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Formwork & Scaffolding.
We make it work.

Alignment struts DokaRex

User Information

Instructions for assembly and use (Method statement)

Contents

Introduction

Elementary safety warnings

User target groups

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

Hazard assessment

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

Remarks on this booklet

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

Planning

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

Regulations; industrial safety

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

Rules applying during all phases of the assignment

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

Assembly

- The equipment/system must be inspected by the customer before use, to ensure that it is in an acceptable condition. Steps must be taken to exclude components that are damaged, deformed, or weakened due to wear, corrosion or rot (e.g. fungal decay).
- Using our safety and formwork systems together with those of other manufacturers can create risks that may lead to injury and damage to property. This requires separate verification by the user.
- The equipment/system must be assembled and erected in accordance with the applicable laws, standards and rules by trained customer personnel whilst maintaining any applicable safety inspections that may be required.
- It is not permitted to modify Doka products; such modifications constitute a safety risk.

Closing the formwork

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

Pouring

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

Stripping the formwork

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

Transporting, stacking and storing

- Observe all country-specific regulations applying to the handling of formwork and scaffolding. For system formwork the Doka slinging means stated in this booklet must be used – this is a mandatory requirement.
  If the type of sling is not specified in this document, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.
- When lifting, always make sure that the unit to be lifted and its individual parts can absorb the forces that occur.
- Remove loose parts or secure them so that they cannot slip out of position and drop.
- When lifting formwork or formwork accessories with a crane, no persons must be carried along, e.g. on working platforms or in multi-trip packaging.
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this document!

Maintenance

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

Miscellaneous

The weights as stated are averages for new material; actual weights can differ, depending on material tolerances. Dirt accretions, moisture saturation, etc. can also affect weight.
We reserve the right to make alterations in the interests of technical progress.

Eurocodes at Doka

The permissible values stated in Doka documents (e.g. F_{perm} = 70 kN) **are not design values** (e.g. F_{Rd} = 105 kN), unless specified**!**

- 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:

- γ_F = 1.5
- $\gamma_{M,\ timber}$ = 1.3
- $\gamma_{M,\ steel}$ = 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.

System description

The DokaRex alignment strut is quickly installed and easy to adjust.

Versatile

- The DokaRex connection heads allow the struts to be used in numerous areas of construction:
  Precast concrete member: with standard heads
  Formwork: with pin set and Doka prop heads
  Timber construction: with DokaRex docking head TC
  Multi-purpose waling and UniKit: with DokaRex waling connector

Ergonomic

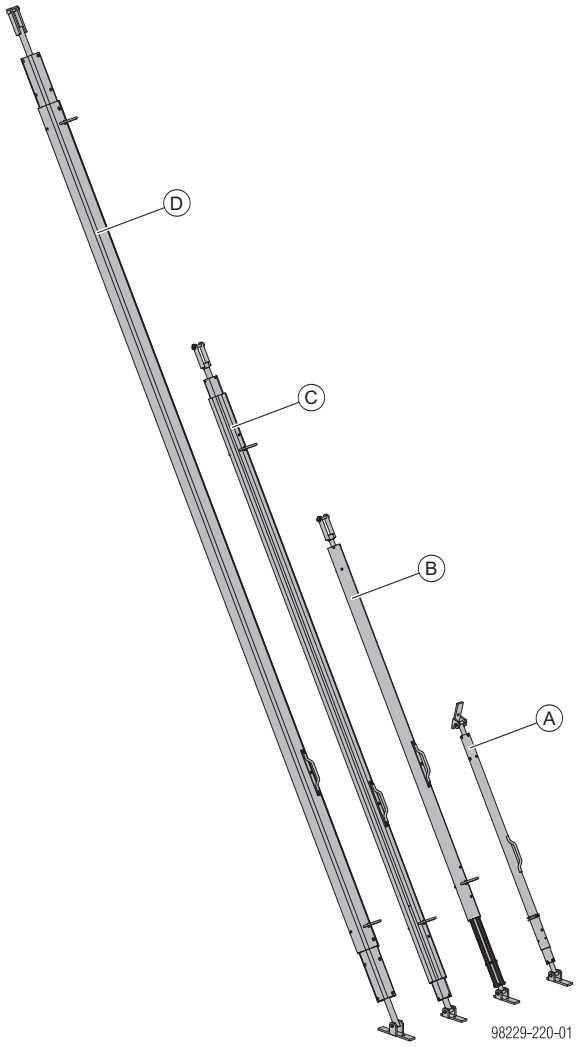
- Lightweight, ergonomic design facilitates convenient working, straightforward handling and extremely easy adaptation to the construction project.
- The handle of the DokaRex alignment strut is set conveniently close to ground level for precision adjustment.

Fast and precise

- Only 4 strut types gaplessly cover a range of lengths from 1.80 m to 10.20 m. An integral anti-twist lock and a fastening bolt ensure easy, fast length adjustment.
- The low weight and the fine-pitch thread enable speedy set-up and precision adjustment, leading to higher productivity and lower costs for crane time.

Durable

- The DokaRex alignment strut 305 IB is made of steel, with high-quality galvanisation for a long service life.
- The three longer strut types are all made of aluminium. The extruded aluminium profile is highly resistant to damage and weathering. The powder-coated finish ensures speedy cleaning and prevents concrete adhesion to the strut.

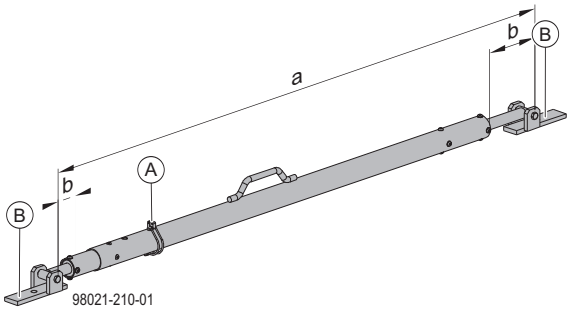


A DokaRex alignment strut 305 IB
B DokaRex alignment strut 450 IB
C DokaRex alignment strut 750 IB
D DokaRex alignment strut 1020 IB

DokaRex alignment struts in detail

Note:
Shown in as-delivered condition.

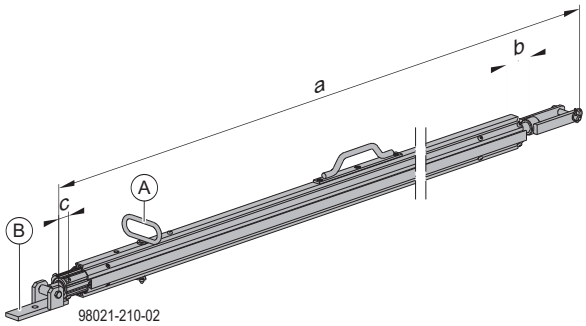
DokaRex alignment strut 305 IB



a ... 180.0 - 305.0 cm
b ... max. extension length of screw jack U-head and foot: 15.3 cm

A Fastening pin
B DokaRex strut shoe EB M16

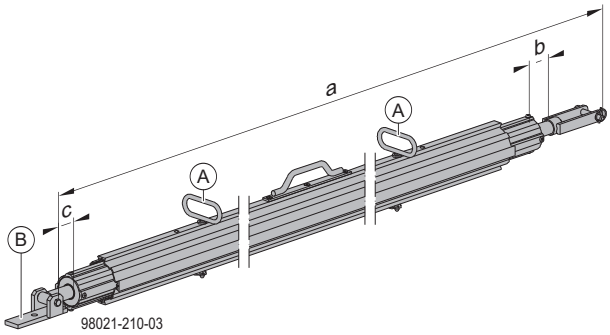
DokaRex alignment strut 450 IB



a ... 305.0 - 450.0 cm
b ... max. extension length of screw jack U-head: 14.3 cm
c ... max. extension length of screw jack foot: 15.3 cm

A Fastening pin
B DokaRex strut shoe EB M16

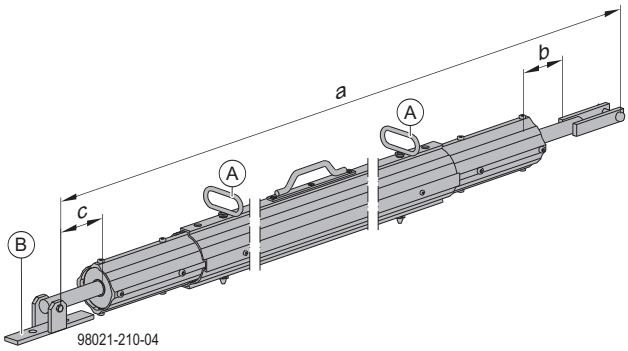
DokaRex alignment strut 750 IB



a ... 445.0 - 750.0 cm
b ... max. extension length of screw jack U-head: 14.3 cm
c ... max. extension length of screw jack foot: 15.3 cm

A Fastening pin
B DokaRex strut shoe EB M16

DokaRex alignment strut 1020 IB

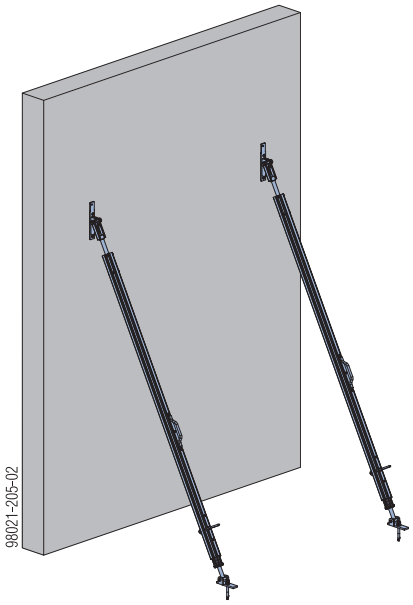


a ... 708.0 - 1020.0 cm
b ... max. extension length of screw jack U-head: 24.5 cm
c ... max. extension length of screw jack foot: 26.9 cm

A Fastening pin
B DokaRex strut shoe EB M16/M20

Used on pre-cast concrete members

Assembly



NOTICE

- Each precast member must be supported by at least 2 struts.
- Use struts only on the vertical precast member.
- The secure installation and supporting of precast members requires the strut to be anchored to the ground and to the precast member in such a way that it is resistant to tensile and compressive loads.
- Always anchor the strut at $^{2}/_{3}$ of the height of the precast member.
- Use a suitable attachment.
- Before the type of anchorage can be decided, the design and load-calculation (wind loads, loads from working platforms etc.) for the shoring must be carried out in accordance with the relevant standards.
- Observe the permissible load-bearing capacity of the struts and shoes.
- Any application that deviates from the information in this document must be assessed and calculated separately!

