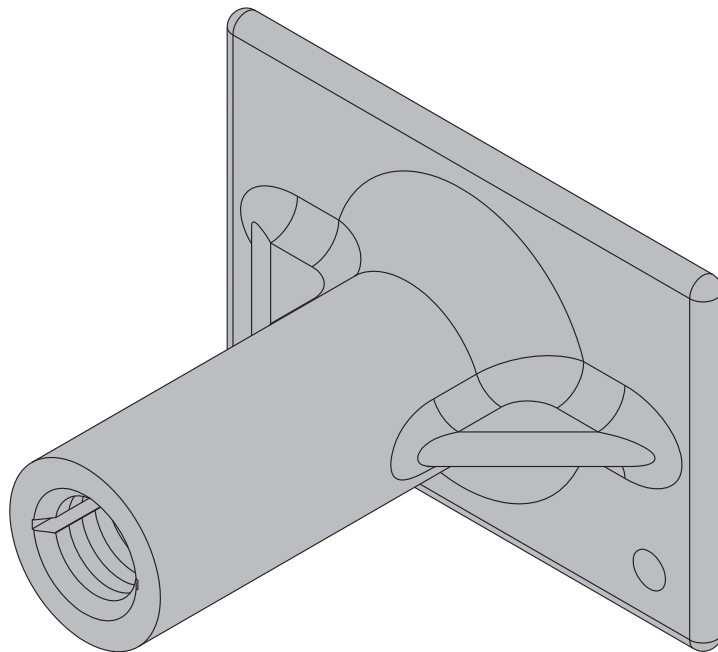


The Formwork Experts.

Bridge edge beam anchor 15.0

User Information

Instructions for assembly and use (Method statement)



Introduction

Elementary safety warnings

User target groups

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

Hazard assessment

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

Remarks on this booklet

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

Planning

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

Regulations; industrial safety

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

Rules applying during all phases of the assignment

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

Assembly

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

Closing the formwork

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

Pouring

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

Stripping the formwork

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

Transporting, stacking and storing

- Observe all country-specific regulations applying to the handling of formwork and scaffolding. For system formwork the Doka slinging means stated in this booklet must be used – this is a mandatory requirement.

If the type of sling is not specified in this document, the customer must use slinging means that are suitable for the application envisaged and that comply with the regulations.

- When lifting, always make sure that the unit to be lifted and its individual parts can absorb the forces that occur.
- Remove loose parts or secure them so that they cannot slip out of position and drop.
- When lifting formwork or formwork accessories with a crane, no persons must be carried along, e.g. on working platforms or in multi-trip packaging.
- All components must be stored safely, following all the special Doka instructions given in the relevant sections of this document!

Maintenance

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

Miscellaneous

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

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

Eurocodes at Doka

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

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

Allowance has been made for the following partial factors:

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

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.

