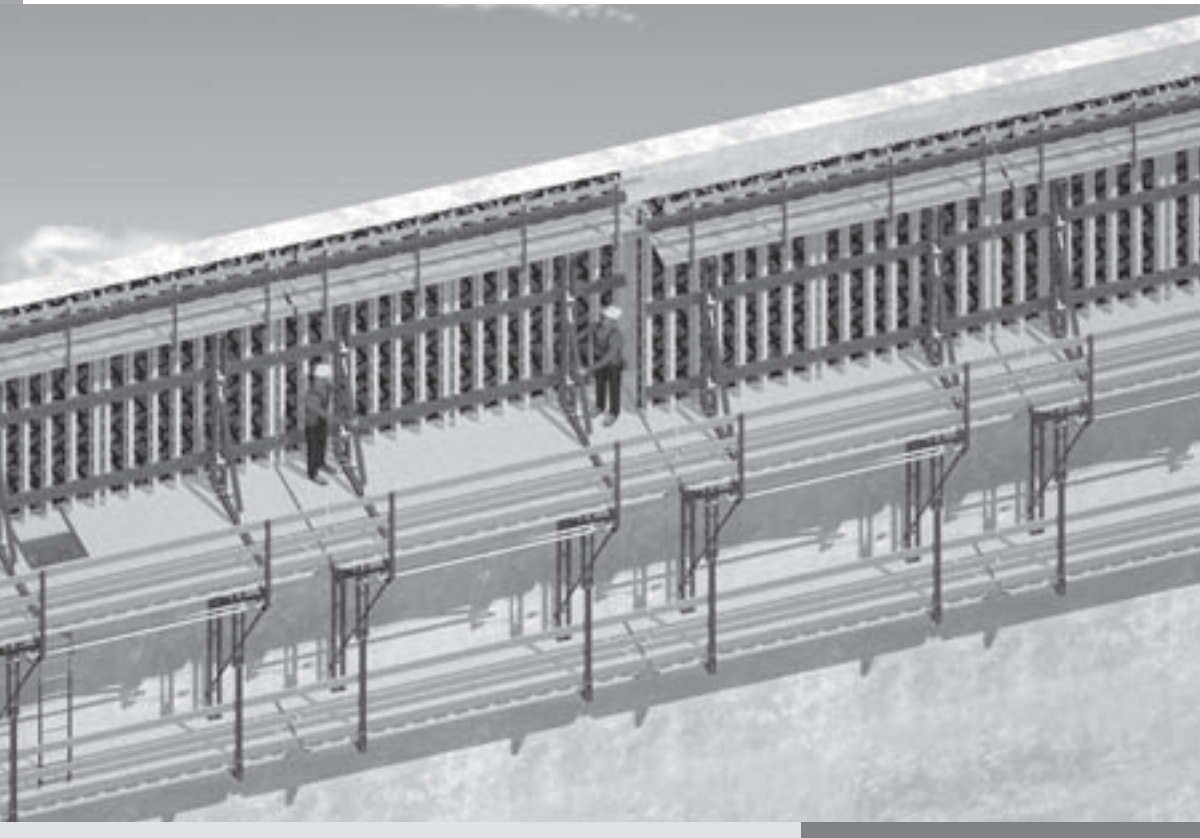


CB 240 **Climbing Scaffold**

Assembly Instructions for Standard Configuration



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Key



Safety Instructions



Note



Visual Check



Tip

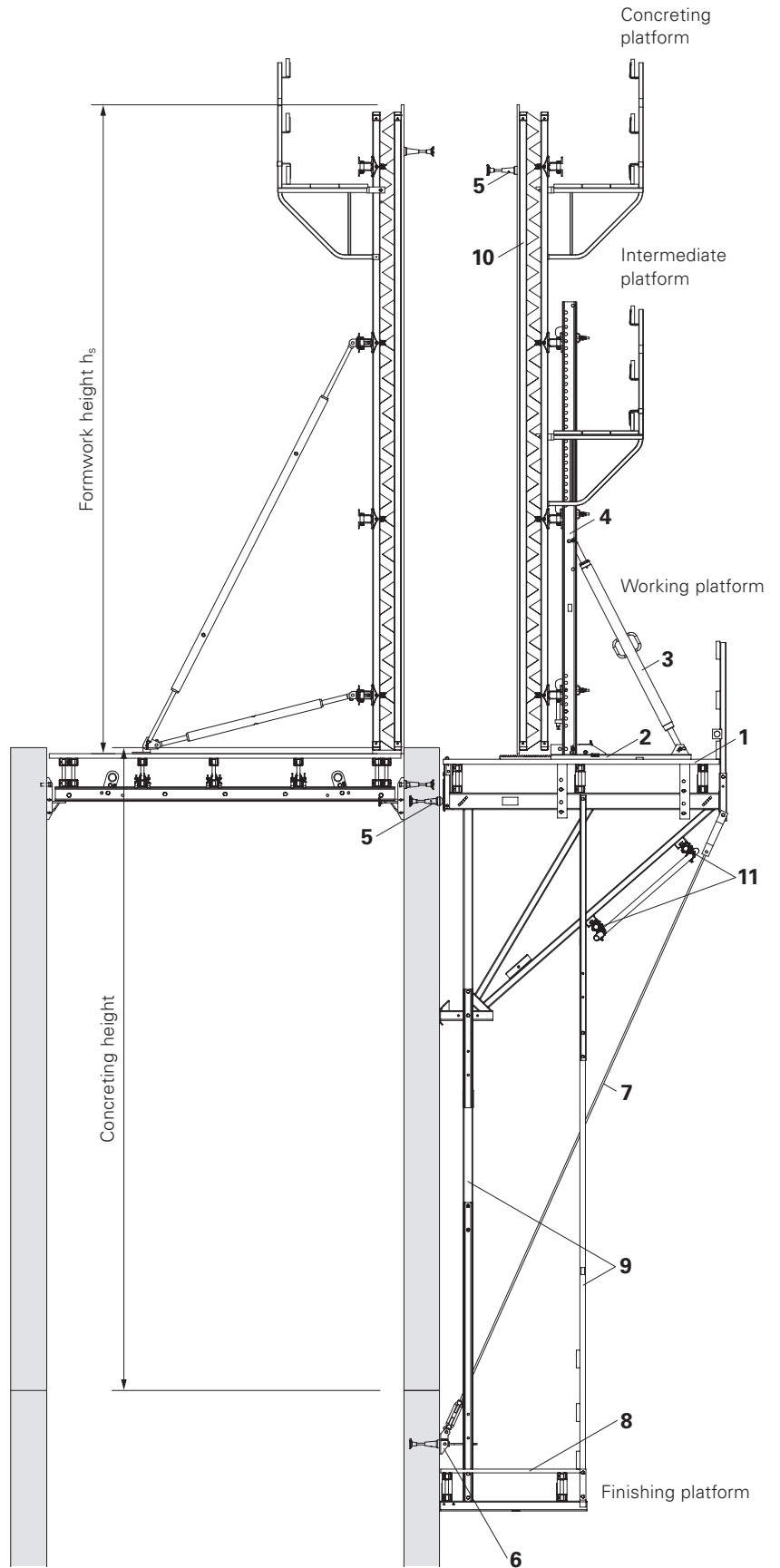
Introduction

Overview, Main Components

CB 240 Climbing Scaffold with VARIO GT 24 Girder Wall Formwork

- concreting height 5.40 m
- extended suspension of finishing platform
- Tension Anchor CB with DW 15 as wind bracing
- intermediate platform on formwork

*Formwork height = concreting height + formwork projection (max. 5.40 m)



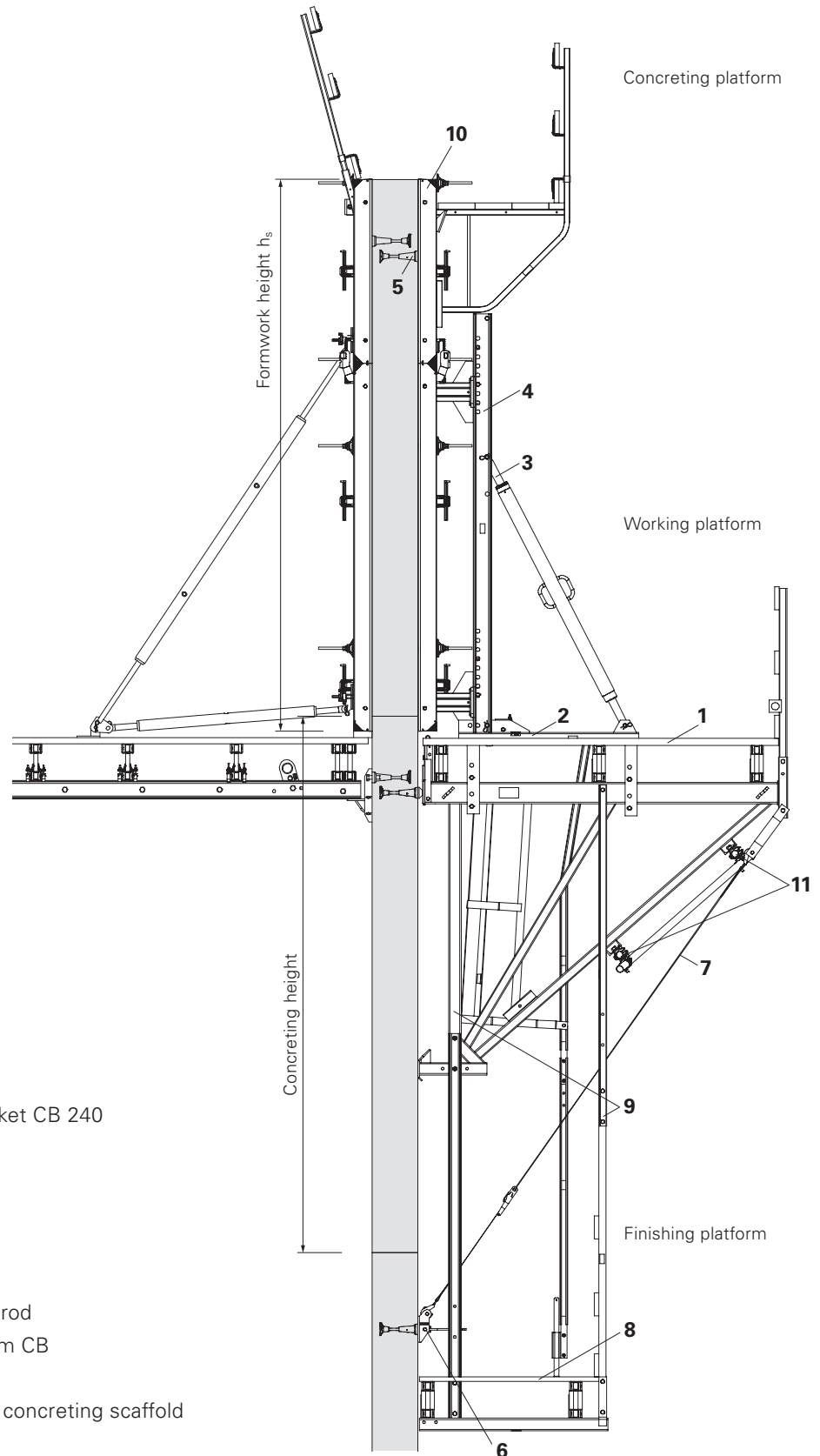
Introduction

Overview, Main Components

Climbing Scaffold CB 240 with TRIO Panel Formwork

- concreting height 3.60 m
- extended suspension of finishing platform
- Tension Belt CB as wind bracing

*Formwork height = concreting height + formwork projection (max. 5.40 m)



- 1 Working platform with Climbing Bracket CB 240
- 2 Carriage CB 240 with Rack CB 240
- 3 Adjustable Brace CB 164-224
- 4 Strongback CB 270 or CB 380
- 5 Anchoring and Leading Anchor
- 6 Bracing Shoe Wall CB M24
- 7 Wind bracing with tension belt or tie rod
- 8 Finishing Platform with Platform Beam CB
- 9 Suspension of finishing platform
- 10 VARIO GT 24 or TRIO formwork with concreting scaffold
- 11 Bracing with scaffold tubes

Introduction

Overview, Main Components

Anchoring to the building structure

Version 1

5.4 Threaded Anchor Plate DW 15*

5.5 Tie Rod DW 15*, Z-12.4-70

$L_1 = h - 8 \text{ cm}$

or Tie Rod B15*, Z-12.5-82

5.3 Climbing Cone 2 M24/DW 15

5.6 Scaffold Mounting Ring M24, galv.

5.7 Hex. Bolt M24 x 120 ISO 4014 - 10.9

5.8 Spacer Tube DR 22* (optional)

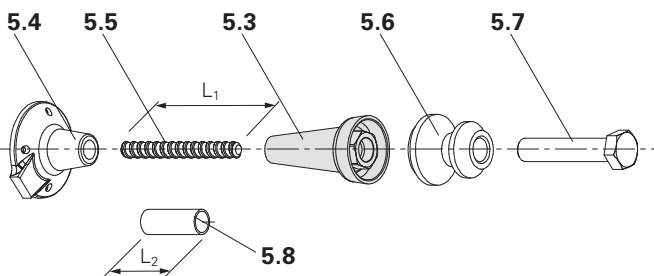
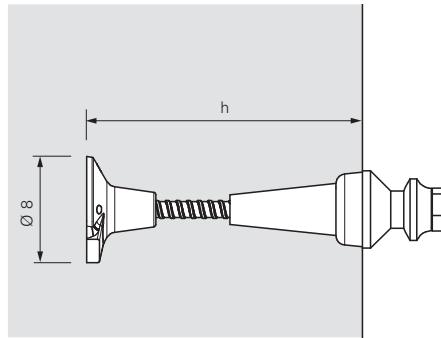
$L_2 = h - 18,5 \text{ cm}$

(tolerance 0 to +5 mm)

Anchoring depth $h =$ variable,
min 185 mm.

* "Lost components"

With PVC spacer tube, the tie rod (5.5)
is reusable.



Version 2

5.2 Threaded Anchor Plate DW 20*

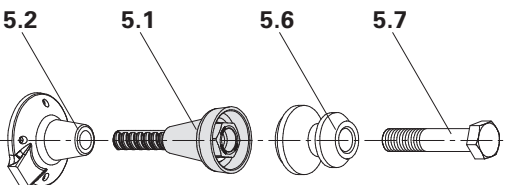
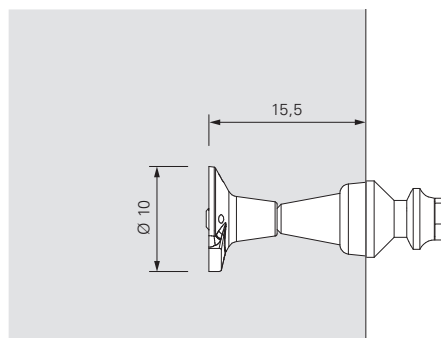
5.1 Screw-On Cone 2 M24/DW 20

5.6 Scaffold Mounting Ring M24, galv.

5.7 Hex. Bolt M24 x 120 ISO 4014 - 10.9

Anchoring depth $h = 15.5 \text{ cm}$

* "Lost component"



Introduction

Standard Configuration

General

The CB 240 climbing scaffold system is normally used as shoring in order to support anchored wall formwork in accordance with EN 12812. The formwork is firmly connected with the scaffolding and is moved as a single unit suspended on a crane. It can also be used as working scaffold only. The working platform for operating the formwork consists of planking, platform beams and two fixed climbing brackets. These transfer the loads deriving from the dead weight, live loads and prevailing wind loads via the anchorage and bottom pressure point into the structure.

The working platform can be supplemented with:

- formwork carriage, strongback and adjustable brace for accommodating the VARIO and TRIO formwork systems.
- a height-adjustable finishing platform complete with access ladder which is attached to posts.
- end-to-end guardrails on the working and finishing platforms in accordance with EN 12811.
- a tension anchor which prevents tipping inwards.

Technical Data:

- width of bracket: 2.40 m
- static height: 1.80 m
- retraction length: 75 cm
- max. formwork height: 5.40 m

Intended Use

1. PERI products have been exclusively designed as technical work equipment for use in the industrial and commercial sectors by suitably trained personnel.
2. These assembly instructions serve as the basis for the project-related risk assessment and the instructions for the provision and use of the system by the contractor (user). However, they do not replace these.
3. Only PERI original components may be used. The use of other products and spare parts represents a misapplication with associated safety risks.

4. The components are to be inspected before each use to ensure that they are in perfect condition and function correctly.
5. Changes to PERI components are not permitted and represent a misapplication with associated safety risks.
6. Safety instructions and permissible loads must be observed at all times.
7. Components provided by the contractor must conform with the characteristics required in these assembly instructions as well as all valid construction guidelines and standards.

- In particular, the following apply if nothing else is specified:
- timber components: Strength Class C24 for Solid Wood EN 338.
 - scaffold tubes: galvanised steel tubing with minimum dimensions $\varnothing 48.3 \times 3.2$ mm according to EN 12811-1:2003 4.2.1.2.
 - scaffold tube couplings according to EN 74.
8. Deviations from the standard configuration may only be carried out after a separate risk assessment has been completed by the contractor (user). On this basis, appropriate measures for the working safety and stability are to be implemented.

Introduction

Safety Instructions

General

1. Deviations from the standard configuration and/or intended use present a potential safety risk.
2. All country-specific laws, standards and other safety regulations are to be taken into account whenever our products are used.
3. During unfavourable weather conditions, suitable precautions and measures are to be taken in order to ensure both working safety and stability.
4. The contractor (user) must ensure the stability throughout all phases of construction. He must ensure and verify that all loads which occur are safely transferred.
5. The contractor (user) has to provide safe working areas for site personnel which are to be reached through the provision of safe access ways. Areas of risk must be cordoned off and clearly marked. Hatches and openings on accessible working areas must be kept closed during working operations.
6. For better comprehensibility, detailed drawings are partly incomplete. The safety installations which have possibly not been featured in these detailed drawings must nevertheless be available.

Storage and Transportation

1. Do not drop the components.
2. Store and transport components ensuring that no unintentional change in their position is possible. Detach lifting gear from the lowered units only if these are in a stable position and no unintentional change is possible.
3. When moving the components, make sure they are lifted and set down so that any unintentional tilting over, falling apart, sliding or rolling away are avoided.
4. Use only suitable load-carrying equipment to move the components as well as the designated load-bearing points.
5. During the lifting and moving procedure, ensure all loose parts are removed or secured.
6. During the moving procedure, always use a guide rope.
7. Move components on clean, flat and sufficiently load-bearing surfaces only.

System-specific

1. Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place.
2. Anchoring is to take place only if the anchorage has sufficient concrete strength.
3. It is the responsibility of the contractor (user) to inspect all anchors and associated components.
4. Enclosure of the platform or mounting of additional surfaces which are exposed to the influences of the wind changes the stability and must therefore be checked. If necessary, additional measures must be implemented.
5. The platforms are to be inspected for signs of damage by authorised personnel at regular intervals. Dirt which affects the functionality is to be removed immediately.
6. As a result of the moving procedure, falling edges are formed between the platforms. Corresponding areas are to be secured.
7. Site personnel, construction materials or tools may not be transported while the scaffold unit is being moved with the crane. Exceptions to this can be determined through the operational working and assembly instructions.

General

Additional PERI product information

- CB 240 climbing scaffold type test
- “PERI CB 240 and CB 160 Climbing Scaffold” brochure
- Instructions of Use for the Crane Splice 24
- Instructions for Use for the TRIO Lifting Hook
- PERI Design Tables for Formwork Technology

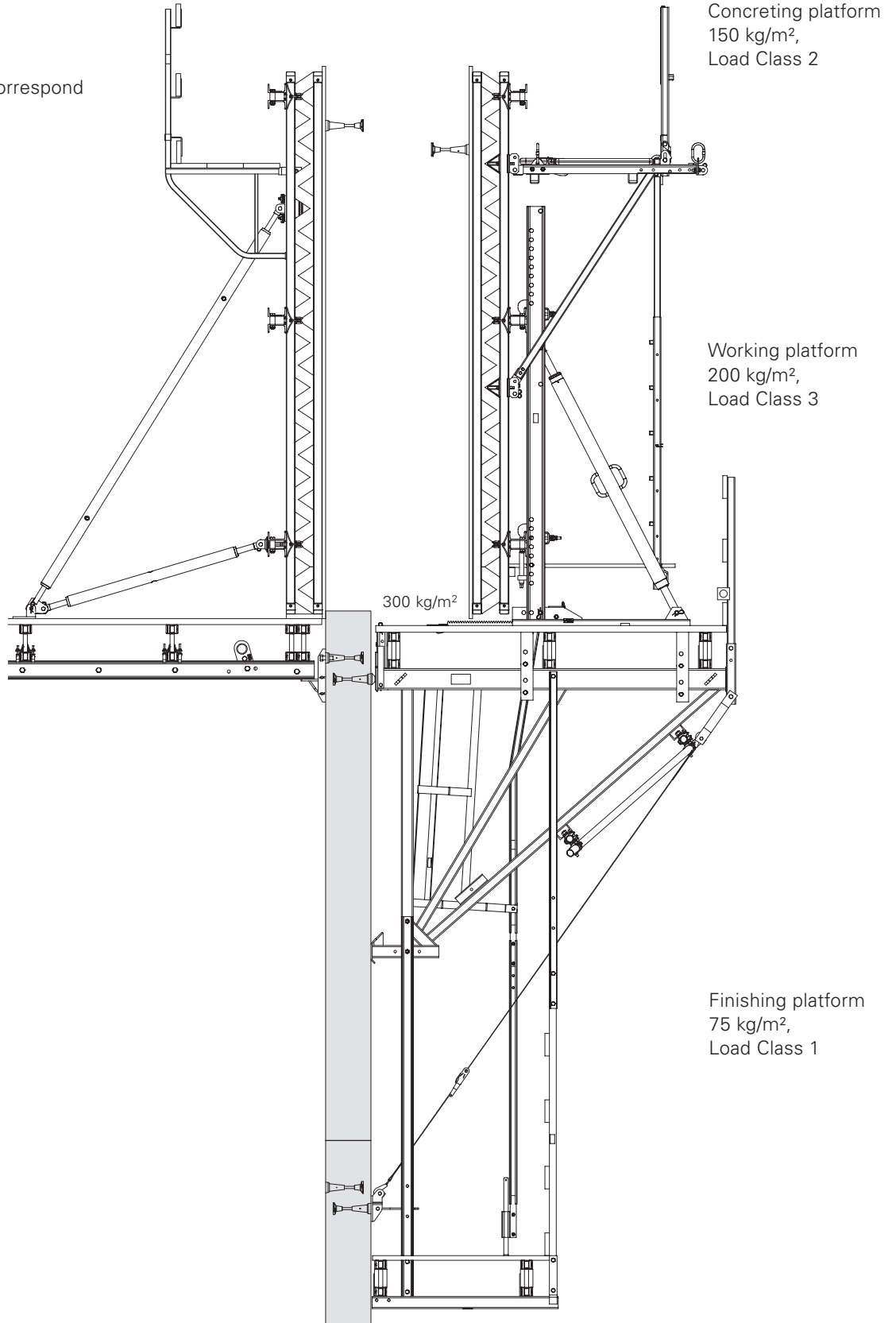
The assemblies shown in these PERI assembly instructions are only examples which feature only one component size. They are accordingly valid for all component sizes contained in the standard configuration.

Introduction

Load Models

Working position

The area-related live loads correspond to EN 12811.

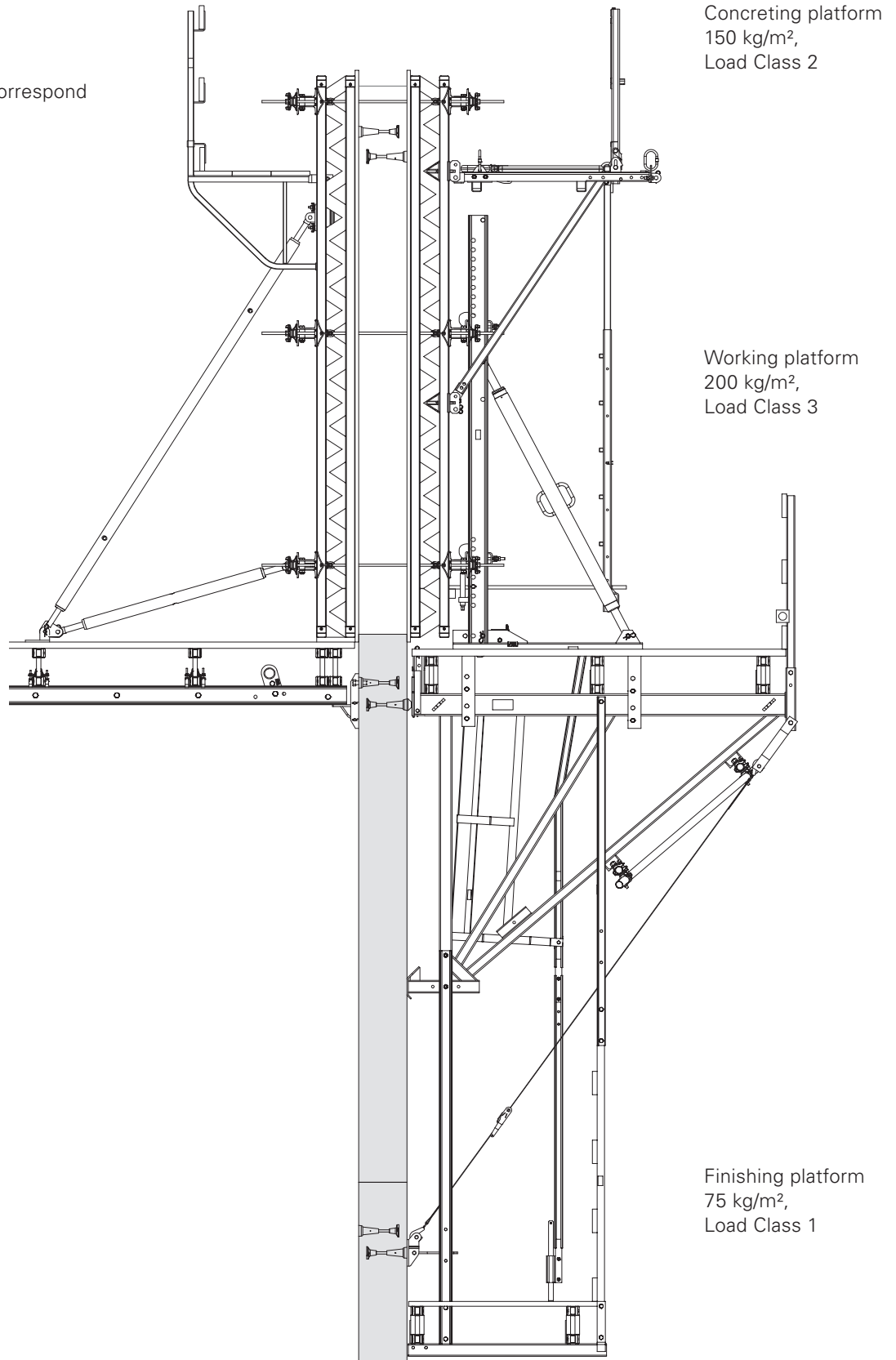


Introduction

Load Models

Concreting position

The area-related live loads correspond to EN 12811.



Introduction

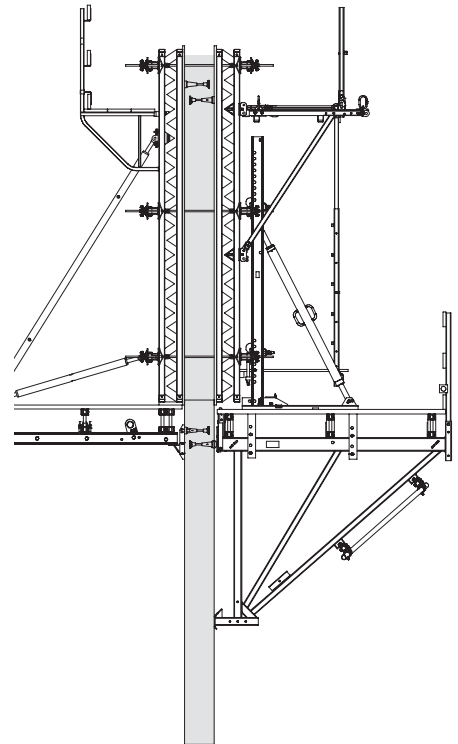
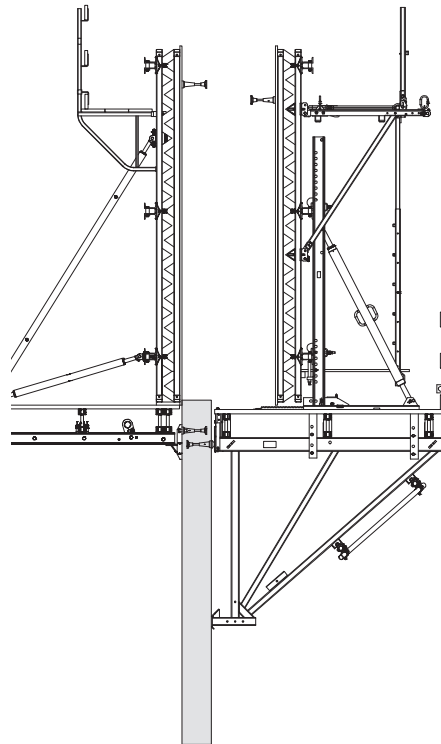
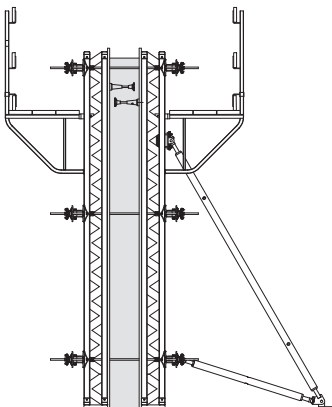
Standard work flow

Preparation

1. Assemble wall formwork.
2. Assemble platform.
3. Assemble finishing platform.

Initial use

1. Position wall formwork for first wall section.
2. Add reinforcement to first wall section.
3. Mount leading anchor and close formwork.
4. Place formwork anchor.
5. Pour first wall section.
6. Remove advancing bolts and strike.
7. Mount scaffold mounting rings.
8. Attach climbing platforms.
9. Assemble tension anchor if necessary.
10. Place formwork on climbing platform and secure.
11. Clean formwork and adjust if necessary.
12. Reinforce second wall section.
13. Mount leading anchor and close formwork.
14. Place formwork anchor.
15. Pour second wall section.
16. Remove advancing bolts and retract formwork.
17. Mount scaffold mounting rings.