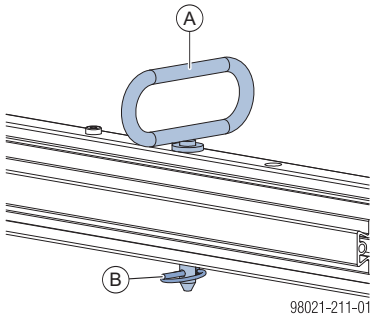
Erection sequence

1. Roughly adjust the extension length

WARNING

➤ The fastening pin is only for rough adjustment of the plumbing accessory. Do not attempt to remove or release the safety pin under load.

➤ Insert fastening pin **(A)** at the desired position (in 10 cm increments) and secure it with linch pin **(B)** .



2. Prepare the installation

The strut can be connected to the horizontal or vertical precast member.

➤ Pre-assemble any necessary connection heads and shoes on the strut as required (see sections Anchoring in the wall and Anchoring in the ground).

➤ **When connected to the vertical precast member:** Lift the strut to the vertical precast member using a crane.

WARNING

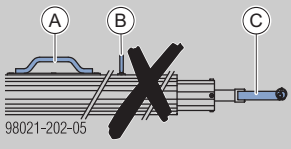
Risk of the strut falling during transport with the crane!

➤ Use suitable lifting slings!

➤ Attach the lifting slings so that a diagonal position is achieved during lifting with the crane.

➤ Make sure that the lifting slings are attached securely and cannot slip!

➤ Do not use the handle **(A)** , fastening pin **(B)** or U-head **(C)** as a crane lifting point!



➤ Depending on the possibility and type of connector, connect the struts to the vertical precast member either from ground level or using a suitable elevating platform.

Observe the operating instructions for the lifting sling used!

3. Anchoring in the wall

➤ Fix the prop head to the precast member using a suitable anchoring element (see the section headed Anchoring in the wall).

4. Anchoring in the ground

➤ Fix the strut shoe to the ground using a suitable anchoring element (see the section headed Anchoring in the ground).

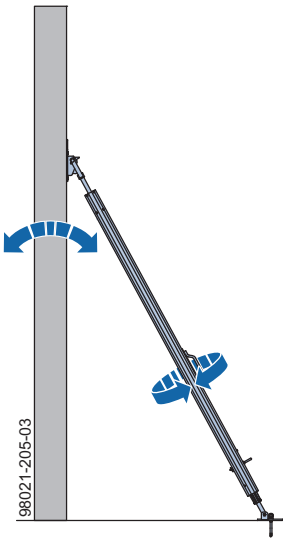
5. Detachment from the crane

WARNING
Risk of tipping over:
➤ Do not detach the member from the crane until the plumbing accessories have been anchored in such a way that they are resistant to tensile and compressive loads.

➤ Detach the precast member from the crane.

6. Fine adjustment

➤ Align the vertical precast member precisely by turning the strut.



Anchoring in the wall

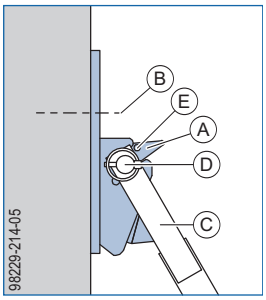
Compatible connectors	DokaRex alignment strut 305 IB	450 IB	750 IB	1020 IB
DokaRex docking head M20	—	✓	✓	✓
DokaRex strut shoe EB M16	✓[1)]	—	—	—
DokaRex strut head EB M20	—	✓	✓	✓

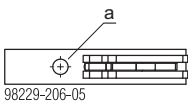
[1)] included with product.

DokaRex docking head M20

The docking head is pre-installed on the precast member making it easy to dock this with the struts.

NOTICE
Use the docking head only in the vertical.





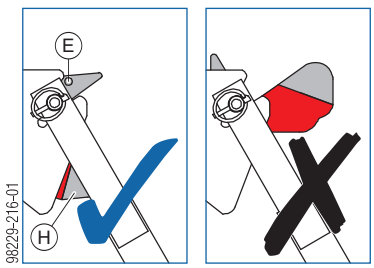
a ... diam. 22 mm

A	DokaRex docking head M20
B	Fixing on site
C	DokaRex alignment strut IB (incl. item D)
D	Spindle pin and linch pin
E	Spring cotter 5mm

➤ Pre-install the docking head on the horizontal precast member.

➤ Dock the alignment strut to the docking head from ground level.

Ensure that the quick-locking device **(H)** is closed correctly (area marked in red no longer visible).



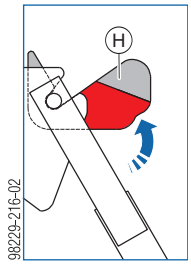
The quick-locking device **(H)** can be additionally secured with a Spring cotter 5mm **(E)** to prevent accidental opening.

Removing the alignment strut

NOTICE

➤ Do not, under any circumstances, remove the spindle pin!

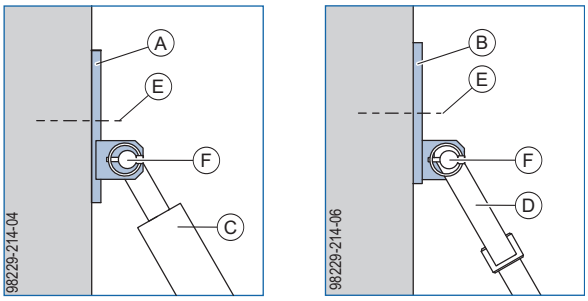
➤ Push the latch of quick-locking device **(H)** upwards.

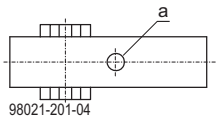


DokaRex strut shoe EB M16 and DokaRex strut head EB M20

➤ Pin the alignment strut to the strut shoe or strut head and secure with a linch pin.

➤ Anchor the alignment strut so that it is resistant to tensile and compressive loads!





a ... diam. 17 mm

A DokaRex strut shoe EB M16
B DokaRex strut head EB M20
C DokaRex alignment strut 305 IB (incl. item F)
D DokaRex alignment strut 450/750/1020 IB (incl. item F)
E Fixing on site
F Spindle pin and linch pin

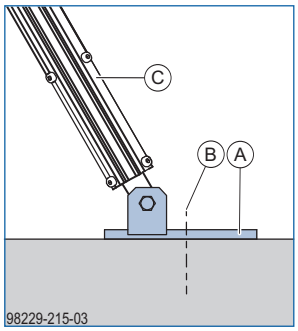
Anchoring in the ground

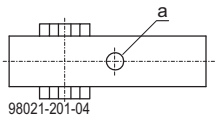
Compatible connectors	DokaRex alignment strut 305 IB	450 IB	750 IB	1020 IB
DokaRex strut shoe EB M16	✓[1)]	✓[1)]	✓[1)]	—
DokaRex strut shoe EB M16/M20	—	✓	✓	✓[1)]

[1)] included with product.

DokaRex strut shoe EB M16

➤ Anchor the alignment strut so that it is resistant to tensile and compressive loads!





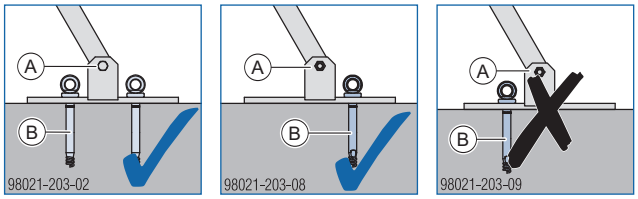
a ... diam. 17 mm

A DokaRex strut shoe EB M16
B Fixing on site
C DokaRex alignment strut 305/450/750 IB

DokaRex strut shoe EB M16/M20

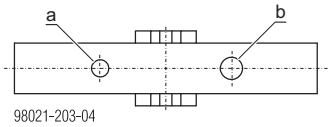
The DokaRex strut shoe EB M16/M20 can be used when the anchoring load to be taken exceeds the capacity of the DokaRex strut shoe EB M16, which offers only one possibility for anchoring.

Practical example



A DokaRex strut shoe EB M16/M20
B Doka express anchor 16x125mm and Doka coil 16mm

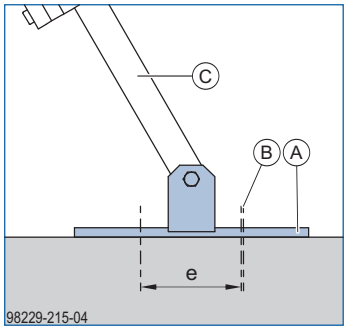
Drilled holes in baseplate

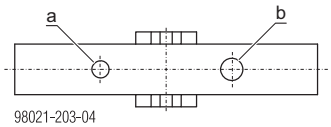


a ... diam. 17 mm
b ... diam. 22 mm

➤ Pin the alignment strut in the strut shoe and secure with a linch pin.