Services

Support in every stage of the project

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

Project assistance from start to finish

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

Efficient planning for a safe project sequence

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

Optimise construction workflows with Doka

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

Custom formwork and on-site assembly

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

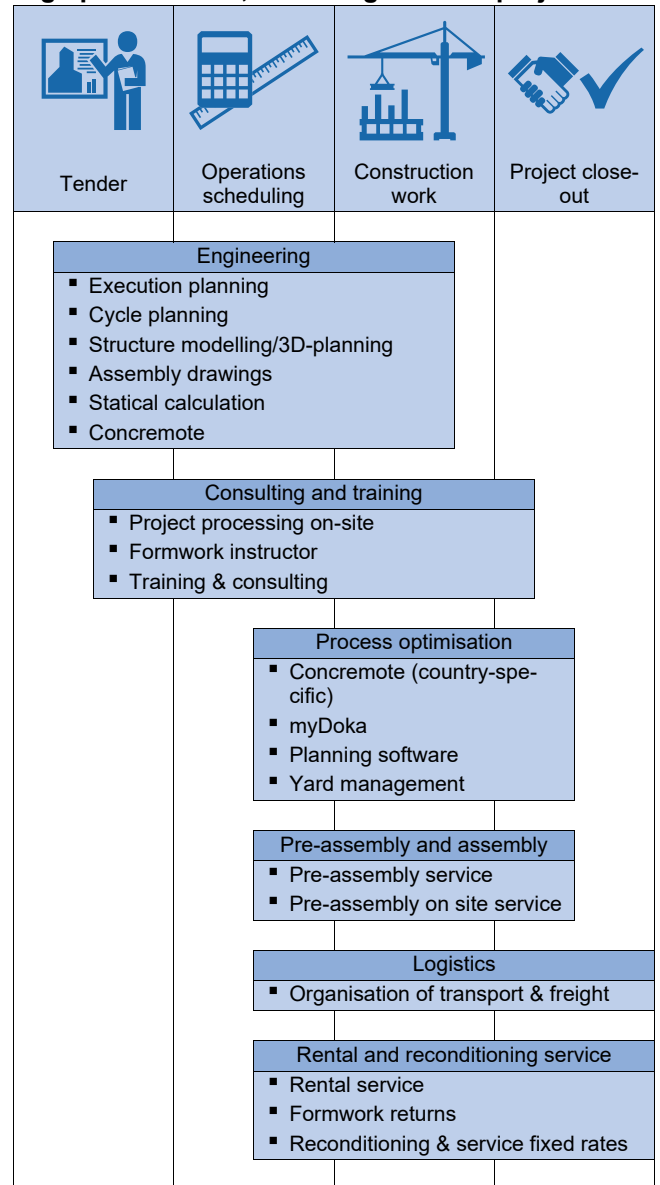
Just-in-time availability

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

Rental and reconditioning service

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

High performance, in all stages of the project



Digital Services

for higher productivity in construction

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

Product description

Intended use

The Bridge edge beam anchor 15.0 is a lost anchoring component. It is used as an anchorage in concrete structural elements.

The Bridge edge beam anchor 15.0 consists of the steel anchor, a nailing cone made of plastic as place-holder for the concreting operation and either:

- Screw-in cone 15.0
- Screw-in cone TU
- Bridge edge beam anchor bolt Rd
- Tie rod 15.0mm



Comply with 'Approval n°. Z-21.6-1982' for planning and structural design of the anchor point!

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

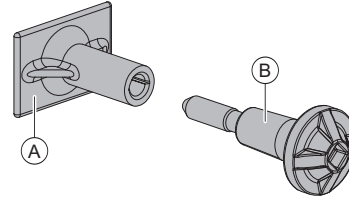
- load actually occurring
- reinforcement / extra reinforcement steel
- distance from edge

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

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

Product presentation

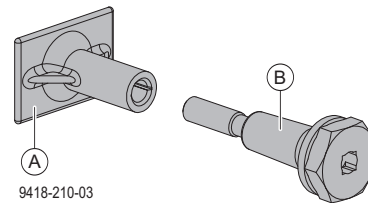
Screw-in cone 15.0



9725-504-01

- A Bridge edge beam anchor 15.0 (lost anchoring component)
- B Screw-in cone 15.0

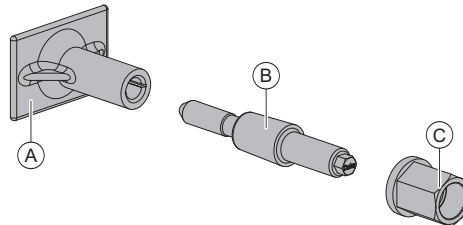
Screw-in cone TU



9418-210-03

- A Bridge edge beam anchor 15.0 (lost anchoring component)
- B Screw-in cone TU

Bridge edge beam anchor bolt Rd

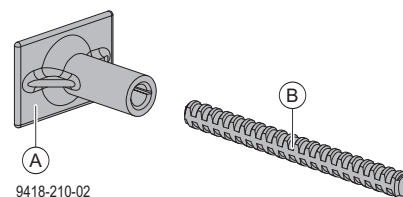


9418-210-01

- A Bridge edge beam anchor 15.0 (lost anchoring component)
- B Bridge edge beam anchor bolt Rd 16 or 20
- C Hexagon nut Rd 16 or 20

Tie rod 15.0mm

Tensile stress is the only permissible mode of loading for the anchorage made with with Tie rod 15.0mm.



