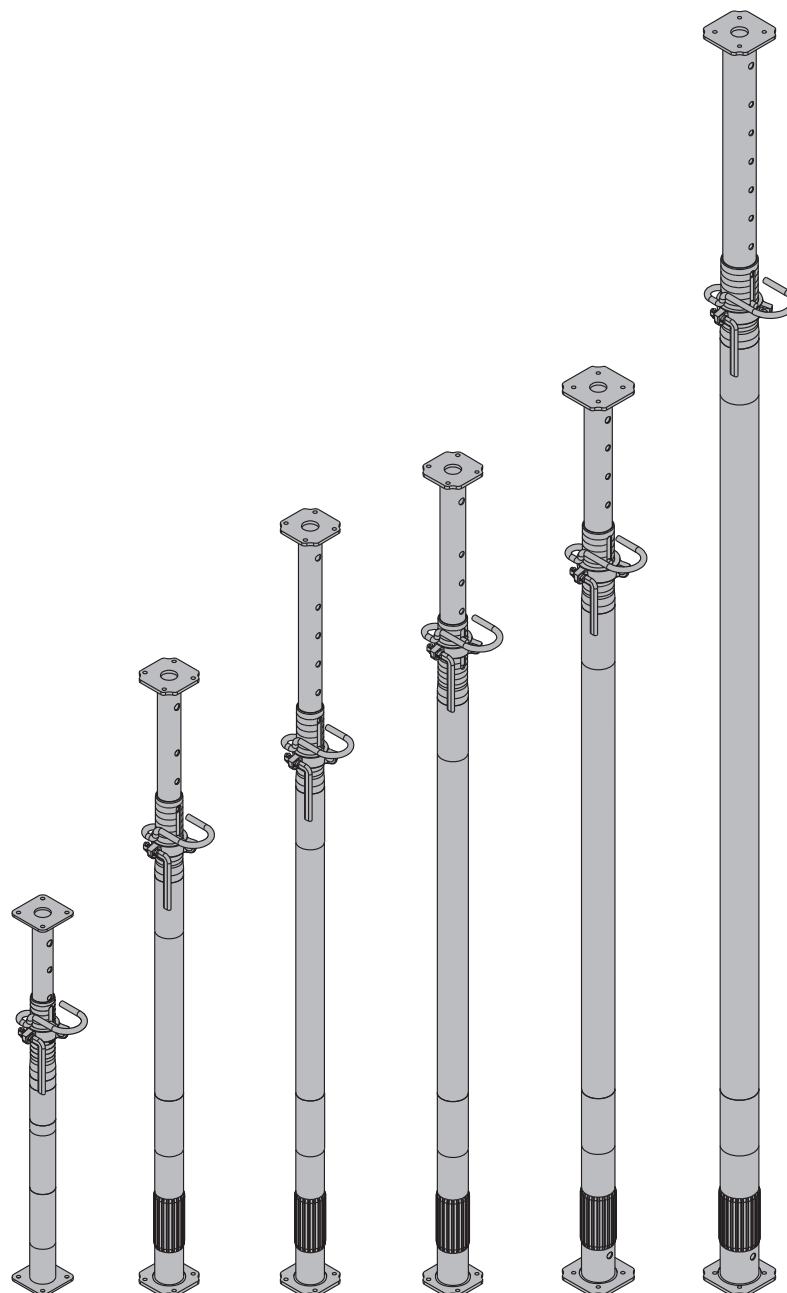


The Formwork Experts.

Floor props Eurex top

User Information

Instructions for assembly and use (Method statement)



Contents

3	Introduction
3	Elementary safety warnings
6	Doka services
8	Eurocodes at Doka
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Introduction

Elementary safety warnings

User target groups

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

Hazard assessment

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

Remarks on this booklet

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

Planning

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

Regulations; industrial safety

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

Rules applying during all phases of the assignment

- The customer must ensure that this product is erected and dismantled, reset and generally used for its intended purpose in accordance with the applicable laws, standards and rules, under the direction and supervision of suitably skilled persons. These persons' mental and physical capacity must not in any way be impaired by alcohol, medicines or drugs.
- Doka products are technical working appliances which are intended for industrial / commercial use only, always in accordance with the respective Doka User Information booklets or other technical documentation authored by Doka.
- The stability and load-bearing capacity of all components and units must be ensured during all phases of the construction work!
- Do not step on or apply strain to cantilevers, closures, etc. until suitable measures to ensure their stability have been correctly implemented (e.g. by tie-backs).
- Strict attention to and compliance with the functional instructions, safety instructions and load specifications are required. Non-compliance can cause accidents and severe injury (risk of fatality) and considerable damage to property.
- Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated a correspondingly safe distance from the formwork.
- Work has to be governed by the weather conditions (e.g. risk of slipping). In extreme weather conditions preventive measures must be implemented to secure the equipment and the surrounding areas and to protect the 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. The only articles which are allowed to be welded are those for which the Doka literature expressly points out that welding is permitted.