➤ Anchor the alignment strut so that it is resistant to tensile and compressive loads!





a ... diam. 17 mm
b ... diam. 22 mm
e ... 13.0 cm

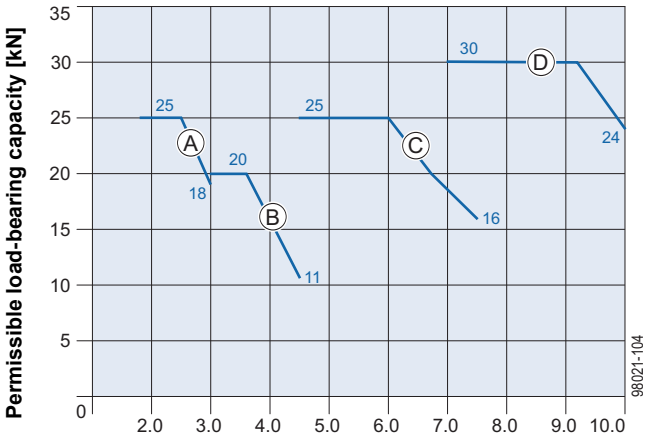
A	DokaRex strut shoe EB M16/M20
B	Fixing on site
C	DokaRex alignment strut 450/750/1020 IB

NOTICE

- Both drilled holes can be used for anchoring if higher anchoring loads are to be absorbed.
- Depending on the required anchoring load, use a fixing screw that matches the diameter of the hole used.
- If only one anchorage is used, this must be installed on the side facing away from the precast member.

Structural design

Load-bearing capacity of the DokaRex alignment struts IB



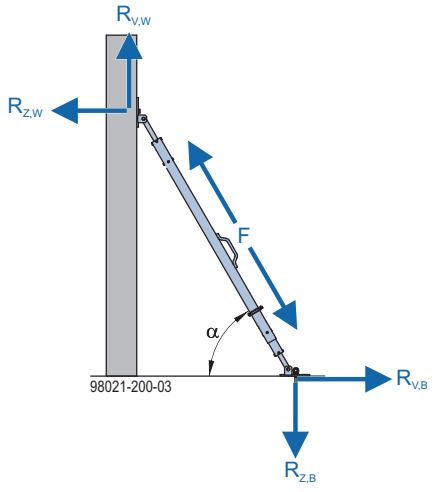
Extension length [m]

The diagram is valid for tensile and compressive loads, including the connectors included in the scope of supply.

A DokaRex alignment strut 305 IB (1.80 - 3.05 m)
B DokaRex alignment strut 450 IB (3.05 - 4.50 m)
C DokaRex alignment strut 750 IB (4.45 - 7.50 m)
D DokaRex alignment strut 1020 IB (7.08 - 10.20 m)

Verification of the anchoring elements

First determine the necessary anchoring loads for the anchorage to the precast member ($R_{Z,W}$ and $R_{V,W}$) and to the ground ($R_{Z,B}$ and $R_{V,B}$) from the prop load F and angle α, depending on the connecting element, from the following tables. The anchoring element (e.g. Doka express anchor 16x125mm) must then be verified using the determined anchoring loads.



Note:

- Distinguish between anchoring to the precast member and anchoring to the ground!
- The anchoring loads decrease linearly with lower strut loads.

Anchoring in the wall

Anchoring loads α = 60°

Connection	F_{max} [kN]	$R_{V,W}$ [kN]	$R_{Z,W}$ [kN]
DokaRex strut shoe EB M16	25.0	21.6	14.7
DokaRex docking head M20	30.0	26.0	15.4
DokaRex strut head EB M20	30.0	26.0	16.5

Anchoring loads α = 45°

Connection	F_{max} [kN]	$R_{V,W}$ [kN]	$R_{Z,W}$ [kN]
DokaRex strut shoe EB M16	25.0	17.7	19.6
DokaRex docking head M20	30.0	21.2	29.2
DokaRex strut head EB M20	30.0	21.2	25.9

Anchoring in the ground

Anchoring loads α = 60°

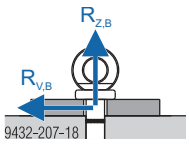
Connection	F_{max} [kN]	$R_{V,B}$ [kN]	$R_{Z,B}$ [kN]
DokaRex strut shoe EB M16	25.0	12.5	28.1
DokaRex strut shoe EB M16/M20 - one anchor	30.0	15.0	33.9
DokaRex strut shoe EB M16/M20 - two anchors	30.0	7.5	20.8

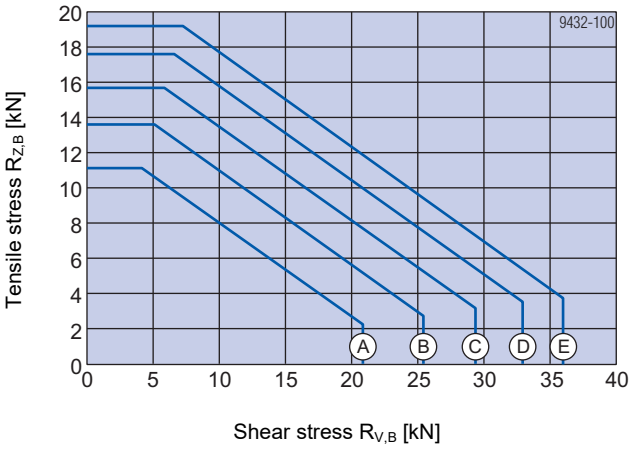
Anchoring loads α = 45°

Connection	F_{max} [kN]	$R_{V,B}$ [kN]	$R_{Z,B}$ [kN]
DokaRex strut shoe EB M16	25.0	17.7	19.6
DokaRex strut shoe EB M16/M20 - one anchor	30.0	21.2	21.5
DokaRex strut shoe EB M16/M20 - two anchors	30.0	10.6	21.5

Doka Express anchor 16x125mm

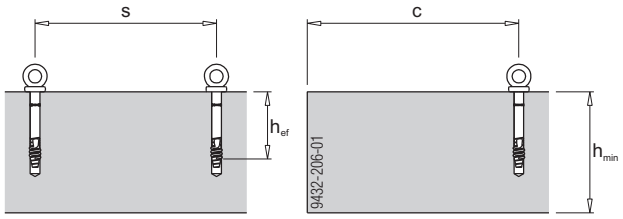
The Doka express anchor 16x125mm is recommended for anchoring to the ground. However, alternative anchoring elements with corresponding geometry and anchoring loads can also be used.





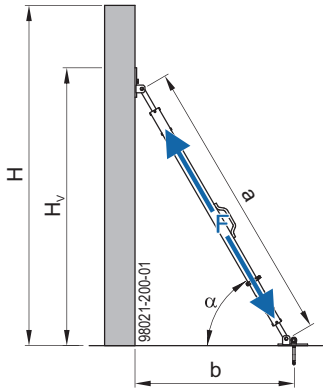
A	C8/10 ($f_{ck,cube,current}$ = 10 N/mm²)
B	C12/15 ($f_{ck,cube,current}$ = 15 N/mm²)
C	C16/20 ($f_{ck,cube,current}$ = 20 N/mm²)
D	C20/25 ($f_{ck,cube,current}$ = 25 N/mm²)
E	C25/30 ($f_{ck,cube,current}$ = 30 N/mm²)

Boundary conditions



Anchoring depth h_{ef} ... 85 mm
Building-element thickness h_{min} ... 200 mm
Distance from edge c ... 400 mm
Distance s from one another ... min. 1200 mm

Permissible influences



H ... height of precast member
H_V ... height of anchoring on precast member
a ... strut length
b ... distance between anchorage to ground and precast member
α ... installation angle
F ... strut load

- The following tables show the maximum influence of the struts possible with the maximum strut load.
- If the prevailing strut load is limited due to the anchoring element chosen, the specified influence must be linearly reduced.
- The prevailing load F in the strut as a function of the shear (R_Z) and tensile force resistance (R_V) of the anchorage point can be read off from the following diagrams.

Note:

- The values apply for a wind pressure of w_e = 0.65 kN/m². This results in a peak velocity pressure of q_p = 0.5 kN/m² (102 km/h) where $c_{p,\,net}$ = 1.3. The greater wind loads encountered at exposed formwork-ends must be restrained by additional plumbing accessories (e.g. struts or pipe-braces). In cases where higher wind pressure is encountered, the number of struts must be determined by statical calculation!
- Values calculated for a wall thickness of 30 cm.
- Max. inclination of the precast member 2%
- Concrete density 25 kN/m²

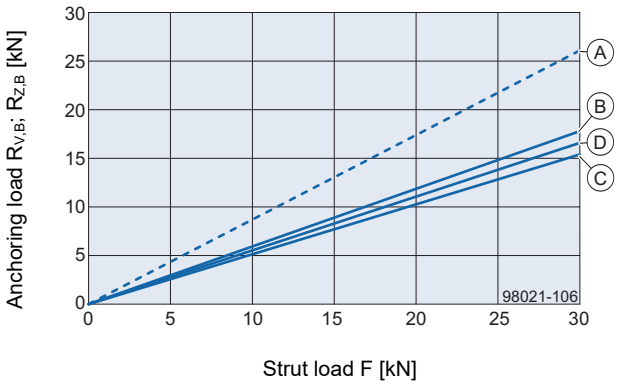
For more information, see calculation guide 'Wind loads according to Eurocode', or contact Doka!