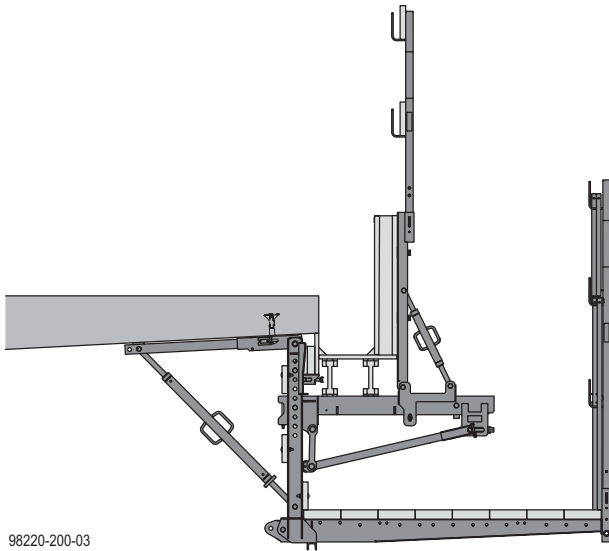
9418-210-02

- A Bridge edge beam anchor 15.0 (lost anchoring component)
- B Tie rod 15.0mm

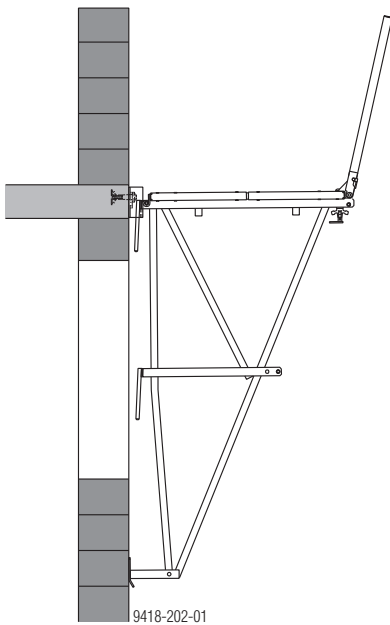
Practical examples

With Screw-in cone 15.0

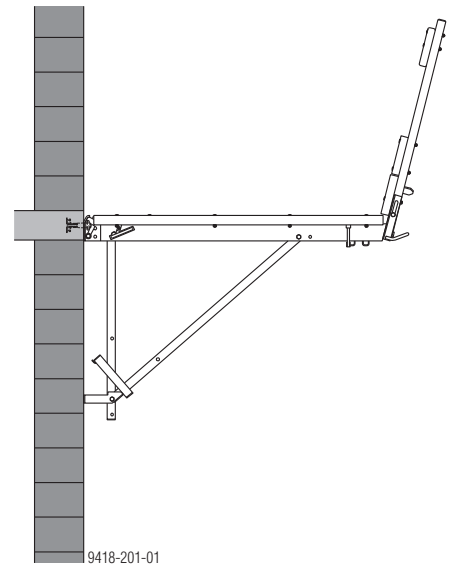
Bridge edge beam formwork NG



Bracket platform M



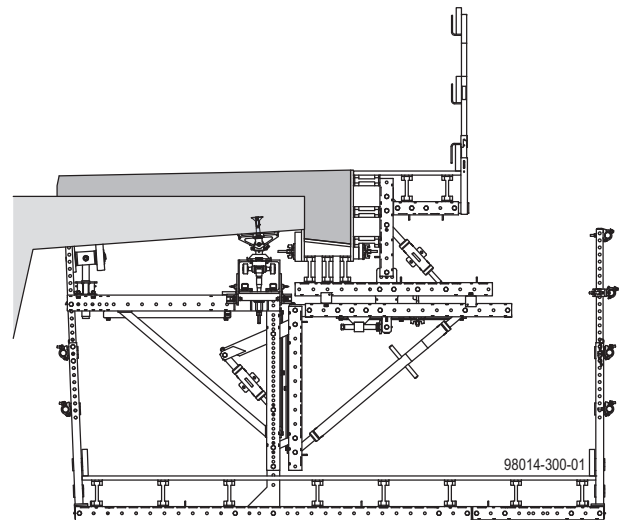
Folding platform K



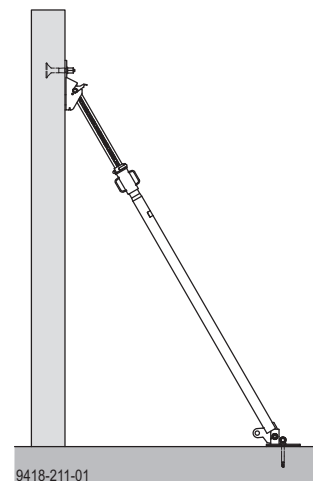
Follow the directions in the relevant User Information booklet.

More practical examples

Screw-in cone TU with Forming wagon TU



Bridge edge beam anchor bolt Rd with plumbing strut



Follow the directions in the relevant User Information booklet.

Installation and dismantling

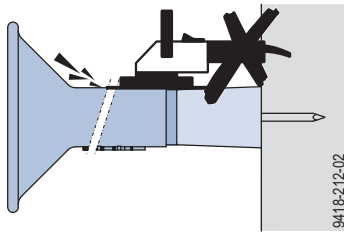
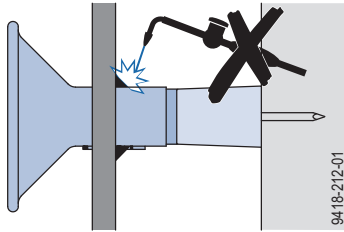
Preparing the positioning point



WARNING

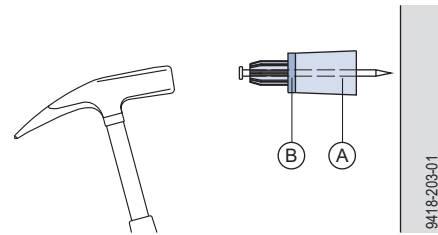
Sensitive anchoring, suspension and connector components!

- ▶ Never weld or heat these components.
- ▶ Any components that are damaged or weakened by corrosion or wear must be withdrawn from use.



with Nailing cone 15.0