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in suitable condition. Steps must be taken to rule out the use of any components that are damaged, deformed, or weakened due to wear, corrosion or rot.
- Combining our formwork systems with those of other manufacturers could be dangerous, risking damage to both health and property. If you intend to combine different systems, please contact Doka for advice first.
- The equipment/system must be assembled and erected in accordance with the applicable laws, Standards and rules by suitably skilled personnel of the customer's, having regard to any and all required safety inspections.
- It is not permitted to modify Doka products; any such modifications constitute a safety risk.

Closing the formwork

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

Pouring

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

Stripping out the formwork

- Do not strip out the formwork until the concrete has reached sufficient strength and the person in charge has given the order for the formwork to be stripped out!
- When stripping out the formwork, never use the crane to break concrete cohesion. Use suitable tools such as timber wedges, special pry-bars or system features such as Framax stripping corners.
- When stripping out the formwork, do not endanger the stability of any part of the structure, or of any scaffolding, platforms or formwork that is still in place!

Transporting, stacking and storing

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

Maintenance

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

Miscellaneous

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

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

Symbols used

The following symbols are used in this booklet:



Important note

Failure to observe this may lead to malfunction or damage.



CAUTION / WARNING / DANGER

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



Instruction

This symbol indicates that actions need to be taken by the user.



Sight-check

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



Tip

Points out useful practical tips.



Reference

Refers to other documents and materials.

Doka services

Support in every stage of the project

Doka offers a broad spectrum of services, all with a single aim: to help you succeed on the site.

Every project is unique. Nevertheless, there is one thing that all construction projects have in common – and that is a basic structure with five stages. We at Doka know our clients' varying requirements. With our consulting, planning and other services, we help you achieve effective implementation of your formwork assignment using our formwork products – in every one of these stages.



Project Development Stage



Taking well-founded decisions thanks to professional advice and consulting

Find precisely the right formwork solutions, with the aid of

- help with the bid invitation
- in-depth analysis of the initial situation
- objective evaluation of the planning, execution, and time-risks



Bidding Stage



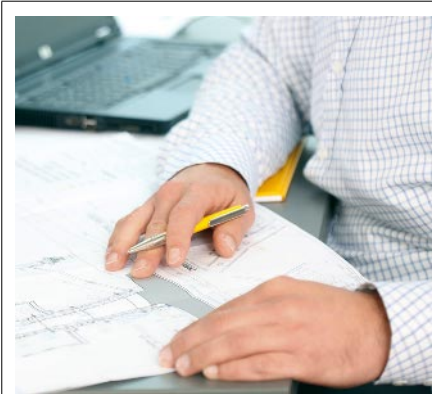
Optimising the preliminary work with Doka as an experienced partner

Draw up potentially winning bids, by

- basing them on realistically calculated guideline prices
- making the right formwork choices
- having an optimum time-calculation basis



Operations Scheduling Stage



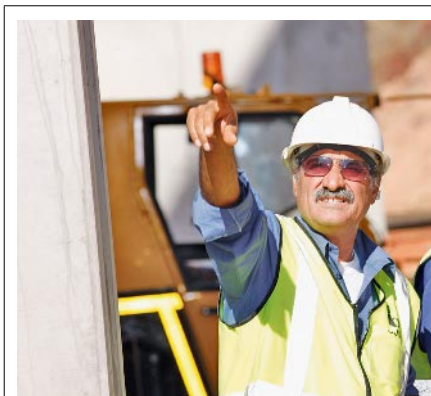
Controlled, regular forming operations, for greater efficiency resulting from realistically calculated formwork concepts

Plan cost-effectively right from the outset, thanks to

- detailed offers
- determination of the commissioning quantities
- co-ordination of lead-times and handover deadlines