Permissible influences α = 60°

H [m]	H_V [m]	Prevailing load in strut per m of influence [kN/m]	DokaRex alignment strut							
			305 IB		450 IB		750 IB		1020 IB	
			Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)
2.50	1.67	3.00	25.0	8.33	—	—	—	—	—	—
2.75	1.83	3.30	25.0	7.58	—	—	—	—	—	—
3.00	2.00	3.60	25.0	6.94	—	—	—	—	—	—
3.25	2.17	3.90	25.0	6.41	—	—	—	—	—	—
3.50	2.33	4.20	25.0	5.95	—	—	—	—	—	—
3.75	2.50	4.50	22.5	4.99	—	—	—	—	—	—
4.00	2.67	4.80	19.9	4.15	—	—	—	—	—	—
4.25	2.83	5.10	—	—	20.0	3.92	—	—	—	—
4.50	3.00	5.40	—	—	20.0	3.70	—	—	—	—
4.75	3.17	5.70	—	—	20.0	3.51	—	—	—	—
5.00	3.33	6.00	—	—	19.0	3.17	—	—	—	—
5.25	3.50	6.30	—	—	17.0	2.70	—	—	—	—
5.50	3.67	6.60	—	—	15.0	2.27	—	—	—	—
5.75	3.83	6.90	—	—	13.0	1.88	—	—	—	—
6.00	4.00	7.20	—	—	11.0	1.53	25.0	3.47	—	—
6.25	4.17	7.50	—	—	—	—	25.0	3.33	—	—
6.50	4.33	7.80	—	—	—	—	25.0	3.21	—	—
6.75	4.50	8.10	—	—	—	—	25.0	3.09	—	—
7.00	4.67	8.40	—	—	—	—	25.0	2.98	—	—
7.25	4.83	8.70	—	—	—	—	25.0	2.87	—	—
7.50	5.00	9.00	—	—	—	—	25.0	2.78	—	—
7.75	5.17	9.30	—	—	—	—	25.0	2.69	—	—
8.00	5.33	9.60	—	—	—	—	25.0	2.60	—	—
8.25	5.50	9.90	—	—	—	—	23.8	2.40	—	—
8.50	5.67	10.20	—	—	—	—	22.6	2.22	—	—
8.75	5.83	10.50	—	—	—	—	21.4	2.04	—	—
9.00	6.00	10.80	—	—	—	—	20.2	1.87	—	—
9.25	6.17	11.10	—	—	—	—	19.0	1.71	30.0	2.70
9.50	6.33	11.40	—	—	—	—	17.8	1.56	30.0	2.63
9.75	6.50	11.70	—	—	—	—	16.6	1.42	30.0	2.56
10.00	6.67	12.00	—	—	—	—	16.0	1.33	30.0	2.50

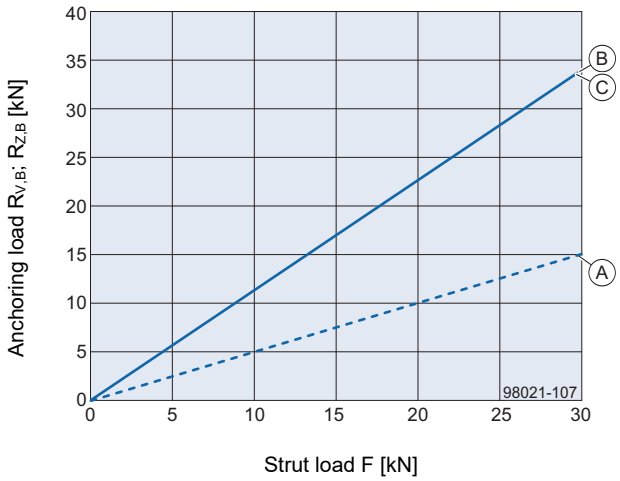
*) without reduction due to the anchoring element

Anchoring in the wall α = 60°



A	$R_{V,W}$ (all connections)
B	$R_{Z,W}$ DokaRex strut shoe EB M16
C	$R_{Z,W}$ DokaRex docking head M20
D	$R_{Z,W}$ DokaRex strut head EB M20

Anchoring in the ground α = 60°



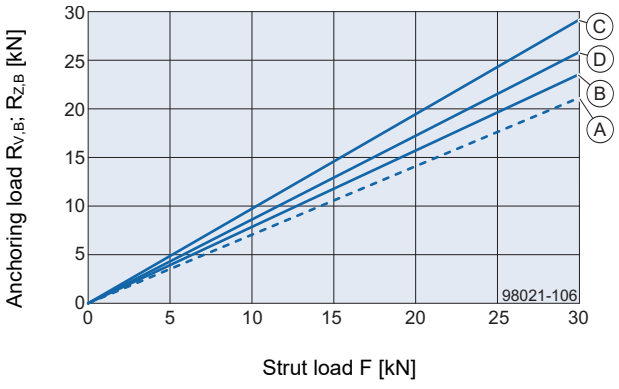
A	$R_{V,B}$ (all connections)
B	$R_{Z,B}$ DokaRex strut shoe EB M16
C	$R_{Z,B}$ DokaRex strut shoe EB M16/M20

Permissible influences α = 45°

H [m]	H_V [m]	Prevailing load in strut per m of influence [kN/m]	DokaRex alignment strut							
			305 IB		450 IB		750 IB		1020 IB	
			Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)	Permitted load on strut [kN]	Permitted influence [m] *)
2.25	1.50	1.91	25.0	13.09	—	—	—	—	—	—
2.50	1.67	2.12	25.0	11.79	—	—	—	—	—	—
2.75	1.83	2.33	25.0	10.71	—	—	—	—	—	—
3.00	2.00	2.55	22.5	8.82	—	—	—	—	—	—
3.25	2.17	2.76	19.9	7.22	—	—	—	—	—	—
3.50	2.33	2.97	—	—	20.0	6.73	—	—	—	—
3.75	2.50	3.18	—	—	20.0	6.29	—	—	—	—
4.00	2.67	3.39	—	—	20.0	5.89	—	—	—	—
4.25	2.83	3.61	—	—	17.0	4.71	—	—	—	—
4.50	3.00	3.82	—	—	15.0	3.93	—	—	—	—
4.75	3.17	4.03	—	—	13.0	3.23	—	—	—	—
5.00	3.33	4.24	—	—	—	—	25.0	5.89	—	—
5.25	3.50	4.45	—	—	—	—	25.0	5.61	—	—
5.50	3.67	4.67	—	—	—	—	25.0	5.36	—	—
5.75	3.83	4.88	—	—	—	—	25.0	5.12	—	—
6.00	4.00	5.09	—	—	—	—	25.0	4.91	—	—
6.25	4.17	5.30	—	—	—	—	25.0	4.71	—	—
6.50	4.33	5.52	—	—	—	—	25.0	4.53	—	—
6.75	4.50	5.73	—	—	—	—	23.8	4.16	—	—
7.00	4.67	5.94	—	—	—	—	22.6	3.80	—	—
7.25	4.83	6.15	—	—	—	—	20.8	3.38	—	—
7.50	5.00	6.36	—	—	—	—	19.6	3.08	—	—
7.75	5.17	6.58	—	—	—	—	17.8	2.71	30.0	4.56
8.00	5.33	6.79	—	—	—	—	16.6	2.45	30.0	4.42
8.25	5.50	7.00	—	—	—	—	—	—	30.0	4.29
8.50	5.67	7.21	—	—	—	—	—	—	30.0	4.16
8.75	5.83	7.42	—	—	—	—	—	—	30.0	4.04
9.00	6.00	7.64	—	—	—	—	—	—	30.0	3.93
9.25	6.17	7.85	—	—	—	—	—	—	30.0	3.82
9.50	6.33	8.06	—	—	—	—	—	—	30.0	3.72
9.75	6.50	8.27	—	—	—	—	—	—	30.0	3.63
10.00	6.67	8.49	—	—	—	—	—	—	29.4	3.46

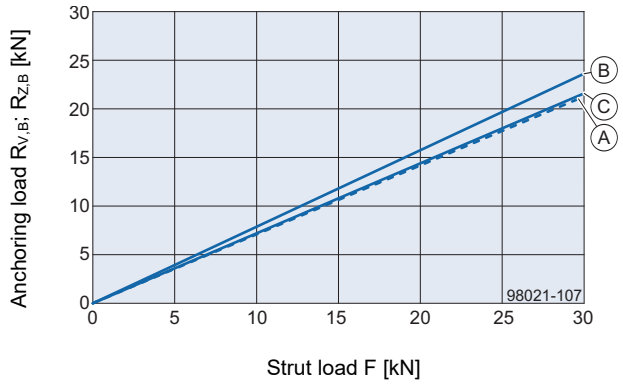
*) without reduction due to the anchoring element

Anchoring in the wall α = 45°



A $R_{V,W}$ (all connections)
B $R_{Z,W}$ DokaRex strut shoe EB M16
C $R_{Z,W}$ DokaRex docking head M20
D $R_{Z,W}$ DokaRex strut head EB M20

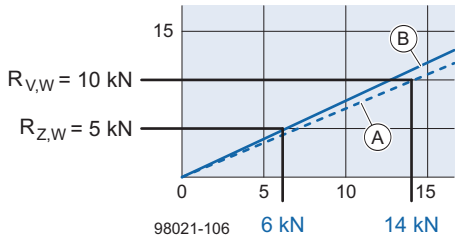
Anchoring in the ground α = 45°



A $R_{V,B}$ (all connections)
B $R_{Z,B}$ DokaRex strut shoe EB M16
C $R_{Z,B}$ DokaRex strut shoe EB M16/M20