- ▶ Nail a nailing cone to the form-ply (position as shown in shop drawing / assembly drawing).



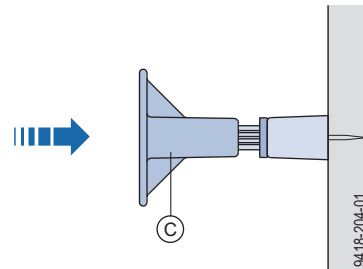
A Nailing cone 15.0

B Sealing ring



Make sure that the sealing ring is fitted correctly!

- ▶ Push the bridge edge beam anchor onto the nailing cone.



C Bridge edge beam anchor 15.0



Tie the bridge edge beam anchor tightly to the reinforcements with binding wire.

This prevents it from working loose during pouring and vibration.

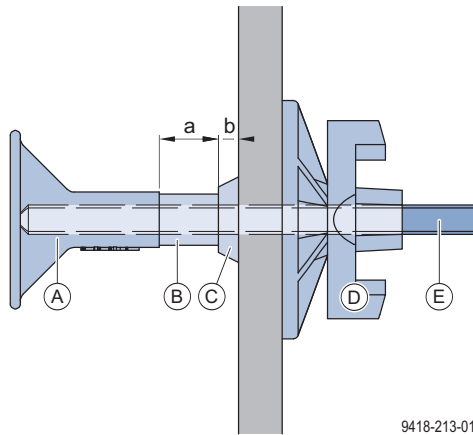


NOTICE

If statically required – place extra reinforcement steel.

with Tie rod 15.0mm

- ▶ Drill a diam. 18 mm hole in the formwork sheeting.
- ▶ Screw the tie rod into the bridge edge beam anchor.
- ▶ Cut the plastic tube to length.
- ▶ Slip the plastic tube and the universal cone on to the tie rod.
- ▶ Push the pre-assembled unit through the hole.
- ▶ Tighten the pre-assembled unit with a super plate.



a ... min. 3 cm

b ... 1 cm

- A** Bridge edge beam anchor 15.0 (lost anchoring component)
- B** Plastic tube 22mm
- C** Universal cone 22mm
- D** Super plate 15.0
- E** Tie rod 15.0mm



NOTICE

If statically required – place extra reinforcement steel.