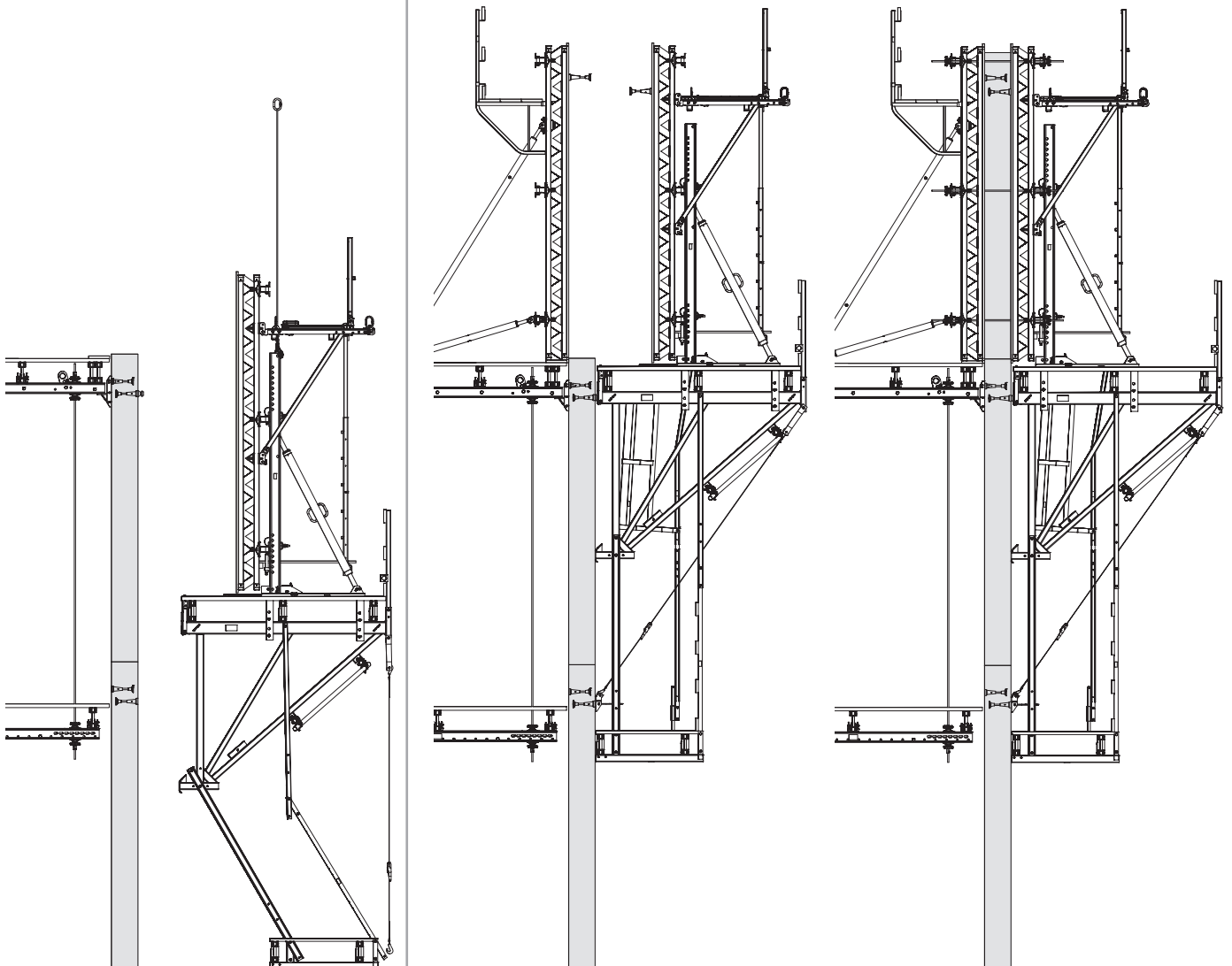
Introduction

- 18. Attach finishing platform.
- 19. Move climbing scaffold to second wall section.
- 20. Bolt on finishing platform and attach guardrails.
- 21. If necessary, mount ladder.

Standard cycle

- 22. Mount tension anchor if required.
- 23. Clean formwork and adjust.
- 24. Install reinforcement to wall.
- 25. Mount leading anchor and close formwork.
- 26. Place formwork anchor.
- 27. Pour wall section.

- 28. Remove advancing bolts and retract formwork.
- 29. Mount scaffold mounting rings.
- 30. Remove climbing cones from previous wall section.
- 31. Move climbing scaffold to next wall section.
- Continue with standard cycle.
- 32. Dismantle climbing scaffold.



A1 Assembly of the CB 240 Platform

Required resources

Equipment and tools

- Hammer, Wire Pins, Plumb Line,
- 4 Screw Clamps with 300 mm clamping length, Circular Saw, Electric Drill,
- HSS Drill \varnothing 6 mm, \varnothing 8 mm, min. L = 180 mm
- 072180 Ratchet Wrench SW 24 – 1/2"
- 102784 Socket SW 24 – 1/2"
- 029620 Socket SW 19 – 1/2"
- 072170 Socket SW 13 – 1/2"
- 072150 Power Wrench M14, ASB 636
- 072210 Power Screwdriver SCU 7-9
- 072220 Bit Holder
- 072230 Magnetic Holder
- 072140 Bit Point TX 30
- 031480 Socket Wrench SW 36
- 027212 Allen Key SW 14
- 031080 Drill Bit \varnothing 25 mm

Flat assembly surface

- Width: approx. 3.50 m
- Length: maximum platform width + min. 2.0 m
- Attach stop bars and support.

Aids

- Locating Block (0.1) 12 plywood blocks 21 x 80 x 80 mm
- Support (0.2) h = approx. 24 cm, e.g. GT 24, L = max. bracket spacing + 1.0 m
- Stop Bars (0.3) 1 plank 40 x 120 mm
1 plank 80 x 80 mm, L = max. bracket spacing + 1.0 m
- Gauge for bracket spacing (0.4)
1 plank 40 x 120 mm, L = bracket spacing + max. 1.0 m Formlining blocks (4) (Fig. A1.02)
- Diagonal bracing for securing bracket (0.5) 1 plank 40 x 120 mm, L = 2.0 m (Fig. A1.03)

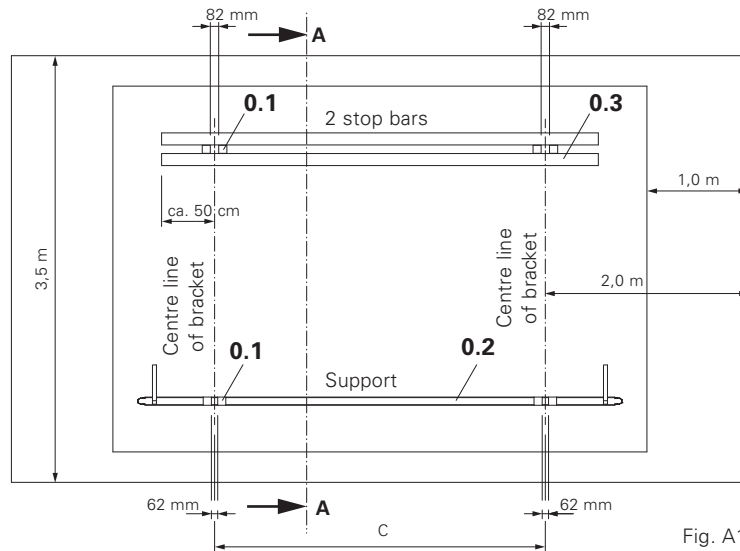


Fig. A1.01

Section A-A

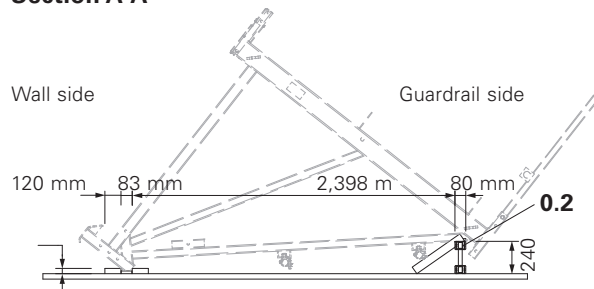


Fig. A1.01a

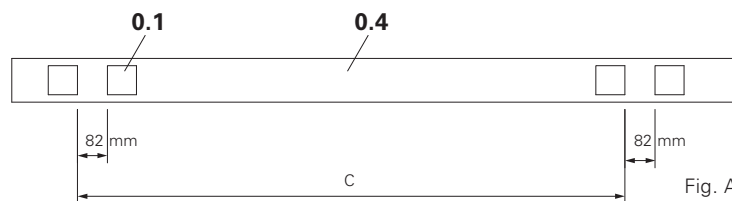


Fig. A1.02

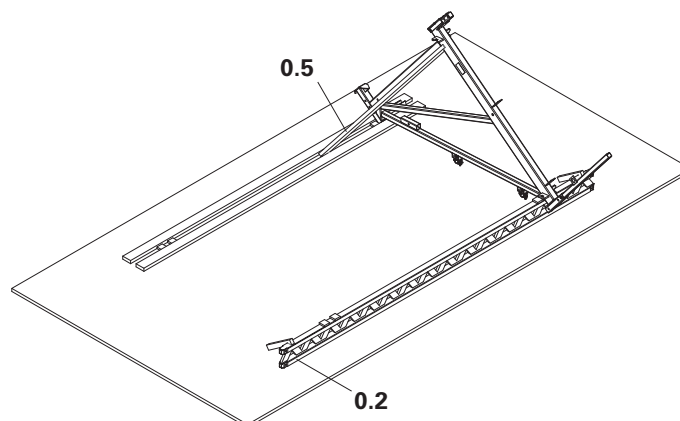


Fig. A1.03



Are the stop bars and support mounted in parallel?

A1 Assembly of the CB 240 Platform

Assembly of CB 240 brackets

Assembly

1. Check centre-to-centre spacing of brackets conforms to planning details, or measure spacing of climbing cones already cast in concrete.
2. Adjust centre-to-centre spacing of brackets to the support (0.2).
(Fig. A1.04)



Fig. A1.04



- The bracket axis forms a right-angle to the stops and support.
3. Fix locating blocks (0.1).
(Fig. A1.05)
- For spacings: see Fig. A1.02.



Fig. A1.05

4. Vertically lift first bracket (1.1) into the stops and then align.
5. Fix together with the diagonal bracing (0.5). (Fig. A1.06)



Fig. A1.06

6. Lift in second bracket and align using bracket spacing gauge. Fix gauge using screw clamps. Check bracket spacing.
(Fig. A1.07)



Fig. A1.07

7. Fix two scaffold tubes (11.1) to screw couplings (1.3) in a parallel position to provide support.
8. Brace with diagonal scaffold tube (11.2) and two swivel couplings (11.3).
(Fig. A1.08)

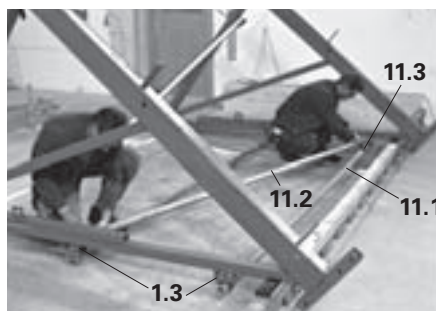


Fig. A1.08

The brackets are now aligned.

A1 Assembly of the CB 240 Platform

Assembly of platform beams



When using PERI GT 24 girders, strengthen these on both sides in the area of the brackets with plywood strips (13.2).

(Fig. A1.09)

Dimensions: thickness/width/height
27 x 120 x 300 mm

Fixing: Torx TSS 6 x 60

Assembly

1. Fix girder (13.1) by means of screw clamps. (Fig. A1.10).
2. Fix diagonals to the fixing plate using two hex. wood screws 6 x 80 DIN 571 (13.3).
(Fig. A1.11)

Alternatively:

Round head bolts M6 x 100 DIN 603 and washer, or M6 x 180 (13.4) for double girders.



Pre-drill girders when using round head bolts.

Use round head bolts for longer girder cantilevers.

Timbers must be fixed accordingly.
The girders are now assembled.



Fig. A1.09

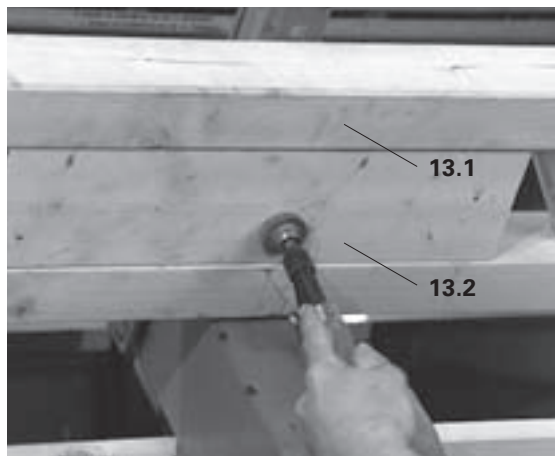


Fig. A1.10



Fig. A1.11

A1 Assembly of the CB 240 Platform

Single girder position

- plywood or 3-ply board (13.2)
 - hex. wood screw 6 x 80 DIN 571 (13.3)
 - timber 8/16 (13.6)
 - GT 24 lattice girder (13.7)
- (Fig. A1.12 + A1.13)

GT 24 girder

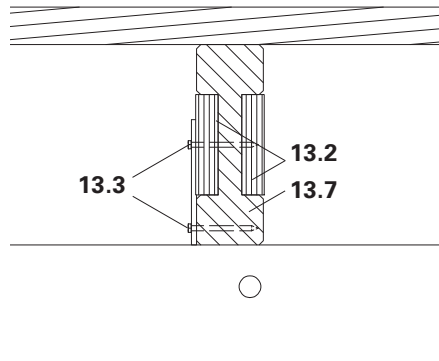


Fig. A1.12

Timber

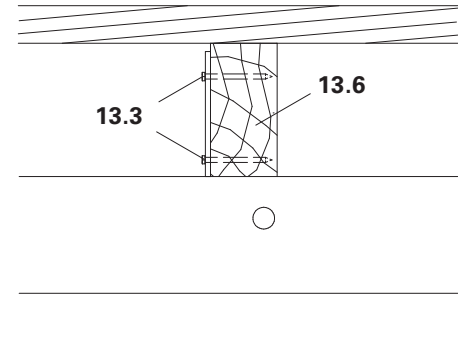


Fig. A1.13

Double girder position

- plywood or 3-ply board (13.2)
 - timber 8/16 (2x) or 16 x 16 (1x) (13.6)
 - round head bolt M6 x 180 DIN 603 (13.4)
 - GT 24 lattice girder (13.7)
- (Fig. A1.14 + A1.15)

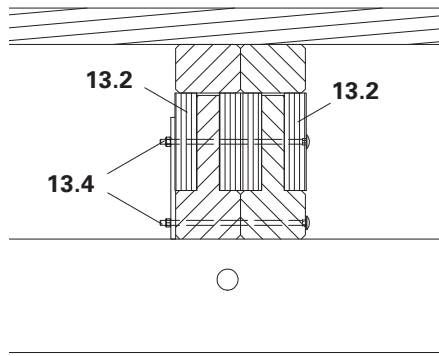


Fig. A1.14

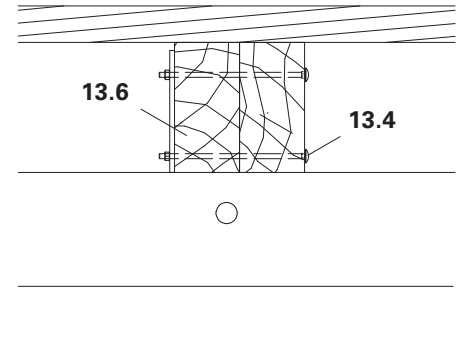


Fig. A1.15



These drawings conform to Appendix K15 of the type test issued by the State Structural Inspectorate, Düsseldorf, and may only be used in accordance with the aforementioned type test.

A1 Assembly of the CB 240 Platform

Assembly of CB 240 Carriage

Assembly

1. Retract the wedge (2.2).
2. Insert rack 2.7 into the carriage (2.1). (Fig. A1.16)
3. Secure with wedge (2.2). (Fig. A1.17)
4. Remove lower-positioned bolts (2.4) and roller (2.3) from the carriage. (Fig. A1.16)

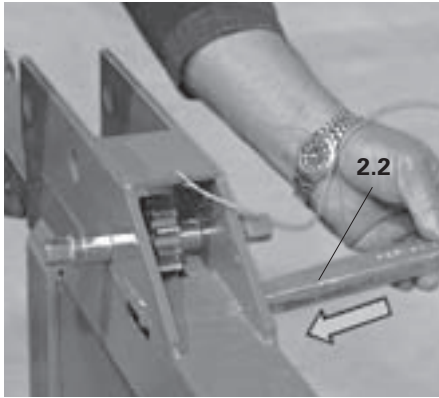


Fig. A1.17

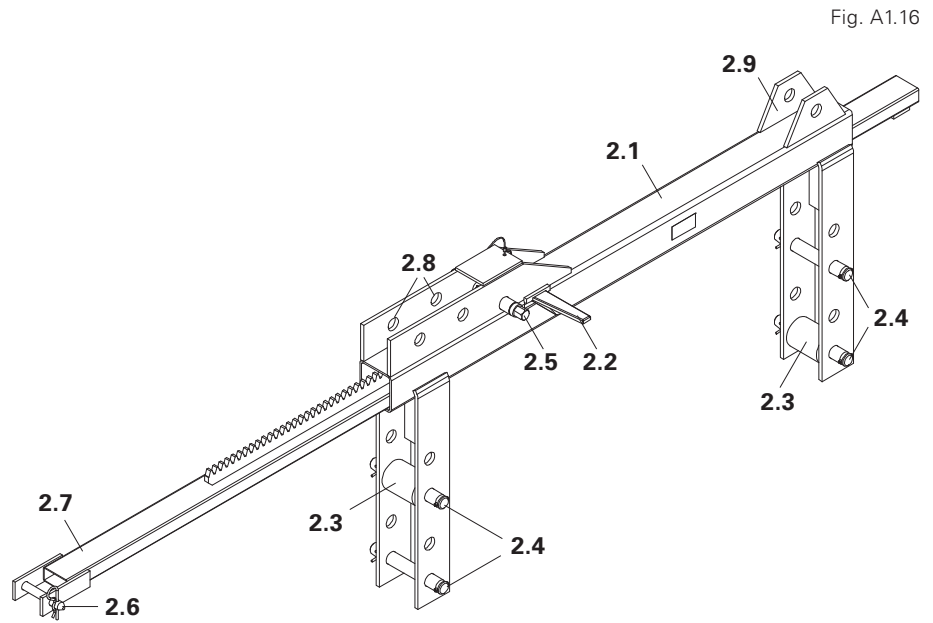
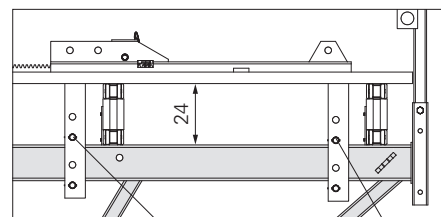


Fig. A1.16

- | | |
|---|---|
| (2.1) Carriage CB 240 | (2.6) Bolt \varnothing 16 x 65/86 with Cotter Pin 4/1 |
| (2.2) Wedge | (2.7) Rack |
| (2.3) Rollers \varnothing 60 x 85 | (2.8) Strongback Connection \varnothing 26 |
| (2.4) Bolt \varnothing 25 x 180 with Cotter Pin 4/1 | (2.9) Adjustable Brace Connection \varnothing 26 |
| (2.5) Traction Screw SW 19 | |

5. Depending on the height of the girder (24 cm or 16 cm), mark out both bolts (2.4) and roller (2.3) accordingly. (Fig. A1.18)

Girder h = 24 cm



Girder h = 16 cm

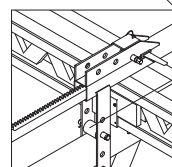
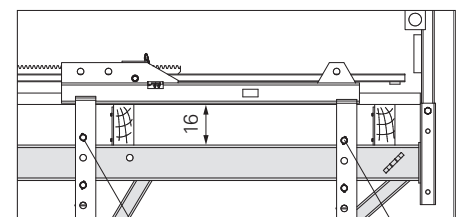


Fig. A1.18

A1 Assembly of the CB 240 Platform

Assembly of CB 240 Carriage

Assembly

6. Position carriage (2.1) on the bracket (1.1). (Fig. A1.19)

Mounting of strongback is towards the formwork side.

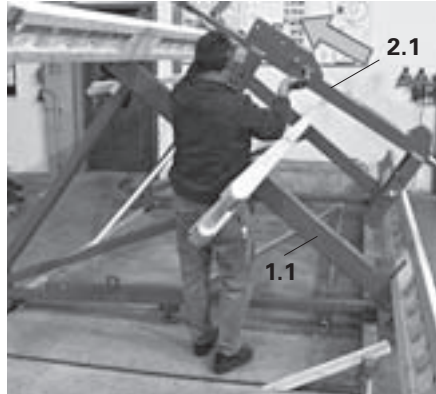


Fig. A1.19

7. Push roller (2.3) on bolt (2.4). On the guardrail side, insert and secure underneath the bracket beam.

8. Insert and secure second bolt on the formwork side. (Fig. A1.16)

9. Assemble carriage on second bracket in the same way.

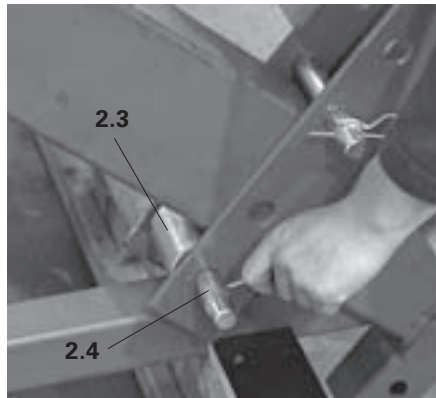


Fig. A1.20



Risk of crushing!
Hold carriage when detaching!



Check the position of the rollers!
(Fig. A1.21)



Fig. A1.21

10. Remove wedge from carriage. Extend rack (2.7) and attach to bracket with bolts \varnothing 16x65/86 and cotter pins (2.6). (Fig. A1.22)
Push carriage upwards and secure with the wedge to the rack.



Fig. A1.22

A1 Assembly of the CB 240 Platform

Assembly of decking for the working platform

Assembly

1. Cut planking to length. $l = 2.326 \text{ m}$.
2. At platform ends, fix each plank flush to the girders (13.1). (Fig. A1.23)
Planking is flush with bracket front edge on the wall side.
Projecting length: 81 mm over girder on the wall side. (Fig. A1.24)
Mounting: Torx TSS 6 x 80 (13.5) 2 x per plank support.
Alternatively: nails 38 x 100.
3. For accurate positioning, use plumb line. (Fig. A1.24)
4. Fix remaining planking. (Fig. A1.25)



- assembly details for the sliding hatch are to be found in A2.
- joint width in decking max. 2 cm.



Fig. A1.23

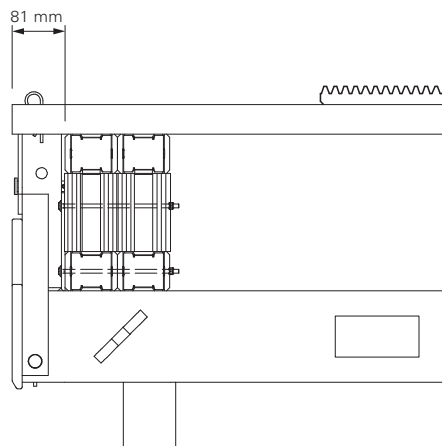


Fig. A1.24



Fig. A1.25

A1 Assembly of the CB 240 Platform

Assembly of decking for the working platform

Assembly dimensions

- cut out for securing bolt 1.5.

Other dimensions:

- width of plank min. 10 cm.
- guide apertures on both sides of the carriage: 10 – 15 mm.

(Fig. A1.26)

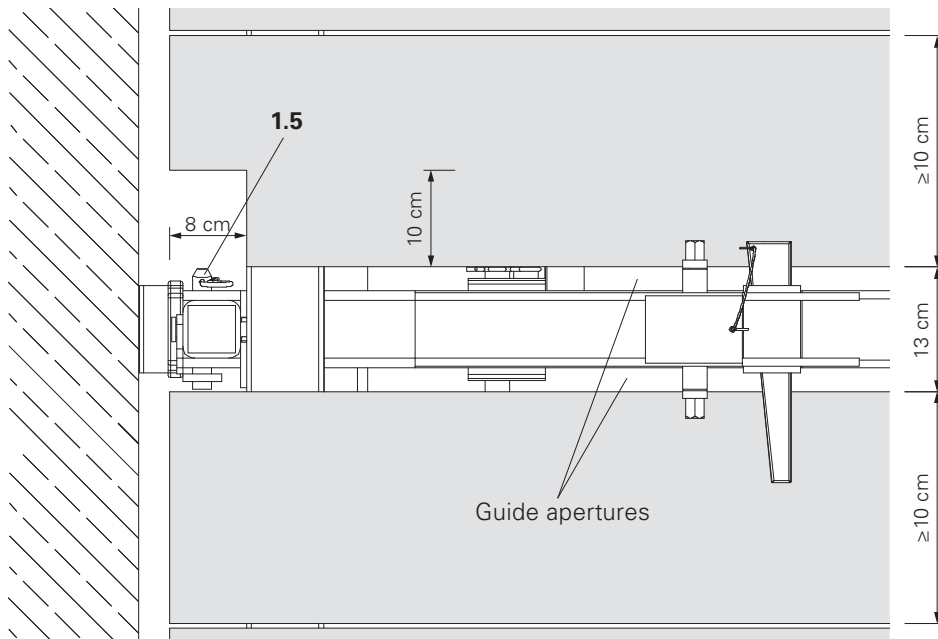


Fig. A1.26

A1 Assembly of the CB 240 Platform

Assembly of guardrail

Guardrail Post CB

1. Remove bolt (1.6), SW 24, and guardrail post (1.2). (Fig. A1.27)
2. Insert guardrail post in the holder. The crane eye (1.4) points towards the platform. Fix spring washer and nut with the nut (1.6). (Fig. A1.28)
3. Likewise with the second guardrail post.

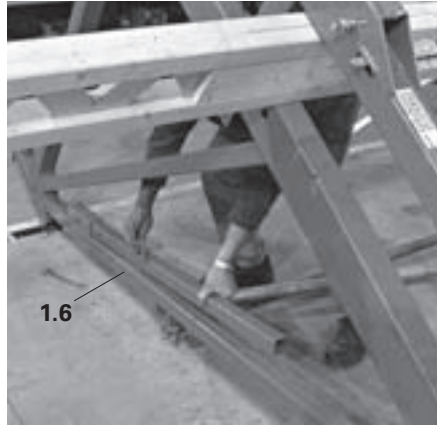


Fig. A1.27



Fig. A1.28

Depending on the height of the girder, use the following:
 24 cm = top drilled hole a
 16 cm = bottom drilled hole b
 (Fig. A1.29)

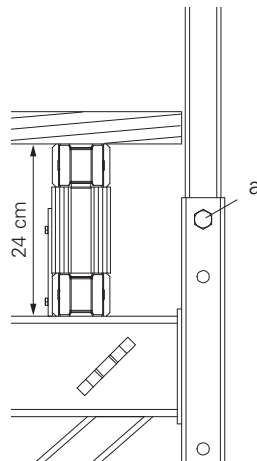
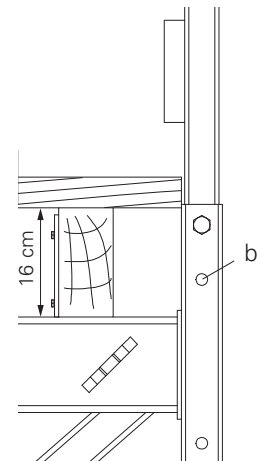


Fig. A1.29



Guardrail assembly

1. Cut handrail boards (12.1) to match platform width.
2. Attach handrail boards to guardrail post with screw clamps. Height: 50 cm and 100 cm above planking. (Fig. A1.30)
3. Fix handrail boards and toe board (12.2) with two round head bolts M8 x 100 DIN 603 (12.5) respectively. Pre-drill boards!



Handrail boards flush with the planking.



Fig. A1.30

A1 Assembly of the CB 240 Platform

Assembly of guardrail

End guardrail posts

For longer cantilevers, it is necessary to additionally support the handrail boards with one or more end guardrail posts.

1. Mark the outside edge of the end guardrail post (12.3) on the handrail boards (12.1 + 12.2).
2. Align end guardrail post and fix to girder (13.1) with screw clamp.
- (Fig. A1.31 + A1.32)
3. Use wood screws (6x) 6 x 80 DIN 571 (12.8) for fixing to girder. (Fig. A1.33)
4. Mount the pre-drilled handrail boards using round head bolts M8 x 100 DIN 603 (12.5).

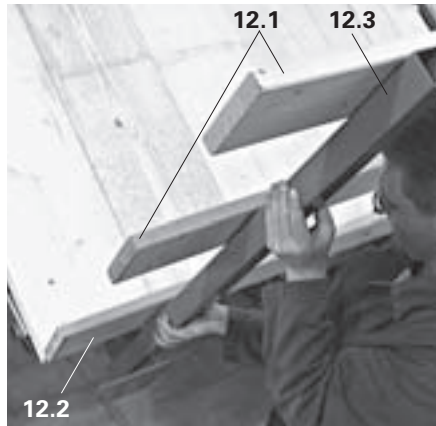


Fig. A1.31

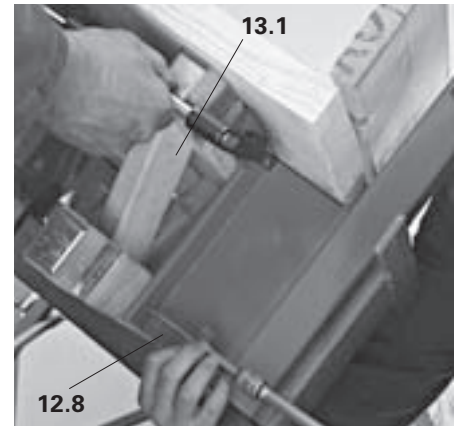


Fig. A1.32

Assembly at single platform beams

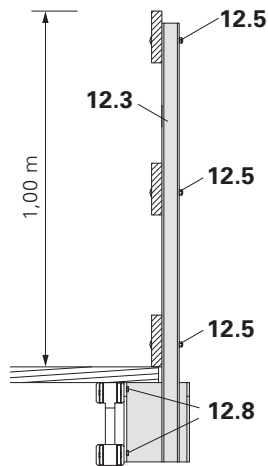


Fig. A1.33

Assembly at double GT 24 platform beams

1. Turn end guardrail post. The posts rest against the planking.
2. Using wood screws (6x) 6 x 80 DIN 571 (12.8), fix to pre-drilled outer girder.
- (Fig. A1.34)

Assembly at double platform beams

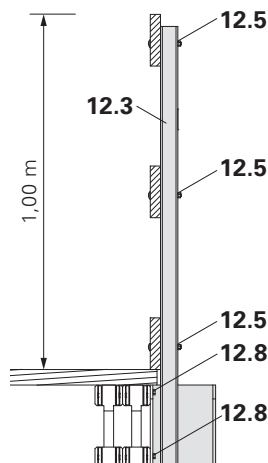


Fig. A1.34

A2 Other assembly work

Assembly of end guardrails

Required materials:

- 2 end guardrail posts
- 2 handrail boards 4 x 12 cm
- 1 toe board 4 x 12 cm

Assembly

1. Fix end guardrail post (12.4) to girders with wood screws 6 x 80 (5x) (12.8).

2. Fix handrail boards and toe board with round head bolts M8 x 100 DIN 603 (12.5).

(Fig. A2.01 + A2.02)



Fig. A2.01

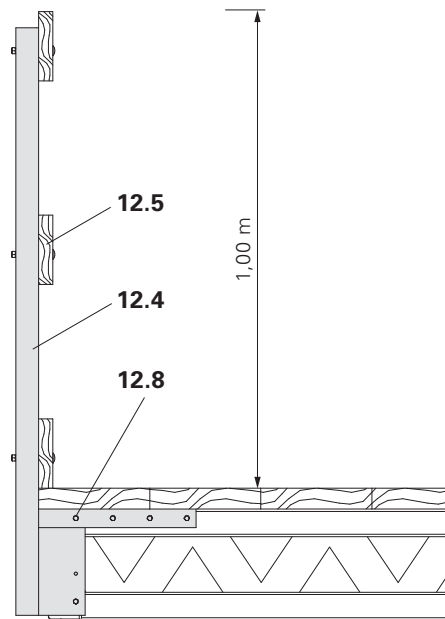


Fig. A2.02

A2 Other assembly work

Assembly of hinged hatch cover

Pre-assembly

- For installation, a 72 x 57 cm cut-out must be made in the planking between the brackets.
- Ensure the remaining plank width is > 10 cm.
- The cut-out is arranged flush against the middle girder (13B).
- The cut-to-size planking is supported by means of timber (14.8), L = 120 cm, min. 120 x 40 mm and bolted to the wall-side girder (13A) using TORX 6 x 80.
- The timber (14.8) is 2x bolted in each case to the lateral continuous planking. Round head bolts DIN 603 M8 x 100 (14.9) with washer ISO 7094 100 HV A8. (Fig. A2.03 and Fig. A2.04)



We recommend the hatch, as featured, be installed close to the bracket in order that personnel can hold the spindle when climbing.