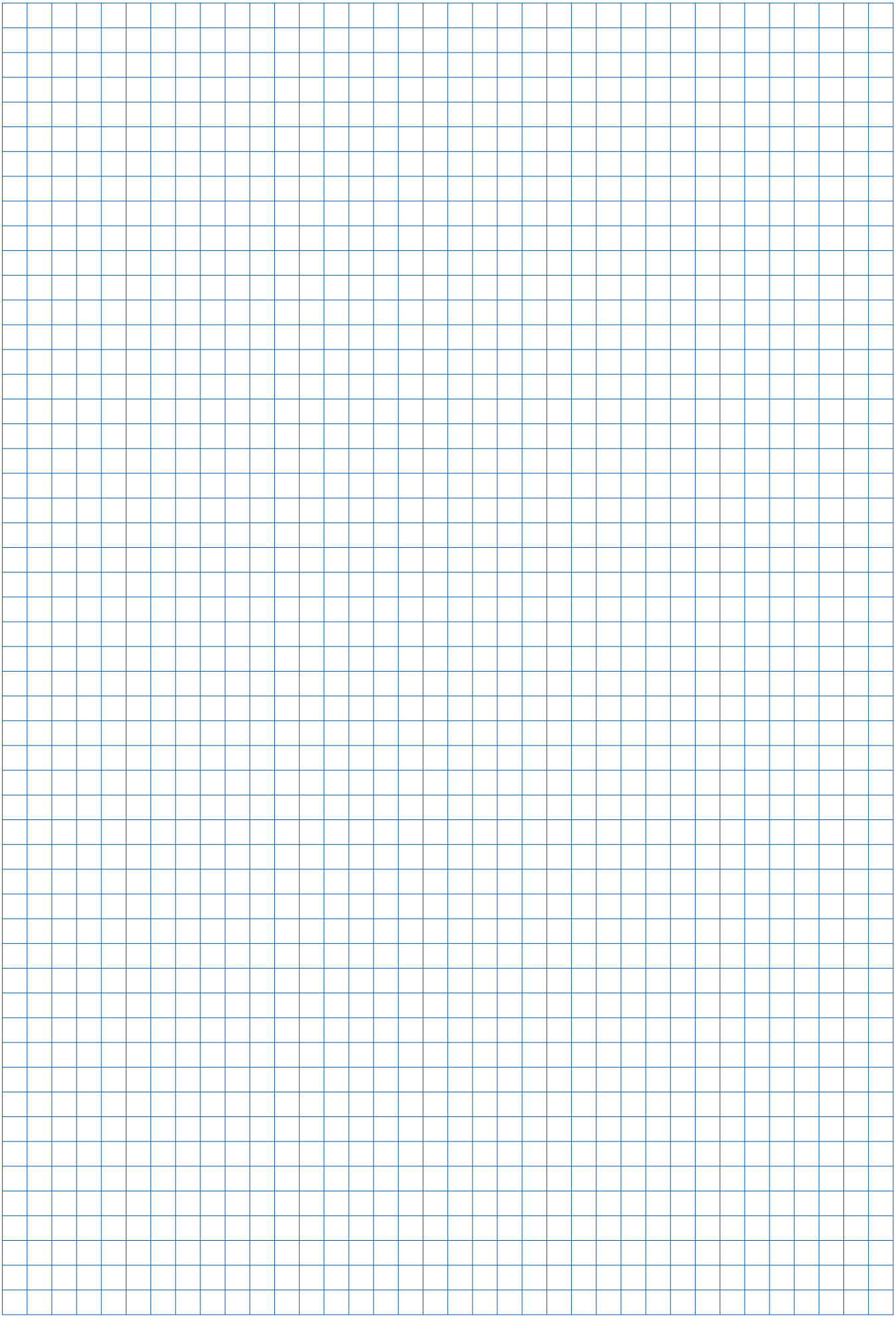
Calculation example

- Height of precast member 2.5 m
- DokaRex alignment strut 305 IB
- DokaRex strut shoe EB M16
- Installation angle of DokaRex alignment strut α = 45°
- Existing anchoring element on precast member with maximum permissible anchoring loads according to manufacturer, e.g.
  - $R_{V,W}$ = 10 kN
  - $R_{Z,W}$ = 5 kN
- **Determination of permissible strut influence:**
  - Max. 25 kN permissible load of the alignment strut and max. 11.79 m influence (see structural design table for DokaRex alignment strut 305 IB, α = 45°).
  - Reduction of the influence necessary due to anchoring element!
  - Reduced strut load due to admissible load of the anchoring on the precast member **F = 6.0 kN** (see dimensioning graph 'Anchoring in the wall α = 45°').
    Read off the prevailing strut load due to Rz,w and Rv,w. The smallest value is relevant.



A $R_{V,W}$ DokaRex strut shoe EB M16 or EB M16/M20
B $R_{Z,W}$ DokaRex strut shoe EB M16

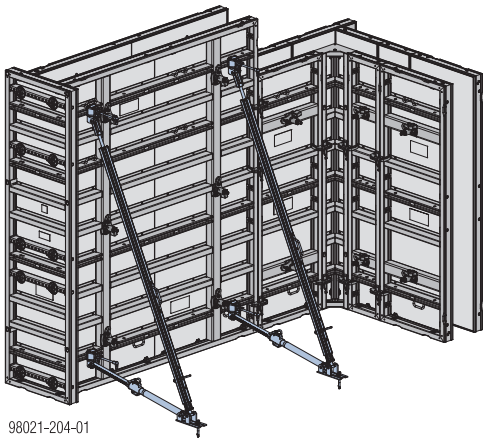
- Permissible influence after linear reduction due to anchoring element 6.0 kN / 25 kN x 11.79 m = **2.83 m**



Used on the formwork

Assembly

Example with Framax Xlife plus framed formwork



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

WARNING
Risk of the formwork tipping over!
- ➤ Ensure stability of the formwork panels in **every** phase of the construction work!
- ➤ Observe all applicable safety regulations!
- ➤ Where **high wind speeds** prevail, or when work finishes for the day or before prolonged work-breaks, always take extra precautions to stabilise the formwork.
  Suitable precautions:
  - set up the opposing formwork
  - place the formwork against a wall
  - anchor the formwork to the ground (e.g. using Framax floor fixing plates)
- ➤ The safety pin is only for rough adjustment of the plumbing accessory. Do not attempt to remove or release the safety pin under load.

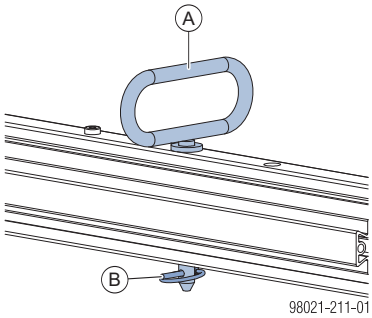
Follow the directions in the User Information booklet of the formwork system that is being used!

Erection sequence

1. Roughly adjust the extension length

WARNING
- ➤ The fastening pin is only for rough adjustment of the plumbing accessory. Do not attempt to remove or release the safety pin under load.

➤ Insert fastening pin **(A)** at the desired position (in 10 cm increments) and secure it with linch pin **(B)** .



2. Prepare the installation

The strut is installed with the gang-form horizontal.

➤ Pre-assemble any necessary connection heads and shoes on the strut as required (see sections Fixing the struts to the formwork and Anchoring in the ground).

3. Fixing to the formwork

➤ Fix the prop head to the formwork using a suitable anchoring element, depending on the formwork system used (see the section headed Fixing the struts to the formwork).

4. Anchoring in the ground

➤ Fix the strut shoe to the ground using a suitable anchoring element (see the section headed Anchoring in the ground).

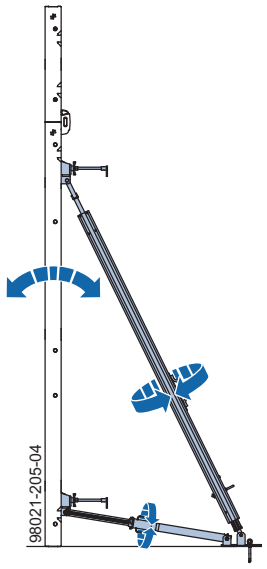
5. Detachment from the crane

WARNING
Risk of tipping over:
- ➤ Do not detach the gang-form from the crane until the plumbing accessories have been anchored in such a way that they are resistant to tensile and compressive loads.

➤ Detach the gang-form from the crane.

6. Fine adjustment

➤ Align the vertical gang-form precisely by turning the strut and adjusting strut.



Fixing the struts to the formwork

Compatible connectors [1]	DokaRex alignment strut 305 IB	450 IB	750 IB	1020 IB
Prop head EB	—	✓	✓	✓
Strut head EB	—	✓	✓	✓
DokaXlight prop head EB	—	✓	✓	✓
Frami prop head EB	—	✓	✓	✓
Frami connection profile EB	—	✓	✓	✓

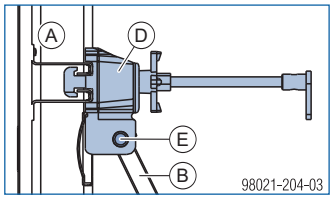
[1] In combination with **DokaRex formwork-adapter pin set**

Examples

- Framed formwork Framax Xlife: Prop head EB
- Large-area formwork Top 50: Prop head EB
- Framed formwork Frami Xlife: Strut head EB or Frami prop head EB

➤ Pin the alignment strut with formwork-adapter pin set in the prop head used and secure with a linch pin.

➤ Anchor the panel strut so that it is resistant to tensile and compressive loads!



A Panel
B DokaRex alignment strut IB
D Prop head EB
E DokaRex formwork-adapter pin set

Items needed

Extension length [m]	DokaRex alignment strut 450 IB	DokaRex alignment strut 750 IB	DokaRex alignment strut 1020 IB	Adjusting strut 220 IB	Prop head	DokaRex formwork-adapter pin set	DokaRex panel-strut shoe M16/M20
3.05 - 4.50	1	—	—	1	2	1	1
4.45 - 7.50	—	1	—	1	2	1	1
7.10 - 10.20	—	—	1	1	2	1	1

Anchoring in the ground

Compatible connectors	DokaRex alignment strut 305 IB	450 IB	750 IB	1020 IB
DokaRex panel-strut shoe M16/M20	✓[2]	✓[2]	✓[2]	✓[2]
DokaRex strut shoe EB M16	✓[1]	✓[1]	✓[1]	—
DokaRex strut shoe EB M16/M20	—	✓	✓	✓[1]

[1] Included in the scope of supply.
[2] For use with adjusting strut

DokaRex panel-strut shoe M16/M20

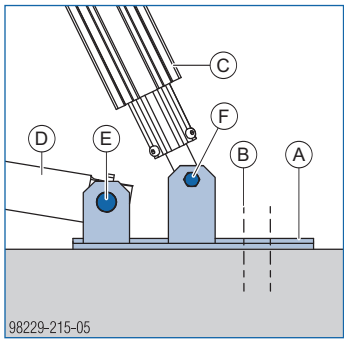
➤ Remove the strut shoe from the DokaRex alignment strut.

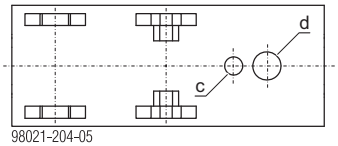
➤ Fasten the panel-strut shoe to the DokaRex alignment strut using a hexagon bolt and hexagon nut.

➤ Remove the bolt from the adjusting strut.

➤ Fasten the panel-strut shoe to the adjusting strut using a head bolt and secure with a linch pin.

➤ Anchor the support so that it is resistant to tensile and compressive loads!