Pouring



Mark the positions of the anchoring points at the top edge of the formwork to make them easier to locate when the concrete is being poured.

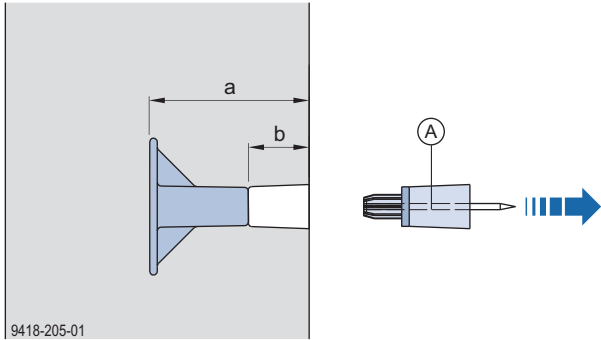
- ▶ Prevent the vibrator from touching the bridge edge beam anchor.
- ▶ Do not place concrete directly above the bridge edge beam anchor.

These measures prevent the anchors from working loose during pouring and vibration.

Preparing the suspension point

Stripping the formwork

- Remove the nailing cone from the anchoring point.

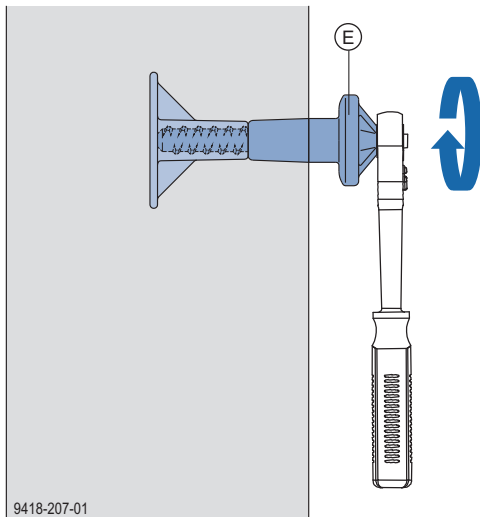


a ... placement depth 11.5 cm
b ... concrete cover 4.0 cm

A Nailing cone 15.0

Installing the Screw-in cone 15.0

- Using a Reversible ratchet 1/2", screw in the screw-in cone until it is fully engaged.



E Screw-in cone 15.0

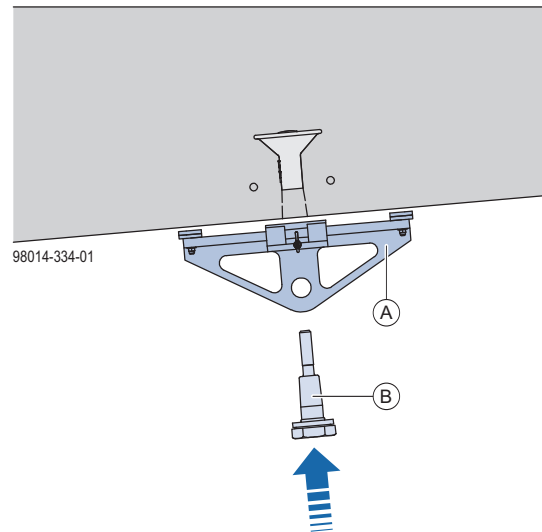
Tools needed:

- Reversible ratchet 1/2"

More practical examples

Installing the Screw-in cone TU

Use the Screw-in cone TU for correct installation of the Suspension shoe TU.



