

# The Formwork Experts.

# Floor props Eurex eco

# **User Information**

Instructions for assembly and use



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# Introduction

# **Basic 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 utilization 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 insure that the information materials provided by Doka (e.g. User Information booklets, Method Statements, Operating Instruction manuals, plans etc.) are up to date and available to all users, and that users have been made aware of them and have easy access to them at the usage location.
- In the relevant technical documentation and formwork utilization 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 must ensure compliance with the national applicable laws, standards and rules 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 utilize the system. It does not substitute for these, however.

### **Remarks on this booklet**

- This document can be used as general Instructions for Assembly and Use (Method Statement) or be incorporated into site-specific Instructions for Assembly and Use (Method Statement).
- The graphics, animations and videos in this document or app sometimes depict partially assembled assemblies and may require additional safety equipment and/or measures to comply with safety regulations.

The customer must ensure all applicable regulations are complied with, even if they are not shown or implied in the graphics, animations and videos provided.

 Individual sections contain further safety instructions and/or special warnings as applicable.

# Planning

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

# Regulations; occupational health & safety

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

- The customer shall ensure that this product is erected and dismantled, repositioned 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 shall 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).
- The functional / technical instructions, safety warnings and loading data shall all be strictly observed and complied with. Non-compliance can cause accidents and severe injury (risk of fatality) and serious damage to property.
- Sources of fire in the vicinity of the formwork are prohibited. Heaters are permissible only when used correctly and situated a correspondingly safe distance from the formwork.
- Customer must give due consideration to any and all effects of the weather on the equipment and regards both its use and storage (e.g. slippery surfaces, risk of slipping, effects of the wind, etc.) and implement appropriate precautionary measures to secure the equipment and surrounding areas and to protect workers.
- All connections must be checked at regular intervals to ensure that they are secure and in full working order.

In particular threaded connections and wedged connections have to be checked and retightened as necessary in accordance with activity on the jobsite and especially after out-of-the-ordinary occurrences (e.g. after a storm).

 It is strictly prohibited to weld or heat Doka products, particularly parts for anchoring, suspension or connecting, and also cast parts, etc.

Welding radically changes the micro-structure of the materials of which these components are made. This leads to a drastic reduction in failure load, constituting a serious safety risk.

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. Welding work can be done only on the articles expressly mentioned in the Doka documents as being suitable for work of this nature.

# 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 components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).
- The use of our safety systems and formwork systems in combination with those of other manufacturers could be dangerous, risking injury to health and damage to property, and therefore requires separate verification by the user.
- 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.

### **Erecting the formwork**

 Doka products and systems must be set up in such a way that all loads acting upon them are safely transferred!

### Pouring

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

### Stripping the formwork

- Do not strip the formwork until the concrete has reached sufficient strength and the person in charge has given the order for the formwork to be stripped!
- When stripping 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 S bias-cut corners.
- When stripping 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 booklet, 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 authorized facilities.

### **Miscellaneous**

The weights are averages on the basis of new material. Actual weights can vary due to material tolerances. Weights can also differ on account of dirtying, moisture absorption, etc.

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

# **Symbols**

The following symbols are used in this document:

# DANGER

This is a notifier drawing attention to an extremely dangerous situation in which noncompliance 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.



### NOTE

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.



#### Visual inspection

Indicates that actions performed must be checked by means of a visual inspection.



### Tip

Draws attention to a useful tip for best-practice usage.



### Reference

Cross-references other documents.

# **Services**

# Support in every phase of the project

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

#### Project assistance from start to finish

Every project is unique and calls for individualized 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 customized training courses.

#### Efficient planning for a safe project sequence

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

#### Optimize construction workflows with Doka

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

#### Custom formwork and on-site assembly

Doka complements its system formwork with customized formwork units. Specially trained personnel assemble load-bearing towers and formwork on site.

#### Just-in-time availability

Formwork availability is vital for on-time, on-budget realization of your project. 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 client-owned equipment and Doka rental equipment.





### upbeat construction

digital services for higher productivity

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

# **Product description**

Doka floor props Eurex Eco are extendable floor props made of steel. They are designed for use as vertical props for temporary structures.



#### A Head-plate

- B Inner tube
- $\textbf{C} \hspace{0.1in} \text{Fastening clamp}$
- D Adjusting nut
- E Toggle lever
- F Type label
- G Outer tube
- H Footplate

The main features:

- load-bearing capacity
  - see the section headed 'Permissible load-bearing capacities'
- Numbered pegging holes for easier height adjustment



- Quick connection: Head adapters of various types can be secured against pull 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.
- Special thread geometry makes the props easier to release even under high load
- When the prop is fully retracted, a 4" (10 cm) gap remains so that the operator's hands are not trapped.
- galvanized and durable

# **Practical examples**

### **Doka Floor Systems**



# Temporary reshore



- Dokaflex 1-2-4
- Doka Xtra
- Dokamatic table
- Dokaflex table



Follow the directions in the relevant User Information booklet!

# Instructions for assembly and use

# Set-up with folding tripod

### CAUTION

Is not a substitute for bracing on supporting systems.