Concrete Construction Stage



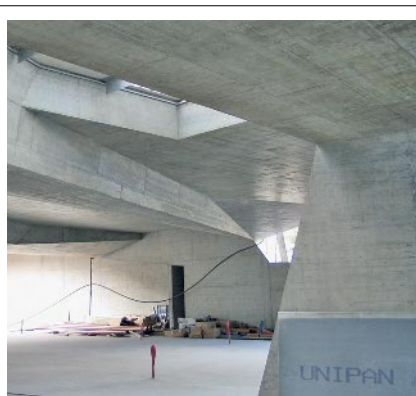
Optimum resource utilisation
with assistance from the Doka Formwork Experts

Workflow optimisation, thanks to

- thorough utilisation planning
- internationally experienced project technicians
- appropriate transport logistics
- on-site support



Project Close-out Stage



Seeing things through to a positive conclusion
with professional support

Doka Services are a byword for transparency and efficiency here, offering

- jointly handled return of rented formwork
- professional dismantling
- efficient cleaning and reconditioning using special equipment

The advantages for you
thanks to professional advice and consulting

- **Cost savings and time gains**
When we advise and support you right from the word "go", we can make sure that the right formwork systems are chosen and then used as planned. This lets you achieve optimum utilisation of the formwork equipment, and effective forming operations because your workflows will be correct.
- **Maximised workplace safety**
The advice and support we can give you in how to use the equipment correctly, and as planned, leads to greater safety on the job.
- **Transparency**
Because our services and costs are completely transparent, there is no need for improvisation during the project – and no unpleasant surprises at the end of it.
- **Reduced close-out costs**
Our professional advice on the selection, quality and correct use of the equipment helps you avoid damage, and minimise wear-and-tear.

Eurocodes at Doka

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

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

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

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

$$E_d \leq R_d$$

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

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

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

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

R_d **Design value of the resistance**
(R ... resistance; d ... design)
Design capacity of cross-section
(V_{Rd} , N_{Rd} , M_{Rd})

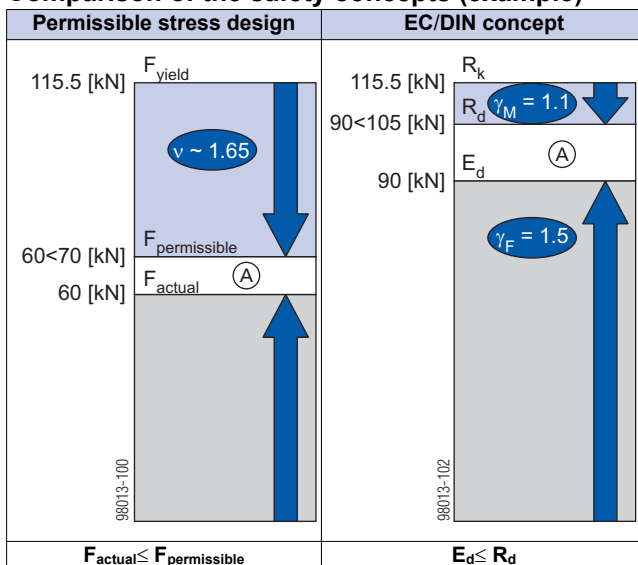
$$\text{Steel: } R_d = \frac{R_k}{\gamma_M} \quad \text{Timber: } R_d = k_{mod} \cdot \frac{R_k}{\gamma_M}$$

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

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

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

Comparison of the safety concepts (example)



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

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

Allowance has been made for the following partial factors:

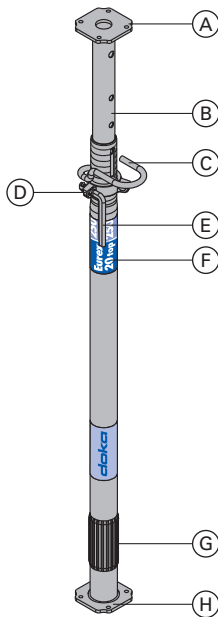
$$\begin{aligned} \gamma_F &= 1.5 \\ \gamma_{M, \text{timber}} &= 1.3 \\ \gamma_{M, \text{steel}} &= 1.1 \\ k_{mod} &= 0.9 \end{aligned}$$

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

A Utilisation factor

Product description

Doka floor props Eurex top are extendable floor props made of steel and are compliant with EN 1065. They are designed for use as vertical props for temporary structures.