Assembly

- Place hinged hatch 55 x 60 (14.1) in the cut-out. The cover (14.2) opens towards the wall side. (Fig. A2.05)
- Attach hatch frame to the planking (approx. 20 x TORX 6 x 40). (Fig. A2.06)

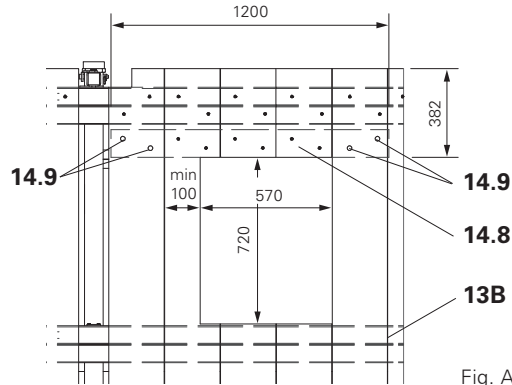


Fig. A2.03

Section

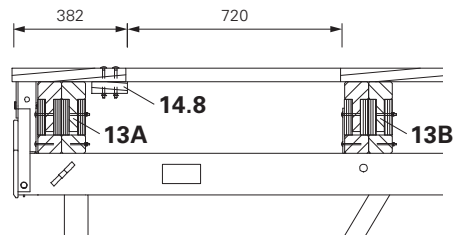


Fig. A2.04

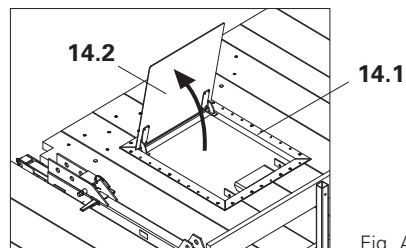


Fig. A2.05

Overview

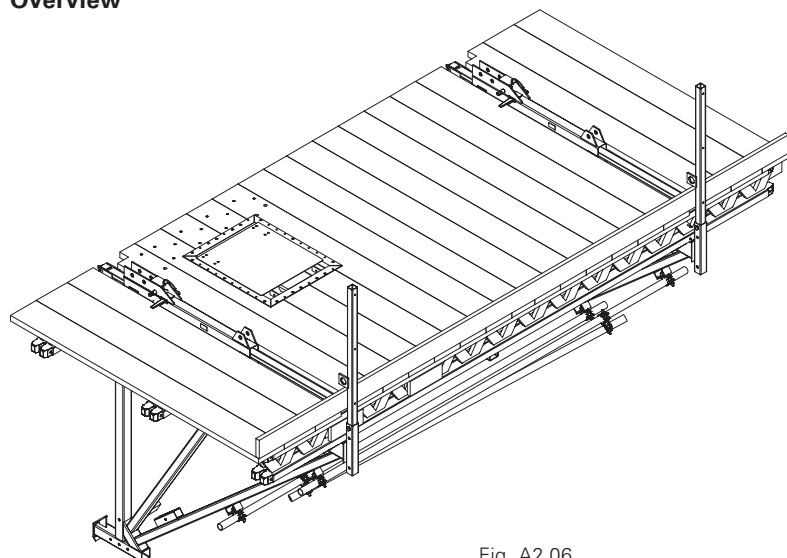


Fig. A2.06

A2 Other assembly work

Assembly of finishing platform

Assembly of platform beams



When using PERI GT 24 girders, strengthen these on both sides in the area of the brackets with plywood strips (13.2).

(Fig. A1.08)

Dimensions: thickness/width/height
27 x 120 x 300 mm

Fixing: Torx TSS 6 x 60

Assembly

1. Lay CB platform beam (8.1) parallel in the bracket spacing on the assembly floor.

2. Place girder (13.1) and secure in position: 2 x KH 8/16 and 8 x round head bolts.

(Fig. A2.07)

Assembly of decking

1. Cut planking to length. $l = 1170 \text{ mm}$

2. Fix planking at both platform ends flush to girders.

Projection length: 14 mm over girder on wall side. (Fig. A2.08)

Mounting: Torx TSS 6 x 80 (13.5) 2 x per girder.

Alternatively: nails 38 x 100.

3. For accurate positioning, use plumb line.

4. Fix remaining planking.

(Fig. A2.09)



Fig. A2.07

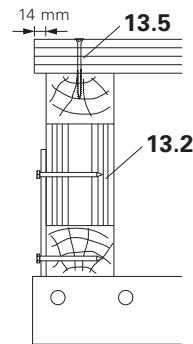


Fig. A2.08



Fig. A2.09

A2 Other assembly work

Assembly of finishing platform

Assembly in the area of the platform beams

Planking is divided along the centre of the platform beam (8.1). The planks (8.3) to the side of the platform post (9.1) are intact!

This planking is only tacked on and must be removed when the finishing platform is mounted.

The planking is cut to suit the area around the platform post. (Fig. A2.10)

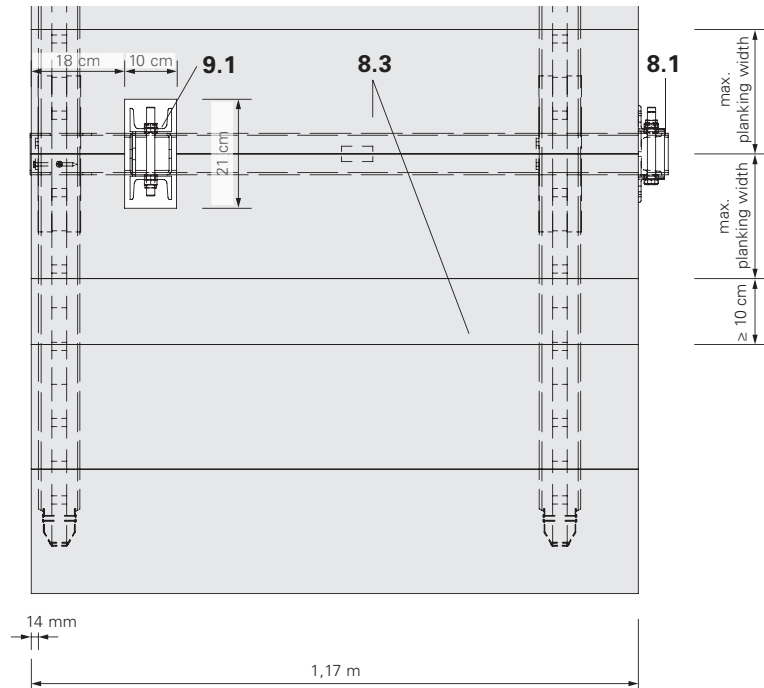


Fig. A2.10

Finishing tasks

1. Mark the platform according to planning instructions e.g. with colour spray.
2. Preparations for transportation and storage.

B1 Work on the construction site

Anchoring

Safety Instructions



- Each CB bracket must be individually anchored, and the loosening or dismantling of the anchoring may only take place on the side of the load transfer. The positioning of two cones against each other is not allowed. (Fig. B1.01)
- With $h_1 + h_2 < d$, the anchor positions must be horizontally or vertically offset. (Fig. B1.02 + B1.03)
- The correct installation of the climbing anchor is to be checked before being concreted in position. We recommend that an acceptance report be created.
- The climbing anchor can only be used when the anchorage is sufficiently load bearing.
- The threaded areas on the Screw-On Cone-2 and Climbing Cone-2 as well as the Threaded Plate DW 15 and DW 20 must always be completely screwed in.
- The required anchoring depth h must not be achieved through a reduction in the screw-in depth.
- The tie rods must be chamfered at both ends.
- Damaged anchoring components must not be used.

Damage to anchor components includes:

- welding splashes on the tie rods
- twisted tie rods
- blocked threads
- deformed cone cup
- rough or scratched cone surfaces
- missing dowel pin in the climbing cone

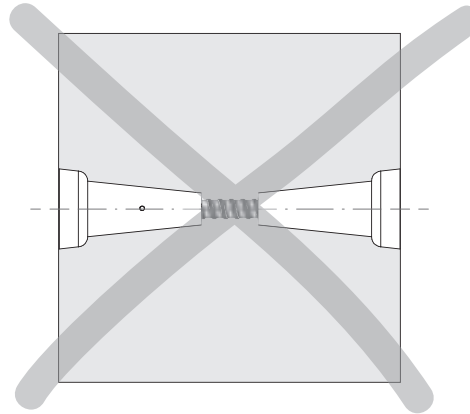


Fig. B1.01

Top view
horizontal offset

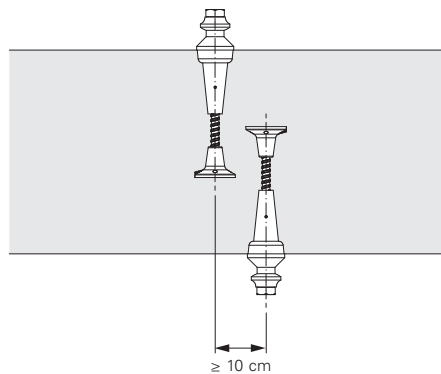


Fig. B1.02

Section
vertical offset

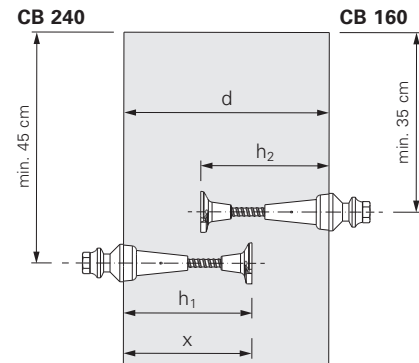


Fig. B1.03

B1 Work on the construction site

Anchoring

Preparations for use



- With different concreting heights, anchor spacings with < 5 cm deviations can be compensated by means of the height adjusting unit. With larger deviations, more drilled holes are provided.
- During the first installation, compare the anchor spacing with the bracket spacing of the pre-assembled platform.
- Dimension and install the leading anchor according to planning requirements.

Version 1 Climbing Cone-2 M24/DW 15

Anchoring depth h according to static requirements.

1. Check tie rod length.
2. Screw in DW 15 tie rod into the climbing cone (5.3).
3. If necessary, pull DR 22 spacer tube (5.8) over the DW 15 tie rod (5.5).
4. Completely screw in and tighten threaded anchor plate 15 (5.4) on the tie rod (5.5). (Fig. B1.04)

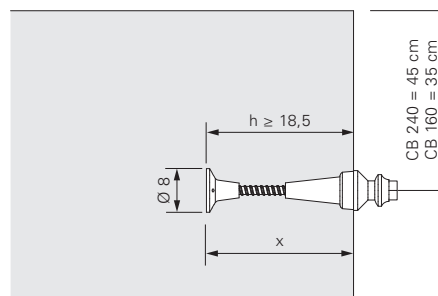


Fig. B1.05

Version 2 Screw-On Cone M24/DW 20

Anchoring depth $h = 15.5$ cm.

1. Completely insert screw-on cone (5.1) into the threaded anchor plate DW 20 (5.2). (Fig. B1.05)

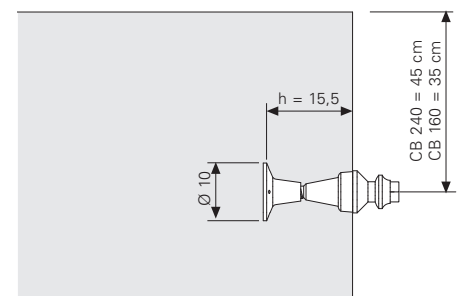
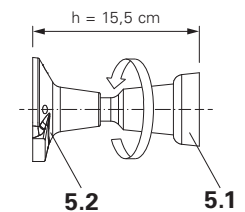
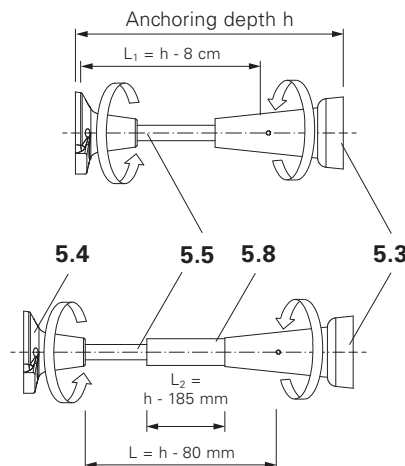


Fig. B1.04



B1 Work on the construction site

Anchoring

Leading anchor assembly With Anchor Positioning Stud M24, e.g. for TRIO panel formwork.

First time and standard use

1. Fix Anchor Positioning Stud M24 (5.11) to the marked position with nails 31 x 80 (4x) (5.12). (Fig. B1.06)
2. Screw on tightly pre-assembled leading anchor (5) on Anchor Positioning Stud M24. (Fig. B1.07)



Fig. B1.06



Fig. B1.07



- A stable mounting is achieved through the installation of the anchor positioning plate, see "Assembly of Advancing Bolt M24".
- In this case, the distances from the holes to be drilled to the steel struts of the formwork must be sufficiently large enough.
- For safety reasons, firmly connect the threaded anchor plate (5.2) to the reinforcement.



Check assembly

- height
 - anchor spacings
 - anchoring depth h
 - alignment according to specifications
- Checking of leading anchor and reinforcement measures can be done at the same time.

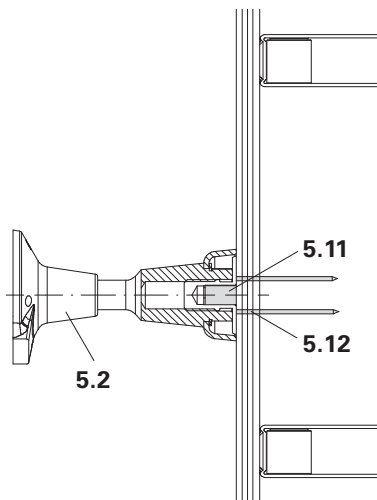


Fig. B1.08

B1 Work on the construction site

Anchoring

Leading anchor assembly With Advancing Bolt M24, e.g. for VARIO GT 24 girder wall formwork.

First time of use

1. Check the required space for the Anchor Positioning Plate 24 (5.10). Lateral clearance of 3 cm or 4 cm is required. (Fig. B1.10)
2. Determine the set position and drill \varnothing 25 mm hole from the front of the formwork. (Fig. B1.09)
3. Mount Anchor Positioning Plate M24 (5.10) to the rear side of plywood. Wood screws 6 x 20 DIN 571, SW 10 (4x) (5.13). (Fig. B1.10)

Standard use

1. From the rear side of the plywood, insert the Advancing Bolt M24 (5.9) through the drilled hole.
2. From the front side of the plywood, screw on tightly the leading anchor (5). (Fig. B1.11 + B1.12)



Fig. B1.09

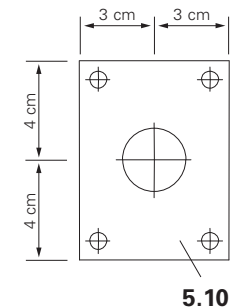
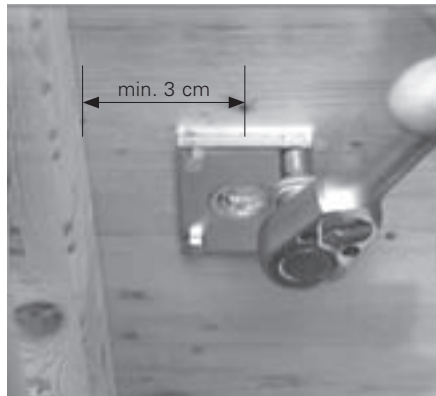


Fig. B1.10



- If there is a formwork girder positioned at the rear of the anchoring, "Assembly with Anchor Positioning Stud M 24" can be used.
- For safety reasons, firmly connect the threaded anchor plate (5.4) to the reinforcement.



Fig. B1.11



Check assembly

- height
 - anchor spacings
 - anchoring depth h
 - alignment according to specifications
- Checking of leading anchor and reinforcement measures can be done at the same time.

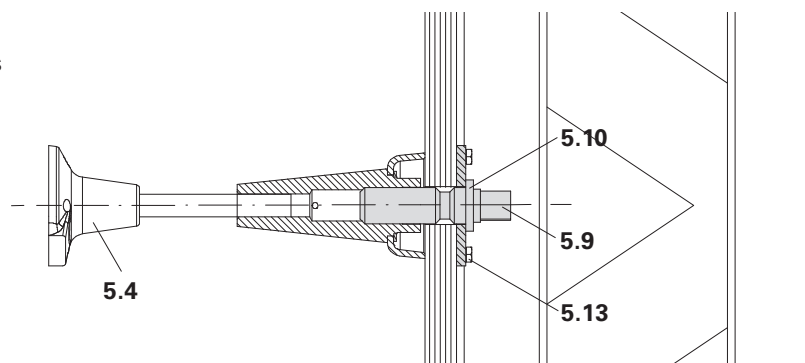


Fig. B1.12

B1 Work on the construction site

Anchoring

Important aspects when striking with Anchor Positioning Stud M24

Re-straighten any bent nails. When retracting the formwork, nails (5.12) must be pulled through the plywood. (Fig. B1.13)

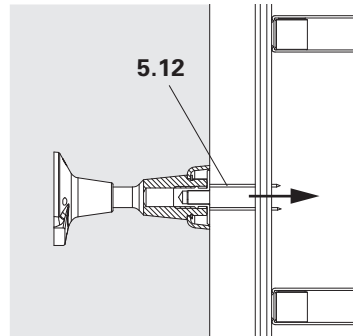


Fig. B1.13

Important aspects when striking with Advancing Screw M24

Loosen and remove all Advancing Bolts M24 (5.9) from the rear side of the plywood. (Fig. B1.14)

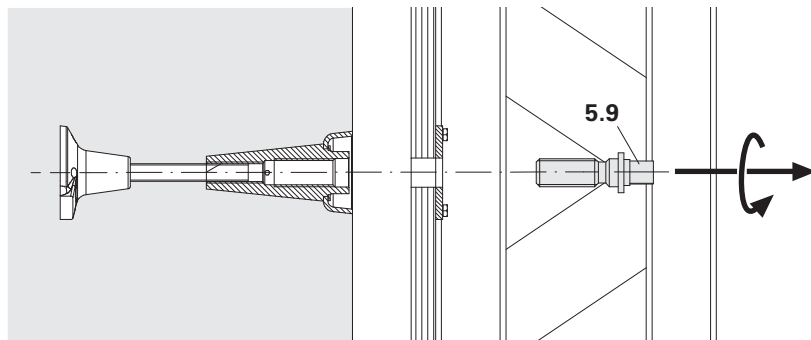


Fig. B1.14

Striking

1. Loosen connections to the adjoining elements (VKZ couplings, BFD alignment coupler).
 2. Loosen wedge (2.2) on the carriage.
 3. Tilt formwork using Adjustable Brace CB 164-225 (3.1). With this, the nails from the Anchor Positioning Stud M24 (5.12) and box outs are pulled out of the plywood or at least loosened.
 4. Retract carriage (2).
- (Fig. B1.15)



If the formwork is retracted without the use of the spindle, this could result in damage to the carriage drive unit.

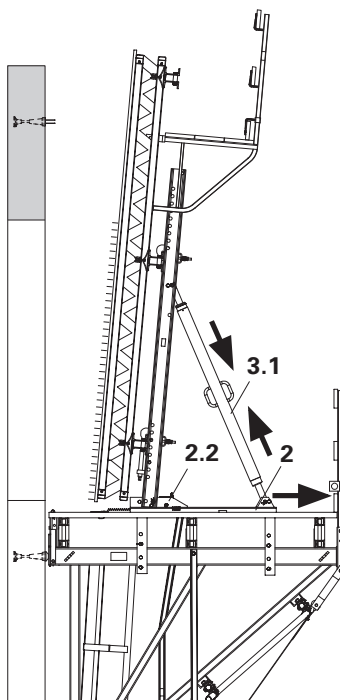


Fig. B1.15

B1 Work on the construction site

Anchoring



Check if the cone fits correctly and is clean.

Assembly of Scaffold Mounting Ring M24

1. Remove the Anchor Positioning Stud M24 (5.11) from the cone with an Allen Key SW 14. (Fig. B1.16)
2. Place the Scaffold Mounting Ring M24 (5.6) on the cone cup of the screw-on or climbing cone (5.1/5.3) and secure using bolt M24 x 120 ISO 4014-10.9 (5.7). (Fig. B1.17)
3. Firmly tighten bolt by hand using socket wrench SW 36. (Fig. B1.18)

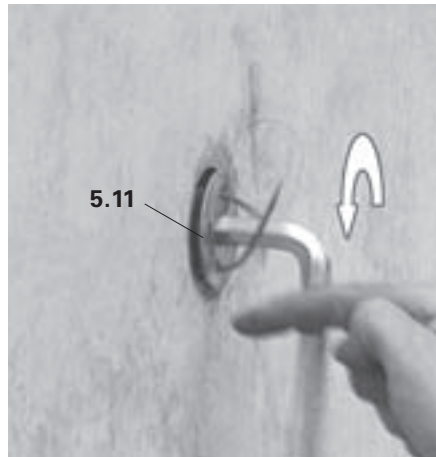


Fig. B1.16

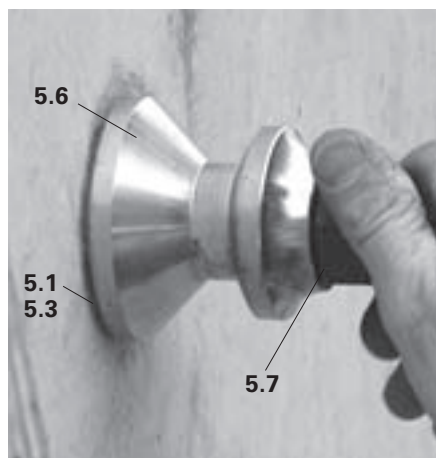


Fig. B1.17



Fig. B1.18

B1 Work on the construction site

Mounting the CB 240 platform to the first wall section



- Use 4-sling lifting gear!
- Crane sling angle max. 30°!
- Do not exceed permissible load capacity!



Before attaching, check:

- carriage on the wall side?
- wedge in carriage?
- cotter pins in bolts?



Fig. B1.19

Attaching

1. Attach lifting gear to carriage by inserting Bolt Ø 25 x 180 (4.6). (Fig. B1.19)
2. Attach lifting gear to the crane eye on the guardrail post. (Fig. B1.20)



Fig. B1.20



Before moving, check:

- securing device on the lifting hook closed?
- lifting angle is correct?
- guardrail posts secured with bolts?
- loose parts have been removed?
- securing bolt (1.5) completely pivoted to one side? (Fig. B1.21)

The platform is now ready to be moved.

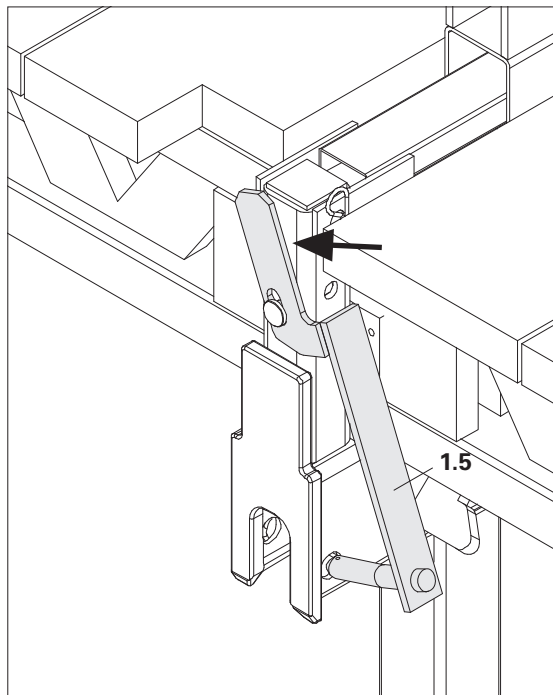


Fig. B1.21

B1 Work on the construction site

Mounting the CB 240 platform to the first wall section

Mounting

3. Raise platform and pivot over the scaffold mounting rings. (Fig. B1.22)
4. Bring platform into position and simultaneously lower without tilting.

Troubleshooting

- If no connection is made with the scaffold mounting ring (5.6) or the bracket (1.1) jams, lift the platform and re-lower.
- If the bracket spacing does not correspond to the spacing of the scaffold mounting rings, the spacing of the leading anchor on the formwork must be checked.
- If the mounting procedure is not possible, the bracket spacing must be corrected through the re-assembly of the platform.



Do the brackets (1.1) hang in both scaffold mounting rings (5.6)?

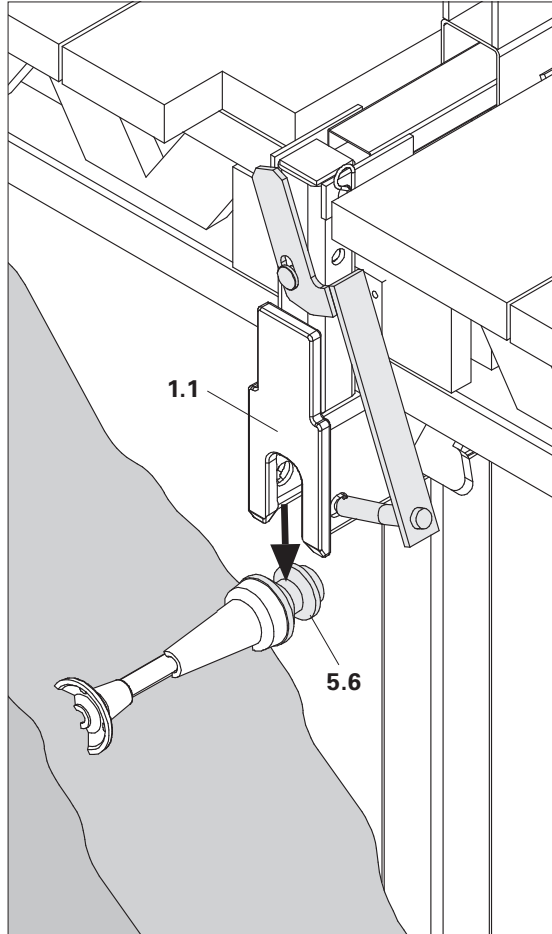


Fig. B1.22

Securing the platform



If the securing bolts cannot be inserted, repeat the mounting procedure!

5. Access platform.
6. Lift [1] securing bolts (1.5) and pivot [2] under the scaffold mounting ring (5.6).
7. Secure with cotter pins (3). (Fig. B1.23)
- Use cut-out in the planking.
8. Remove crane hook.



For better visibility, some components of the reinforced concrete wall are not featured.

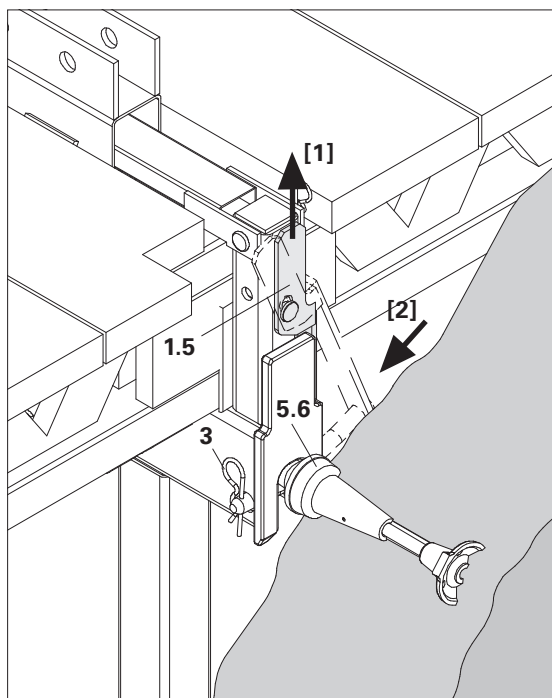


Fig. B1.23

B1 Work on the construction site

Mounting of the CB 240 finishing platform

Preparation

1. Remove tacked on planking parts from both sides of the platform beam.
2. Attach 4-sling lifting gear to the four bolts and move finishing platform to the assembly area. (Fig. B1.24)

Connecting to the brackets

Connections are done using Bolts M16 x 130 ISO 4014-8.8, nuts and spring washers (9.6) (supplied with components). Initially, only loosely tighten bolts for the articulated connections.



Fig. B1.24

9.6

Fig. B1.25

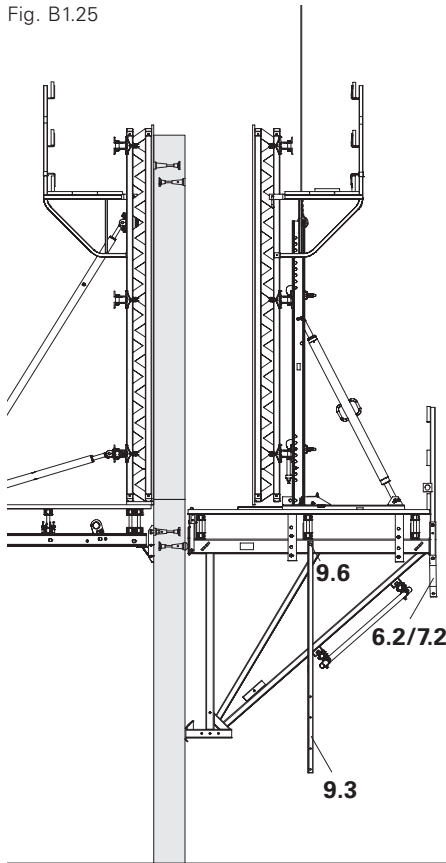


Fig. B1.26

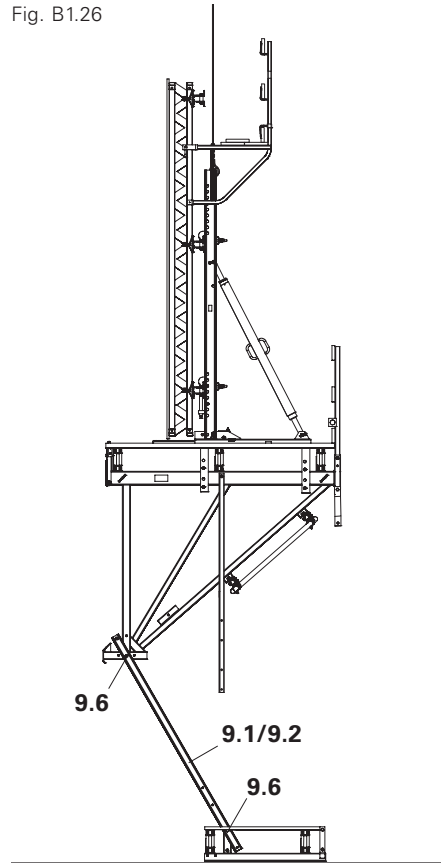
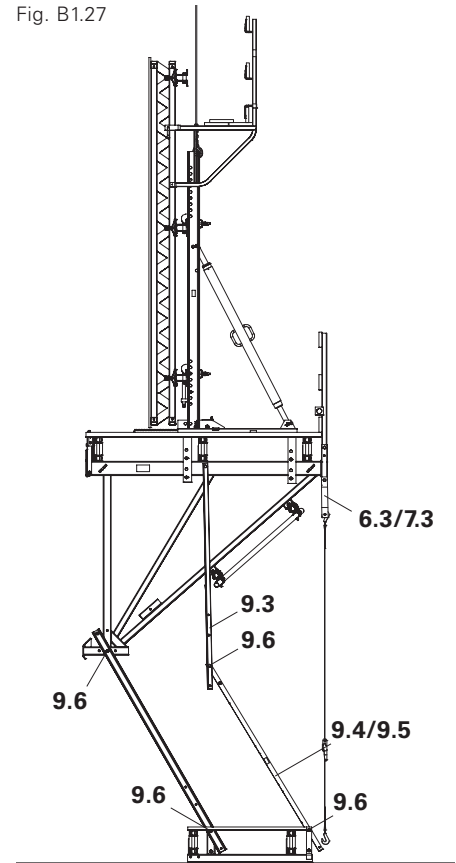


Fig. B1.27



1. Connect Guardrail Post 200 (9.3) to the bracket and tighten bolt (9.6). Bolt on top part of tension anchor (6.2/7.2).
2. Attach platform unit to strongback and lift out of the anchoring. (Fig. B1.25)
3. Pivot platform unit over the finishing platform.

4. Bolt Platform Post 225 (9.1) to post extension 180 (9.2) and fix at an angle with bolt (9.6) to the bracket and finishing platform. (Fig. B1.26) Depending on the concreting height, use top or bottom hole, see Fig. B1.28.1 – B1.28.4.

5. Fix the Guardrail Post 190 (9.4) or Guardrail Post 370 (9.5) to Guardrail Post 300 (9.3) at an angle using bolt (9.6). Depending on the concreting height, use top or bottom hole, see Fig. B1.28.1 – B1.28.4, attach tension anchor (6.3/7.3).
6. Fixing of the toe board is carried out at the lower end. (Fig. B1.27)

B1 Work on the construction site

Mounting of the CB 240 finishing platform

Fixing points for the Platform Post 225 and Guardrail Post 190 or 370.