Only use for holding floor props upright!

| Possible clamping ranges of removable folding | ng tri- |
|-----------------------------------------------|---------|
| pods:                                         |         |

| Removable folding tripod | top           |               | 1.20m         |               |
|--------------------------|---------------|---------------|---------------|---------------|
| Doka floor prop          | Outer<br>tube | Inner<br>tube | Outer<br>tube | Inner<br>tube |
| Eurex 20 eco 250         | √             | _             | _             | —             |
| Eurex 20 eco 300         | √             | _             | _             | —             |
| Eurex 20 eco 350         | √             | _             | _             | —             |
| Eurex 20 eco 400         | √             | √             | $\checkmark$  | —             |
| Eurex 20 eco 450         | √             | √             | $\checkmark$  | —             |
| Eurex 20 eco 550         | —             | √             | √             | √             |
|                          |               |               |               |               |
| Eurex 30 eco 250         | ✓             |               | —             | —             |
| Eurex 30 eco 300         | √             | —             | —             | —             |
| Eurex 30 eco 350         | √             | √             | $\checkmark$  | —             |
| Eurex 30 eco 400         | 1             | $\checkmark$  | $\checkmark$  | $\checkmark$  |
| Eurex 30 eco 450         | _             | $\checkmark$  | $\checkmark$  | $\checkmark$  |

This is for free-standing props. When using the props in a system, follow the directions in the applicable User Information booklet.

 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.

Set up each removable folding tripod.

Put the floor prop into the tripod and fix it in place with the clamping lever.

Before anybody steps onto the formwork, check again to make sure that the props have been correctly secured.



Precision-adjust by turning the adjusting nut of the upright prop.



- When setting up the floor prop, make sure that the fastening clamp is pushed all the way into the floor prop.
  - Turn the adjusting nut until it is in contact with the fastening clamp.



### Set-up without folding tripod

- To prevent them from tipping over, secure intermediate props for floor-slab formwork with Supporting heads H20 DF (see the 'Dokaflex 1-2-4' or, as applicable, 'Doka-Xtra' User Information booklet).
- When setting up props for temporary reshoring, tighten them firmly enough against the slab structure to ensure that they cannot tip over.

# Backing off and removing floor props

- Use a hammer to release the adjusting nut, then spin it to lower the floor prop.
- > Turn the floor prop to the horizontal position.
- If necessary, open the fastening clamp and push the inner tube into the outer tube.
- Lay the floor prop in the stacking pallet.

# **Possible misuses**





# **Technical condition**

The following quality criteria define the statically permitted degree of damage or weakening. Use is prohibited if damage is more extensive.

# Outer tube - inner tube

### Bending of head-plate and footplate

- a max. 1/32" (1 mm) outward and
- b max. 1/8" (3 mm) inward permitted



### Weld cracks

not permissible.



### Thread

must be greased and free-running over entire length.

### Inner tube

 In the position in which the holes for insertion of the fastening clamp are aligned, the inner tube must be movable over the full usable length.

### Enlargement

 of the holes in the inner tube, permissible up to <sup>1</sup>/<sub>16</sub>" (2 mm).

# **Permissible load-bearing capacities**

#### Permissible load-bearing capacities in accordance with ANSI A10.9-2013 and ANSI/SSFI SH300-2007

| Floor prop                                      | Use as free construction prop and as<br>temporary reshore in the USA, factor of<br>safety (FoS) 3:1 | Use as temporary reshore in Canada,<br>FoS 2.5:1 |
|-------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------|
| Eurex 20 eco                                    | 6 kip (26.7 kN)                                                                                     | 7.2 kip (32.0 kN)                                |
| Eurex 30 eco                                    | 8.5 kip (37.8 kN)                                                                                   | 10.2 kip (45.3 kN)                               |
| Eurex 30 eco with extension 50 cm <sup>1)</sup> | 7.8 kip (34.7 kN)                                                                                   | 9.4 kip (41.6 kN)                                |

1) In Dokamatic and Dokaflex table configurations, it is permissible to use floor props with extensions up to a length of 14'-91/2" (4.5 m).

<sup>1)</sup> Except Eurex 30 550 - no values available

#### Note:

It is not permissible to use the Floor prop extension 0.50m with the Floor prop Eurex 20 eco.



#### NOTICE

When used as temporary reshore:

The head-plate and footplate are seated directly against the slab (packing with a strip of formwork sheeting or 2 Doka beams H20 is permissible).



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

# Transporting, stacking and storing

### Doka stacking pallet 1.55x0.85m

Storage and transport devices for long items:

- durable
- stackable

Suitable transport appliances:

- crane
- pallet stacking truck
- forklift truck

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



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



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

#### Loading capacity of the stacking pallet:

| Doka floor props              |          |
|-------------------------------|----------|
| Eurex 20 eco 250, 300 and 350 | 40 units |
| Eurex 20 eco 400              | 35 units |
| Eurex 20 eco 450 and 550      | 30 units |
| Eurex 30 eco 250 and 300      | 40 units |
| Eurex 30 eco 350              | 35 units |
| Eurex 30 eco 400 and 450      | 30 units |

### NOTICE

- Multi-trip packaging items that each contain very different loads must be stacked with the heaviest ones at the bottom and the lightest ones at the top!
- The rating plate must be in place and clearly legible.

### Using Doka stacking pallets as storage units

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

| Outdoors (on the site)                               | Indoors                 |
|------------------------------------------------------|-------------------------|
| Floor gradient up to 3%                              | Floor gradient up to 1% |
| 2                                                    | 6                       |
| Do not stack empty pallets on top<br>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 caster set B:
  - Always apply the fixing brake when the container is 'parked'.
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with a bolt-on caster set mounted to it.

# Using Doka stacking pallets as transport devices

#### Lifting by crane

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### NOTICE

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



a ... max. 14'-9<sup>1</sup>/<sub>16</sub>" (4.5 m)

NOTICE

# Shifting boxes with the forklift or pallet stacking truck

# 1

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









# Near to you, worldwide

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

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

technical support are provided swiftly and professionally.

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





www.doka.com/floor-props