- A Headplate
- B Inner tube
- C Fastening clamp
- D Adjusting nut
- E Toggle lever
- F Rating label
- G Outer tube with impact protector
- H Baseplate



You will also find information on correct usage of the **Doka floor prop Eurex 20 top 700** in the User Information booklet of the same name.

The main features:

- approved in accordance with Z-8.311-905
- EN 1065-compliant floor prop
- high load-bearing capacity
 - see the section headed 'Permitted carrying capacity'
- numbered pegging holes for height adjustment

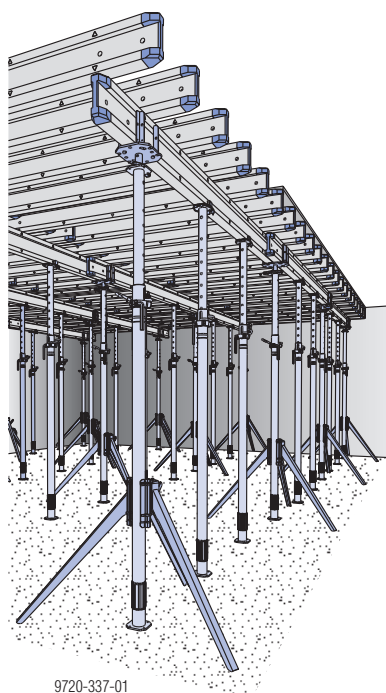


- Quick connection:
 - Head adapters of various types can be attached in a crane-handling-safe manner with the spring-locked connecting pin
- Drop-out latch:
 - For safety reasons, Doka props have latches to prevent the inner tube sliding out of the outer tube.
- the special geometry of the thread, which makes the prop easier to release even when it is under high load

- When the prop is pushed in all the way, it still leaves a clear 10 cm gap so that the operator's hands are not trapped.
- elbowed fastening clamps, reducing the risk of injury and making the props easier to operate
- galvanised, long-life constructional design
- Impact protector:
 - Optimum protection against damage when adjusting/setting up the prop using the Plastic mallet 4kg.
 - The following props do not have an impact protector:
 - Eurex 20 top 150
 - Eurex 30 top 550

Practical examples

Doka Floor Systems



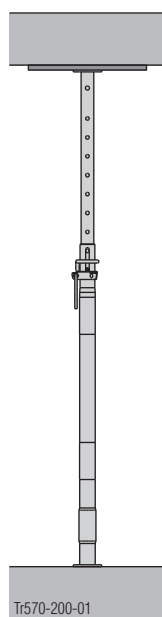
9720-337-01

- Dokaflex
- Doka Xtra
- Dokamatic table
- Dokaflex table



Follow the directions in the relevant User Information booklet!

Temporary reshores

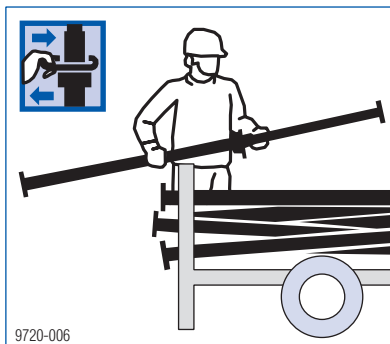


Instructions for assembly and use (Method statement)

Setting up with tripod

Applies only for use as free-standing props. Comply with the instructions in the applicable user information document when using the props in combination with a formwork system.

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



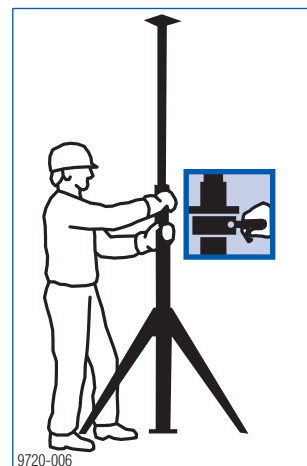
The holes are all numbered, which makes it easier to adjust the props to the same height.

- Put up each removable folding tripod.
- Put the floor prop into the tripod and fix it in place with the clamping lever.

Before stepping onto the formwork, check again to make sure that the props have been correctly fixed in the tripods.



- With the prop upright, use the adjusting nut for precision adjustment.



- 👁 The fastening clamp has to be pushed all the way into the floor prop.