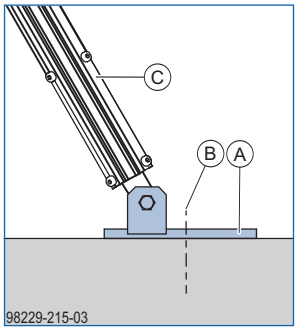


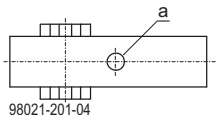
c ... diam. 18 mm (suitable for Doka express anchor 16x125mm)
d ... diam. 28 mm

A DokaRex panel-strut shoe M16/M20 (incl. items E + F)
B Fixing on site
C DokaRex alignment strut 450/750/1020 IB
D Adjusting strut IB
E Head bolt + linch pin (included in scope of supply of item A)
F Hexagon bolt + hexagon nut (included in scope of supply of item A)

DokaRex strut shoe EB M16

➤ Anchor the alignment strut so that it is resistant to tensile and compressive loads!





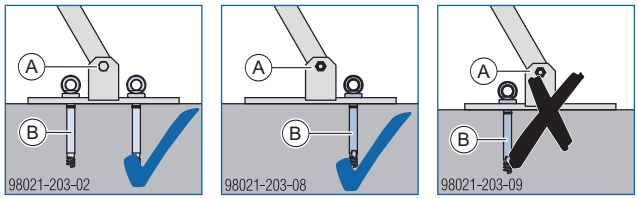
a ... diam. 17 mm

A	DokaRex strut shoe EB M16
B	Fixing on site
C	DokaRex alignment strut 305/450/750 IB

DokaRex strut shoe EB M16/M20

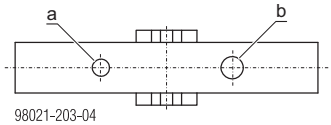
The DokaRex strut shoe EB M16/M20 can be used when the anchoring load to be taken exceeds the capacity of the DokaRex strut shoe EB M16, which offers only one possibility for anchoring.

Practical example



A	DokaRex strut shoe EB M16/M20
B	Doka express anchor 16x125mm and Doka coil 16mm

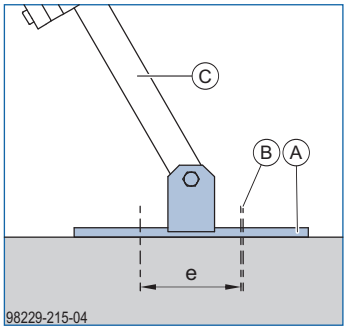
Drilled holes in baseplate

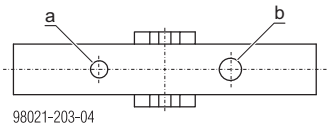


a ... diam. 17 mm
b ... diam. 22 mm

➤ Pin the alignment strut in the strut shoe and secure with a linch pin.

➤ Anchor the alignment strut so that it is resistant to tensile and compressive loads!





a ... diam. 17 mm
b ... diam. 22 mm
e ... 13.0 cm

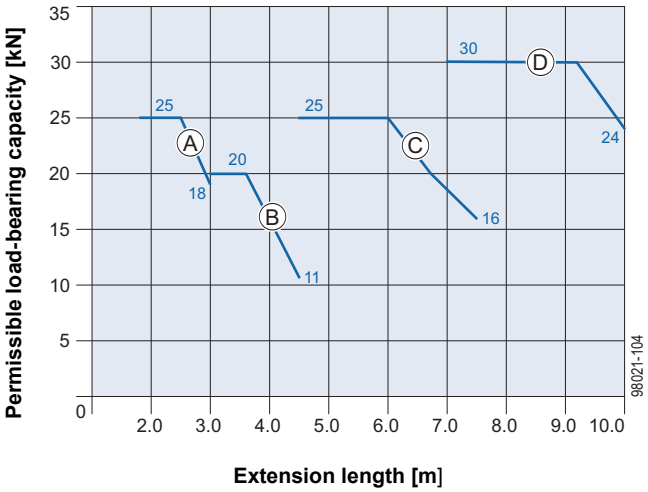
A	DokaRex strut shoe EB M16/M20
B	Fixing on site
C	DokaRex alignment strut 450/750/1020 IB

NOTICE

- Both drilled holes can be used for anchoring if higher anchoring loads are to be absorbed.
- Depending on the required anchoring load, use a fixing screw that matches the diameter of the hole used.
- If only one anchorage is used, this must be installed on the side facing away from the precast member.

Structural design

Load-bearing capacity of the DokaRex alignment struts IB

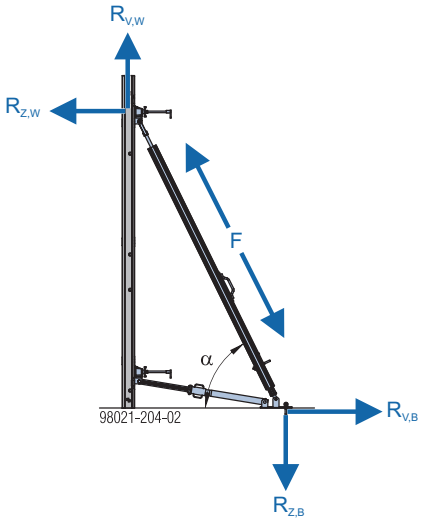


The diagram is valid for tensile and compressive loads, including the connectors included in the scope of supply.

A DokaRex alignment strut 305 IB (1.80 - 3.05 m)
B DokaRex alignment strut 450 IB (3.05 - 4.50 m)
C DokaRex alignment strut 750 IB (4.45 - 7.50 m)
D DokaRex alignment strut 1020 IB (7.08 - 10.20 m)

Verification of the anchoring elements

First determine the necessary anchoring loads R_Z and R_V for anchoring to the formwork ($R_{Z,W}$ and $R_{V,W}$) and to the ground ($R_{Z,B}$ and $R_{V,B}$) from the strut load F and the angle α from the following table, depending on the connector. The anchoring element (e.g. Doka express anchor 16x125mm) must then be verified using the determined anchoring loads.



Note:

- Distinguish between anchoring to the formwork and anchoring to the ground!
- The anchoring loads decrease linearly with lower strut loads.

Fixing the struts to the formwork

Permissible load of connectors α = 60°

Connection	F_{max} [kN]
Prop head EB [1]	13.5
Strut head EB [1]	4.5
DokaXlight prop head EB [1]	6.5
Frami prop head EB [1]	8.0
Frami connection profile EB [1]	13.5

[1] In combination with formwork-adapter pin set.

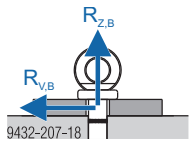
Anchoring in the ground

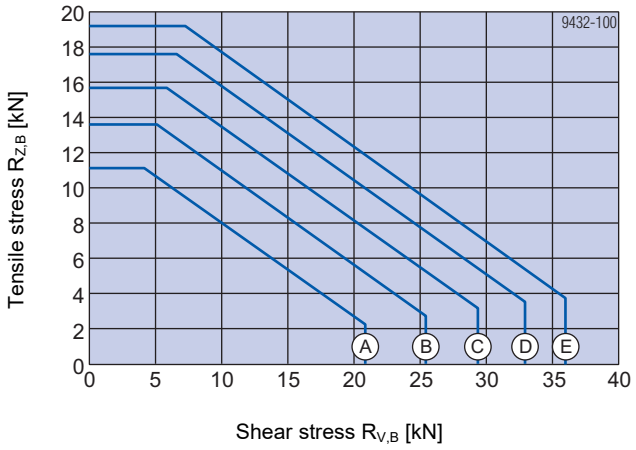
Anchoring loads α = 60°

Connection	F_{max} [kN]	$R_{V,B}$ [kN]	$R_{Z,B}$ [kN]
DokaRex panel-strut shoe M16/M20	30.0	15.0	31.7
DokaRex strut shoe EB M16	25.0	12.5	28.1
DokaRex strut shoe EB M16/M20 - one anchor	30.0	15.0	33.9
DokaRex strut shoe EB M16/M20 - two anchors	30.0	7.5	20.8

Doka Express anchor 16x125mm

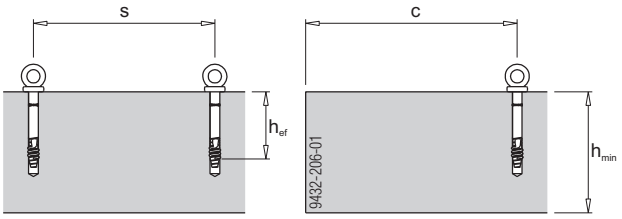
The Doka express anchor 16x125mm is recommended for anchoring to the ground. However, alternative anchoring elements with corresponding geometry and anchoring loads can also be used.





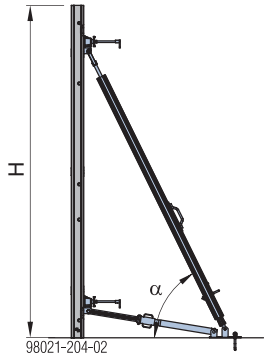
A	C8/10 ($f_{ck,cube,current}$ = 10 N/mm²)
B	C12/15 ($f_{ck,cube,current}$ = 15 N/mm²)
C	C16/20 ($f_{ck,cube,current}$ = 20 N/mm²)
D	C20/25 ($f_{ck,cube,current}$ = 25 N/mm²)
E	C25/30 ($f_{ck,cube,current}$ = 30 N/mm²)

Boundary conditions



Anchoring depth h_{ef} ... 85 mm
Building-element thickness h_{min} ... 200 mm
Distance from edge c ... 400 mm
Distance s from one another ... min. 1200 mm

Permissible influences



- The values apply for a wind pressure of w_e = 0.65 kN/m². This results in a peak velocity pressure of q_p = 0.5 kN/m² (102 km/h) where $c_{p,\,net}$ = 1.3. The greater wind loads encountered at exposed formwork-ends must be restrained by additional plumbing accessories (e.g. struts or pipe-braces). In cases where higher wind pressure is encountered, the number of struts must be determined by statical calculation!
- Values apply for an angle α of the plumbing strut of 60°.
- Values do not apply for gang-forms in the edge zone or for free-standing gang-forms.
  - Gang-forms in the edge zone must be supported by at least 2 plumbing accessories.
  - Free-standing gang-forms must be supported by at least 2 plumbing accessories.

