 cm		
Wheel-around scaffold DF Mobilgerüst DF	44.0	586157000			
			Aluminium Length: 185 cm Width: 80 cm Height: 255 cm Delivery condition: separate parts		

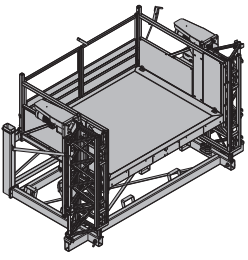

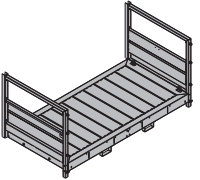
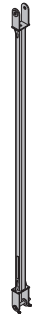
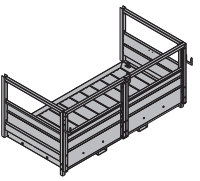
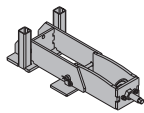
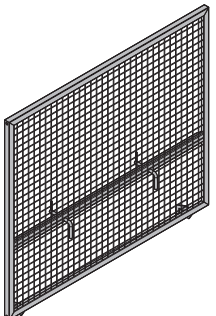
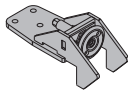
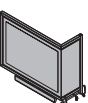

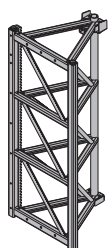

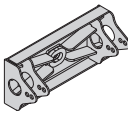

	[kg]	Article N°		[kg]	Article N°
Wheel-around scaffold DF accessory set Zubehörset Mobilgerüst DF	13.3	586164000	Insertion adapter XP Einschubadapter XP	4.1	586478000
 <p>Aluminium Timber parts varnished yellow Length: 189 cm</p>			 <p>Galvanised Height: 43 cm</p>		
Platform stairway 0.97m Podesttreppe 0,97m	23.5	586555000	Railing clamp XP 40cm Geländerzwinge XP 40cm	7.7	586456000
 <p>Aluminium Width: 121 cm Pay attention to the national, technical safety regulations!</p>			 <p>Galvanised Height: 73 cm</p>		
H20 screw-on bracket for formwork sheets Schalhaut-Schraubwinkel H20	0.19	586256000	Handrail-post shoe XP Geländerschuh XP	2.2	586457000
 <p>Galvanised Height: 19.2 cm</p>			 <p>Galvanised Length: 20 cm</p>		
Lashing strap 5.00m Zurrgurt 5,00m	2.8	586018000	Handrail post XP 1.20m Geländersteher XP 1,20m	4.1	586460000
 <p>Yellow</p>			 <p>Galvanised Height: 118 cm</p>		
Doka express anchor 16x125mm Doka-Expressanker 16x125mm	0.31	588631000	Handrail post XP 1.80m Geländersteher XP 1,80m	6.0	586482000
 <p>Galvanised Length: 18 cm</p>			 <p>Galvanised Height: 176 cm</p>		
Doka coil 16mm Doka-Coil 16mm	0.009	588633000	Toeboard holder XP 0.60m Fußwehrhalter XP 0,60m	0.77	586463000
 <p>Galvanised Diameter: 1.6 cm</p>			 <p>Galvanised Height: 21 cm</p>		
Framax universal corner waling Framax-Eckklemmschiene	12.8	588151000	Toeboard holder XP 1.20m Fußwehrhalter XP 1,20m	0.64	586461000
 <p>Painted blue Leg length: 60 cm</p>			 <p>Galvanised Height: 21 cm</p>		
Retaining plate 15.0 Jochplatte 15,0	1.8	586073000			
 <p>Galvanised Length: 17 cm Width: 12 cm Height: 11 cm</p>					
Universal plug R20/25 Kombi-Ankerstopfen R20/25	0.003	588180000			
 <p>Blue Diameter: 3 cm</p>					

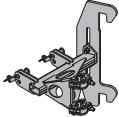
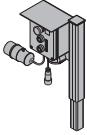