Firstly, only loosely tighten the bolt (9.6) for an articulated connection.

Concreting height 1.50 – 3.10 m.

Working platform – finishing platform spacing: 3.65 m.

Required free space: ≥ 42 cm.

Mark out Platform Post CB 225 (9.1) and Guardrail Post 190 (9.4).

(Fig. B1.28.1)

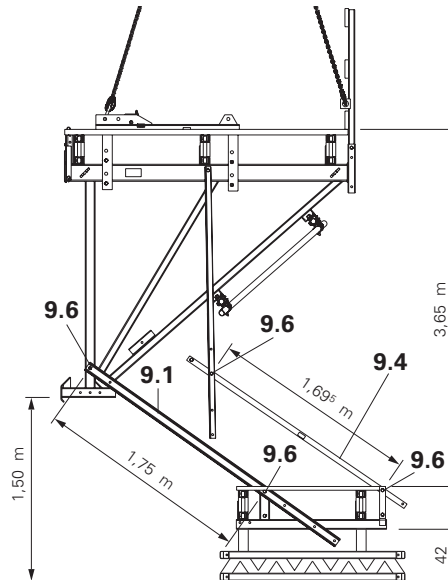


Fig. B1.28.1

Concreting height 2.00 – 3.60 m.

Working platform – finishing platform spacing: 4.15 m.

Mark out Platform Post CB 225 (9.1) and Guardrail Post 190 (9.4).

(Fig. B1.28.2)

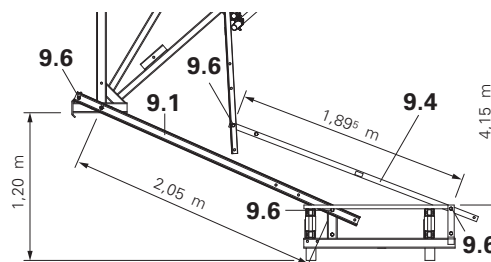


Fig. B1.28.2

Concreting height 3.30 – 4.90 m.

Working platform – finishing platform spacing: 5.45 m. Firmly bolt (9.6) Platform Post CB 225 (9.1) to the Post Extension CB 180 (9.2).

Mark out Guardrail Post CB 370 (9.5).

(Fig. B1.28.3)

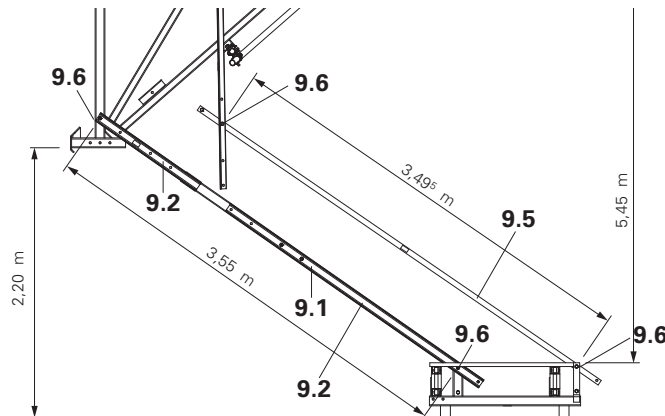


Fig. B1.28.3

Concreting height 3.80 – 5.40 m.

Working platform – finishing platform spacing: 5.95 m. Firmly bolt (9.6) Platform Post CB 225 (9.1) to the Post Extension CB 180 (9.2).

Mark out Guardrail Post CB 370 (9.5).

(Fig. B1.28.4)

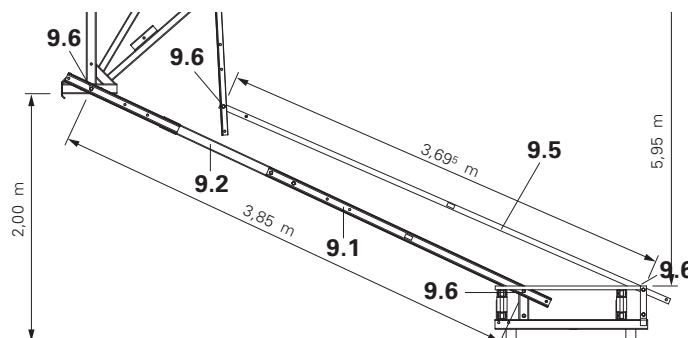


Fig. B1.28.4

B1 Work on the construction site

Mounting of the CB 240 finishing platform

Finishing tasks



If the safety cage is not used on the ladder, then the guardrails on the finishing platform are to be mounted up to the top or a safety net is to be installed!

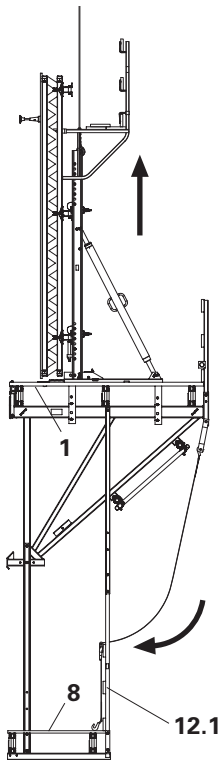


Fig. B1.29

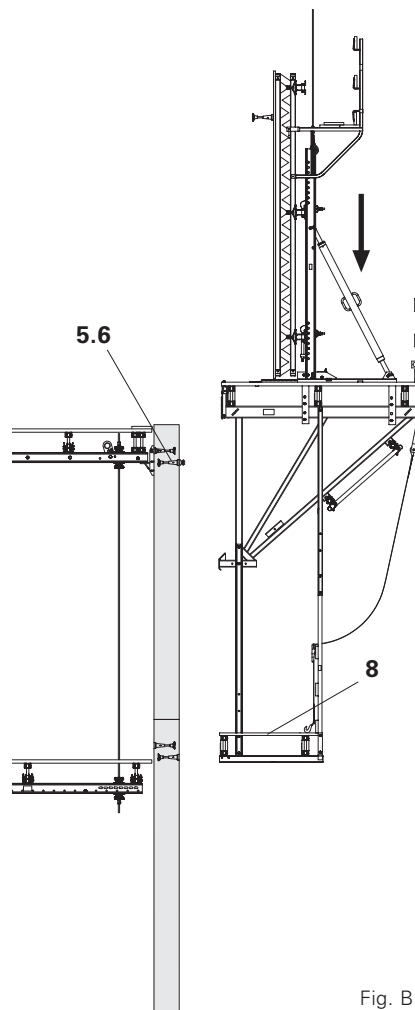


Fig. B1.30

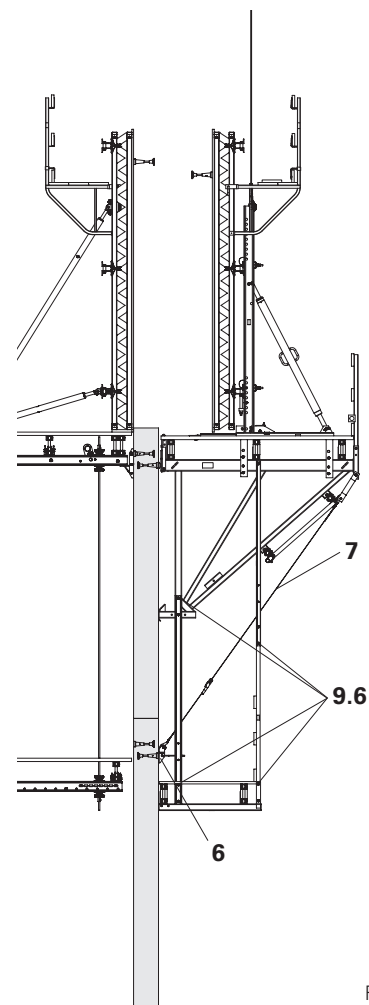


Fig. B1.31

7. Raise the platform unit. The finishing platform (8) pivots under the working platform (1).

8. Mount guardrails (12.1) and lateral protection for edge platforms. (Fig. B1.26)

Alternatively, if suitable safety measures are in place, guardrails can be fixed after mounting the platform unit.

9. Mount platform unit to the Scaffold Mounting Rings M24 (5.6) of the next climbing cycle.

10. Close the planking on the finishing platform (8). (Fig. B1.30)

11. Mount the missing Bolts M16 x 130 ISO 4014-8.8 with nuts and spring washers (9.6) and tighten.

12. Mount tension anchor (6) and (7). (Fig. B1.31)

B1 Work on the construction site

Assembly of wind bracing

With Tension Belt 25 kN

Perm. tension anchor force $Z_z = 25 \text{ kN}$.

1. Attach Belt Connector CB (7.2) with Bolt M16 x 100, SW 24, 6.4 to the vertical tube of the bracket (1.2).
2. Mount tension belt (7.1) to the bolts using the end of the belt without turn-buckle. (Fig. B1.32)
3. Loosen scaffold mounting ring and Bolt M24 x 120 (5.6) on the previous concreting segment with socket wrench SW 36 and remove. (Fig. B1.33)
4. Fix Bracing Shoe Wall CB M24 (6.1) to the cone using Bolt M24 x 70 (5.14) SW 14, after the bolts have been removed from the tension plate (6.2). Re-insert tension plate through the platform post and re-bolt in the bracing shoe. (Fig. B1.34)
5. Unroll tension belt (7.1) from ratchet. (Fig. B1.34)
6. Attach tension belt (7.1) below in the Bracing Shoe Wall CB M24 (6.1) and tighten. (Fig. B1.35)

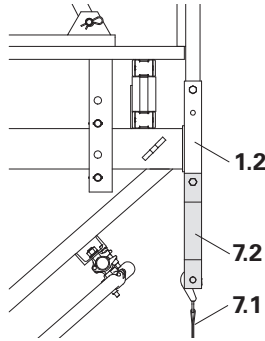


Fig. B1.32

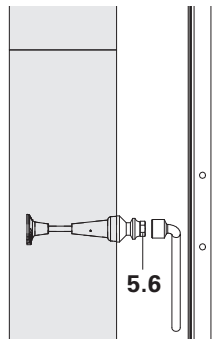


Fig. B1.33

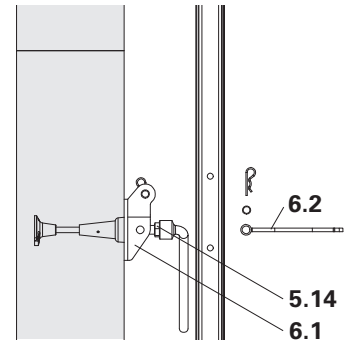


Fig. B1.34



If lateral stabilisation of the finishing platform is not required, then the Belt Connector Wall (6.3) can also be used instead of the bracing shoe. (Fig. B1.35a)



- Spring washers available?
- Nuts tightened?
- Safety catch of the tension belt hook locked?

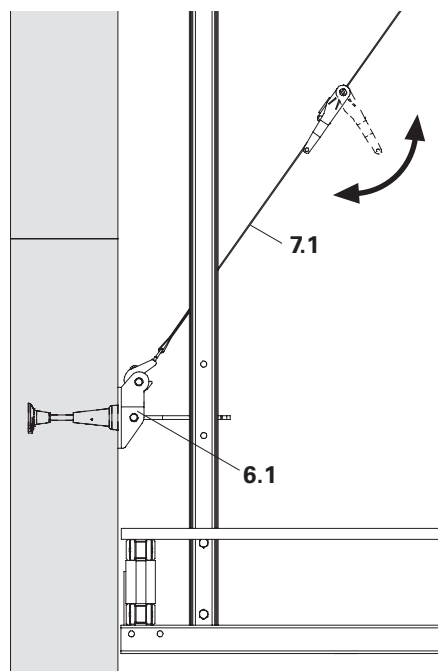


Fig. B1.35

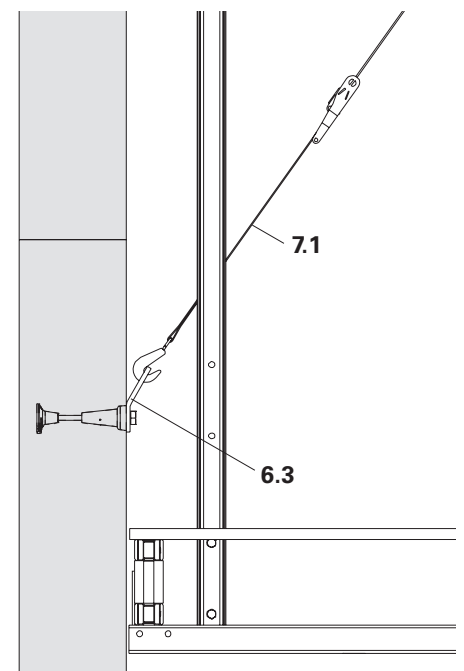


Fig. B1.35a

B1 Work on the construction site

Assembly of wind bracing

With Tie Rod DW 15

Perm. tension anchor force $Z_z = 41 \text{ kN}$.

1. Fix Tension Anchor Connector CB (7.3) with designated Bolt M16 x 100, SW 24, to vertical tube of the bracket (1.2). (Fig. B1.36)
2. Screw in the DW 15 tie rod (7.4) into the nut of the Tension Anchor Connector (6.2).
3. Loosen scaffold mounting ring and Bolt M24 x 120 on the previous concreting segment with socket wrench SW 36 and remove. (Fig. B1.33)
4. Fix Bracing Shoe Wall CB M24 (6.1) to the cone using Bolt M24 x 70 (5.14) SW 36, after the bolts have been removed from the tension plate (6.2). Re-insert tension plate through the platform post and re-bolt in the bracing shoe. (Fig. B1.34)
5. Turn Turnbuckle CB Ø 25-M20L/DW 15 (7.6) on the tie rod (7.4) (Fig. B1.38). Roughly adjust length by turning the tie rod. Fine adjustment by turning of the turnbuckle.
6. Insert eyelet bolt Ø 25-M20L (7.5) into the bracing shoe (6.1) and secure with designated bolts and cotter pins. (Fig. B1.39)
7. Turn turnbuckle, e.g. with shortened tie rod, thus tensioning the wind bracing. (Fig. B1.41)

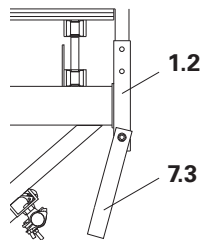


Fig. B1.36

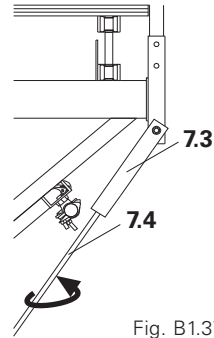


Fig. B1.37

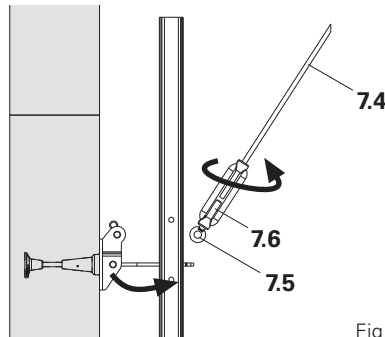


Fig. B1.38

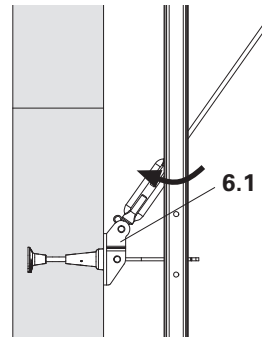


Fig. B1.39

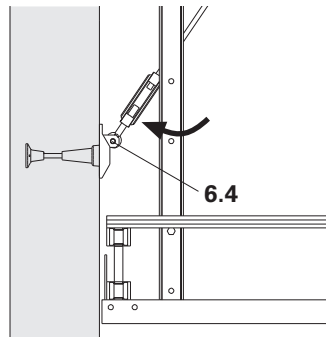


Fig. B1.40



Fig. B1.41



If lateral stabilisation of the finishing platform is not required, then the Wall Tension Anchor (6.4) can also be used. Loosen turnbuckle, turn on tie rod and insert into the tension anchor connector. (Fig. B1.40)

Formula for calculating the length of the DW 15 tie rod.

With Bracing Shoe Wall CB M24
(Fig. B1.39)

$$L = \sqrt{(H - 22,5)^2 + 232,6^2 - 44}$$

H = Concreting height in cm
L = Tie rod length in cm

With Wall Tension Anchor
(Fig. B1.40)

$$L = \sqrt{(H - 16,4)^2 + 233,6^2 - 44}$$

B1 Work on the construction site

Removal of the climbing cones

Assembly

1. Remove Scaffold Mounting Ring M24 or wind bracing.
2. Loosen cone using socket wrench SW 36. (Fig. B1.42)
3. Unscrew cone by hand. (Fig. B1.43)

Fig. B1.42



For architectural concrete or gas/water impermeability of the wall, the cone hole can be closed with PERI Sealing Cones KK. See PERI Tie Technology or contact your PERI sales engineer. (Fig. B1.44)



Fig. B1.43

Fig. B1.44

Dismantling of the CB 240 climbing scaffold

Assembly

1. Dismantle formwork.
2. Attach 4-sling lifting gear to the platform mountings (1.4).
3. Remove safety bolts (1.5).
4. Lift climbing scaffold out of anchoring and disassemble finishing platform. (Fig. B1.45)
5. Set down climbing scaffold on assembly area and dismantle.
6. Remove anchors from building ensuring that personnel are always in a safe working position.

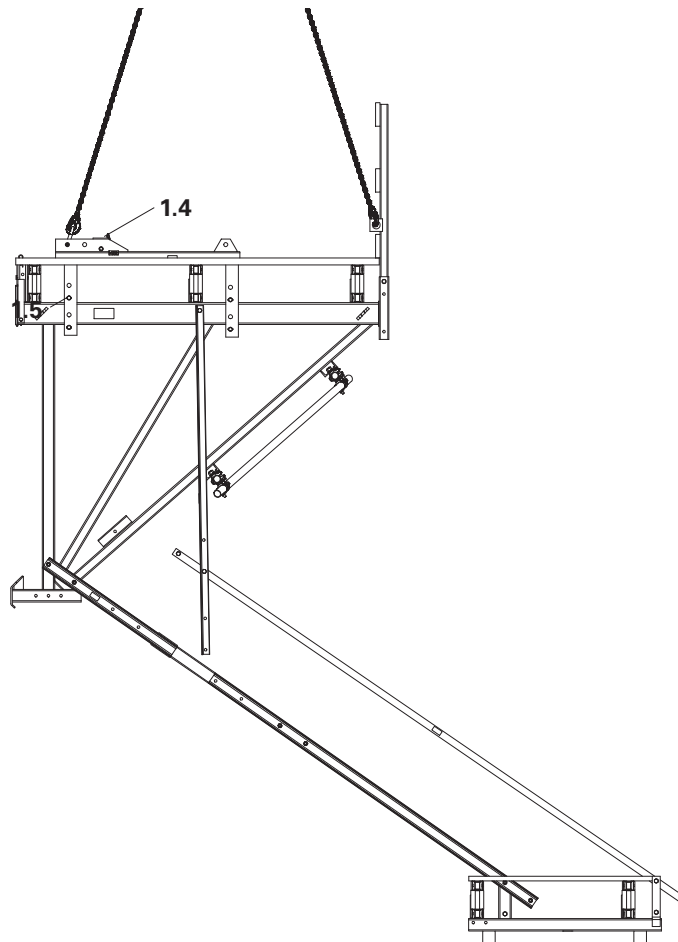


Fig. B1.45

B1 Work on the construction site

Assembly of ladder access

Overview

Mounting of ladder is dependent on the position of the finishing platform.



Parts list for the ladder assembly:
see C1.
Assembly of hatch cover:
see A2.

Concreting height 1.50 – 3.10 m

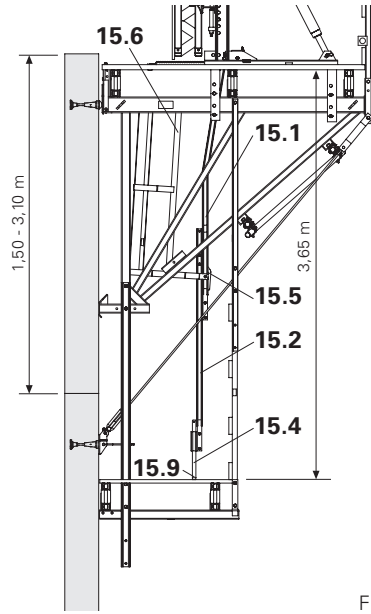


Fig. B1.46

Concreting height 2.00 – 3.60 m

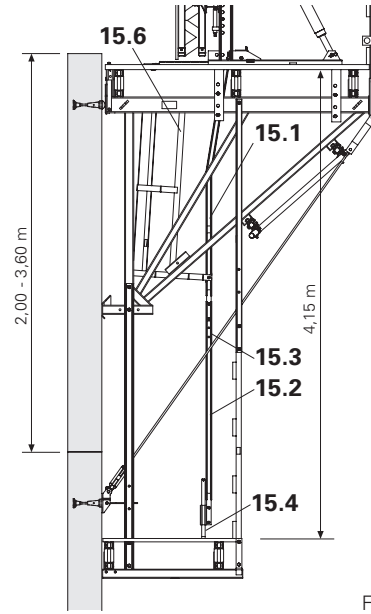


Fig. B1.47

Concreting height 3.30 – 4.90 m

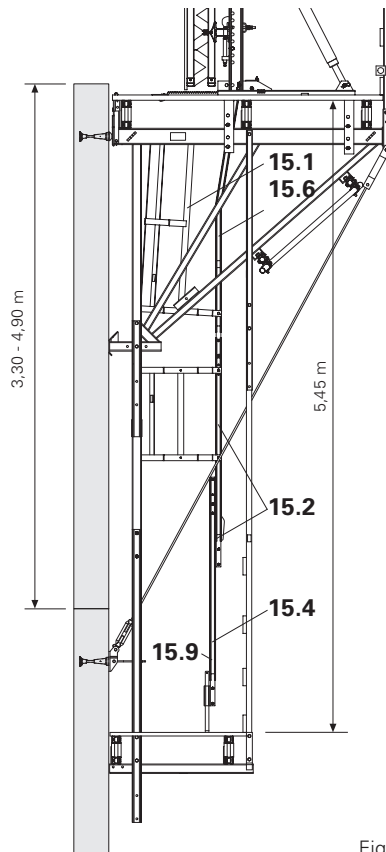


Fig. B1.48

Concreting height 3.80 – 5.40 m

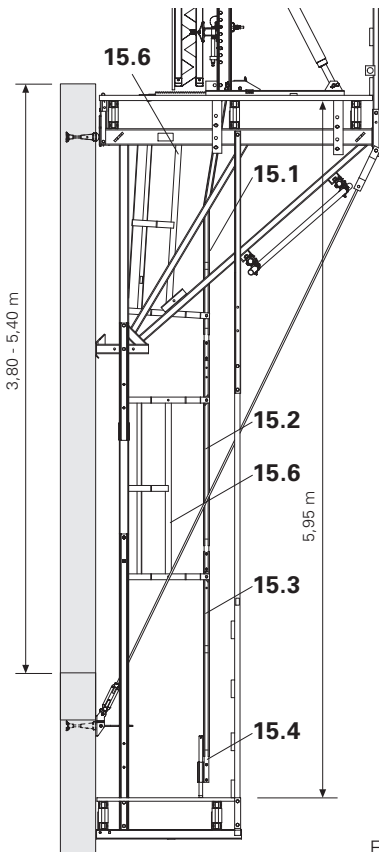


Fig. B1.49

B1 Work on the construction site

Assembly of ladder access

Pre-assembly of ladder

1. Lay out of ladder:
Top: Ladder 220/6 (15.1)
Bottom: Ladder 180/6 (15.2)
2. Connect ladders with bolts, SW 19 (15.3). (Fig. B1.50)
3. Mount Ladder Base (30) (15.4) using bolts, SW 19 (15.3). (Fig. B1.50)

If the ladder is of a hang-in type, fix ladder hook (15.5) with bolts SW 19 (15.7). (Fig. B1.51)



When mounting the ladder: the rungs of both ladders must be at the same level. (Fig. B1.52)

Attaching the ladder to the hatch

1. Lift ladder using crane. Lower ladder through hatch opening.
2. Fix ladder at top to hatch, bolts SW 19 (14.3) (2x). (Fig. B1.53)

Mounting the ladder base

1. For horizontal mounting of the ladder, tightly screw the drawn-out bracket of the Ladder Base 30 to the planking with 3 Torx TSS 6 x 40 (15.9).

Mounting the ladder safety cage

1. Bring and hold ladder safety cage (15.6) in position using a rope.
2. Loosen bolts SW 19 (15.7) (4x) on clamping plate (15.8), position clamping plate on the ladder longitudinal members, and tighten screws. (Fig. B1.54)

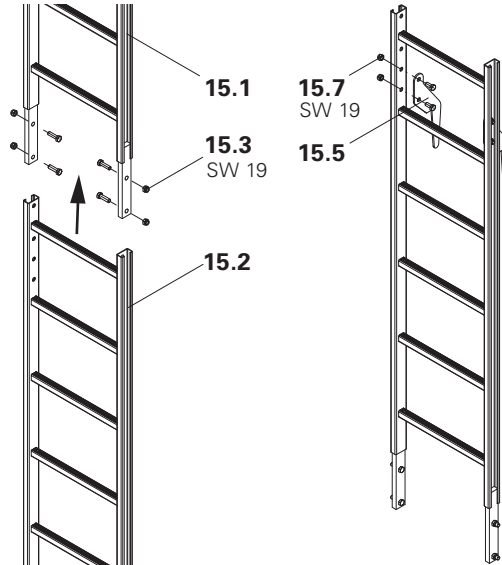


Fig. B1.51

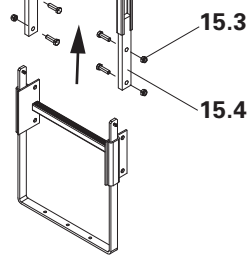


Fig. B1.50

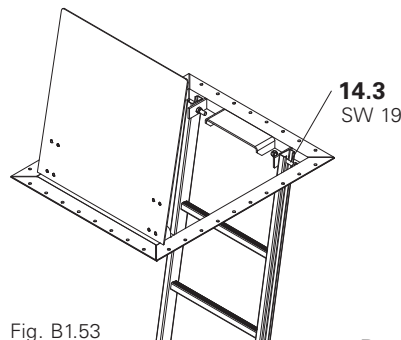


Fig. B1.53

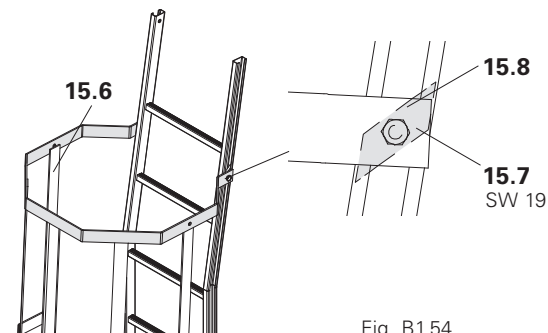


Fig. B1.54

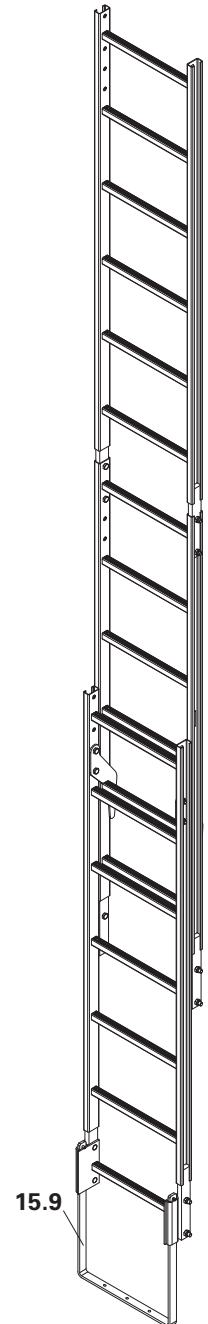


Fig. B1.52

B2 Assembly of formwork elements

VARIO GT 24 element

Assembly of Strongback CB on the VARIO GT 24 element

1. Lay Strongback CB 270 or CB 380 (4) on the steel waler of the VARIO GT 24 formwork according to the bracket spacing. Bottom projecting length: see Planning or C1. (Fig. B2.01)
2. Mount Waler Fixation U100 – U120 (4.4) and secure in position by tightening the quick jack nut. (Fig. B2.02)
3. Fix Height Adjusting Unit (4.3) with bolts $\varnothing 25 \times 180$ (4.6) and cotter pin to the Strongback CB. (Fig. B2.03)
4. Turn height adjusting unit spindle (4.8) against the formwork waler.



Fig. B2.01

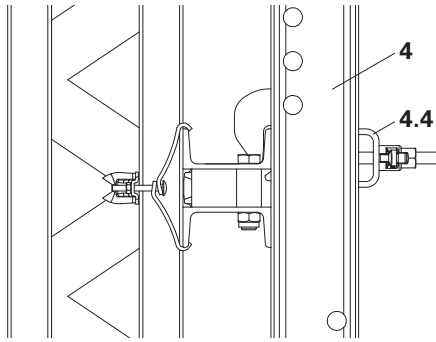


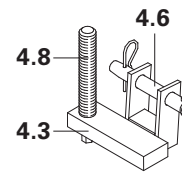
Fig. B2.02



The Waler Fixation U100 – U120 can be attached to the SRZ steel waler U100 and U120.



Fig. B2.03



In order to prevent the strongbacks being pulled out of position at any time, a piece of timber (4.10) is clamped between the top ends of the strongbacks, see also C1.

(Fig. B2.04)



Alternatively, use Lifting Beam RCS 10 t (Item no. 112986) for moving.