For more information, see calculation guide 'Wind loads according to Eurocode', or contact Doka!

Number of alignment struts for 2.70 m wide Framax gang-form

Formwork height [m]	DokaRex alignment strut		
	450 IB	750 IB	1020 IB
3.30	1	—	—
4.05	1	—	—
5.40	—	1	—
6.00	—	1	—
7.20	1	1	—
8.10	—	1	1

Example: Where the formwork height is 7.20 m, the following are needed for every 5.40 m wide gang-form:

- 2 alignment struts 450
- 2 alignment struts 750

Permissible distances [m] between alignment struts for Large-area formwork Top 50

Formwork height [m]	DokaRex alignment strut		
	450 IB	750 IB	1020 IB
4.00	4.00	—	—
5.00	3.00	—	—
6.00	—	2.50	—
7.00	4.00	3.00	—
8.00	—	3.00	4.00

Example: Where the formwork height is 8.00 m, the following are needed for every 8.00 m wide gang-form:

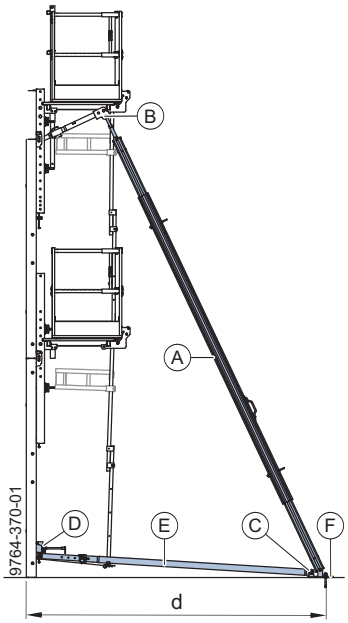
- 3 alignment struts 750
- 2 alignment struts 1020

Note:

Additional areas of use

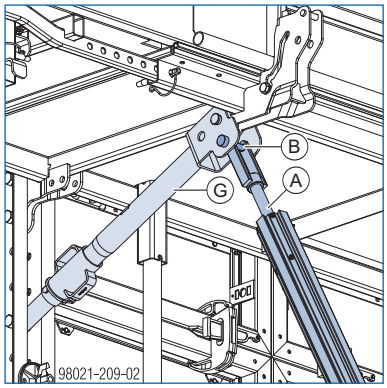
Fixing to the Xsafe plus platform

Example with DokaRex alignment strut 750 IB



d ... 4760.0 cm

Close-up, connection to the platform



A	DokaRex alignment strut 750 IB (without pin set top/bottom, DokaRex strut shoe EB M16)
B	DokaRex formwork-adapter pin set
C	Head bolt D25/151 + Linch pin 6x42
D	Prop head EB
E	Adjusting strut 540 Eurex 60 IB
F	DokaRex panel-strut shoe M16/M20
G	Xsafe plus supporting strut EB

See also sections Fixing the struts to the formwork and Anchoring in the ground!

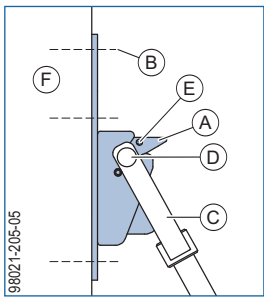
For details of the Xsafe plus platform and for optimising the number of struts, see the corresponding User Information.

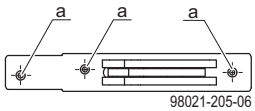
Supporting prefabricated timber elements

The DokaRex docking head TC is used to connect DokaRex alignment struts to prefabricated timber elements. It is pre-assembled on the prefabricated timber element for easy docking of the struts.

NOTICE

Use the docking head only in the vertical.





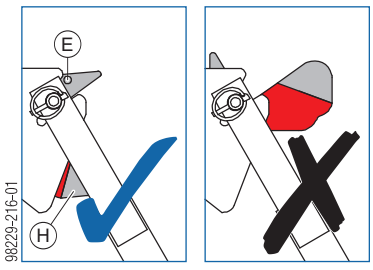
a ... diam. 6.5 mm

A	DokaRex docking head TC
B	Fully threaded screw 6x120
C	DokaRex alignment strut IB (incl. item D)
D	Spindle pin and linch pin
E	Spring cotter 5mm
F	Prefabricated timber element

➤ Pre-assemble the docking head on the horizontal prefabricated timber element.

➤ Dock the alignment strut to the docking head from ground level.

Ensure that the quick-locking device **(H)** is closed correctly (area marked in red no longer visible).



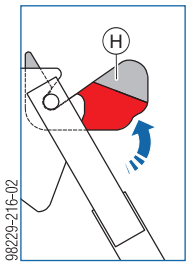
The quick-locking device **(H)** can be additionally secured with a Spring cotter 5mm **(E)** to prevent accidental opening.

Removing the alignment strut

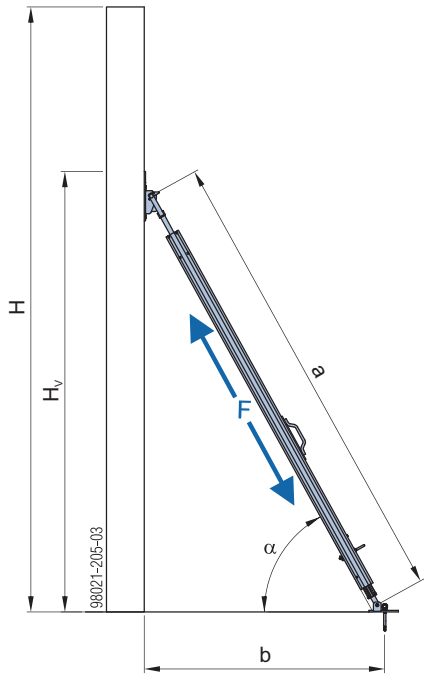
NOTICE

➤ Do not, under any circumstances, remove the spindle pin!

➤ Push the latch of the quick-locking device **(H)** upwards.



Structural design



H ... height of prefabricated timber element
H_V ... height of connection to prefabricated timber element

Note:

- The values apply for a wind pressure of w_e = 0.65 kN/m². This results in a peak velocity pressure of q_p = 0.5 kN/m² (102 km/h) where $c_{p, net}$ = 1.3. The greater wind loads encountered at exposed formwork-ends must be restrained by additional plumbing accessories (e.g. struts or pipe-braces). In cases where higher wind pressure is encountered, the number of struts must be determined by statical calculation!

For more information, see calculation guide 'Wind loads according to Eurocode', or contact Doka!

DokaRex alignment strut 450 IB

		α 45°		α 60°	
H [m]	H_V [m]	F_{max} [kN]	Max. influence [m]	F_{max} [kN]	Max. influence [m]
3.50	2.63	5.65	3.74	4.00	2.64
4.00	3.00	5.65	3.27	4.00	2.31
4.50	3.38	5.65	2.91	4.00	2.06
5.00	3.75	5.65	2.61	4.00	1.85

DokaRex alignment strut 750 IB

		α 45°		α 60°	
H [m]	H_V [m]	F_{max} [kN]	Max. influence [m]	F_{max} [kN]	Max. influence [m]
5.50	4.13	5.65	2.38	4.00	1.68
6.00	4.50	5.65	2.18	4.00	1.54
6.50	4.88	5.65	2.01	4.00	1.42
7.00	5.25	5.65	1.87	4.00	1.32
7.50	5.63	5.65	1.74	4.00	1.23

DokaRex alignment strut 1020 IB

		α 45°		α 60°	
H [m]	H_V [m]	F_{max} [kN]	Max. influence [m]	F_{max} [kN]	Max. influence [m]
7.50	5.63	5.65	1.74	4.00	1.23
8.00	6.00	5.65	1.63	4.00	1.16
8.50	6.38	5.65	1.54	4.00	1.09
9.00	6.75	5.65	1.45	4.00	1.03

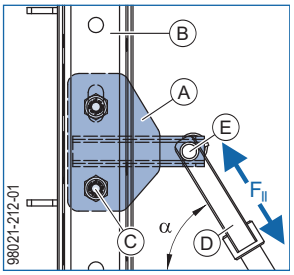
Connection to steel waling

The DokaRex waling connector is used to connect DokaRex alignment struts to the following components:

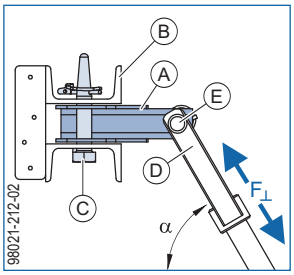
- Multi-purpose waling WS10
- Multi-purpose waling WU12
- Top100 tec waling WU14
- UniKit 4-way splice plate UK12

Example: Multi-purpose waling WS10

Vertical waling



Horizontal waling



α ... 60°

A	DokaRex waling connector
B	Multi-purpose waling WS10
C	Connecting pin 10cm and Spring cotter 5mm
D	DokaRex alignment strut IB (incl. item E)
E	Spindle pin and linch pin

$F_{\parallel\ max}$ load in beam direction = 30 kN
$F_{\perp\ max}$ load perpendicular to beam direction = 7.5 kN (with span 1.0 m)

➤ Pin the waling connector to the steel waling and secure with a spring cotter.

➤ Pin the alignment strut in the waling connector and secure with a linch pin.