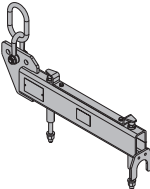
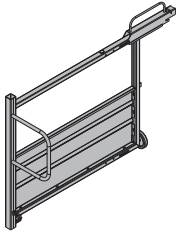
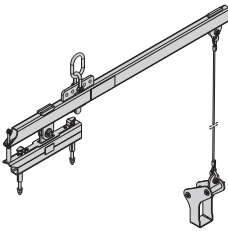
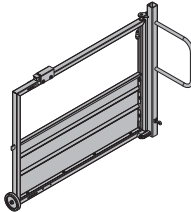

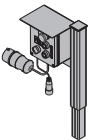
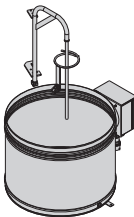
	[kg]	Article N°		[kg]	Article N°																								
<div>Protective grating XP 2.70x0.60m</div> <div>Protective grating XP 2.50x0.60m</div> <div>Protective grating XP 2.00x0.60m</div> <div>Protective grating XP 1.20x0.60m</div> <div>Schutzgitter XP</div> <div></div> <div>Galvanised</div>	10.1	586466000	<div>Handrail post 1.10m</div> <div>Schutzgeländer 1,10m</div> <div></div> <div>Galvanised</div> <div>Height: 134 cm</div>	5.5	584384000																								
<div>Protective grating XP 2.70x1.20m</div> <div>Protective grating XP 2.50x1.20m</div> <div>Protective grating XP 2.00x1.20m</div> <div>Protective grating XP 1.20x1.20m</div> <div>Schutzgitter XP</div> <div></div> <div>Galvanised</div>	22.2	586450000	<div>Attachable sleeve 24mm</div> <div>Steckhülse 24mm</div> <div></div> <div>PVC</div> <div>PE</div> <div>Grey</div> <div>Length: 16.5 cm</div> <div>Diameter: 2.7 cm</div>	0.03	584385000																								
<div>Velcro fastener 30x380mm</div> <div>Klettverschluss 30x380mm</div> <div></div> <div>Yellow</div>	0.02	586470000	<div>Screw sleeve 20.0</div> <div>Schraubhülse 20,0</div> <div></div> <div>PP</div> <div>Yellow</div> <div>Length: 20 cm</div> <div>Diameter: 3.1 cm</div>	0.03	584386000																								
<div>Handrail post T 1.80m</div> <div>Einschubgeländer T 1,80m</div> <div></div> <div>Galvanised</div>	17.7	584373000	<div>Scaffold tube 48.3mm 0.50m</div> <div>Scaffold tube 48.3mm 1.00m</div> <div>Scaffold tube 48.3mm 1.50m</div> <div>Scaffold tube 48.3mm 2.00m</div> <div>Scaffold tube 48.3mm 2.50m</div> <div>Scaffold tube 48.3mm 3.00m</div> <div>Scaffold tube 48.3mm 3.50m</div> <div>Scaffold tube 48.3mm 4.00m</div> <div>Scaffold tube 48.3mm 4.50m</div> <div>Scaffold tube 48.3mm 5.00m</div> <div>Scaffold tube 48.3mm 5.50m</div> <div>Scaffold tube 48.3mm 6.00m</div> <div>Scaffold tube 48.3mmm</div> <div>Gerüstrohr 48,3mm</div> <div></div> <div>Galvanised</div>	1.7	682026000	3.6	682014000	5.4	682015000	7.2	682016000	9.0	682017000	10.8	682018000	12.6	682019000	14.4	682021000	16.2	682022000	18.0	682023000	19.8	682024000	21.6	682025000	3.6	682001000
<div>Toeboard holder T 1.80m</div> <div>Fußwehrhalter T 1,80m</div> <div></div> <div>Galvanised</div> <div>Height: 13.5 cm</div>	0.53	584392000	<div>Screw-on coupler 48mm 50</div> <div>Anschraubkupplung 48mm 50</div> <div></div> <div>Galvanised</div> <div>Width-across: 22 mm</div>	0.84	682002000																								
<div>Handrail clamp S</div> <div>Schutzgeländerzwinge S</div> <div></div> <div>Galvanised</div> <div>Height: 123 - 171 cm</div>	11.5	580470000	<div>T ledge 21/42 2.00m</div> <div>T-Leiste 21/42 2,00m</div> <div></div> <div>Grey</div>	0.34	580196000																								
			<div>Centre bit DF 30</div> <div>Zentrumsbohrer DF 30</div> <div></div>	0.10	586081000																								