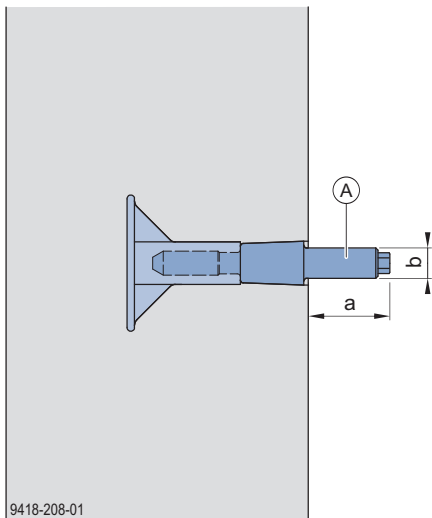
A Suspension shoe TU
B Screw-in cone TU



Follow the directions in the 'Forming wagon TU' User Information booklet.

Installing the Bridge edge beam anchor bolt Rd

- ▶ Screw the bridge edge beam anchor bolt into the bridge edge beam anchor and tighten.



a ... 54 mm length outside concrete
b ... 16 mm or 20 mm

A Bridge edge beam anchor bolt Rd 16 or 20

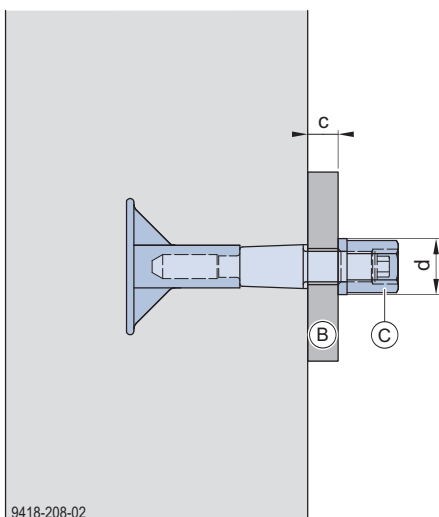
Tools needed:

- Fork wrench or ring spanner, width-across 13
- ▶ Push the component on to the thread.

**NOTICE**

If the hexagon nut Rd is overtightened, there is a possibility of the bridge edge beam anchor bolt, complete with the component, working loose from the concrete when the hexagon nut Rd is backed off.

- ▶ Tighten the hexagon nut hand-tight.



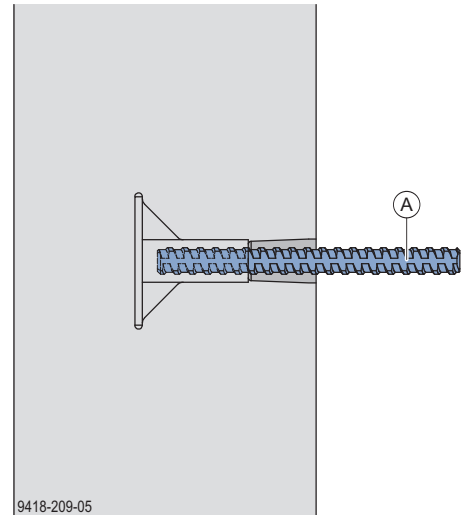
c ... 20 mm max. component thickness
d ... 37 mm collar diameter

B Component

C Hexagon nut Rd 20

Installing Tie rod 15.0mm

- ▶ Screw the tie rod into the bridge edge beam anchor.



A Tie rod 15.0mm

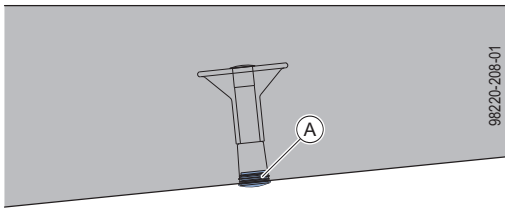
Tools needed:

- Tie-rod wrench 15.0/20.0

Sealing the suspension point

Hole plug 29mm

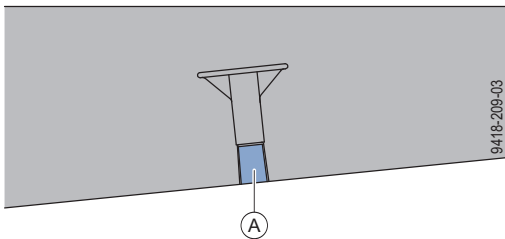
- ▶ Push the hole plug into the hole of the suspension point.