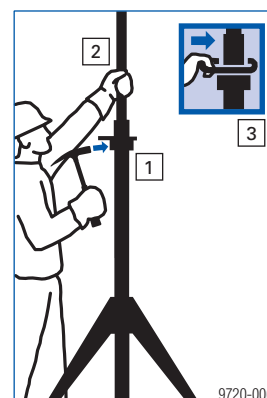


Setting up without tripod

- To prevent toppling, use the Supporting head H20 DF to secure intermediate props on the floor formwork (see Dokaflex 1-2-4 or Doka Xtra User Information booklets, as applicable).
- When using props as temporary reshoring, press them sufficiently tightly to the underside of the floor slab so that they cannot topple.

Backing off floor props under load

- 1) Use a hammer to back off the adjusting nut.
- 2) Hold the inner tube with one hand.
- 3) Open the fastening clamp to unfix the inner tube. Guide this by hand while lowering it into the outer tube.



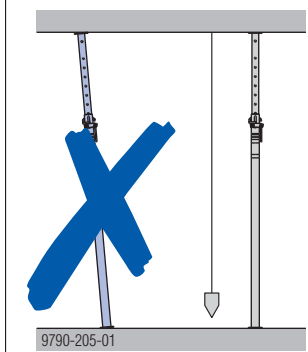
Possible incorrect usages



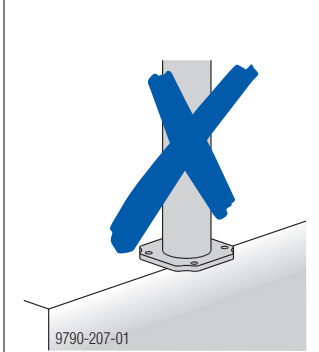
WARNING

► The uses illustrated below are prohibited, as are other, similar uses!

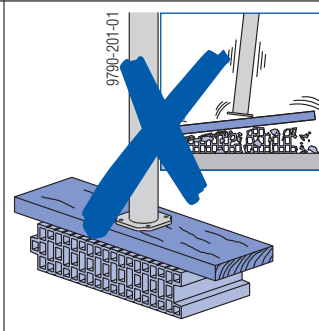
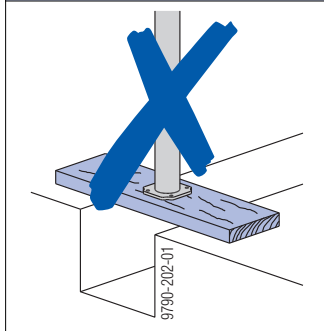
Use only perfectly upright and plumb.



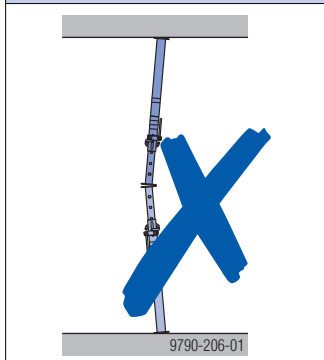
Baseplate must make full-surface contact with the ground.



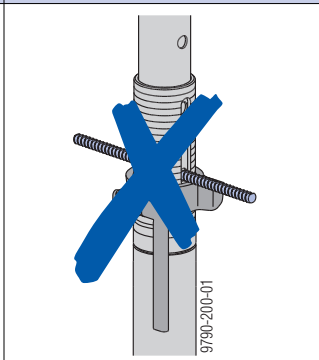
Place only on ground of adequate load-bearing strength.



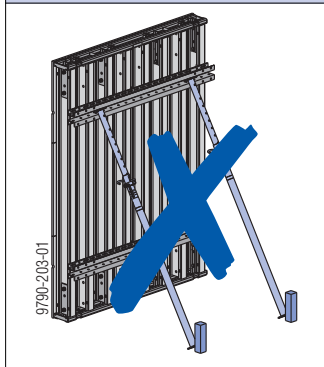
Do not attempt to use floor props one on top of another.



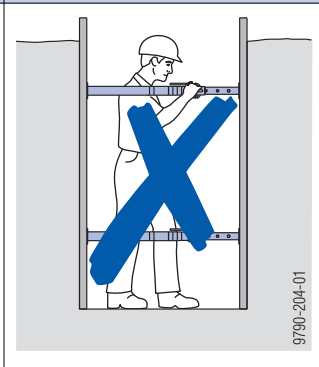
Do not use anchor rods or lengths of rebar as substitutes for the fastening clamps.