	[kg]	Article N°		[kg]	Article N°
Strip tensioner B 6.00m Bandzwinke B 6,00m  Galvanised	3.3	580394500	FreeFalcon FreeFalcon  Red Length: 225 cm Width: 208 cm Height: 235 cm Follow the directions in the "Operating Instructions"!	450.0	583034000
Strip tensioner B 5.00m Bandzwinke B 5,00m  Galvanised	3.5	580394000	Mast cover FreeFalcon Abdeckung Mast FreeFalcon  Red	3.8	583027000
Plastic mallet 4kg Kunststoffhammer 4kg  Blue Length: 110 cm	4.5	586097000	Base-plate cover FreeFalcon Abdeckung Sockelplatte FreeFalcon  Red	3.2	583026000
Universal dismantling tool Universal-Lösewerkzeug  Galvanised Length: 75.5 cm	3.7	582768000	Safety harness FreeFalcon Auffanggurt FreeFalcon  Follow the directions in the "Operating Instructions"!	1.5	583036000
Box nut 19 1/2" L Stecknuss 19 1/2" L 	0.16	580598000	Fall arrester FreeFalcon 9.00m Höhensicherungsgerät FreeFalcon 9,00m  Follow the directions in the "Operating Instructions"!	3.8	583035000
Box nut 13 1/2" Stecknuss 13 1/2" 	0.06	580576000	Fall arrester FreeFalcon 6.00m Höhensicherungsgerät FreeFalcon 6,00m  Follow the directions in the "Operating Instructions"!	3.3	583039000
Reversible ratchet 1/2" Umschaltknarre 1/2"  Galvanised	0.73	580580000			

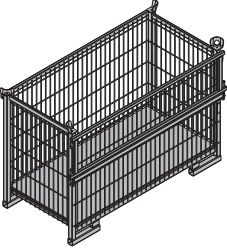
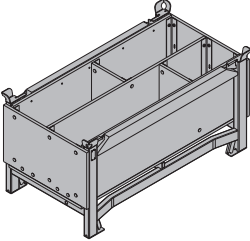
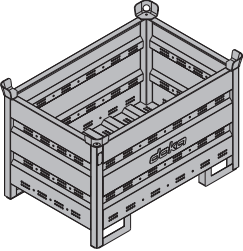
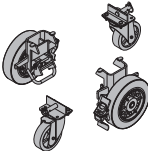
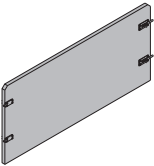
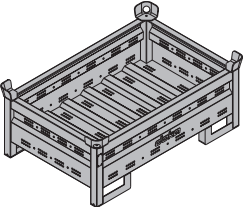
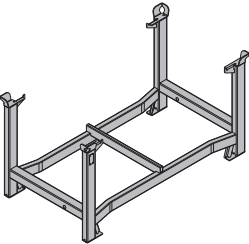
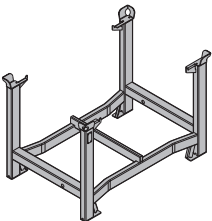
	[kg]	Article N°		[kg]	Article N°
Case for safety accessories FreeFalcon Koffer Sicherheitszubehör FreeFalcon 	1.5	583037000	Shifting trolley DF Umsetzwagen DF included in scope of supply: (A) Positioning lever for shifting trolley DF (B) Brace stirrup 8 4 pcs. Galvanised Width: 19 cm Height: 46 cm Width-across: 30 mm 	566.0	586080000
Shifting appliances for tables			Galvanised Length: 181 cm Width: 130 cm Height: 154 - 303 cm Follow the directions in the "Operating Instructions"!	6.0	586063000
DoKart plus DoKart plus included in scope of supply: (A) Brace stirrup 8 4 pcs. Galvanised Width: 19 cm Height: 46 cm Width-across: 30 mm 	1448.0	586265500		2.7	582751000
Yellow Length: 172 cm Width: 132 cm Height: 154 - 327 cm Follow the directions in the "Operating Instructions"!			Extension for shifting trolley DF Ausleger für Umsetzwagen DF Galvanised Length: 128.4 cm Follow the directions in the "Operating Instructions"!	40.0	586015000
	50.0	586266500	Attachable drive unit DF Andockantrieb DF Painted blue Length: 100 cm Width: 100 cm Height: 130 cm Follow the directions in the "Operating Instructions"!	512.0	586062000
Galvanised Length: 120 cm Follow the directions in the "Operating Instructions"!					
DoKart DoKart included in scope of supply: (A) Brace stirrup 8 4 pcs. Galvanised Width: 19 cm Height: 46 cm Width-across: 30 mm 	1580.0	586265000	Stacking frame DF Aufsatzrahmen DF Galvanised Length: 134 cm Width: 130 cm Height: 75 cm 	82.0	586079000
Yellow Length: 173 cm Width: 133 cm Height: 154 - 324 cm Follow the directions in the "Operating Instructions"!			Alu stacking frame DM DM 2.25m Alu-Aufsatzrahmen DM 2,25m Aluminium Length: 187 cm Width: 128 cm Height: 225 cm 	59.2	586238000
Extension set for DoKart Auslegersatz DoKart 	34.0	586266000			
Galvanised Length: 80 cm Follow the directions in the "Operating Instructions"!					