A Hole plug 29mm

Concrete cone D26/24 38mm

- ▶ Glue the concrete cone into the hole of the suspension point.



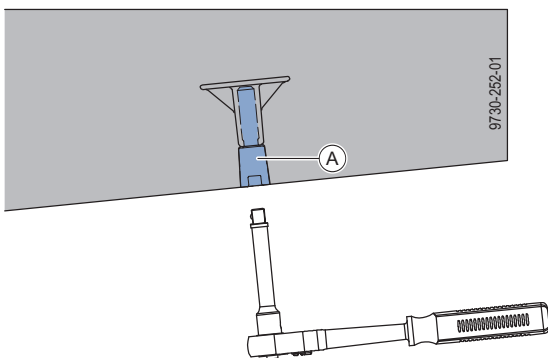
A Concrete cone D26/24 38mm



The concrete plug is glued into place with standard concrete adhesive.

Zinc plug 15.0

- ▶ Screw the zinc plug fully into the hole of the suspension point.



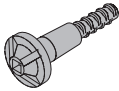



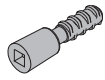
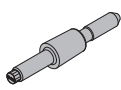

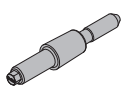

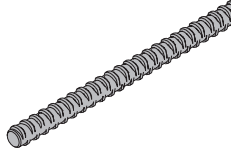
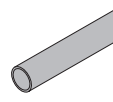

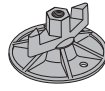
A Zinc plug 15.0

Tools needed:

- Reversible ratchet 1/2"
- Extension 11cm 1/2"

Making the suspension point reusable – lasting protection against corrosion

Where an ungalvanised 'standard' Bridge edge beam anchor 15.0 has been used, you can give the suspension point lasting (electrochemical) protection against corrosion by screwing a Zinc plug 15.0 into the anchor after the formwork has been removed.

	[kg]	Article N°		[kg]	Article N°
Screw-in cone 15.0 Einschraubkonus 15,0  Galvanised Length: 15 cm	0.74	581895000			
Bridge edge beam anchor 15.0 Bridge edge beam anchor 15.0 galv. Gesimsanker 15,0  Length: 7 cm	0.45 0.44	581896000 581890000			
Nailing cone 15.0 Nagelkonus 15,0  Black Length: 7 cm	0.02	581897000			
Hole plug 29mm Gesimsankerstopfen 29mm  PE Grey Diameter: 3 cm	0.003	581891000			
Zinc plug 15.0 Zinkstöpsel 15,0  Galvanised Length: 9.9 cm Diameter: 2.9 cm	0.2	581889000			
Concrete cone D26/24 38mm Betonkonus D26/24 38mm	0.04	699410010			
Bridge edge beam anchor bolt Rd 16 Gesimsankerschraube Rd 16  Galvanised	0.33	584857000			
Hexagon nut Rd 16 Sechskantmutter Rd 16  Galvanised	0.11	584859000			
Bridge edge beam anchor bolt Rd 20 Gesimsankerschraube Rd 20  Galvanised	0.37	584856000			
Hexagon nut Rd 20 Sechskantmutter Rd 20  Galvanised	0.15	584858000			
			Tie rod 15.0mm galvanised 0.50m Tie rod 15.0mm galvanised 0.75m Tie rod 15.0mm galvanised 1.00m Tie rod 15.0mm galvanised 1.25m Tie rod 15.0mm galvanised 1.50m Tie rod 15.0mm galvanised 1.75m Tie rod 15.0mm galvanised 2.00m Tie rod 15.0mm galvanised 2.50m Tie rod 15.0mm galvanisedm Tie rod 15.0mm non-treated 0.50m Tie rod 15.0mm non-treated 0.75m Tie rod 15.0mm non-treated 1.00m Tie rod 15.0mm non-treated 1.25m Tie rod 15.0mm non-treated 1.50m Tie rod 15.0mm non-treated 1.75m Tie rod 15.0mm non-treated 2.00m Tie rod 15.0mm non-treated 2.50m Tie rod 15.0mm non-treated 3.00m Tie rod 15.0mm non-treated 3.50m Tie rod 15.0mm non-treated 4.00m Tie rod 15.0mm non-treated 5.00m Tie rod 15.0mm non-treated 6.00m Tie rod 15.0mm non-treatedm Ankerstab 15,0mm	0.72 1.1 1.4 1.8 2.2 2.5 2.9 3.6 1.4 0.73 1.1 1.4 1.8 2.1 2.5 2.9 3.6 4.3 5.0 5.7 7.2 8.6 1.4	581821000 581822000 581823000 581826000 581827000 581828000 581829000 581852000 581824000 581870000 581871000 581874000 581886000 581876000 581887000 581875000 581877000 581878000 581888000 581879000 581880000 581881000 581873000
			 Plastic tube 22mm 2.50m Kunststoffrohr 22mm 2,50m  PVC Grey Diameter: 2.6 cm	0.45	581951000
			Universal cone 22mm Universal-Konus 22mm  Grey Diameter: 4 cm	0.005	581995000
			Super plate 15.0 Superplatte 15,0  Galvanised Height: 6 cm Diameter: 12 cm Width-across: 27 mm	1.1	581966000