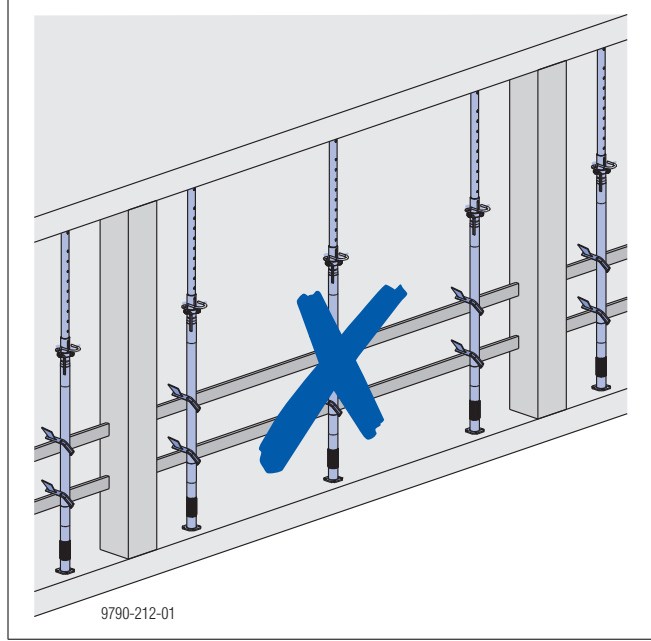
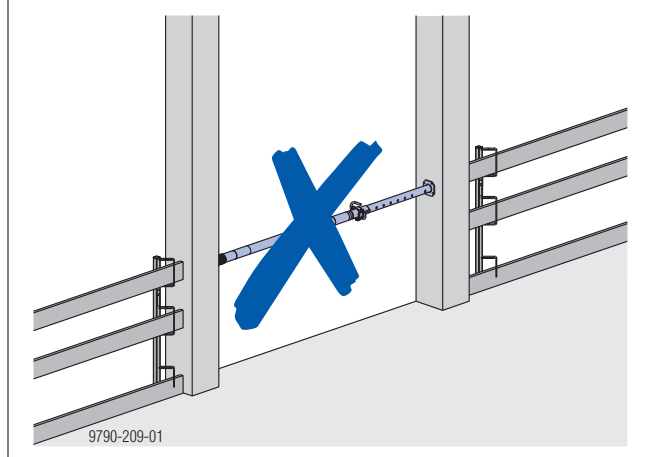
Do not use to support formwork panels.



Do not use as trenching braces.



Do not use as barrier to close off openings.



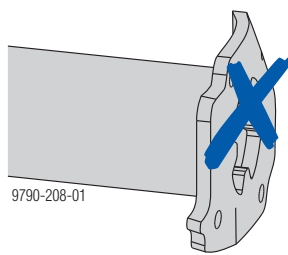
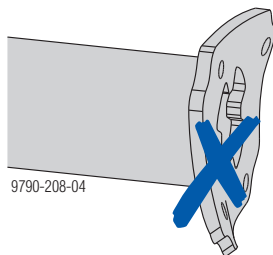
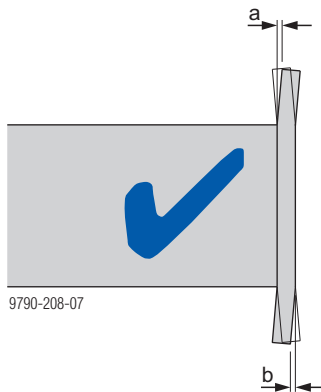
Technical condition

The following quality criteria define the extent of damage permissible in terms of load-bearing strength. Use is prohibited if damage is beyond these limits.

Outer tube - inner tube

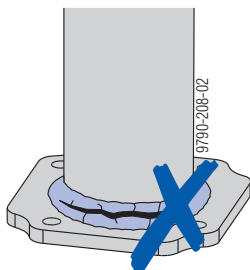
Head plate or baseplate bent out of shape

- **a max. 1 mm** outward and
- **b max. 3 mm** inward is permissible



Cracks in welds

- Not permissible.



Threads

- must be greased over entire length and action must be smooth.

Inner tube

- When the inner tube is rotated inside the outer tube so that the U-bolt fixing-holes of both tubes are lined up, it must be possible to fully extend and retract the inner tube.

Widening

- of the pegging holes in the inner tube is permissible up to 2 mm.