	[kg]	Article N°		[kg]	Article N°
Transport fork 1.3t adjustable Umsetzgabel 1,3t verstellbar	718.0	586234000	 <p>Galvanised Delivery condition: folded closed Follow the directions in the "Operating Instructions"!</p>		
		CE			
Transport-fork table-fixing part 1.3t adj. Tischfixierung Umsetzgabel 1,3t verstellbar	5.0	586260000	 <p>Galvanised Width: 21 cm Height: 21 cm</p>		
Transport fork DM 1.5t adjustable Umsetzgabel DM 1,5t verstellbar	1134.0	586233000	 <p>Galvanised Delivery condition: folded closed Follow the directions in the "Operating Instructions"!</p>		
		CE			
Transport fork DM 2.5t adjustable Umsetzgabel DM 2,5t verstellbar	1134.0	586259000	 <p>Galvanised Delivery condition: folded closed Follow the directions in the "Operating Instructions"!</p>		
		CE			
Vertical extension DM 3.30m Vertikalverlängerung DM 3,30m	240.0	586235000	 <p>Galvanised Height: 352 cm</p>		
Extension clamp H20 for fork Aufsatzklemme H20 für Gabel	4.5	586236000	 <p>Galvanised Height: 45 cm</p>		
Extension profile H20 for fork Aufsatzprofil H20 für Gabel	34.1	586237000	 <p>Galvanised Length: 83 cm Height: 52 cm</p>		
Lifting extension bracket DF 1t Ausleger DF 1t	263.0	586068000	 <p>Galvanised Delivery condition: folded closed Follow the directions in the "Operating Instructions"!</p>		
		CE			
Lifting extension bracket DF 1.5t Ausleger DF 1,5t	475.0	586064000	 <p>Galvanised Length: 456 cm Width: 82 cm Height: 386 cm Delivery condition: folded closed Follow the directions in the "Operating Instructions"!</p>		
		CE			
Transport fork DF 1t 0.90m Transport fork DF 1t 1.30m Transport fork DF 1t 2.00m Gabel DF 1t	220.0 245.0 274.0	586069000 586070000 586071000	 <p>Galvanised Length: 411 cm Height: 58 cm Follow the directions in the "Operating Instructions"!</p>		
					CE
Transport fork DF 1.5t 0.90m Transport fork DF 1.5t 1.30m Transport fork DF 1.5t 2.00m Gabel DF 1,5t	480.0 520.0 540.0	586065000 586066000 586067000	 <p>Galvanised Length: 638 cm Height: 71 cm Follow the directions in the "Operating Instructions"!</p>		
					CE
Dokamatic lifting strap 13.00m Dokamatic-Umsetzgurt 13,00m	10.5	586231000	 <p>Green Follow the directions in the "Operating Instructions"!</p>		
					CE
Lifting hook DF Umsetzbügel DF	5.9	586077000	 <p>Galvanised Length: 42 cm Width: 20 cm Height: 36 cm Follow the directions in the "Operating Instructions"!</p>		
					CE