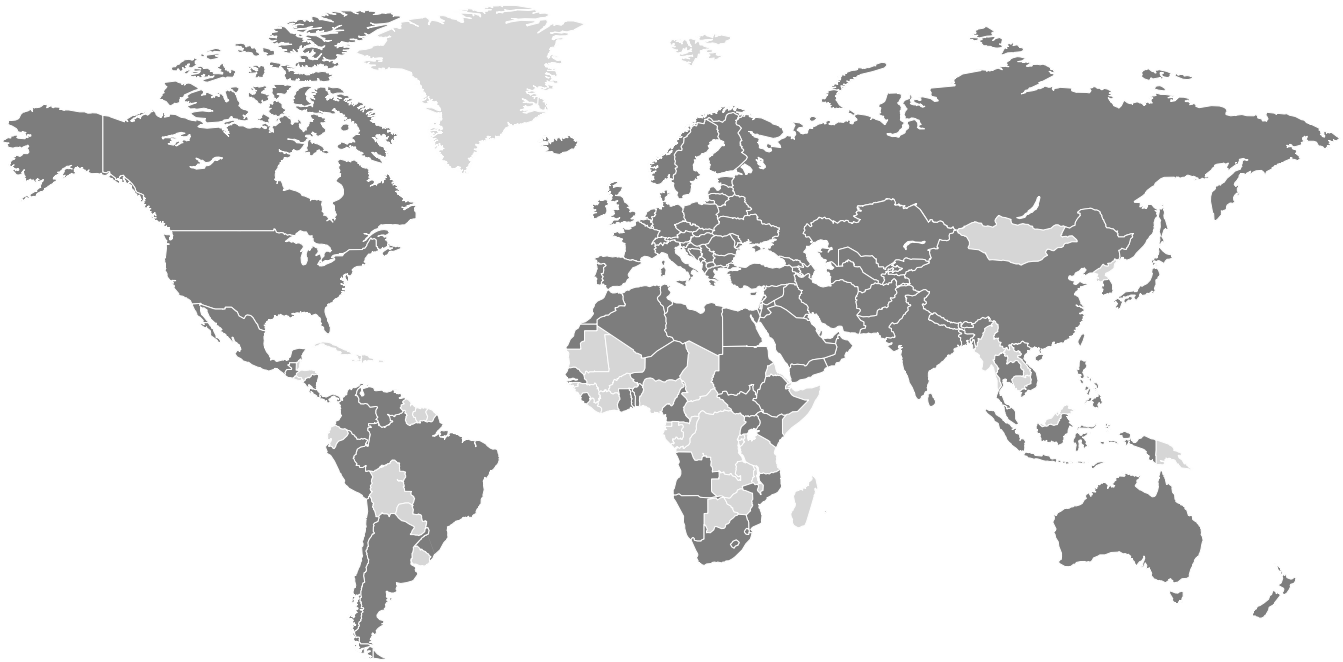
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