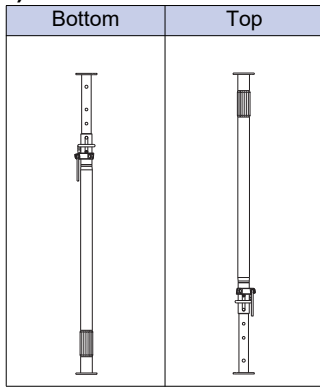
Permitted carrying capacity

Used as free (non-system-dependent) construction props

Permitted capacities [kN] as a function of the extension length and the position of the outer tube (as per Gen. Building-Inspectorate Approval Z-8.311-905)

Prop length [m]	Eurex 20 top										Eurex 30 top										Position of outer tube*)	Prop category to EN 1065					
	150		250		300		350		400		550		250		300		350		400				450		550		
	Top or bottom	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom	Top	Bottom			Top	Bottom	Top	Bottom	Top
	D15	B25 D25	C25 D25	B30 D30	C30 D30	C35 D35	C40 D40	C40 D40	C55 D55	C55 D55																	
5.5											20.6	22.7															
5.4											21.6	23.9															
5.3											22.5	25.2															
5.2											23.6	26.5															
5.1											24.7	27.9															
5.0											25.8	29.4															
4.9											27.2	31.0															
4.8											28.7	32.5															
4.7											30.1	34.2															
4.6											31.6	35.9															
4.5											33.2										32.7	34.5					
4.4											34.9										34.8	36.8					
4.3																					36.8	39.2					
4.2																					39.2						
4.1																											
4.0																											
3.9											21.5	24.8															
3.8											23.0	26.8															
3.7											24.4	28.7															
3.6											26.0	30.8															
3.5											27.7	33.2															
3.4											20.8	24.5	29.4	35.5													
3.3											22.3	26.7	31.0														
3.2											23.8	28.9	32.4														
3.1											25.4	31.3	33.5														
3.0											27.1	34.0	34.5														
2.9											20.7	24.8	28.8														
2.8											22.4	27.4	29.6														
2.7											24.0	29.9	30.5														
2.6											25.3	32.6	31.5														
2.5											26.2	35.3	32.7														
2.4		20.2	24.8	27.0							33.9	36.7	36.7														
2.3		21.3	27.2	27.8							35.0																
2.2		22.5	29.5	28.7							36.1																
2.1		23.3	31.9	29.8							36.7																
2.0		24.0	34.3	31.1							36.7																
1.9		24.6		32.4																							
1.8		25.8		34.0																							
1.7		26.9	36.7	35.6																							
1.6		28.4																									
1.5		30.1																									
1.4		31.8																									
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1.0																											

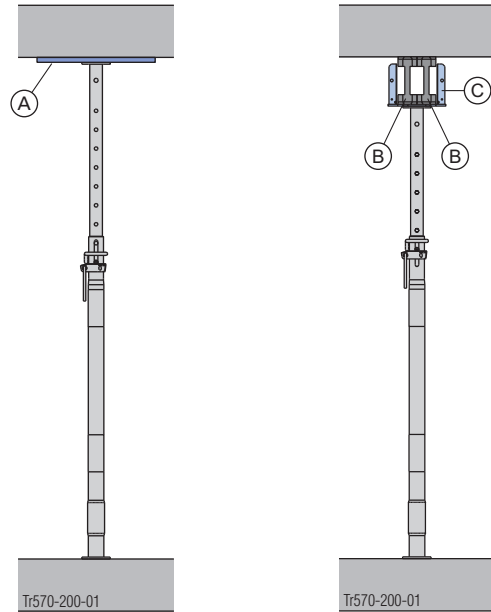
***) Position of outer tube**



When used in Dokamatic and Dokaflex tables, or as temporary reshoring (with props restrained)

Permitted load-bearing capacity [kN]

Prop. length [m]	Eurex 20 top						Eurex 30 top					
	150	250	300	350	400	550	250	300	350	400	450	550
5.5						30						
5.4						32						
5.3						34						
5.2												
5.1												
5.0												
4.9												
4.8												
4.7												
4.6												
4.5												
4.4												
4.3												
4.2												41.2
4.1												36.7
4.0						30						
3.9						32						
3.8						34						
3.7												
3.6												
3.5						30						41.2
3.4						32						
3.3						34						
3.2												
3.1												
3.0						30						
2.9						32						
2.8						34						
2.7												
2.6												
2.5												
2.4												
2.3												
2.2												
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1.5												
1.4												
1.3												
1.2												
1.1												
1.0												