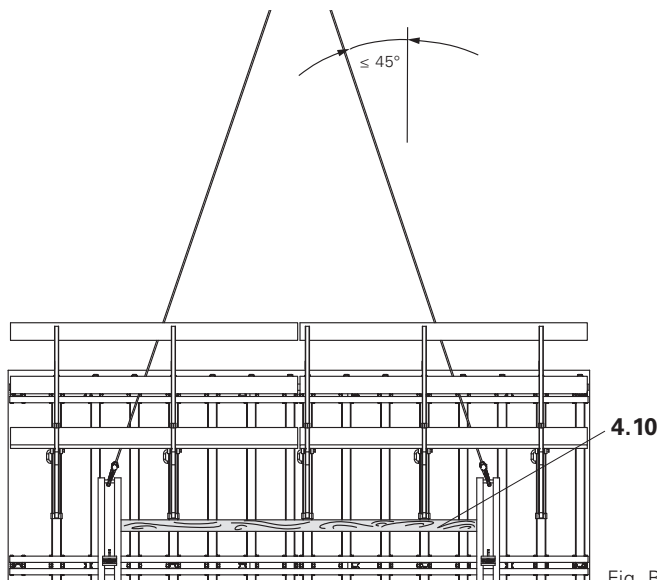


Fig. B2.04

B2 Assembly of formwork elements

VARIO GT 24 element

Assembly of VARIO GT 24 formwork element on CB 240 Bracket

1. Retract Carriage CB 240 (2) and secure with wedge (2.2). (Fig. B2.05)
2. Fix Adjustable Brace 164-224 (3.1) to carriage using bolts and cotter pins (3.2). Spindle out to approximately the required length and lean against guard-rail. (Fig. B2.06)
3. Open concreting platform decking (10.3) above the strongback. Secure loose decking components.
4. Attach complete formwork element to the strongback (4) and position on the CB 240 platform. (Fig. B2.07)
5. Fix Strongback CB to carriage using bolts $\varnothing 25 \times 180$ and cotter pins (4.6). Use drilled holes in the carriage: see Details.
6. Fix adjustable brace (3.1) to strongback with bolts $\varnothing 25 \times 180$ and cotter pins (3.2). (Fig. B2.08)
7. Detach lifting gear.
8. Close decking (10.3) on concreting platform.
9. Move carriage (2) with formwork forward to the wall and secure carriage with the wedge (2.2).
10. Align formwork. (Fig. B2.09)

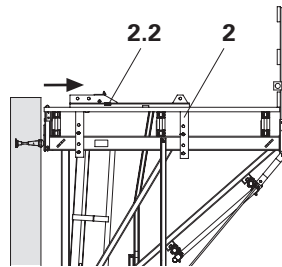


Fig. B2.05

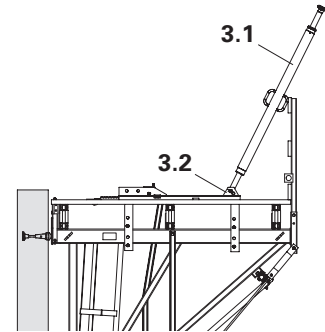


Fig. B2.06

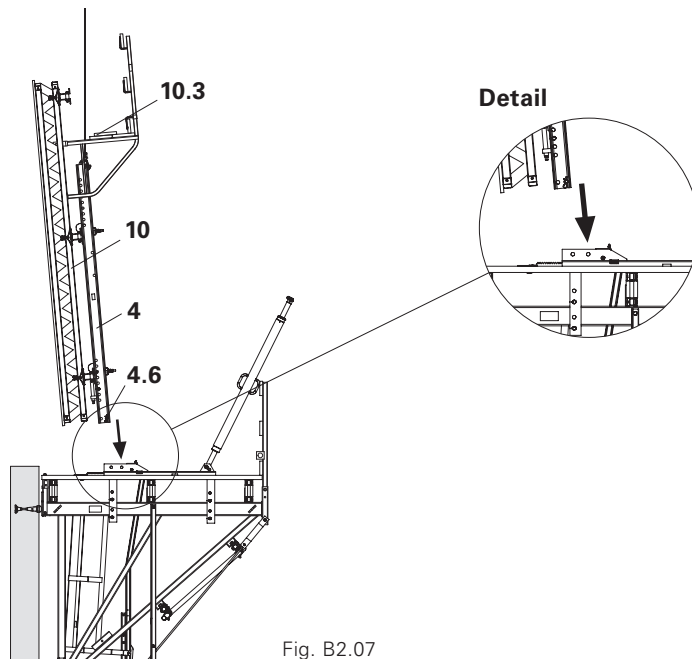


Fig. B2.07

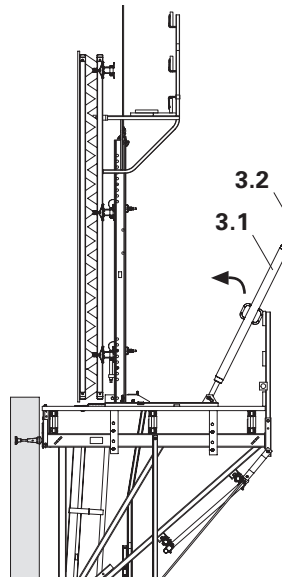


Fig. B2.08

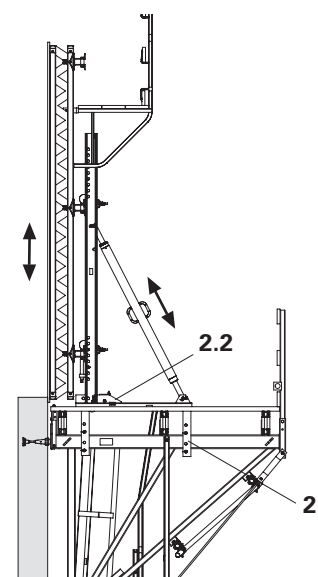


Fig. B2.09

B2 Assembly of formwork elements

VARIO GT 24 element

Moving of VARIO GT 24 elements



Instructions for Use for the Crane Splice 24 must be observed!

Dismantling

1. Retract carriage (2) and secure with wedge (2.2), see B4.1. Brace strongbacks laterally.
2. Attach formwork to Crane Splice 24 (10.6) and tension lifting gear.
3. Remove all Strongback Connectors-2 (4.4).
4. Lift formwork and remove (e.g. stockyard). (Fig. B2.10)



When laying the formwork down, the guardrail (10.5) on the concreting platform (10.2) must be removed in order to avoid any damage through the lifting gear.

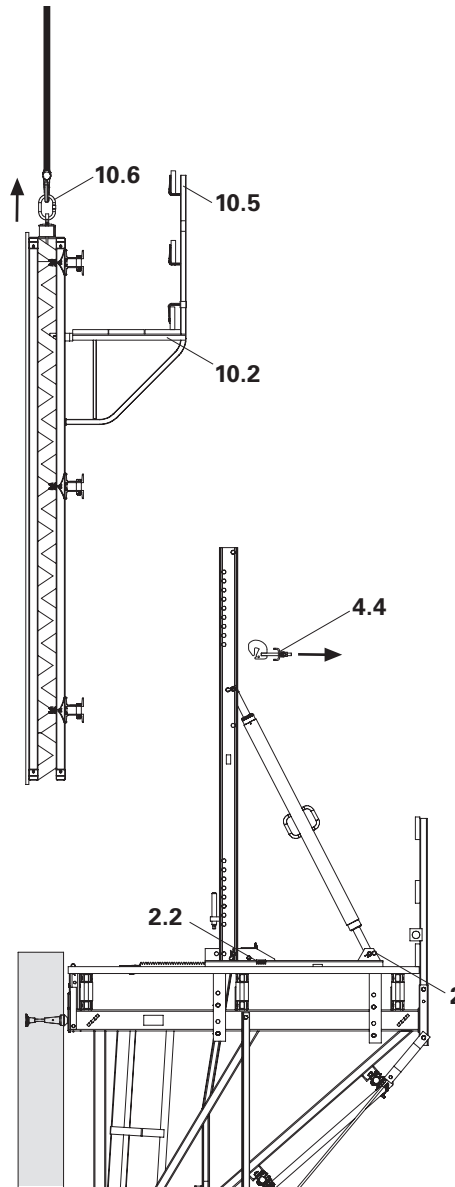


Fig. B2.10

B2 Assembly of formwork elements

VARIO GT 24 element

Moving of VARIO GT 24 elements

Preparation for initial assembly

1. Retract carriage (2) and secure with wedge (2.2).
2. Mount Strongback CB (4) to carriage using bolts \varnothing 25 x 180 and cotter pins (4.6).
3. Attach Adjustable Brace (3.1) to strongback using bolts \varnothing 25 x 180 and cotter pins (3.2) and laterally brace strongbacks with timber.

Assembly

4. Check that the Height Adjusting Unit (4.3) is in the correct position and adjust if necessary.
5. Lower formwork (10) with the bottom waler (10.4) on to the height adjusting unit. Lifting gear remains tensioned.
6. Fix strongback connector (4.4) to the walers. (Fig. B2.11)
- Detach lifting gear.
7. Move carriage (2) with formwork to the wall. Secure carriage with wedge (2.2).
8. Align formwork. (Fig. B2.12)



Attention must be paid to ensure that the strongback does not collide with the Scaffold Bracket GB 80 or decking. If necessary, remove scaffold bracket and decking.

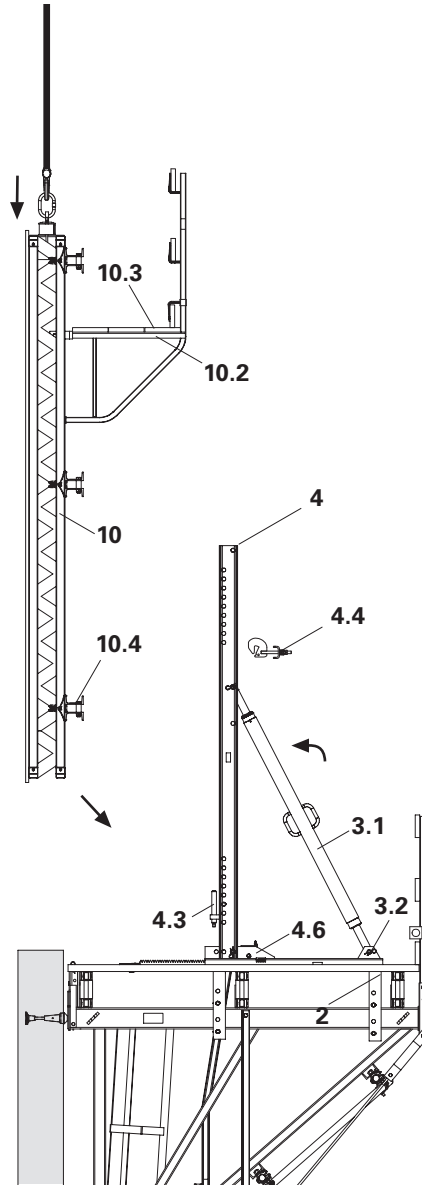


Fig. B2.11

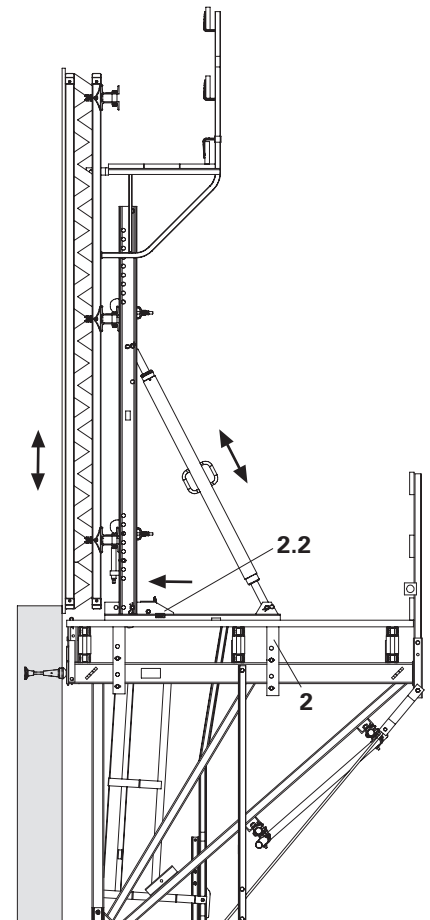


Fig. B2.12

B2 Assembly of formwork elements

TRIO element

Mounting of Strongback CB on TRIO elements

1. Assemble TRIO elements on the assembly area to form formwork units.
2. Fix Connector TRIO-CB (4.5) to panel struts with hook clamps \varnothing 25 (4.7), see plans for arrangement.
Centre distance = bracket spacing.
By changing the mounting position of the spindle (4.8), the Connector TRIO-CB can be used cantilevering on the left or right.

(Fig. B2.13 + B2.13a)

Connections are possible on horizontal and vertical panel struts through repositioning the hook clamps.

(Fig. B2.14 – B2.14c)

3. Place Strongback CB (4) on the connectors. Bottom projecting length: see plans or C1.

4. Attach Strongback CB to bottom connector using bolts and cotter pins (4.6).

5. Adjust height on bottom connector using spindle (4.8), see B4.2.

6. Adjust height of top connector.

7. Fix Strongback CB at top.

(Fig. B2.15)

Connector TRIO-CB

left cantilevering

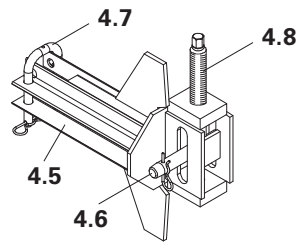


Fig. B2.13

right cantilevering

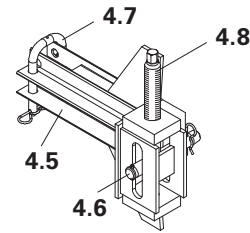


Fig. B2.13a

On horizontal struts

left cantilevering

right cantilevering

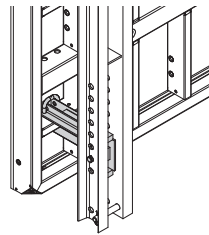
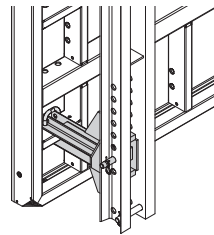


Fig. B2.14

Fig. B2.14a

On vertical struts

left cantilevering

right cantilevering

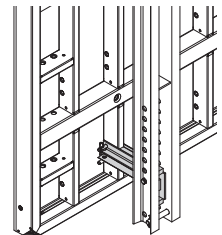
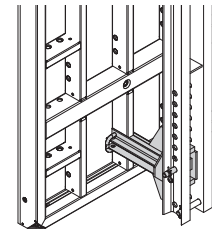


Fig. B2.14b

Fig. B2.14c



Fig. B2.15



In order to prevent the strongbacks being pulled out of position at any time, a piece of timber (4.10) is clamped between the top ends of the strongbacks, see also C1.

(Fig. B2.16)



Alternatively, use Lifting Beam RCS 10 t (Item no. 112986) for moving.

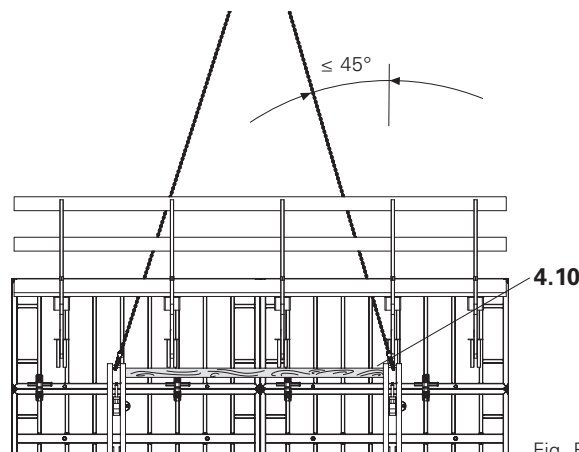


Fig. B2.16

B2 Assembly of formwork elements

TRIO element

Mounting of TRIO elements on CB 240 Brackets

1. Retract carriage (2) and secure with wedge (2.2).
2. Fix Adjustable Brace 164-224 (3.1) to carriage using bolts and cotter pins (3.2). Spindle out to approximately the required length and lean against guardrail.
3. Open concreting platform decking (10.3) above the strongback. Secure loose decking components.
4. Attach formwork unit (10) with concreting platform to the strongback (4) and position on the platform. (Fig. B2.17)
5. Fix strongback to carriage using bolts $\varnothing 25 \times 180$ and cotter pins (4.6). Standard case: use the drilled holes in the strongback and carriage facing away from the wall. (Fig. B2.18)
6. Fix adjustable brace (3.1) to strongback, bolts $\varnothing 25 \times 180$ and cotter pins (3.2). (Fig. B2.19 + B2.19a)
- Detach lifting gear
- Close decking (10.3) on concreting platform.
7. Move forward carriage with formwork to the wall. Secure carriage with wedge (2.2).
8. Align formwork.

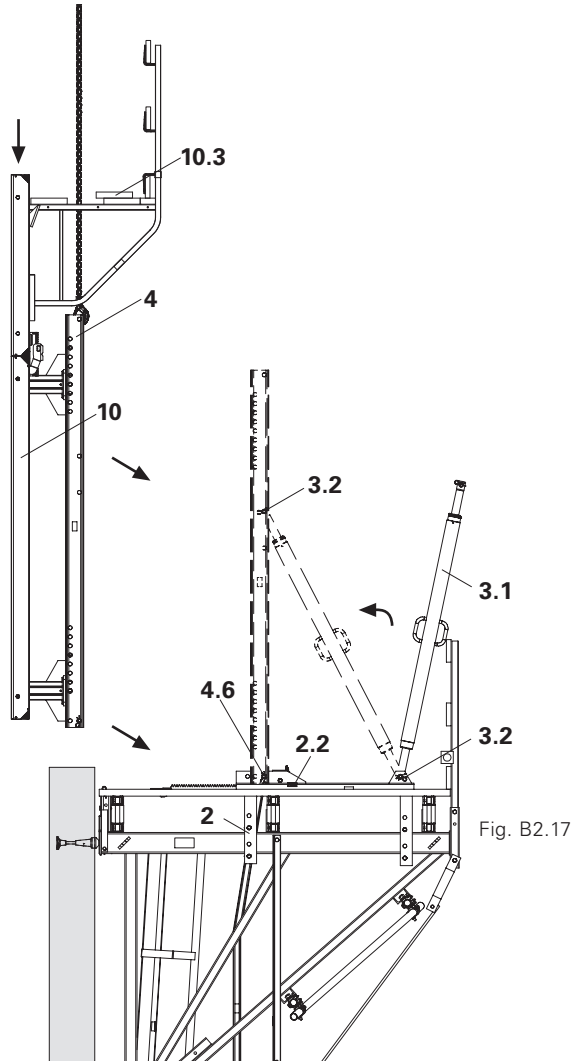


Fig. B2.17

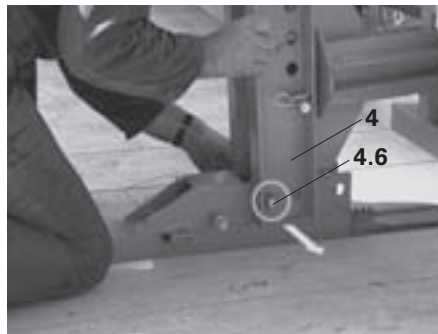


Fig. B2.18



Fig. B2.19



Fig. B2.19a

B2 Assembly of formwork elements

TRIO element

Exchange of formwork element



Instructions for Use for the TRIO Lifting Hook must be observed!

Dismantling

1. Retract carriage (2) and secure with wedge (2.2), see B4.1. Brace strongbacks laterally.
2. Fix TRIO Lifting Hook (10.6) to the formwork unit (10) and then attach lifting gear.
3. Tension lifting gear.
4. Release bow of the Connector CB (4.5).
5. Raise formwork and remove (e.g. storage area). (Fig. B2.20)



When laying the formwork down, the guardrail (10.5) on the concreting platform (10.2) must be removed in order to avoid any damage through the lifting gear.

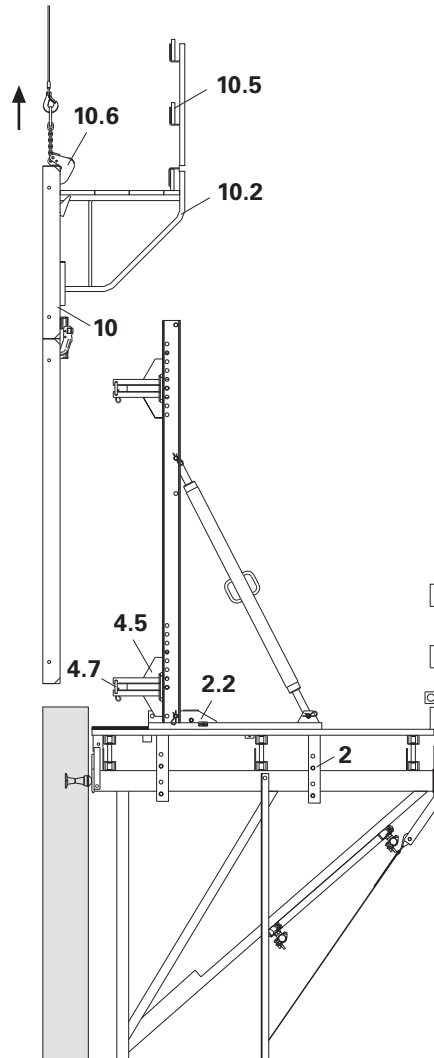


Fig. B2.20

B2 Assembly of formwork elements

TRIO element

Exchange of formwork element

Preparation for initial assembly

1. Retract carriage (2) and secure with wedge (2.2), see B4.1.
2. Fix Connector CB (4.5) to the Strongback CB (4) using bolts $\varnothing 25 \times 180$ and cotter pins (4.6).
3. Mount Strongback CB (4) to carriage (2) using bolts $\varnothing 25 \times 180$ and cotter pins (4.6).
4. Attach Adjustable Brace (3.1) to Strongback using bolts $\varnothing 25 \times 180$ and cotter pins (3.2), and laterally brace strongbacks. (Fig. B2.21)

Assembly

5. Insert formwork unit (10) with TRIO Lifting Hook (10.6) into the Connector CB (4.5) and secure using bow (4.7).
6. Remove lifting gear and lifting hook.
7. Move carriage (2) with formwork to the wall. Secure carriage with wedge (2.2).
8. Align formwork. (Fig. B2.22)



Attention must be paid to ensure that the strongback does not collide with the TRIO Scaffold Bracket TRG 80 or decking. If necessary, remove scaffold bracket and decking.



Check the clearance of the top height adjustment, ≥ 5 mm.

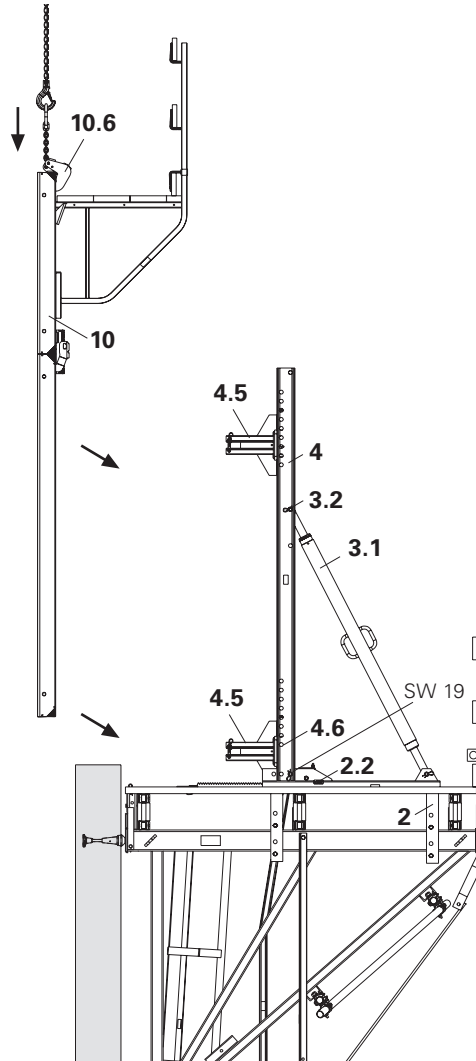


Fig. B2.21

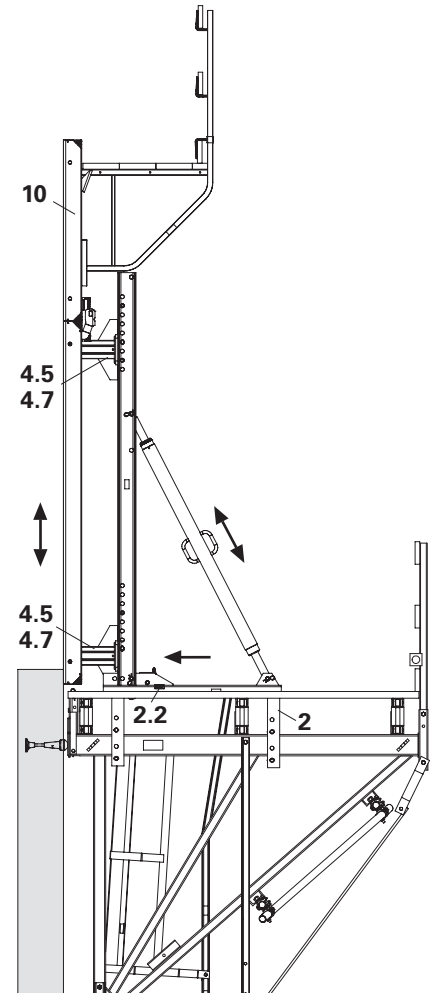


Fig. B2.22

B3 Formwork operations

CB Carriage operations

Assembly

1. Remove wedge (2.2) with hammer. (Fig. B3.01)

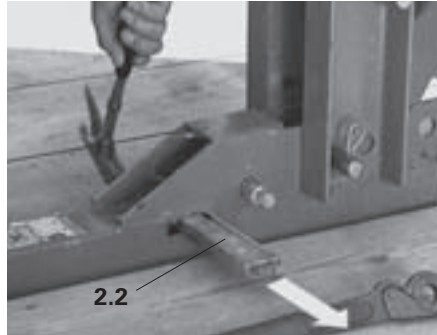


Fig. B3.01

2. Place ratchet lever, SW 19, on the transmission screw (2.5). Depending on the effect of the ratchet on the lever, the carriage is moved towards or away from the wall. (Fig. B3.02.1 + B3.02.2)

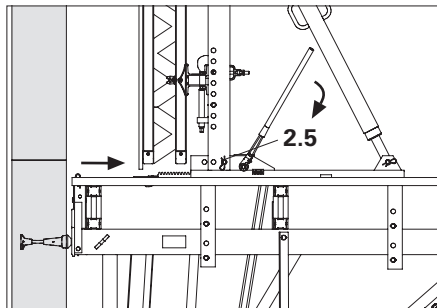


Fig. B3.02.1

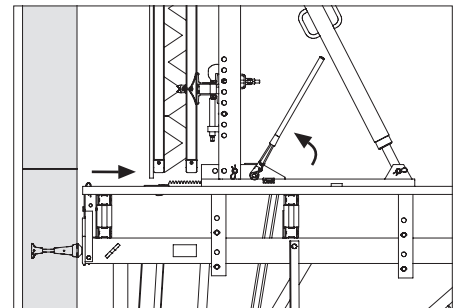


Fig. B3.02.2



If the carriage moves in the wrong direction, turn the ratchet lever in the opposite direction.

3. Moving the carriage: carry out procedure simultaneously on both brackets. (Fig. B3.02)



Fig. B3.02

4. When the carriage with formwork is in position, fix wedge with hammer. The carriage is then secured. (Fig. B3.03)



If the formwork must be pressed against the previous concreting section when securing with the wedge, the ratchet lever SW 19 is to be used.



Fig. B3.03

B3 Formwork operations

Formwork alignment

Height adjustment with the Connector TRIO-CB for TRIO

1. On the top Connector, alter the Adjustable Bolt (4.8) for necessary clearance.
 2. On the lower Connector, lower Adjustable Bolt (4.8) onto the locking pin (4.6).
 3. Turn adjustable bolt using the ratchet lever SW 19 and bring formwork into position.
- Depending on the rotational direction, the formwork moves upwards or downwards.
(Fig. B3.04)

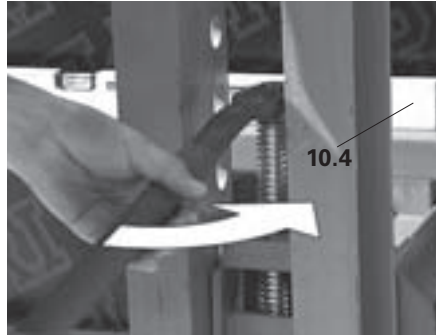
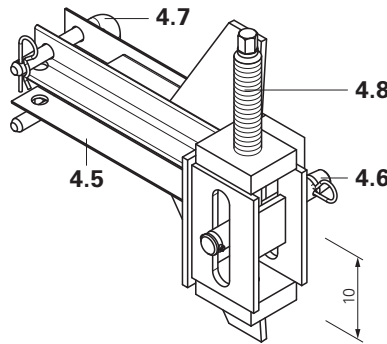


Fig. B3.04



Is there enough clearance for adjustment on the top connector?

Height adjustment with the VARIO GT 24 height adjusting unit

- Apply ratchet lever SW 19 to spindle (4.8) of the Height Adjusting Unit CB (4.3) on the strongback.
- Depending on the rotational direction, the formwork moves upwards or downwards. (Fig. B3.05)

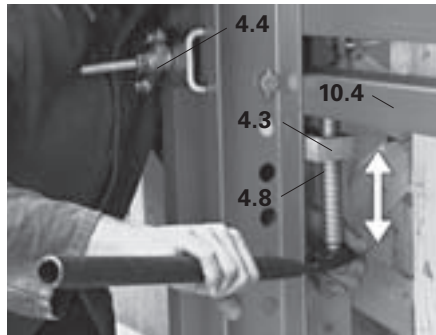
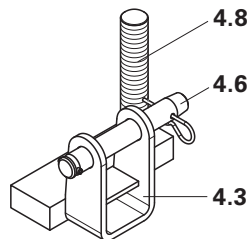


Fig. B3.05



If the formwork does not move, loosening the Waler Fixation (4.4) will make the adjustment easier.

B3 Formwork operations

Formwork alignment

Inclination adjustment with the Adjustable Brace CB 164-224

The required inclination of the formwork is achieved by altering the Adjustable Brace CB 164-224 (3.1).

Depending on the rotational direction, the formwork moves forward or retracts.

(Fig. B3.06)



Fig. B3.06



By placing a spirit-level on the TRIO formwork struts or on a VARIO formwork girder, exact adjustment is possible.

Horizontal adjustment of a VARIO element

1. Loosen the Waler Fixation-2 (4.4) until the element can be moved.
 2. Move the element into the correct position by hand or using a piece of timber as a lever.
 3. Tighten waler fixation.
- (Fig. B3.07)

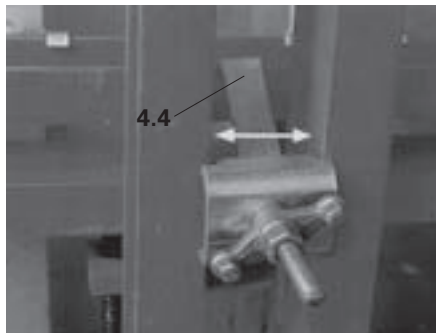


Fig. B3.07



Strongbacks must remain in the same position.

B4 Moving the units

Preparation



Do not exceed the crane capacity!

Assembly

1. Loosen tie point and remove tie rod.
 2. Retract formwork with the carriage (2), see B3.1. Reference values for the retraction distance (x) (see Table Page 52).
 3. Mount Scaffold Mounting Ring (5.6) with bolt M24 x 120 (5.7) on next concreting section, see B1.3.
 4. Detach tension anchor (7) from the wall and secure on finishing platform (8).
 5. Remove mounting parts of the tension anchor (6).
 6. Remove cones (5.1/5.3) which are no longer required, see B1.7.
 7. Brace strongback e.g. piece of timber (4.10), see C1.9.
 8. Open concreting platform decking (10.3) above the strongback. Secure loose parts. Attach lifting gear to the strongback (4).
- (Fig. B4.01)
9. Push securing bolts (1.5) to one side.
- (Fig. B4.02)
10. All personnel to move off the moving unit.
- The unit is now ready to be moved.



If crane capacity is insufficient, the formwork and platform can be moved separately. For this: pay close attention to B2 Assembly of the Formwork Element.



- Securing bolts completely pushed to one side?
- Locking device on lifting hook closed?
- Correct lifting angle?
- Guardrail posts secured with bolts?

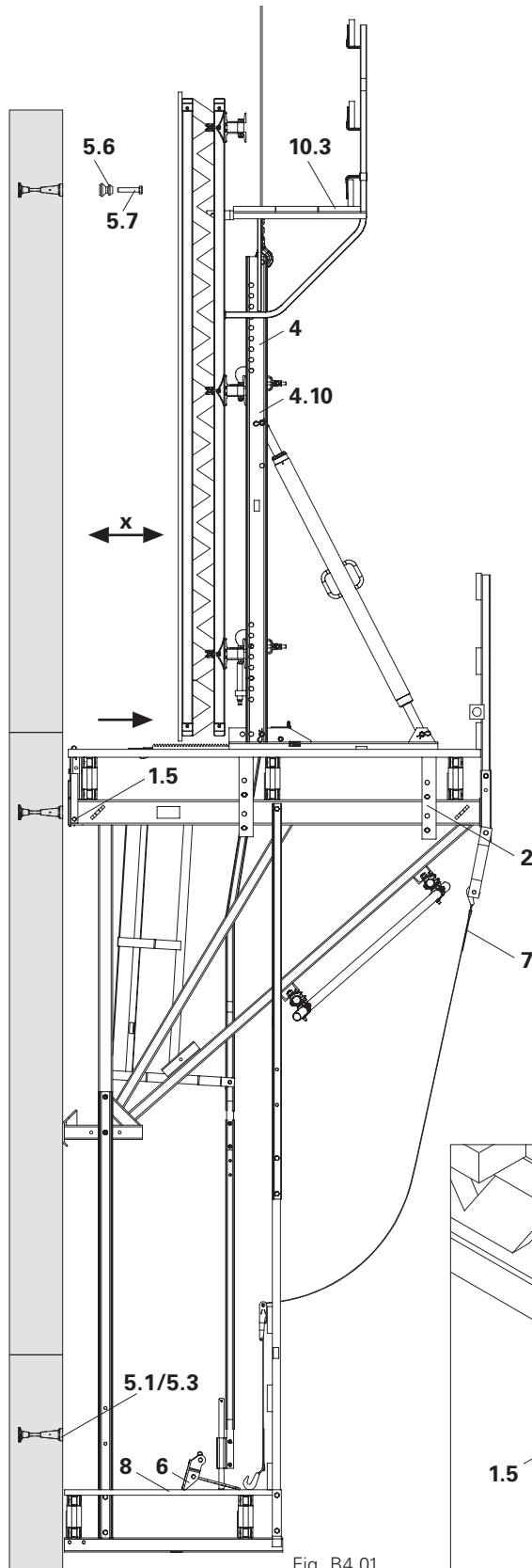


Fig. B4.01

Fig. B4.02

B4 Moving the units

Preparation

Determination of the carriage retraction distance and estimation of the platform weight

The retraction distances are reference values. They have been so designed that the platform inclines approx. 1.5° to 2.0° to the wall which makes mounting easier.