General

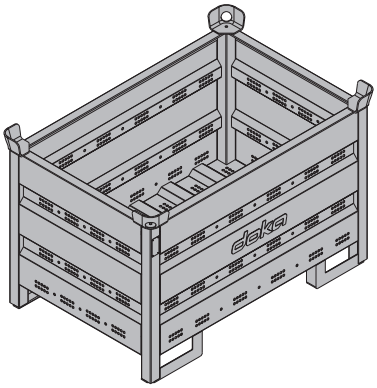
Transporting, stacking and storing

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

Doka multi-trip transport box

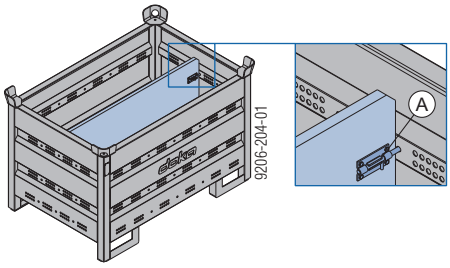
Storage and transport device for small items

Doka multi-trip transport box 1.20x0.80m



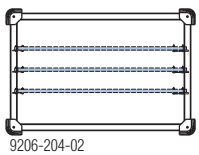
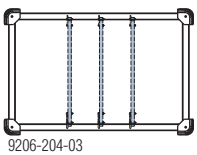
Permitted load-bearing capacity: 1500 kg (3300 lbs)
Permitted imposed stacking load: 7850 kg (17300 lbs)

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**.

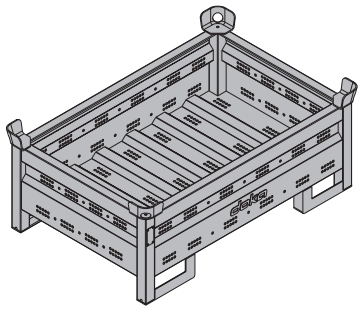


A Slide-bolt for fixing the partition

Possible ways of dividing the box

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

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



Permitted load-bearing capacity: 750 kg (1650 lbs)
Permitted imposed stacking load: 7200 kg (15870 lbs)

Using Doka multi-trip transport boxes as storage units

Max. n° of units on top of one another

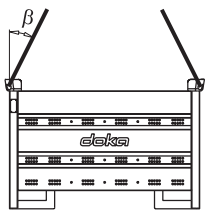
Outdoors (on the site) Floor gradients up to 3%		Indoors Floor gradients up to 1%	
Doka multi-trip transport box		Doka multi-trip transport box	
1.20x0.80m	1.20x0.80x0.41m	1.20x0.80m	1.20x0.80x0.41m
3	5	6	10
It is not allowed to stack empty pallets on top of one another!			

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

Using Doka multi-trip transport boxes as transport devices

Lifting by crane

NOTICE
- Multi-trip packaging items must be lifted individually.
- Use suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- Sling angle β max. 30°!



9206-202-01

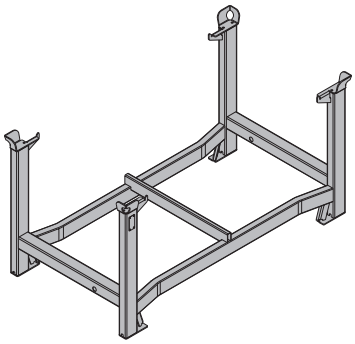
Repositioning by forklift truck or pallet stacking truck

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

Doka stacking pallet

Storage and transport device for long items.

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

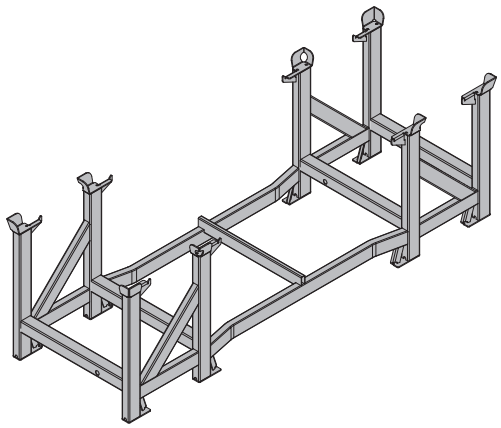


Permitted load-bearing capacity: 1100 kg (2420 lbs)
Permitted imposed stacking load: 5900 kg (13000 lbs)

Loading capacity:

	Q'ty
DokaRex alignment strut 305 IB	50
DokaRex alignment strut 450 IB	28
DokaRex alignment strut 750 IB	15

Doka stacking pallet 2.50x0.85m



Permitted load-bearing capacity: 1150 kg (2535 lbs)
Permitted imposed stacking load: 6170 kg (13600 lbs)

NOTICE

Load only with flexurally rigid long items, e.g.:

- DokaRex alignment strut 1020 IB
- **No tie rods!**

Loading capacity:

	Q'ty
DokaRex alignment strut 1020 IB	12

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

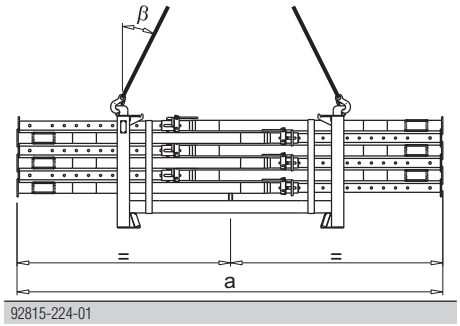
- Stacked multi-trip boxes or pallets must have the heaviest boxes at the bottom and the lightest at the top.
- **How to use with Bolt-on castor set B:**
  - Always apply the fixing brake when the container is 'parked'.
  - When Doka stacking pallets are stacked, the bottom pallet must NOT be one with 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 suitable lifting chains:
  - e.g. Doka 4-part chain 3.20m
  - Do not exceed the permitted working load limit of the lifting chains.
- 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 1.20x0.80m	max. 3.0 m
Doka stacking pallet 1.55x0.85m	max. 4.5 m
Doka stacking pallet 2.50x0.85m	max. 7.5 m

Repositioning by forklift truck or pallet stacking truck

NOTICE

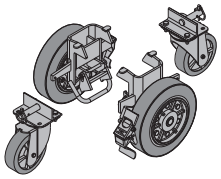
- Load the items centrically.
- Fasten the load to the stacking pallet (e.g. with strapping tape or lashing strap) so that it cannot slide or tip out.

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.
- Compatible multi-trip packaging items:
  - Doka accessory box
  - Doka stacking pallets (all sizes)
  - Protective barrier Z pallets

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

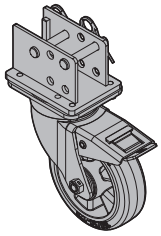


Universal castor wheel for transport pallet

The Universal castor wheel for transport pallet turns multi-trip packaging items into fast and manoeuvrable transport devices.

- 4 castor wheels needed per multi-trip packaging item.
- Compatible multi-trip packaging items:
  - Doka stacking pallets (all sizes)
  - Doka multi-trip transport box 1.20x0.80m
  - Doka skeleton transport box 1.70x0.80m
  - DokaXdek panel pallets (all sizes)
  - Superdek beam pallet 1.22x1.10m

Follow the directions in the 'Universal castor wheel for transport pallet' User Information booklet.

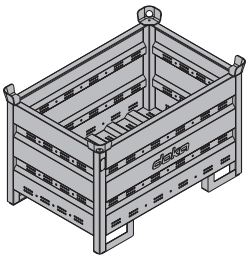
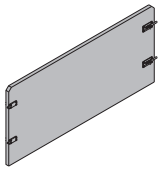
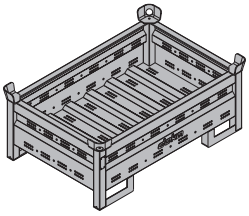
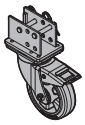
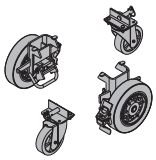


	[kg]	Article N°
DokaRex alignment strut 305 IB DokaRex-Einrichtstütze 305 IB Galvanised Length: 180 - 305 cm	**17.5**	**586620000**
DokaRex alignment strut 450 IB Length: 305 - 450 cm	**20.2**	**586621000**
DokaRex alignment strut 750 IB Length: 445 - 750 cm	**42.7**	**586622000**
DokaRex alignment strut 1020 IB Length: 708 - 1020 cm Aluminium Powder-coated blue	**93.0**	**586623000**
DokaRex docking head M20 DokaRex-Andockkopf M20 Galvanised Length: 26 cm	**2.7**	**586624000**
DokaRex strut head EB M20 DokaRex-Strebenkopf EB M20 Galvanised Length: 18 cm	**1.3**	**586627000**
DokaRex strut head EB M20 weldable DokaRex-Strebenkopf EB M20 schweißbar Non-treated Length: 18 cm	**1.3**	**586628000**
DokaRex strut shoe EB M16 DokaRex-Strebenschuh EB M16 Galvanised Length: 19.5 cm	**1.5**	**586625000**

	[kg]	Article N°
DokaRex strut shoe EB M16/M20 DokaRex-Strebenschuh EB M16/M20 Galvanised Length: 30 cm	**2.4**	**586626000**
DokaRex panel-strut shoe M16/M20 DokaRex-Elementstützenschuh M16/M20 Galvanised Length: 31 cm	**4.6**	**586629000**
DokaRex formwork-adapter pin set DokaRex-Schalungsadapter Bolzenset Galvanised Length: 12.6 cm	**0.33**	**586630000**
DokaRex docking head TC DokaRex-Andockkopf TC	**2.7**	**586633000**
DokaRex waling connector DokaRex-Riegelanschluss	**1.8**	**586634000**

Multi-trip packaging

Doka stacking pallet 2.50x0.85m Doka-Stapelpalette 2,50x0,85m Galvanised Height: 77 cm	**84.0**	**583008000**
Doka stacking pallet 1.55x0.85m Doka-Stapelpalette 1,55x0,85m Galvanised Height: 77 cm	**41.0**	**586151000**

	[kg]	Article N°
Doka multi-trip transport box 1.20x0.80m Doka-Mehrwegcontainer 1,20x0,80m Galvanised Height: 78 cm 	**70.0**	**583011000**
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**
Universal castor wheel for transport pallet Universal-Lenkrolle Transportgebinde Galvanised Height: 28.8 cm 	**6.0**	**584043000**
Bolt-on castor set B Anklemm-Radsatz B Painted blue 	**33.6**	**586168000**

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