- A** Formwork sheet
- B** Doka beam H20
- C** Lowering head H20 or 4-way head H20



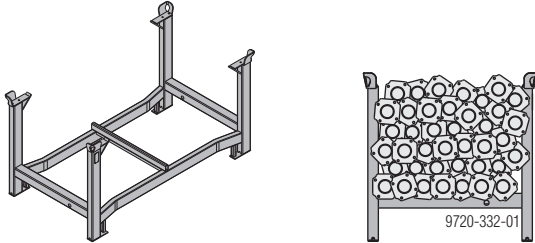
When used as temporary reshoring:

The baseplate stands directly on the floor, the headplate is directly against the slab (a formwork panel or 2 Doka beams H20 can be used as packers at top).

Transporting, stacking and storing

Doka stacking pallet 1.55x0.85m

- Ideal for all sizes of floor props, timber formwork beams, Dokadur panels and formwork sheets.
- Galvanised - stackable - safe to lift by crane.



Max. load: 1100 kg

Loading capacity of the stacking pallet:

Doka floor props	
Eurex 20 top 250, 300 and 350	40 units
Eurex 20 top 400 and 550	30 units
Eurex 20 top 700	20 units
Eurex 30 top 250 and 300	40 units
Eurex 30 top 350, 400 and 450	30 units
Eurex 30 top 550	24 units

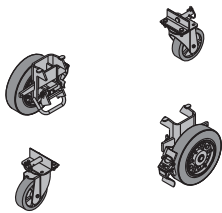


Follow the directions in the Operating Instructions!

Bolt-on castor set B

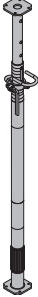
The Bolt-on caster set B turns the stacking pallet into a fast and manoeuvrable transport trolley.

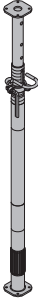
Suitable for drive-through access openings > 90 cm.





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

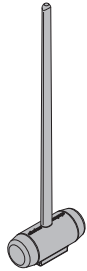
- Doka stacking pallets
- Doka accessory box

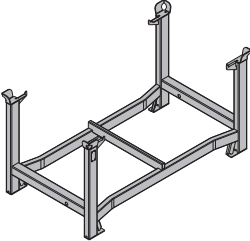
	[kg]	Article n°
Doka floor prop Eurex 20 top 150 Length: 92 - 150 cm	8.0	586096000
Doka floor prop Eurex 20 top 250 Length: 148 - 250 cm	12.7	586086400
Doka floor prop Eurex 20 top 300 Length: 173 - 300 cm	14.3	586087400
Doka floor prop Eurex 20 top 350 Length: 198 - 350 cm	17.4	586088400
Doka floor prop Eurex 20 top 400 Length: 223 - 400 cm	21.6	586089400
Doka floor prop Eurex 20 top 550 Length: 298 - 550 cm	32.3	586090400
Doka-Deckenstütze Eurex 20 top Galvanised		
		

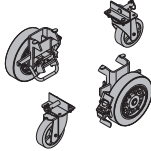
Doka floor prop Eurex 30 top 250 Length: 148 - 250 cm	12.8	586092400
Doka floor prop Eurex 30 top 300 Length: 173 - 300 cm	16.4	586093400
Doka floor prop Eurex 30 top 350 Length: 198 - 350 cm	20.7	586094400
Doka floor prop Eurex 30 top 400 Length: 223 - 400 cm	24.6	586095400
Doka floor prop Eurex 30 top 450 Length: 248 - 450 cm	29.1	586119400
Doka floor prop Eurex 30 top 550 Length: 303 - 550 cm	38.6	586129000
Doka-Deckenstütze Eurex 30 top Galvanised		
		

Removable folding tripod top Stützbein top	12.0	586155500
Galvanised Height: 80 cm Delivery condition: folded closed		
		

Removable folding tripod Stützbein	15.6	586155000
Galvanised Height: 80 cm Delivery condition: folded closed		
		

	[kg]	Article n°
Plastic mallet 4kg Kunststoffhammer 4kg	4.5	586097000
Blue Length: 110 cm		
		

Doka stacking pallet 1.55x0.85m Doka-Stapelpalette 1,55x0,85m	41.0	586151000
Galvanised Height: 77 cm		
		

Bolt-on castor set B Anklemm-Radsatz B	33.6	586168000
Painted blue		
		

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

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

technical support are provided swiftly and professionally.

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



www.doka.com/floor-props