The ideal retraction distance is determined during the first moving procedure and the length of the retraction distance is noted and marked on the decking.

Table
Retraction distance and weight

	Formwork height h [m]	Platform length B [m]	Carriage retraction distance [cm]	Approx. total weight of formwork [kg]
With finishing platform	3.00	4.80	60	2120 ± 200
		7.20	60	3180 ± 320
		9.60	60	4020 ± 420
	4.00	3.80	60	2200 ± 220
		5.70	55	2880 ± 300
		7.60	60	3940 ± 400
	5.40	3.20	50	2220 ± 200
		4.80	45	2900 ± 320
		6.40	50	3920 ± 420
Without finishing platform	3.00	4.80	70	1700 ± 200
		7.20	70	2520 ± 300
		9.60	70	3180 ± 420
	4.00	3.80	70	1740 ± 200
		5.70	65	2320 ± 320
		7.60	65	3140 ± 420
	5.40	3.20	55	1780 ± 200
		4.80	50	2400 ± 300
		6.40	50	3200 ± 420

Fig. B4.03

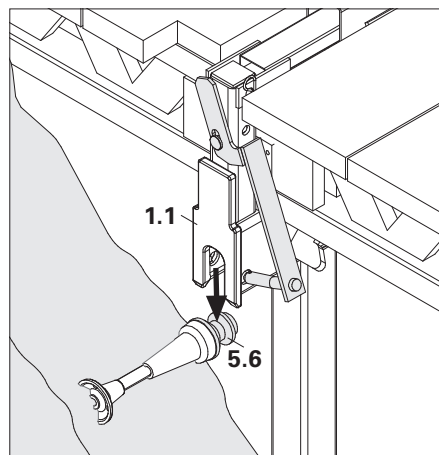
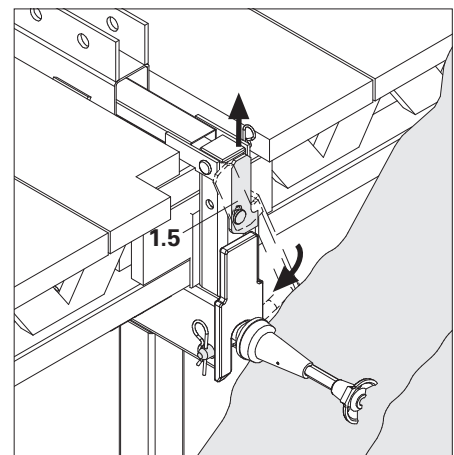


Fig. B4.04



Securing the unit



If the securing bolts cannot be inserted, repeat the mounting procedure!

1. Access platform.
2. Lift securing bolts (1.5) and pivot under the scaffold mounting ring (5.6). (Fig. B4.04)
3. Remove crane hook and close concreting platform decking.

B4 Moving the units

Moving procedure



Use a guide rope to ensure controlled movements of the platform when being moved. Attachment points for rope and fall arrest equipment: crane eye (1.4) on the guardrail posts. (Fig. B4.08)

Any open edges created during the climbing procedure are to be made safe or completely cordoned off. Loose components are to be secured or removed before moving takes place.

1. Crane lifts the climbing unit out of the Scaffold Mounting Ring (5.6a).
2. Crane lifts the climbing unit up to the next Scaffold Mounting Ring (5.6b).
3. Bring platform into position.
4. Lower climbing unit on to Scaffold Mounting Ring (5.6b) evenly and horizontally till the lower point of pressure (1.7) of the bracket rests against the wall. Lifting gear remains tensioned. (Fig. B4.05 – B4.07)



Are the brackets (1.1) positioned on both scaffold mounting rings (5.6)?

Troubleshooting

- If no connection is made with the scaffold mounting rings (5.6) or the brackets (1.1) jam, lift the platform and re-lower.
- If the bracket spacing does not match that of the scaffold mounting rings, check the distance of the leading anchor to the formwork.
- If the mounting procedure is not possible, the bracket spacing must be corrected through the re-assembly of the platform.

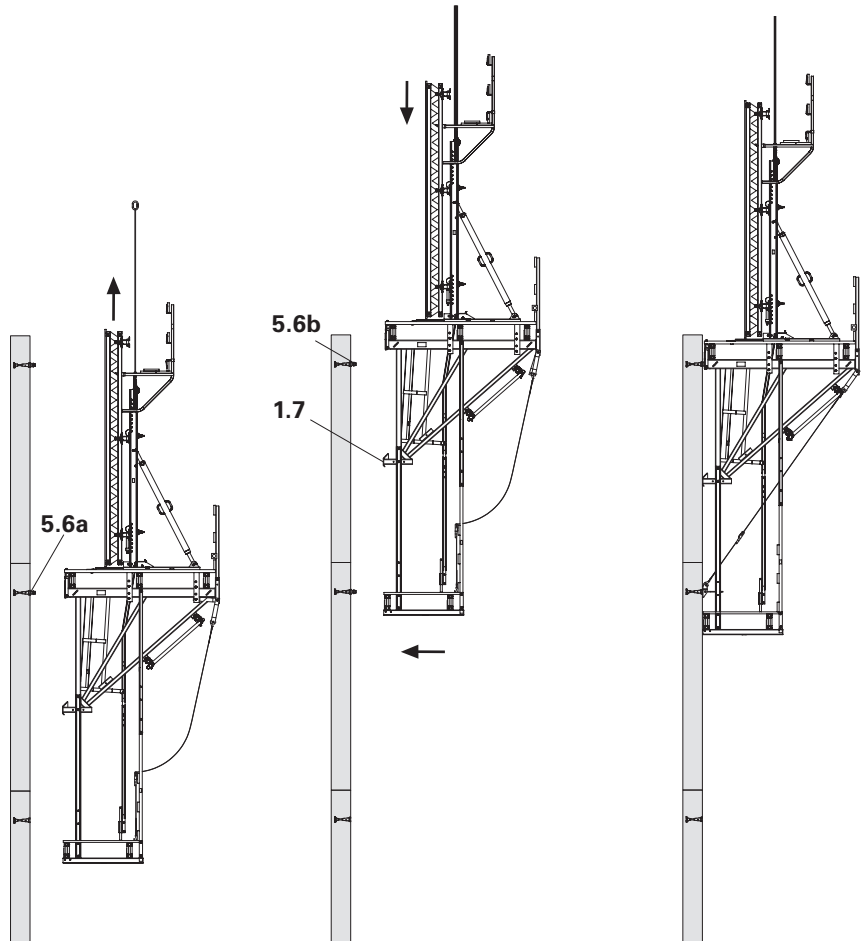


Fig. B4.05

Fig. B4.06

Fig. B4.07

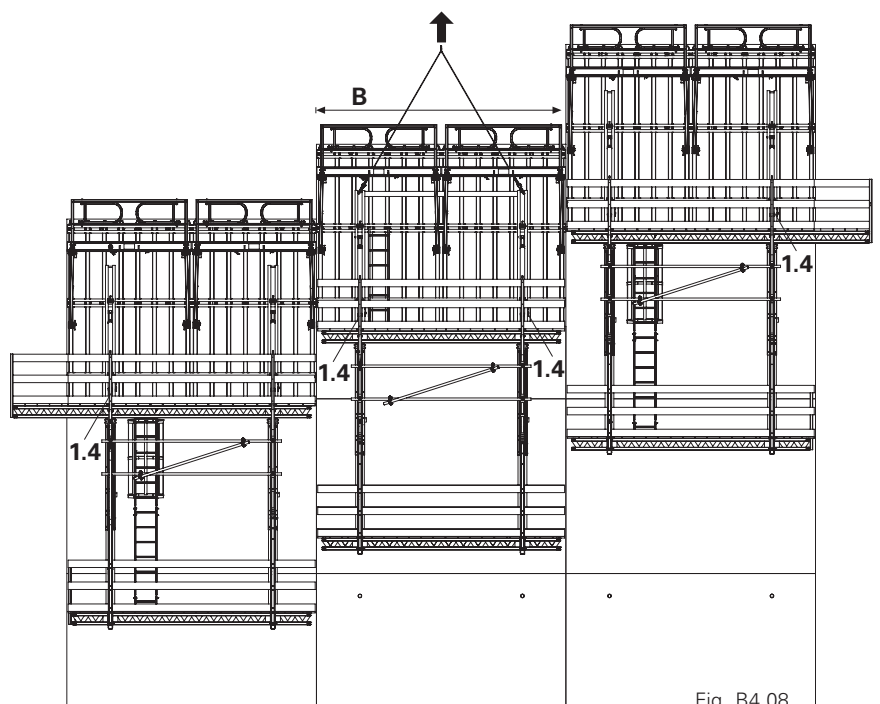


Fig. B4.08

C1 Planning and work preparation

Static System and load combinations

Bearing forces are determined by taking into consideration the following load combinations. For all load combinations (A = working and B = storm), the safe transfer of the bearing forces into the building structure has to be checked.

Load Combination A – Working

- $v = 72 \text{ km/h}$, $q = 0.25 \text{ kN/m}^2$
- formwork retracted (75 cm)
- working on all platforms permitted
- material storage on working platform permitted

Load Combination B – Storm

Wind load according to DIN 1055-4 while taking into consideration the period of use.

- formwork in a concreting position
- working not permitted
- material can be left on working platform

Width of influence b

Application height h_G

Formwork height h_S

Formwork weight max. 60 kg/m^2

Wind flow pressure q

Aerodynamic wind factor $c_w = 1.3$

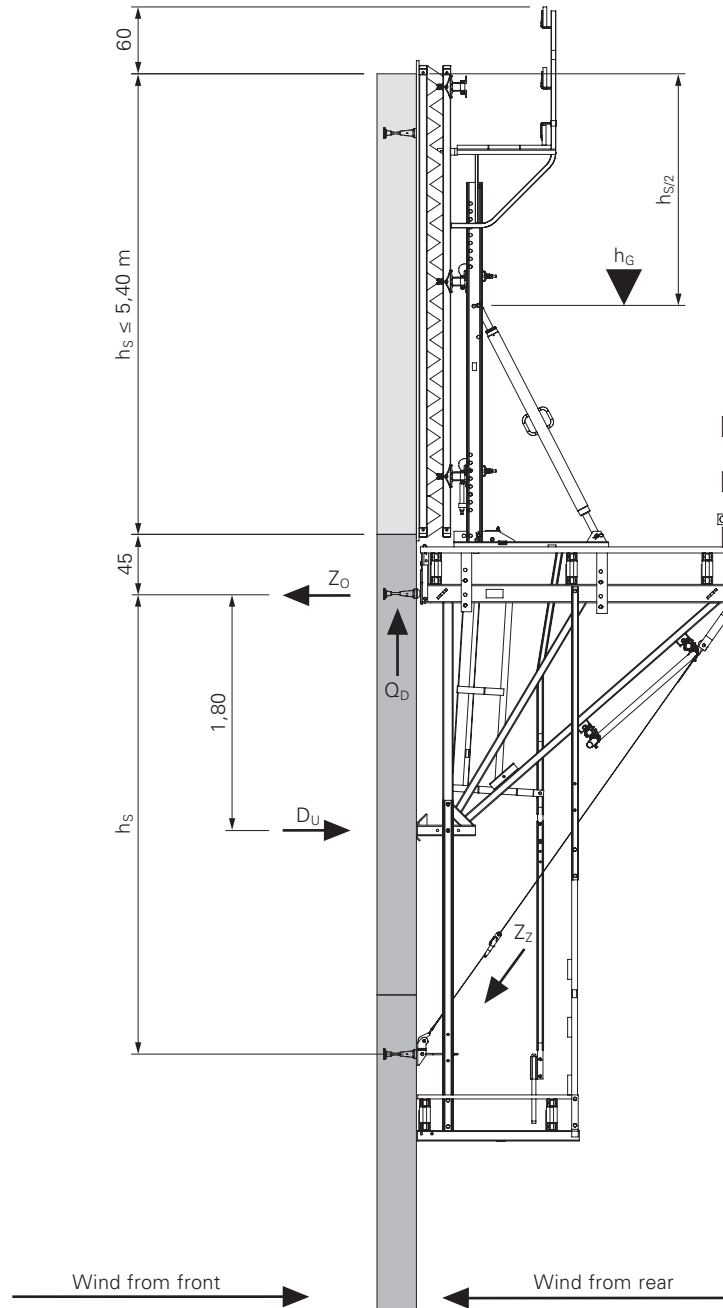


Table
Load assumptions

	Dead load [kg/m ²]	Perm. live load [kg/m ²]	Live load for load combination [kg/m ²]				
			Working		Storm		
			A	B1	B2	B3	
Concreting platform	30	150	75	-	-	-	
Intermediate platform (if required)	30	150	-	-	-	-	
Working platform	wall side	50	300	300	-	-	-
	guardrail side	50	150	150	200	200	200
Finishing platform	50	75	37.5	-	-	-	
Wind direction			from front	from front	from rear	from rear	

C1 Planning and work preparation

Platform dimensioning

Standard use

When planning the platforms, existing widths of influence of the brackets are to be determined.

Depending on the position on the building, different permissible widths of influence apply to the corner as well as standard areas. The bearing forces for the existing widths of influence are determined using the associated bearing forces while taking into consideration the dead load of the bracket unit.

Special applications

With differing loads, larger formwork heights or inclinations of the building, separate static proof for the platforms is required.

Anchoring verification

The following are to be verified or determined by the structural engineer responsible for the building:

- the safe transfer of the bearing forces into the concrete
- the safe transfer of all reaction forces as well as the stability of the building under construction
- the required concrete strength before the platforms can be loaded
- the arrangement and load-bearing capacity of possible additional reinforcement.



On request, design tables along with diagrams and formulae are available in separate product information on the basis of German building authority approval.

For use outside of Germany, separate product information on the basis of an expert's report is available. Both are based on a comprehensive series of tests for determining the load-bearing capacity.

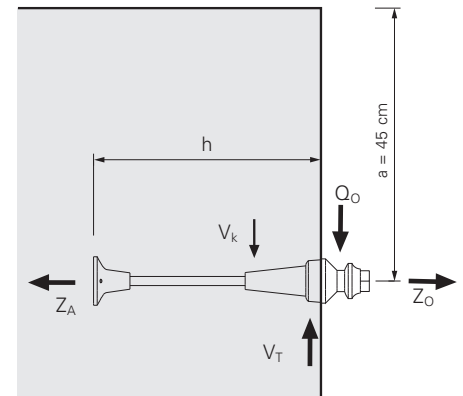


Fig. C1.01

Load application

- The bearing force of the maximum shear force Q_o is diverted via the pressure on the periphery of the climbing cone's cup V_T through the bedding on the cone V_K and into the concrete.
- The maximum tensile force Z_o is diverted via the pressure on the threaded anchor plate Z_A into the concrete. (Fig. C1.01)

C1 Planning and work preparation

Platform decking



- The execution of the platform decking must be carried out according to EN 12811.
- All materials used must be of sufficiently good quality, see Table 6.
- Tripping hazards, unnecessary box outs and openings in the decking are to be avoided or covered.
- The distance between the decking and the structure is a max. 5 cm.
- Gaps inbetween the planking are max. 2 cm.
- The spacing between the decking of adjacent platforms is a max. 2 cm. Larger gaps are to be covered with non-movable suitable materials or safety nets (8.4) with a max. mesh size of 2 cm are to be used.
- Any openings in the decking, which are required for normal working procedures, must be covered with non-movable suitable materials.
- Safe working conditions for ties are to be provided by intermediate platforms. (Fig. C1.02)
- Minimum dimensions of planking: see Table "Minimum Dimensions of the Planking".
- Permissible span of girders: see Table "Permissible Girder Spans".

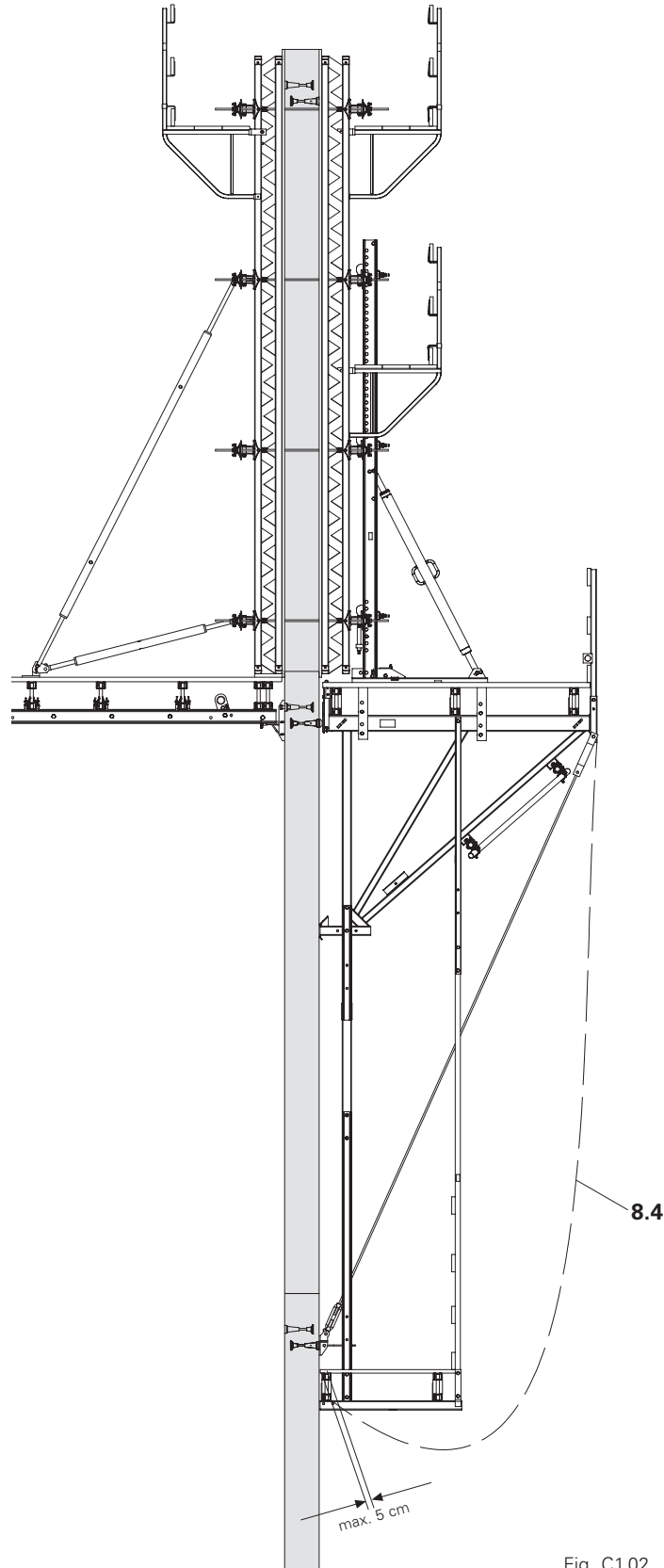


Fig. C1.02

C1 Planning and work preparation

Platform decking

Table
Minimum Dimensions of the Planking
 (DIN 4420, Table 3)

	Thickness [cm]	Min. Width [cm]	Span [m]
Working platform	3.5	24	≈ 1.0
	4.0	20	
	4.5	20	
	5.0	20	
Finishing platform	3.0	20	≈ 0.90
Concreting platform³⁾	GB 80	20	< 1.25
	TRG 80	20	< 1.35

Table
Permissible spans of platform beams.

Static system:	Girder type	Max. cantilever $d \leq c/2$ [m]	Max. span c [m]
	Girder GT 24	2.06	4.12
	Timber 8 x 16	1.95	3.91
	2 x Girder GT 24	2.40	7.20
	2 x Timber 8 x 16 or 16 x 16	2.40	5.53

C1 Planning and work preparation

Platform decking

Layout of working platform

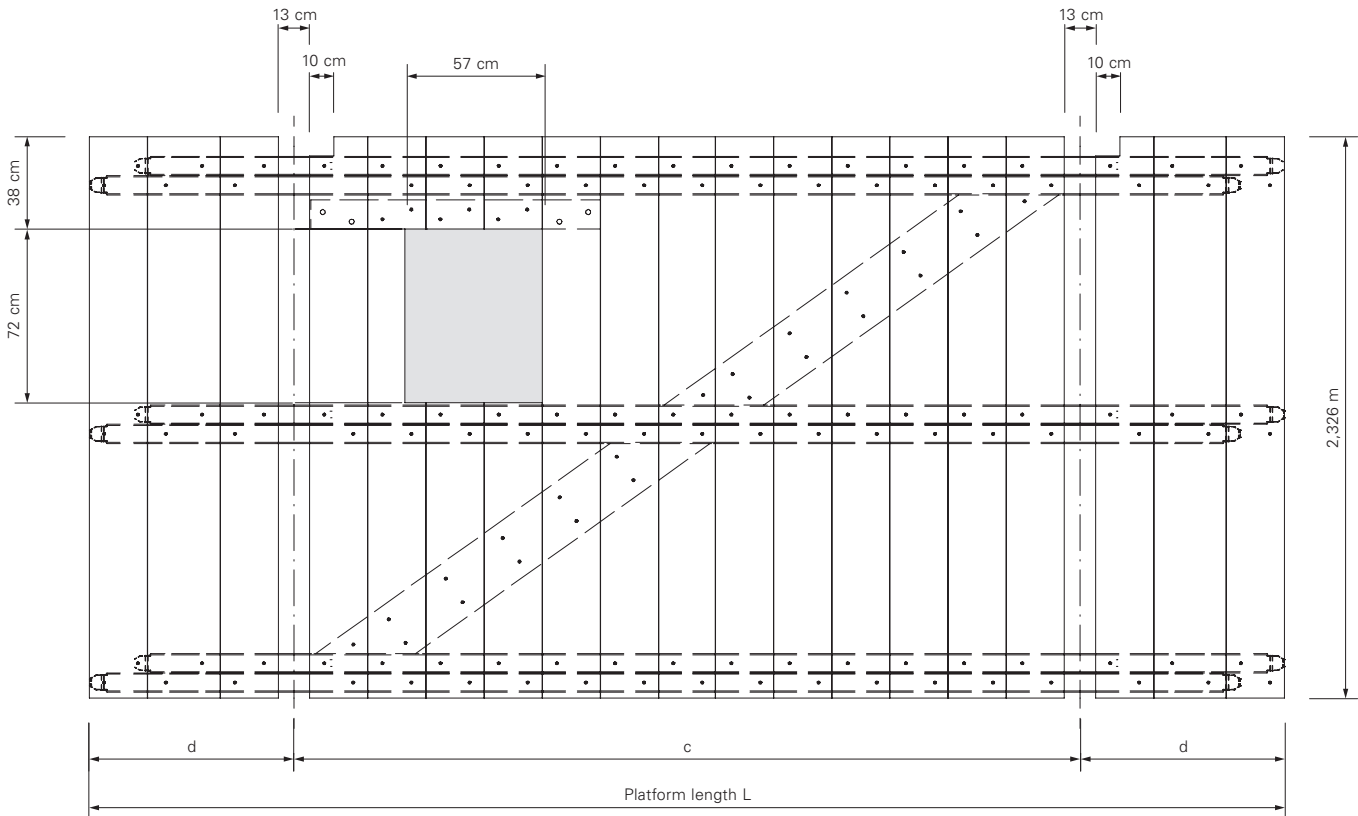


Fig. C1.03.1

Layout of finishing platform

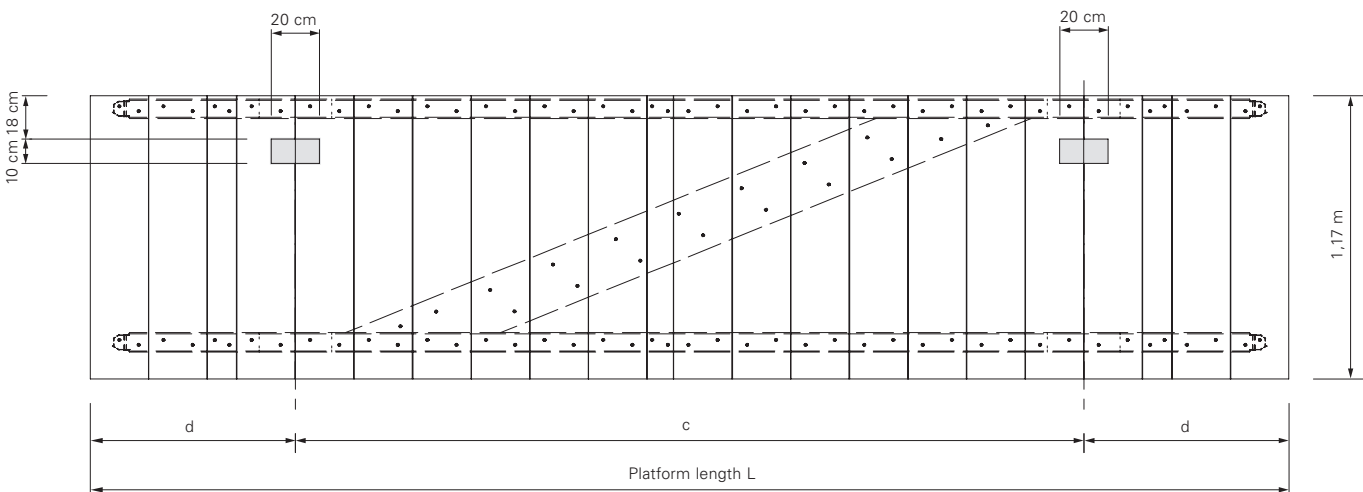


Fig. C1.03.2

C1 Planning and work preparation

Handrails and guardrails



End guardrails and guardrails must conform to EN 12811!

On all platform levels, edges are to be protected with guardrails. In order to maintain permissible spans and cantilevers, additional guardrail posts can also be mounted, see Table 4.



In accordance with BGI 778, working areas positioned at great heights are to be secured through safety nets or by side protection with closed protection panels in order to prevent objects from falling to the ground. (Fig. C1.04)

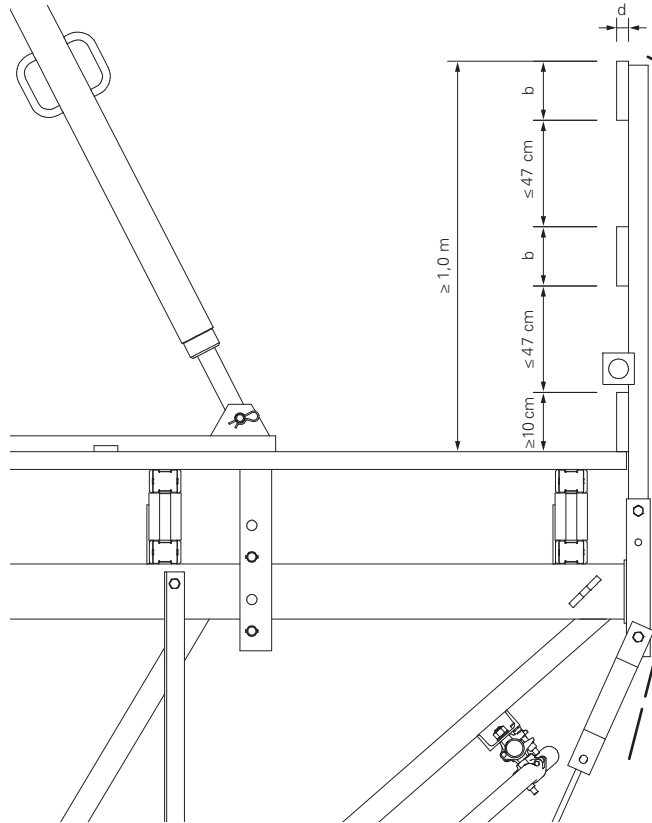


Fig. C1.04

Table
Permissible spans of handrail boards

Dimensions of handrail boards		Case 1 2 x guardrail posts + projection		Case 2 3 or more guardrail posts
d/b [mm]	Net*	perm. A ₁ [m]	perm. C [m]	perm. A ₂ [m]
40/120	without	3.07	0.91	3.56
	with	2.21	0.85	2.21
30/150	without	2.16	0.73	2.66
	with	1.81	0.73	1.81

* net with 50% wind permeability

C1 Planning and work preparation

Connecting VARIO GT 24 formwork

Mounting the leading anchor

During formwork planning, attention must be paid that there is sufficient spacing between bracket axes and the GT 24 formwork girder opposite. Otherwise, mounting the Leading anchor (5) with the Anchor Positioning Stud M24 (5.9) is not possible. (Fig. C1.05)

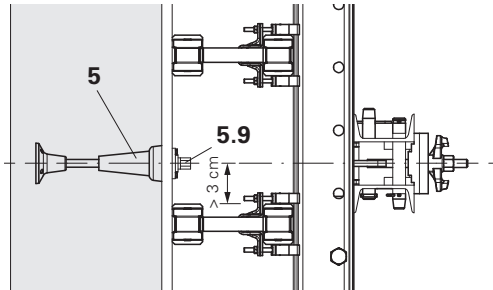


Fig. C1.05

Height adjusting units

Depending upon weight of the formwork, the number of Height Adjusting Units (4.3) is to be determined for each strongback. (Fig. C1.06)

perm. $V_1 = 12.8 \text{ kN}$

Fix all walers (10.4) in the area of the Strongback (4) with Waler Fixations (4.4).

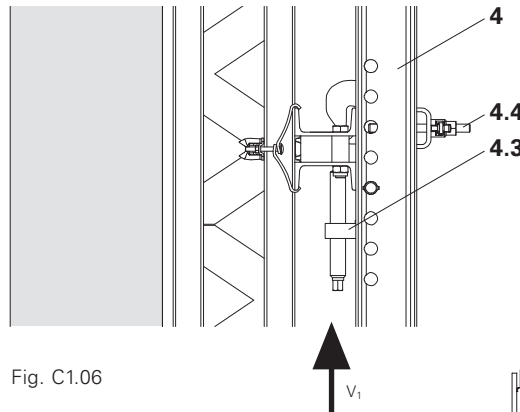


Fig. C1.06

Strongback CB 270 (4.1)

The top height adjusting unit is only mountable with standard waler spacings of 1.78 m or 2.07 m. (Fig. C1.07.1)

Strongback CB 380 (4.2)

The top height adjusting units are only mountable on walers in standard spacings from 1.78 m to 3.26 m from the lowest-positioned waler. (Fig. C1.07.2)

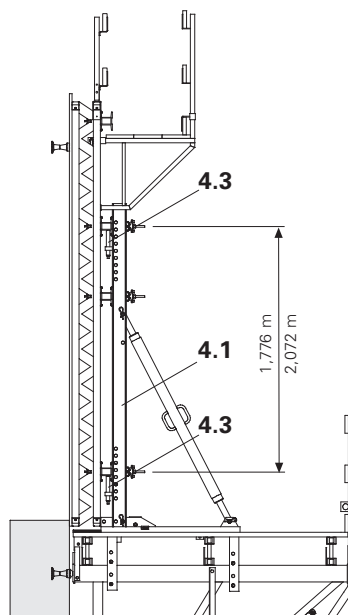


Fig. C1.07.1

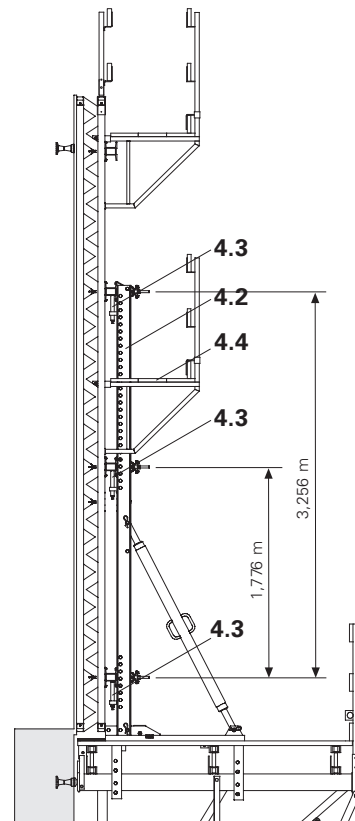


Fig. C1.07.2

C1 Planning and work preparation

Connecting VARIO GT 24 formwork

Adjustable Brace 164-224

According to the formwork waler spacing, fix the adjustable brace with bolts $\varnothing 25 \times 180$ 3.2 in the bottom hole (Fig. C1.08.1) or in the top hole (Fig. C1.08.2) of the strongback.