	[kg]	Article N°		[kg]	Article N°
Table Lifting System TLS					
Basic unit TLS Basiseinheit TLS  Length: 431 cm Width: 242 cm Height: 274 cm Follow the directions in the "Operating Instructions"!	2336.0	586301000	Supporting profile TLS 5.15m Abstützprofil TLS 5,15m  Galvanised	210.0	586317000
Lifting platform TLS centre 3.00x1.60m Hubbühne TLS mitte 3,00x1,60m  Height: 139 cm	310.0	586307000	Pressure strut TLS 3.70m Druckstrebe TLS 3,70m  Galvanised	70.0	586318000
Lifting platform TLS back 3.00x1.60m Hubbühne TLS hinten 3,00x1,60m  Height: 139 cm	376.0	586308000	Floor support TLS 0.40m Deckenaufleger TLS 0,40m  Galvanised Length: 72.5 cm Width: 32.1 cm Height: 22.3 cm	39.0	586315000
Protective grating TLS 1.80m Schutzgitter TLS 1,80m  Galvanised Length: 141 cm Height: 121 cm	22.0	586334000	Adjusting device TLS Justiereinheit TLS  Galvanised Length: 42 cm Width: 16 cm Height: 16 cm	10.0	586336000
Protecting metal sheet TLS right Protecting metal sheet TLS left Schutzblech TLS  Painted yellow Length: 85 cm Width: 32 cm Height: 73 cm	12.0	586309000	Cable routing TLS Kabelführung TLS  Galvanised Length: 35 cm	2.0	586333000
Lifting mast TLS 1.50m Hubmast TLS 1,50m  Galvanised	82.0	586328000	Lifting mast anchoring TLS cross bar 0.40m Hubmastverankerung TLS Traverse 0,40m  Galvanised Length: 450 cm	92.0	586329000
			Lifting mast anchoring TLS wall Hubmastverankerung TLS Wand  Galvanised Length: 52 cm	15.5	586372000
			Lifting mast anchoring TLS strut Hubmastverankerung TLS Strebe  Galvanised Length: 153.5 cm Width: 50 cm	22.0	586331000

	[kg]	Article N°		[kg]	Article N°
Lifting mast anchoring TLS mast connection Hubmastverankerung TLS Mastanschluss  Galvanised Length: 72.6 cm Width: 66 cm	15.0	586332000	Switch box TLS landing level safety gate Schaltkasten TLS Etagentüre Height: 55 cm 	7.0	586324000
Base profile TLS 2.14m Bodenprofil TLS 2,14m  Galvanised	28.0	586312000	Control cable TLS 20.0m blue Control cable TLS 20.0m red Steuerkabel TLS	4.0 4.0	586303000 586304000
Strut for base profile TLS Strebe für Bodenprofil TLS  Galvanised Length: 257.3 cm	11.8	586313000	Bar for limit switch TLS Endschalterschiene TLS  Galvanised Length: 186 cm	5.0	586325000
Beam for landing level safety gate TLS 0.40m Träger für Etagentüre TLS 0,40m  Galvanised Length: 344 cm	35.0	586319000	Lifting cross-bar TLS 10.50m Hebetaverse TLS 10,50m  Galvanised Length: 76.5 cm	18.5	586327000
Landing level safety gate TLS with handle Etagentüre TLS mit Griff  Length: 153 cm Height: 126 cm	33.0	586321000	Lifting cross-bar TLS 15.00m Hebetaverse TLS 15,00m  Galvanised Length: 189 cm	64.0	586373000
Landing level safety gate TLS w. limit switch Etagentüre TLS mit Endscharter  Length: 153 cm Height: 126 cm	32.0	586322000	Lifting beam TLS 67kN Hebeträger TLS 67kN  Galvanised Length: 338 cm Follow the directions in the "Operating Instructions"!	68.0	586326500
Switch box TLS ground control Schaltkasten TLS Bodensteuerung  Height: 55 cm	7.0	586323000	Cable-reel set TLS 100.00m Kabeltopfset TLS 100,00m  Galvanised Height: 142 cm	133.0	586371000