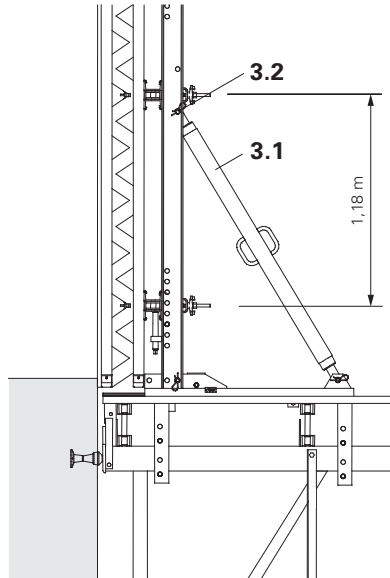


Fig. C1.08.1

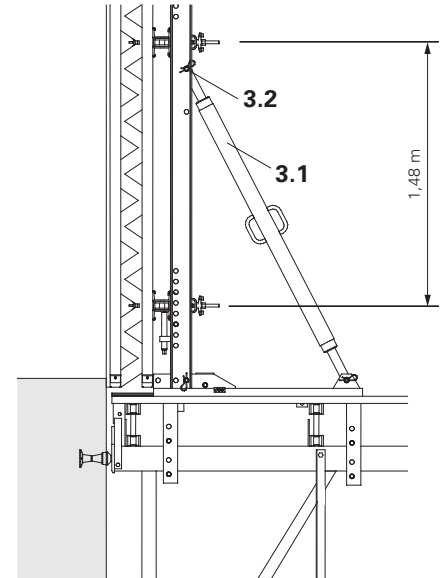


Fig. C1.08.2

Anchoring

Depending on the height of the girder (13.1), place the formwork (10) higher or lower. (Fig. C1.09.1 + C1.09.2)

The edge distance of the anchoring (5) remains unchanged.

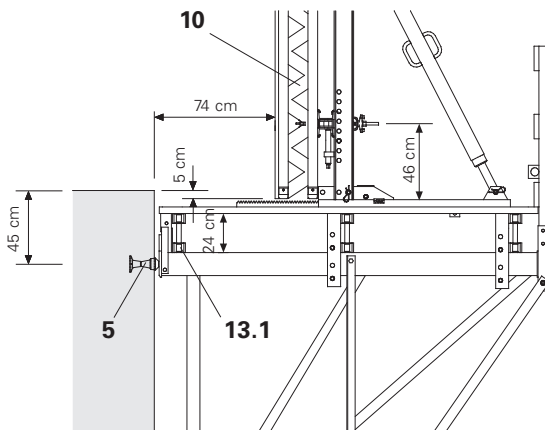


Fig. C1.09.1

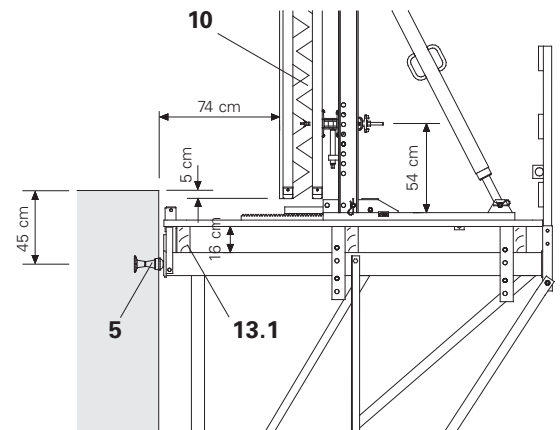


Fig. C1.09.2

C1 Planning and work preparation

Connecting TRIO formwork

Connection to horizontal struts

Height of girder: 24 cm

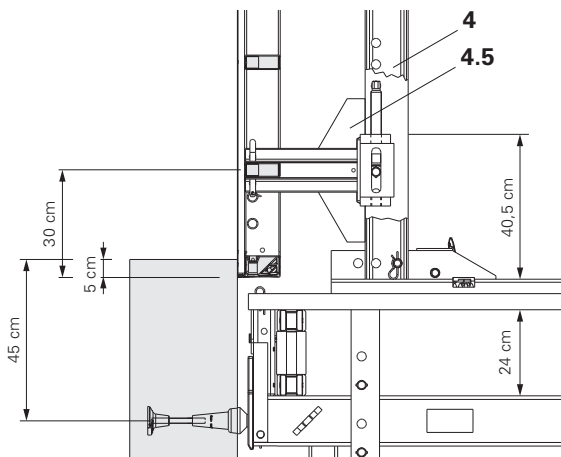


Fig. C1.10.1

Height of girder: 16 cm

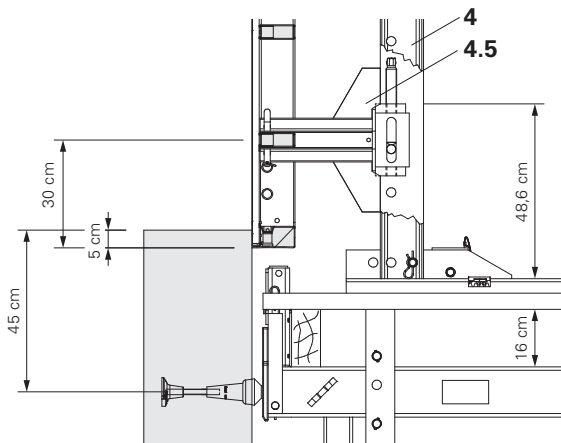


Fig. C1.10.3

Layout of C1.10.1 + C1.10.3

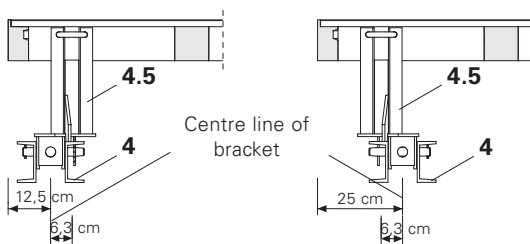


Fig. C1.11.1

Connection to vertical struts

Height of girder: 24 cm

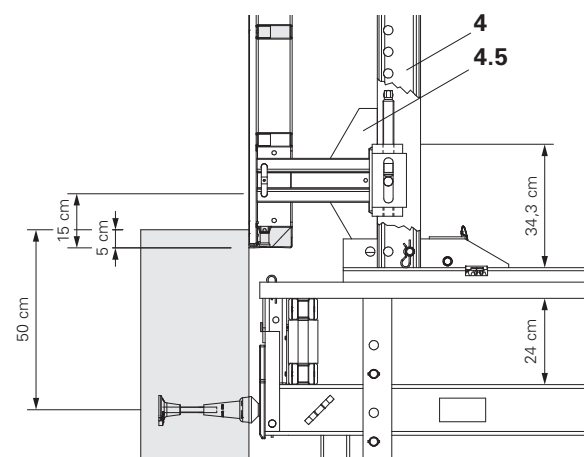


Fig. C1.10.2

Height of girder: 16 cm

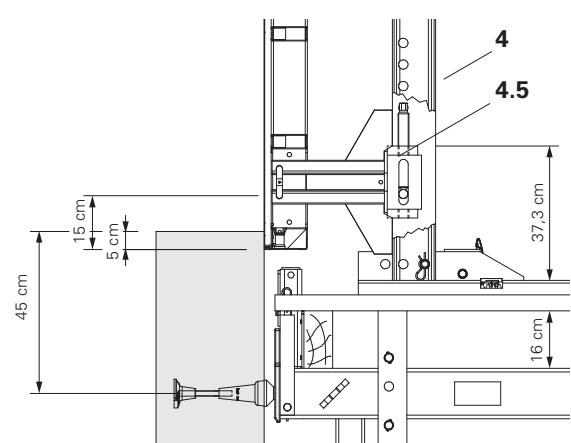


Fig. C1.10.4

Layout of C1.10.2 + C1.10.4

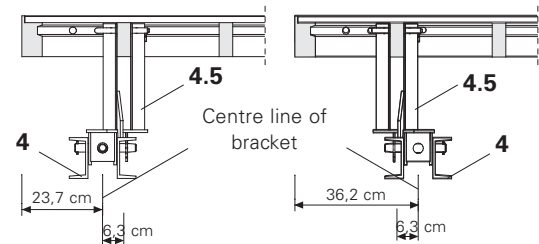


Fig. C1.11.2

C1 Planning and work preparation

Connecting TRIO formwork

TR 270 x 240 element in an upright position

The Connector TRIO-CB is to be bolted to the horizontal struts.

(Fig. C1.12.1 – C1.12.3)

The illustrations show 24 cm high girders.

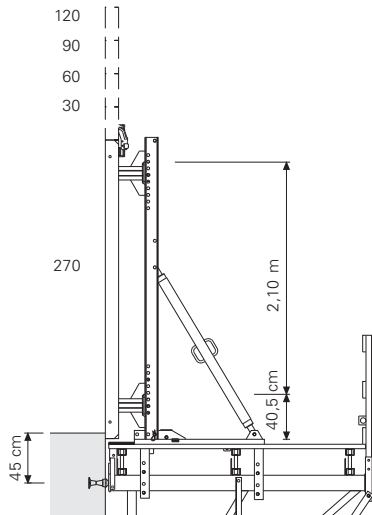


Fig. C1.12.1

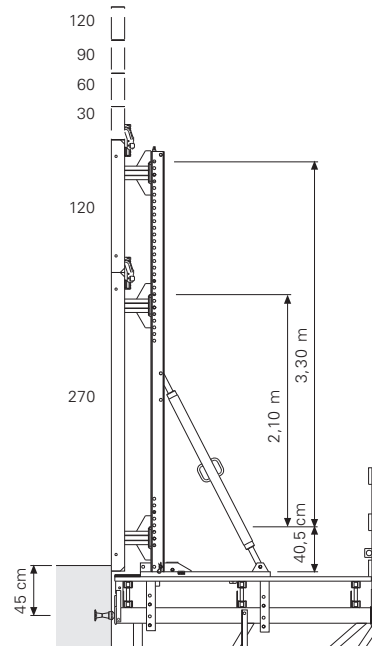


Fig. C1.12.2

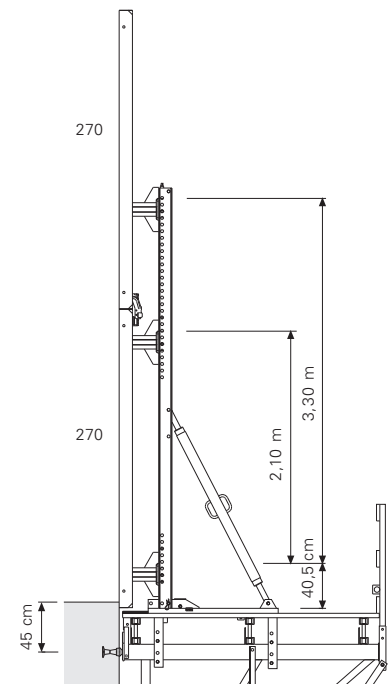


Fig. C1.12.3

TR 270 x 240 element in a horizontal position

The Connector TRIO-CB is to be bolted to the vertical struts.

(Fig. C1.13.1 – C1.13.3)

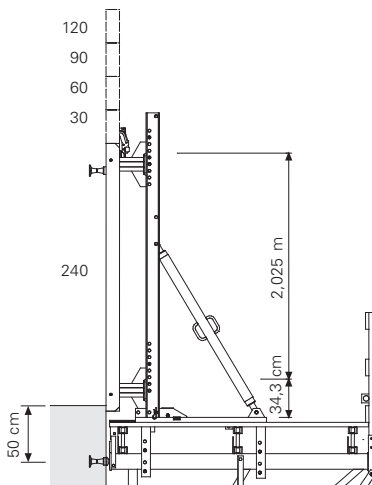


Fig. C1.13.1

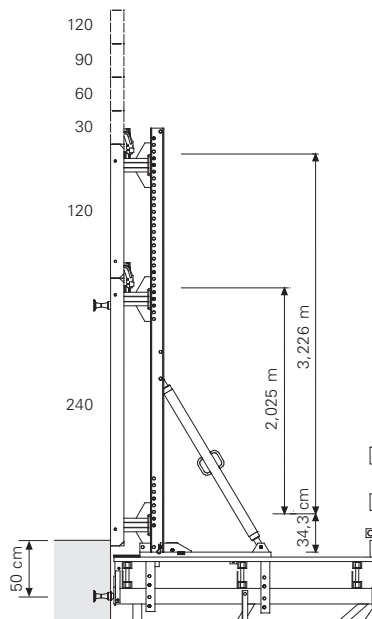


Fig. C1.13.2

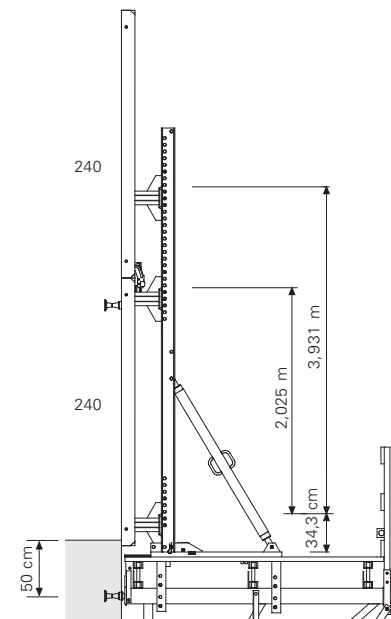


Fig. C1.13.3

C1 Planning and work preparation

Moving the units

Installation of compression brace

In order to prevent the strongbacks being pulled out of line during the lifting process due to the redirection of forces, clamp a suitable piece of timber (10.4) as a compression brace between the top ends of the strongbacks (4). (Fig. C1.14)

For the dimensions of the compression brace, see Table "Permissible Spacing of the Strongback CB".

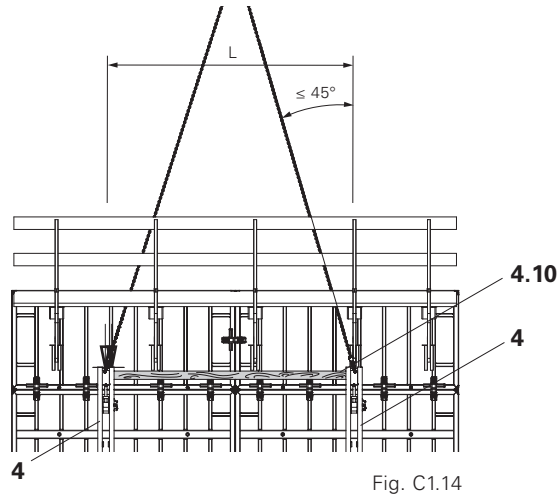


Fig. C1.14

Table
Permissible spacing for the Strongback CB

Dimensions of the compression brace b x d [cm]	Permissible spacing for the Strongback CB L [m]	
	Crane sling angle $\alpha \leq 30^\circ$	Crane sling angle $\alpha = 45^\circ$
10 x 10	4.30	3.80
12 x 12	5.20	5.20
14 x 14	6.00	6.00

The timber ends (4.10) are adapted to the U120 profile of the strongback (4) through chamfering and notching. For fixing with wood screws 8 x 160 and washers (4.11), use the drilled holes in the strongback web. (Fig. C1.15)

Top view

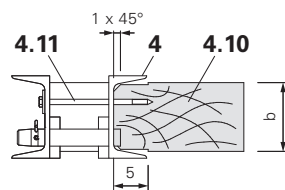


Fig. C1.15



If no compression braces are used between the strongbacks or strongly unbalanced platforms are to be moved, we recommend the use of the Lifting Beam RCS 10 t, Item no. 112986. Operating instructions: see Fig. C1.16.

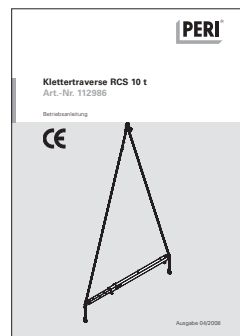


Fig. C1.16

C1 Planning and work preparation

Ladder Access

Table
Parts list for ladder access

Concreting height [m]		1.5 – 3.0	2.0 – 3.0	3.3 – 4.9	3.8 – 5.4
Working platform – finishing platform spacing		3.65	4.15	5.45	5.95
Item no.	Description	Parts List			
051430	Sliding Hatch	1	1	1	1
051420	Ladder 220/6	1	1	1	1
051410	Ladder 180/6, galv.	1	1	2	2
051450	Ladder Safety Cage 150, galv.	1	1	1	2
104132	Ladder Safety Cage 75, galv.	–	–	1	–
109105	Ladder Base 30, galv.	1	1	1	1
103718	Ladder Hook, galv.	2	–	2	–
070711	Timber 10 x 10, L = 60 cm for assembly of Ladder Base 30	1*	–**	1*	–**

* The ladders are attached to the top end of the sliding hatch cover.
The bottom ladder is attached using the ladder hook, and with the ladder base on timber at the lower end.

** Screw ladder base tightly on decking of the finishing platform.

Drawings and plans

Assembly Drawings

The following points at least should be featured in the assembly drawings:

- bracket spacing and bracing
- dimensions of the working and finishing platforms
- dimensions, arrangement and number of concreting and intermediate platforms
- erection of girders and guardrails
- layout of end guardrail posts
- layout of lateral guardrails
- position of access ladders
- material requirements (parts list)

General Arrangement Drawings

The following points at least should be featured in the general arrangement drawings:

- position of the climbing anchor in the plan view and sectional view
- which scaffolding platform is used on which part of the building
- associated formwork and finishing platform
- installation of wind bracing
- distance of finishing platform to the working platform
- formwork and strongback connection points
- timber brace position between the strongbacks
- reference values for retraction process during moving (see Table 1)
- possible special measures in case of irregular concreting heights
- details of modifications
- material requirements (parts list)



Appropriate, easy-to-read as well as sufficient drawings in both number and format are to be made available to the site management. The drawings are to be created clearly and professionally in the language of the country where construction is taking place.

We recommend including a plan view and sectional view of the scaffold as well as an overview plan for positioning purposes.

We recommend including a plan view and a top view of the platform.

C1 Planning and work preparation

Use on circular structures

Uniformly-positioned brackets

Depending on bracket spacing c , brackets can be positioned parallel to each other as of a certain radius of the building.

Advantages:

The carriage can be used for moving forward and retracting the formwork. The maximum twist in the scaffold mounting ring is 5° .

The pressure point of the bracket is wedged to compensate for the angle. (Fig. C1.17)

Requirements for the radius of the building:
available $R \geq 5.72 \times \text{actual } c$.

System statics are proved with the application diagrams according to the type test.

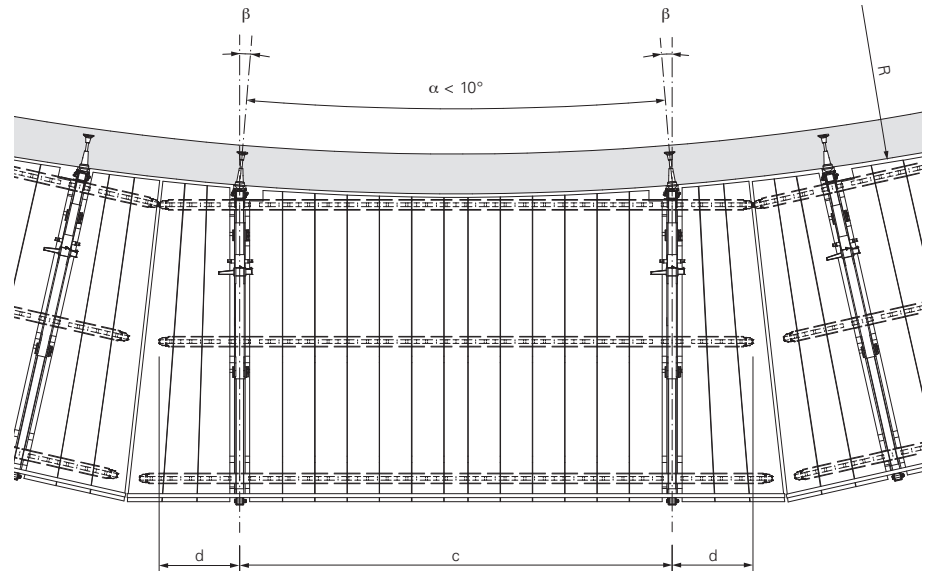


Fig. C1.17

- c available bracket spacing = anchor spacing
- d middle girder cantilever
- $\alpha = 2 \times \text{angle of torsion } \beta$
- R radius of the building

Radially-positioned brackets

Disadvantages:

The carriage can no longer be used for moving forward and retracting the formwork.

Wedges for compensating the angle have to be fitted between the girder and mounting plate. If the arc rise s of the building edge is too big, the innermost girder must be additionally moved outwards by means of packing in order to provide sufficient space between the girder and building. (Fig. C1.18)

The same applies to the finishing platforms.

Special measures have to be undertaken if scaffold tube units are installed.

Static proof is to be carried out separately.

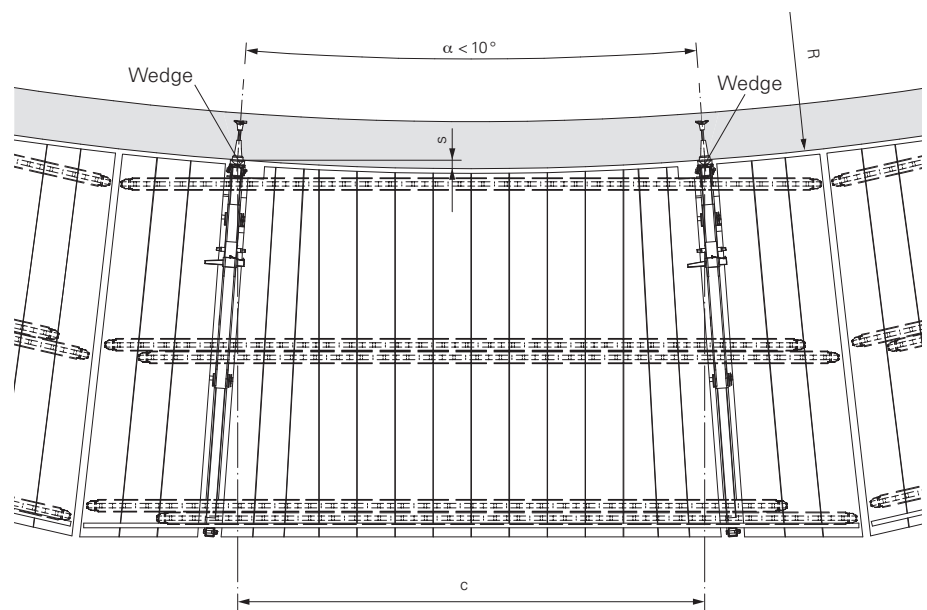


Fig. C1.18

- s arc rise of the building's curvature
- c anchor spacing

C1 Planning and work preparation

Corner platforms

Corner platforms are to be erected in such a way that free access is possible around the corners of the building when the formwork has either been moved forward or retracted.

Procedure

An additional cantilever on both outside girders.

The planking is cantilevered inwards and fixed along the 45° edge on the underside of a distribution plank. Openings on the platform ends are to be secured with guardrails. (Fig. C1.19)

The concreting and intermediate platforms are to be secured accordingly. e.g. with End Handrail Frame 55 (10.7).

In the verification process with the help of the application diagrams, the girder cantilever is to be taken into consideration.

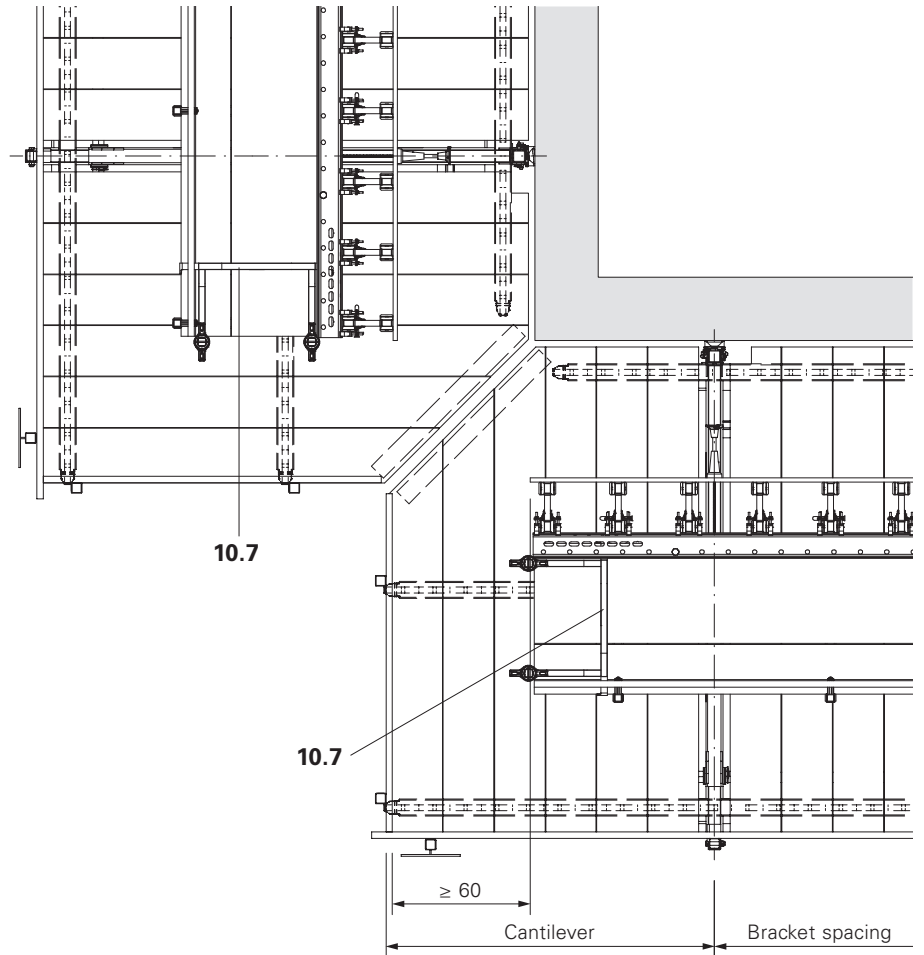


Fig. C1.19

CB Climbing System, BR Shaft Platform



Item no.	Weight kg
051000	112,000

Climbing Bracket CB 240

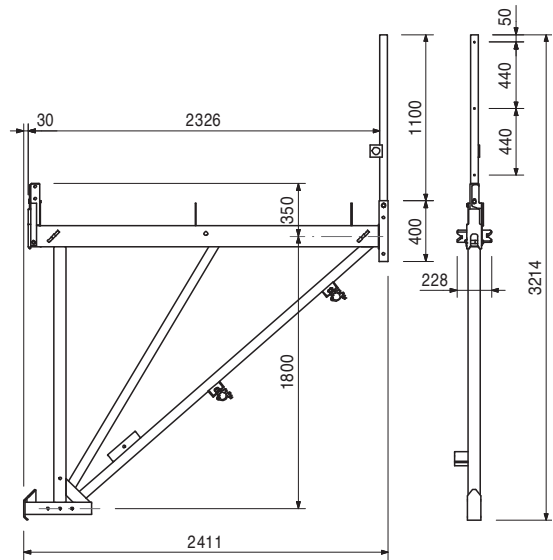
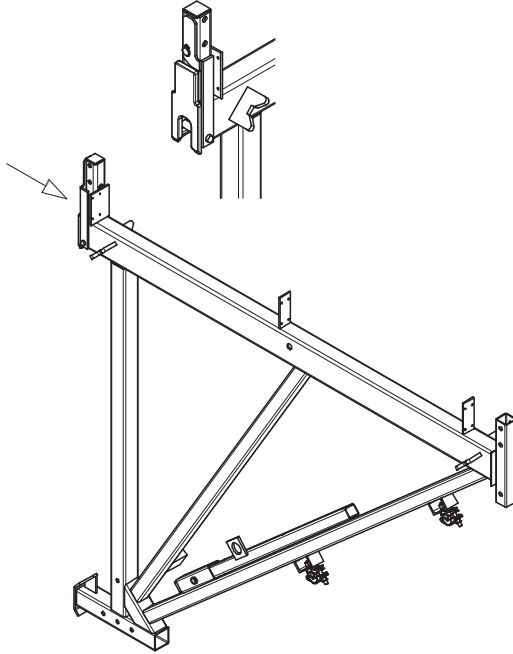
Complete Climbing Scaffold Bracket CB 240.

Complete with

- 2 pc. 017040 Screw-On Coupler AK 48, galv.
- 1 pc. 715977 Guardrail Post CB 240
- 1 pc. 710222 Bolt ISO 4014 M16 x 80-8.8, galv.
- 1 pc. 070890 Nut ISO 7042 M16-8, galv.

Note

Delivery condition: handrail post in transport securing device.



051020	33,900
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Carriage CB 240

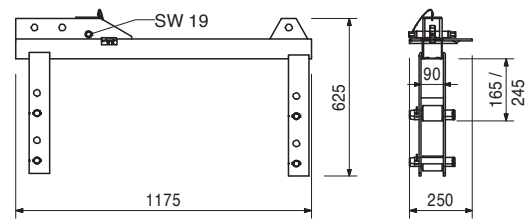
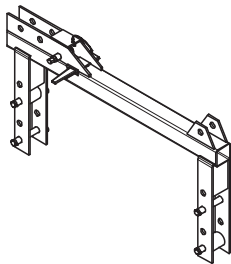
For assembly on the Climbing Bracket CB 240.
Can be installed in 2 positions: for decking support with GT 24 girder or timber 8 x 16.

Complete with

- 1 pc. 710944 Key Wedge, FW

Note

Wrench size SW 19.



027180	1,760
051040	8,440

Accessories

Ratchet Lever SW 19

Rack CB 240

CB Climbing System, BR Shaft Platform

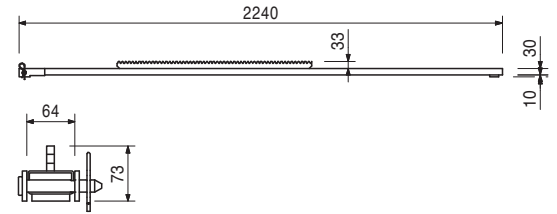
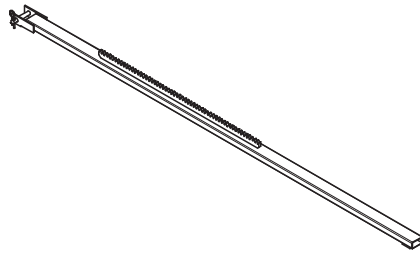


Item no.	Weight kg
051040	8,440

Rack CB 240
For Carriage CB 240.

Complete with

- 1 pc. 018050 Bolt \varnothing 16 x 65/86, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.



051010	0,930
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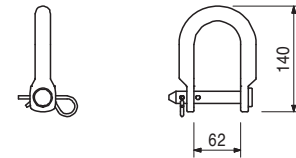
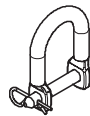
Crane Eye CB 240
For assembly on the Climbing Bracket CB 240 during use as working scaffold.

Complete with

- 1 pc. 018050 Bolt \varnothing 16 x 65/86, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.

Safety Instructions

Load-bearing point: capacity 700 kg.