doka

	[kg]	Article N°		[kg]	Article N°
Multi-trip packaging					
Doka skeleton transport box 1.70x0.80m Doka-Gitterbox 1,70x0,80m  Galvanised Height: 113 cm	87.0	583012000	Doka accessory box Doka-Kleinteilebox  Timber parts varnished yellow Steel parts galvanised Length: 154 cm Width: 83 cm Height: 77 cm	106.4	583010000
Doka multi-trip transport box 1.20x0.80m Doka-Mehrwegcontainer 1,20x0,80m  Galvanised Height: 78 cm	70.0	583011000	Bolt-on castor set B Anklemm-Radsatz B  Painted blue	33.6	586168000
Multi-trip transport box partition 0.80m Multi-trip transport box partition 1.20m Mehrwegcontainer Unterteilung  Steel parts galvanised Timber parts varnished yellow	3.7 5.5	583018000 583017000			
Doka multi-trip transport box 1.20x0.80x0.41m Doka-Mehrwegcontainer 1,20x0,80x0,41m Galvanised 	42.5	583009000			
Doka stacking pallet 1.55x0.85m Doka-Stapelpalette 1,55x0,85m  Galvanised Height: 77 cm	41.0	586151000			
Doka stacking pallet 1.20x0.80m Doka-Stapelpalette 1,20x0,80m  Galvanised Height: 77 cm	38.0	583016000			

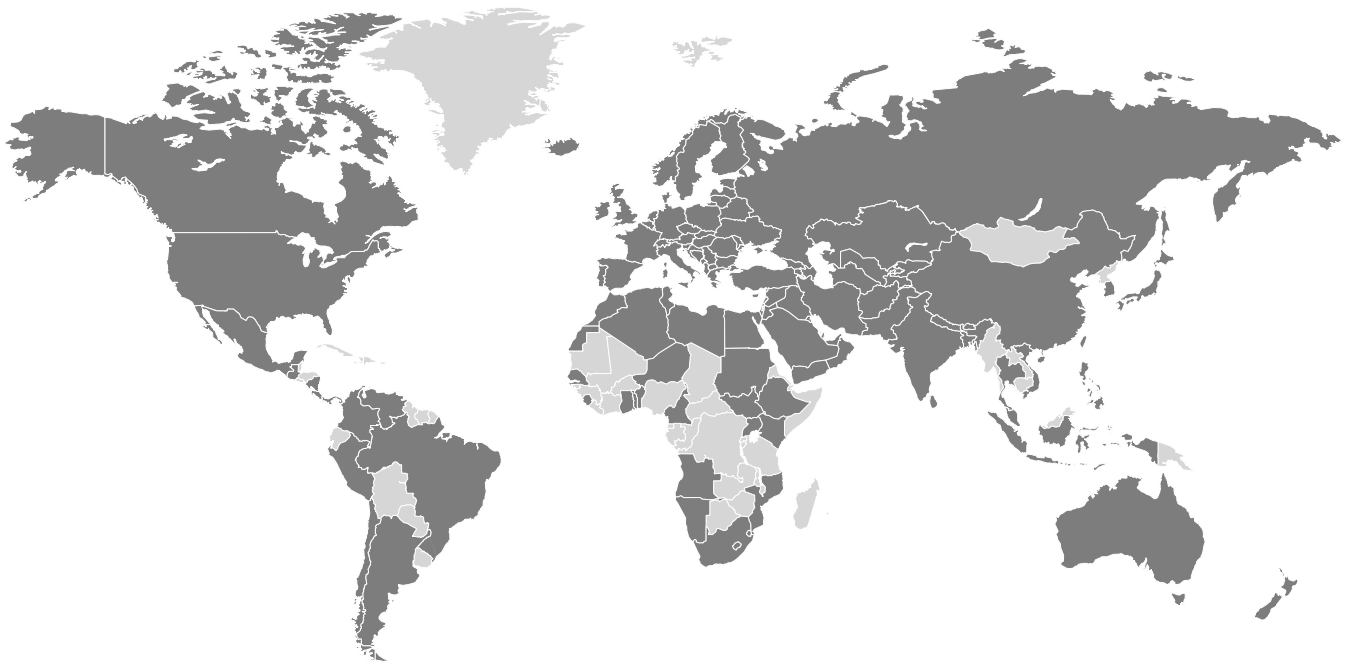
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