051100	79,000
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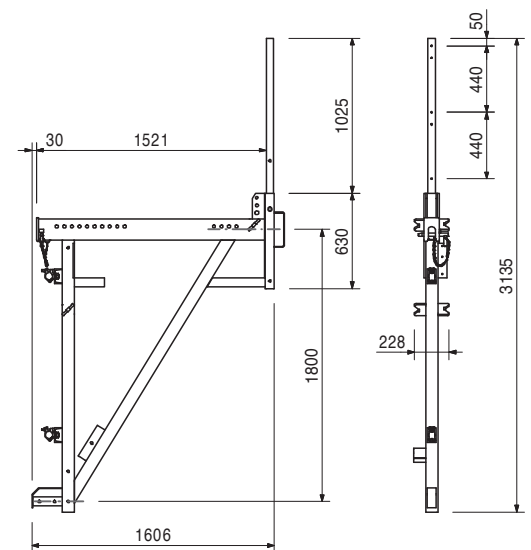
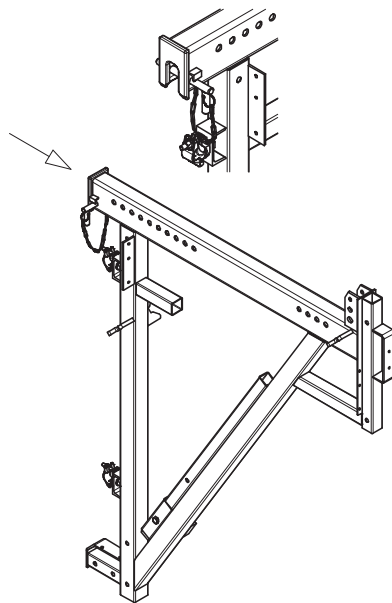
Climbing Bracket CB 160
Complete Climbing Scaffold Bracket CB 160.

Complete with

- 2 pc. 017040 Screw-On Coupler AK 48, galv.
- 1 pc. 715977 Guardrail Post CB 240
- 1 pc. 710222 Bolt ISO 4014 M16 x 80-8.8, galv.
- 1 pc. 070890 Nut ISO 7042 M16-8, galv.

Note

Delivery condition: handrail post in transport securing device.



CB Climbing System, BR Shaft Platform



Item no.	Weight kg
051130	12,900

Adjusting Unit CB 160

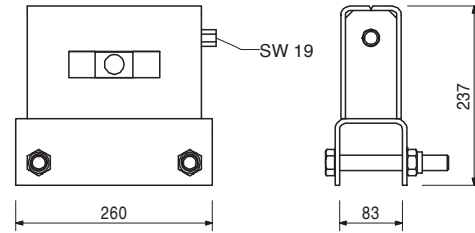
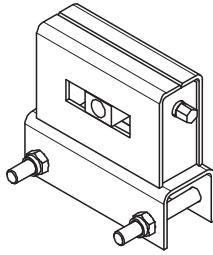
For Climbing Bracket CB 160.

Complete with

2 pc. 711084 Bolt ISO 4014 M20 x 150-8,8, galv.
2 pc. 781053 Nut ISO 7042 M20-8, galv.

Note

Wrench size SW 19.



051120	4,560
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Platform Connection CB 160

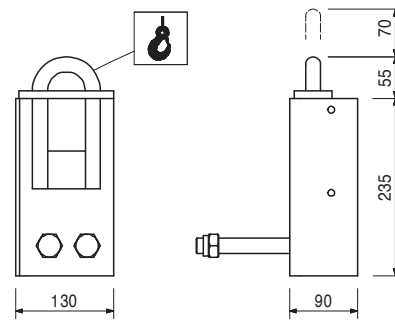
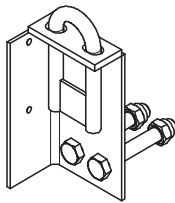
For mounting platform decking on the Climbing Bracket CB 160 for use as working scaffold.

Complete with

2 pc. 711078 Bolt ISO 4014 M20 x 130-8,8, galv.
2 pc. 781053 Nut ISO 7042 M20-8, galv.

Safety Instructions

Load-bearing point: capacity 500 kg.



051060	73,400
051150	103,000

Strongbacks CB

Strongback CB 270

Strongback CB 380

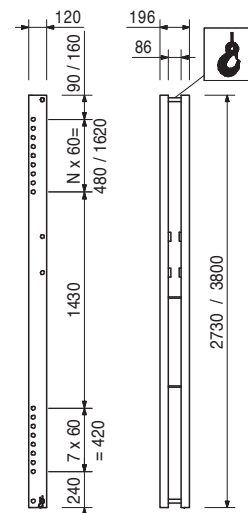
For assembling system formwork on Climbing Brackets CB 240 and 160. For formwork heights up to 5.40 m.

Complete with

1 pc. 715936 Bolt with Split Bolt
1 pc. 018060 Cotter Pin 4/1, galv.

Safety Instructions

Load-bearing point: capacity 1.9 t.



Item no.	Weight kg
051030	5,320

Height Adjusting Unit CB, SCS

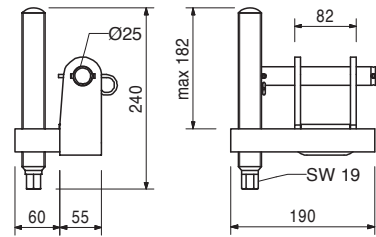
For height adjustment of VARIO GT 24 elements on the Strongbacks CB and SCS.

Complete with

1 pc. 715936 Bolt with Split Bolt
1 pc. 018060 Cotter Pin 4/1, galv.

Note

Wrench size SW 19.



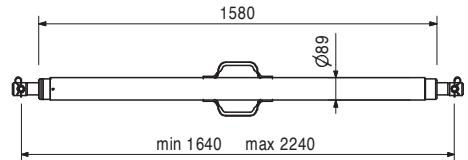
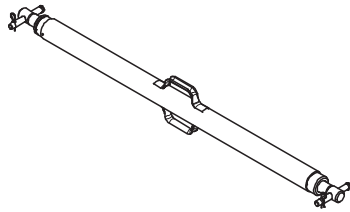
051110	25,000
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Adjustable Brace CB 164-224

For aligning the Strongback CB.

Complete with

2 pc. 715936 Bolt with Split Bolt
2 pc. 018060 Cotter Pin 4/1, galv.



051090	13,500
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Connector TRIO-CB

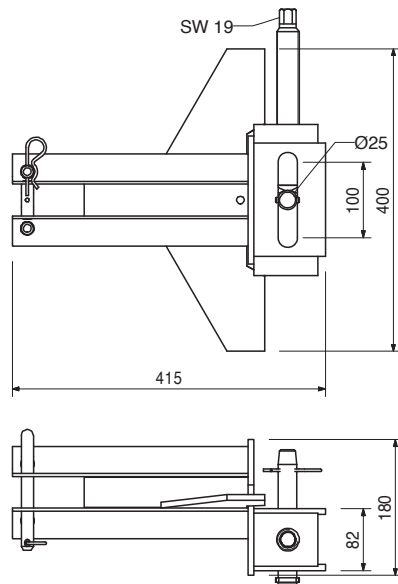
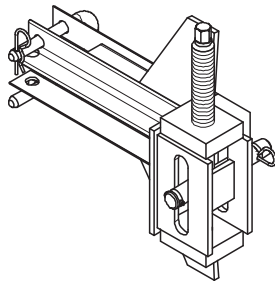
For fixing TRIO elements to the Strongback CB. Used on horizontal or vertical struts. With integrated height adjustment.

Complete with

1 pc. 715936 Bolt with Split Bolt
1 pc. 018060 Cotter Pin 4/1, galv.

Note

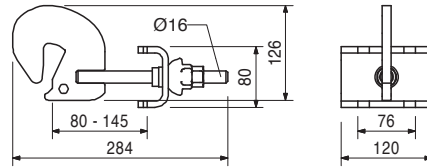
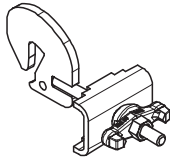
Wrench size SW 19.



Item no.	Weight kg
110059	2,840

Waler Fixation U100-U120

For fixing VARIO GT 24 elements to Strongbacks CB and SCS, Steel Waler SRU and V-Strongback SKS.



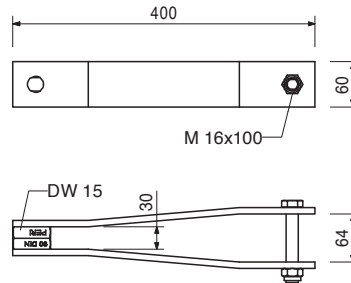
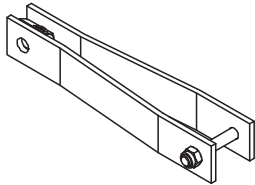
107007	3,410
--------	-------

Tension Anchor Connector CB

To prevent tipping over due to wind loads with Tie Rod DW 15.

Complete with

1 pc. 710219 Bolt ISO 4014 M16 x 100-8.8, galv.
1 pc. 070890 Nut ISO 7042 M16-8, galv.



116807	1,820
030030	1,440

Accessories

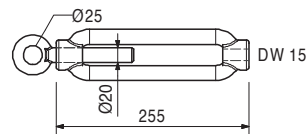
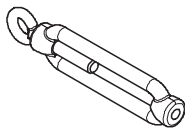
Turnbuckle CB M20/DW 15

Tie Rod DW 15 Spec. Length

116807	1,820
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Turnbuckle CB M20/DW 15

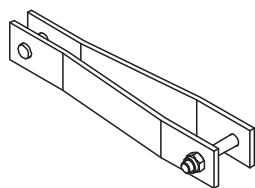
For tensioning of Tie Rod DW 15 to prevent tipping over due to wind loads. Connects Tie Rod DW 15 with Wall Bracing Shoe CB M24.



Item no.	Weight kg
051260	3,300

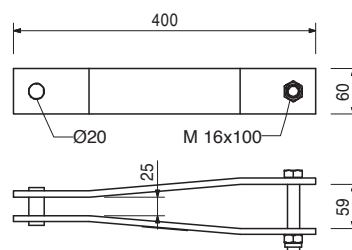
Tension Belt Connector CB

To prevent tipping over due to wind loads with tension belt.



Complete with

1 pc. 710219 Bolt ISO 4014 M16 x 100-8.8, galv.
1 pc. 070890 Nut ISO 7042 M16-8, galv.



051250	2,790
--------	-------

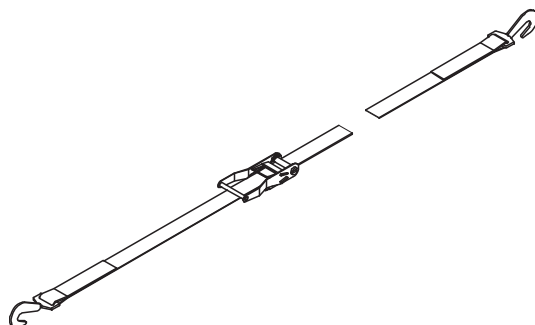
Accessories

Tension Belt l = 5.70 m, 25 kN

051250	2,790
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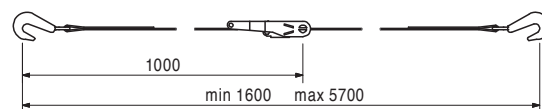
Tension Belt l = 5.70 m, 25 kN

To prevent climbing systems tipping over due to wind loads.



Technical Data

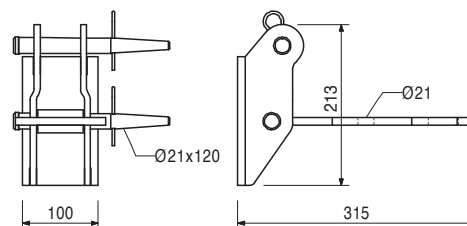
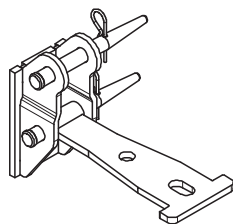
Permissible tension force 25.0 kN.



116752	5,050
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Wall Bracing Shoe CB M24

To prevent tipping over due to wind loads with Tension Belt or Tie Rod DW 15 and to stabilise the Finishing Platform. To be mounted on the Climbing Anchor M24 embedded in the concrete.



026430	0,334
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Accessories

Bolt ISO 4014 M24 x 70-10.9, galv.

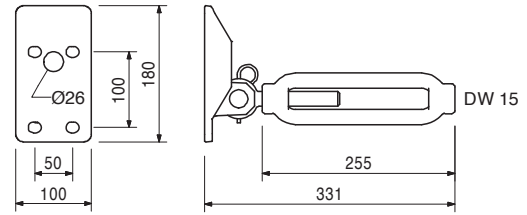
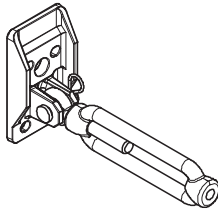
Item no.	Weight kg
107008	4,100

Wall Tension Anchor

Alternative wall socket to prevent tipping over due to wind loads with Tie Rod DW 15. Including Turnbuckle CB M20/DW 15.

Complete with

- 1 pc. 027170 Bolt \varnothing 16 x 42, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.



026430	0,334
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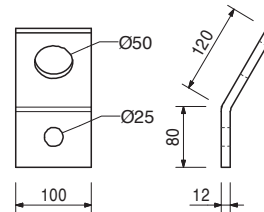
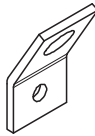
Accessories

Bolt ISO 4014 M24 x 70-10.9, galv.

051270	1,620
--------	-------

Tension Belt Connector Wall M24

Alternative wall socket to prevent tipping over due to wind loads with Tension Belt. To be used for climbing systems CB and FB.



026430	0,334
--------	-------

Accessories

Bolt ISO 4014 M24 x 70-10.9, galv.

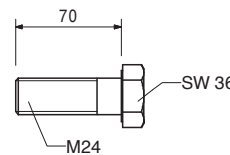
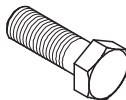
026430	0,334
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Bolt ISO 4014 M24 x 70-10.9, galv.

High-strength bolts for anchoring climbing systems.

Note

Wrench size SW 36.



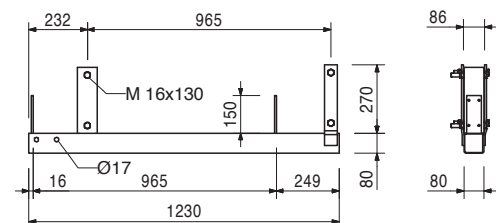
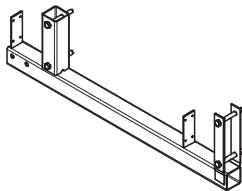
051230	17,000
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Finishing Platform Beam CB

For assembling finishing platforms.

Complete with

- 4 pc. 710232 Bolt ISO 4014 M16 x 130-8.8, galv.
- 4 pc. 070890 Nut ISO 7042 M16-8, galv.



CB Climbing System, BR Shaft Platform



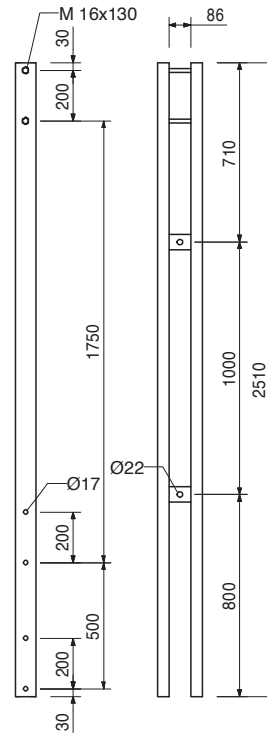
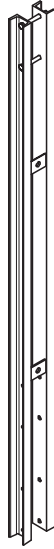
Item no.	Weight kg
051200	44,400

Platform Post CB 225

For assembling finishing platforms. For concreting heights up to 3.60 m. In combination with Post Extension CB 180 for concreting heights from 3.60 to 5.40 m.

Complete with

2 pc. 710232 Bolt ISO 4014 M16 x 130-8.8, galv.
2 pc. 070890 Nut ISO 7042 M16-8, galv.



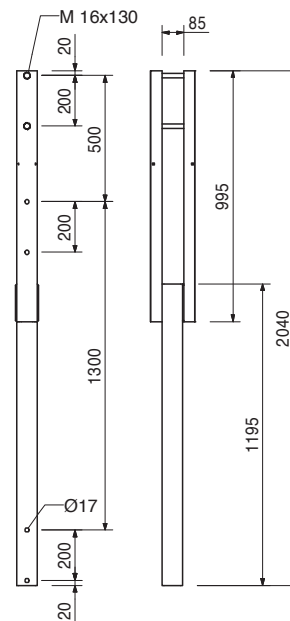
051050	26,400
--------	--------

Post Extension CB 180

For assembling finishing platforms. In combination with Platform Post CB 225 for concreting heights from 3.60 to 5.40 m.

Complete with

2 pc. 070890 Nut ISO 7042 M16-8, galv.
2 pc. 710232 Bolt ISO 4014 M16 x 130-8.8, galv.



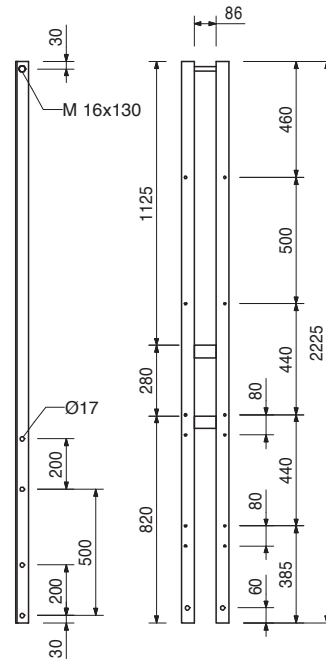
Item no.	Weight kg
051190	17,400

Handrail Post CB 200

For assembling guardrails on finishing platforms.
Basic extension for Handrail Post CB 190 and 370.

Complete with

2 pc. 710232 Bolt ISO 4014 M16 x 130-8.8, galv.
2 pc. 070890 Nut ISO 7042 M16-8, galv.



051210	19,000
051220	34,600

Handrail Posts CB

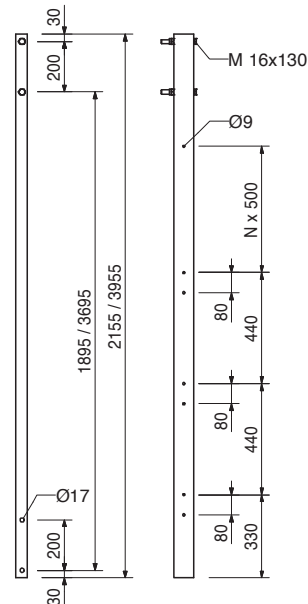
Handrail Post CB 190

Handrail Post CB 370

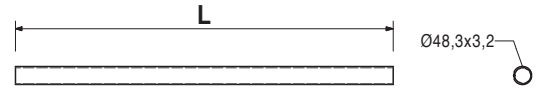
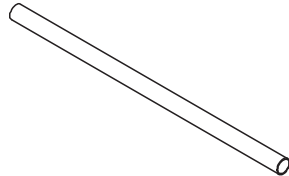
For assembling guardrails on finishing platforms.
Handrail Post 190 for concreting heights up to 3.60 m. Handrail Post CB 370 for concreting heights from 3.60 to 5.40 m.

Complete with

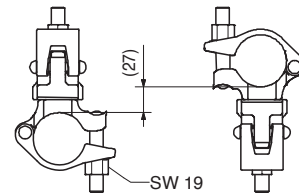
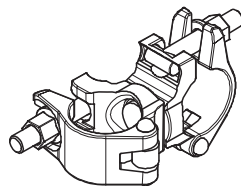
2 pc. 070890 Nut ISO 7042 M16-8, galv.
2 pc. 710232 Bolt ISO 4014 M16 x 130-8.8, galv.



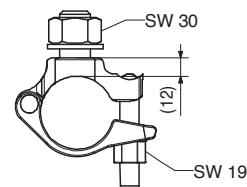
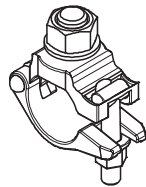
Item no.	Weight kg		L
026415	3,550	Scaffold Tubes Steel Ø 48,3 x 3,2	
026417	0,000	Scaff. Tube Steel Ø 48.3 x 3.2, per m	
026411	3,550	Cutting Cost Scaffold Tube	
026412	7,100	Scaff. Tube Steel Ø 48.3 x 3.2, l = 1.0 m	1000
026413	10,650	Scaff. Tube Steel Ø 48.3 x 3.2, l = 2.0 m	2000
026414	14,200	Scaff. Tube Steel Ø 48.3 x 3.2, l = 3.0 m	3000
026419	17,750	Scaff. Tube Steel Ø 48.3 x 3.2, l = 4.0 m	4000
026418	21,600	Scaff. Tube Steel Ø 48.3 x 3.2, l = 5.0 m	5000
		Scaff. Tube Steel Ø 48.3 x 3.2, l = 6.0 m	6000



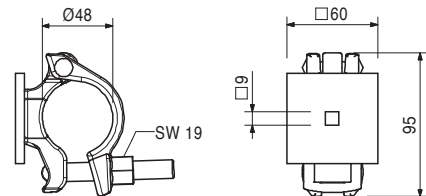
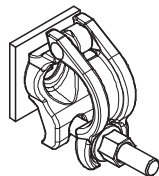
017010	1,400	Swivel Coupling DK 48/48, galv. For Scaffold Tubes Ø 48 mm.	Note Wrench size SW 19.
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017040	0,850	Screw-On Coupler AK 48, galv. For Scaffold Tubes Ø 48 mm.	Note Wrench size SW 30, SW 19.
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051160	0,894	Guardrail Connector CB For assembling scaffold tubes Ø 48 mm on hand-rail posts.	Note Wrench size SW 19.
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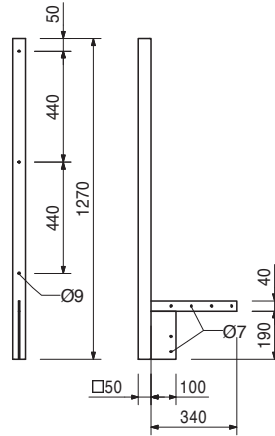


024140	0,033	Accessories F.H. Bolt DIN 603 M8 x 70 MU, galv.	
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Item no.	Weight kg
051610	6,940

Side Guardrail Post

For assembly of an end guardrail. Bolted to the platform main beam.



051640	0,014
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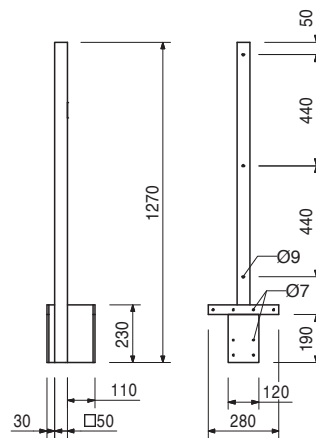
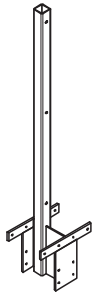
Accessories

Lag Screw DIN 571 6 x 80, galv.

051630	11,000
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Intermediate Handrail Post CB

For assembling a guardrail with large cantilevers. Bolted on the platform main beam.



051640	0,014
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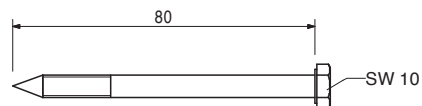
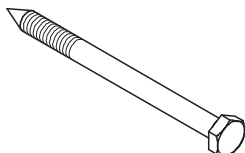
Accessories

Lag Screw DIN 571 6 x 80, galv.

051640	0,014
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Lag Screw DIN 571 6 x 80, galv.

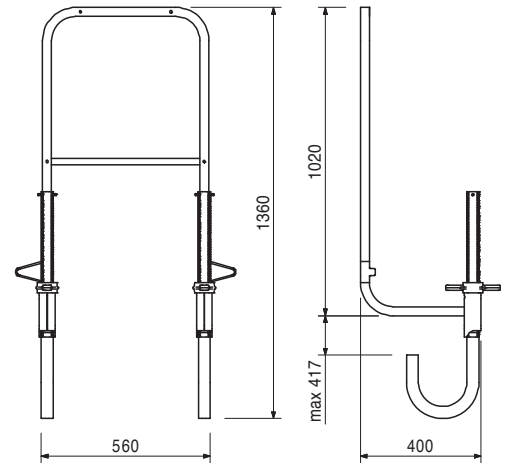
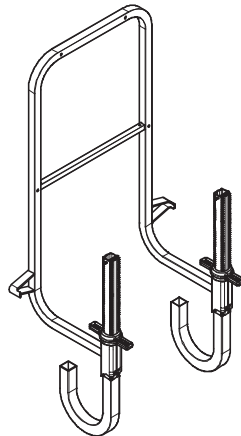
Note
Wrench size SW 10.



Item no.	Weight kg
065066	15,100

End Guardrail Frame 55

Clampable end handrail for all PERI scaffold platforms and climbing systems.



051650	0,060
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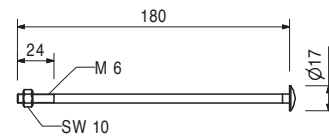
F.H. Bolt DIN 603 M6 x 180 MU, galv.

With nut.



Note

Wrench size SW 10.



710240	0,050
024360	0,058
108834	0,085

F.H. Bolt DIN 603 M8, galv.

F.H. Bolt DIN 603 M8 x 100 MU, galv.

F.H. Bolt DIN 603 M8 x 125 MU, galv.

F.H. Bolt DIN 603 M8 x 180 MU, galv.

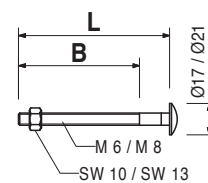
With hex. nut.



L	B
100	80
125	113
180	28

Note

Wrench size SW 10, SW 13.



029470	0,723
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Scaffold Mounting Ring M24, galv.

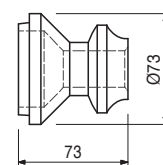
Tie System M24.

For anchoring climbing systems.



Note

Permissible load: see PERI product information.



029560	0,535
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Accessories

Bolt ISO 4014 M24 x 120-10.9, galv.

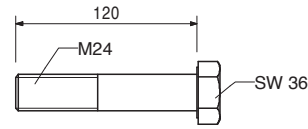
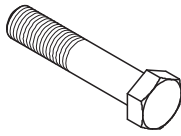
CB Climbing System, BR Shaft Platform



Item no.	Weight kg
029560	0,535

Bolt ISO 4014 M24 x 120-10.9, galv.
High-strength bolts for anchoring climbing systems.

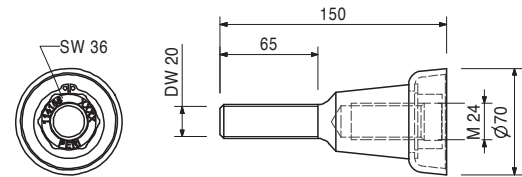
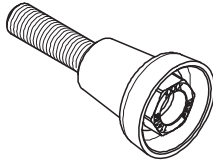
Note
Wrench size SW 36.



114158	1,030
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Screw on Cone-2 M24/DW 20, galv.
Tie System M24.
For anchoring climbing systems.

Note
Permissible load see PERI product information.
Wrench size SW 36.



Accessories

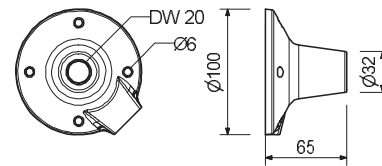
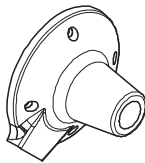
030860	0,801
--------	-------

Threaded Anchor Plate DW 20

030860	0,801
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Threaded Anchor Plate DW 20
For use with Tie Rod DW 20, B 20 or Screw-On Cone-2 M24/DW 20. For anchoring in concrete.

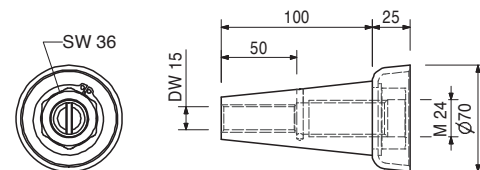
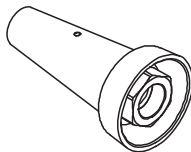
Note
Permissible load: see PERI product information.
Lost anchor part.



031220	1,010
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Climbing Cone-2 M 24/DW 15, galv.
Tie System M24.
For anchoring climbing systems.

Note
Permissible load see PERI product information.
Wrench size SW 36.



Accessories

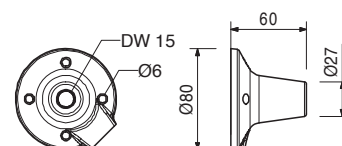
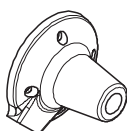
030840	0,516
030030	1,440
030740	1,550

Threaded Plate DW 15
Tie Rod DW 15 Spec. Length
Tie Rod B 15 spec. length

030840	0,516
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Threaded Plate DW 15
For use with Tie Rod DW 15 or B 15. For anchoring in the concrete.

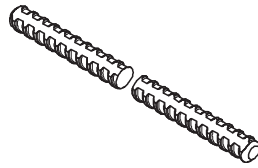
Note
Permissible load: see PERI Product Information.
Lost anchor part.



Item no.	Weight kg
030030	1,440
030050	0,000

Tie Rod DW 15
Tie Rod DW 15 Spec. Length
Cutting Cost Tie Rod DW 15/ B 15

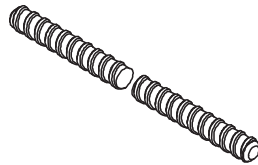
Note
 Non-weldable! Take official approval into consideration!
Technical Data
 Permissible load 90 kN.



030740	1,550
030050	0,000

Tie Rods B 15
Tie Rod B 15 spec. length
Cutting Cost Tie Rod DW 15/ B 15

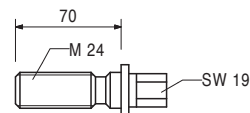
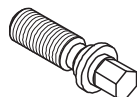
Note
 Weldable! Take official approval into consideration!
Technical Data
 Permissible load 85 kN.



029270	0,331
--------	-------

Advancing Bolt M24, galv.
 For fixing the M24 anchor system if the plywood formlining is drilled through.

Note
 Wrench size SW 19.

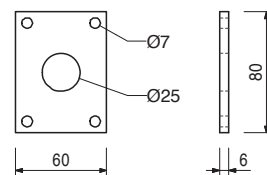
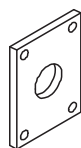


029280	0,196
--------	-------

Accessories
Anchor Positioning Plate M24, galv.

029280	0,196
--------	-------

Anchor Positioning Plate M24, galv.
 For fixing the M24 anchor system if the plywood formlining is drilled through.



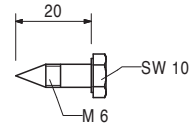
029440	0,005
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Accessories
Lag Screw DIN 571 6 x 20, galv.

Item no.	Weight kg
029440	0,005

Lag Screw DIN 571 6 x 20, galv.

Note
Wrench size SW 10.

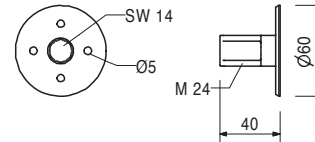


026420	0,123
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Anchor Positioning Stud M 24, galv.

For fixing the M24 anchor system if the plywood formlining is not drilled through.

Note
Allen Key SW 14.



Accessories

027212	0,445
710312	0,005

Allan Key SW 14, long
Nail 3 x 80

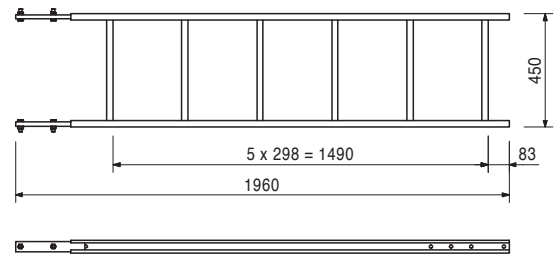
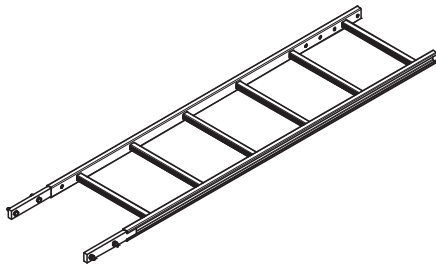
051410	11,700
--------	--------

Ladder 180/6, galv.

As access for PERI formwork systems.

Complete with

4 pc. 710224 Bolt ISO 4017 M12 x 40-8.8, galv.
4 pc. 710381 Nut ISO 7042 M12-8, galv.



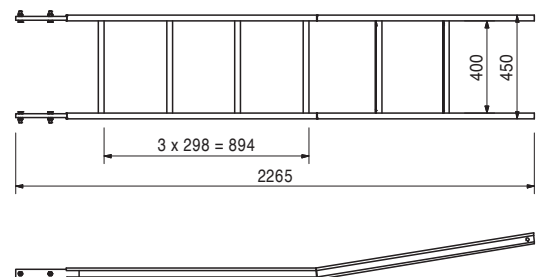
051420	12,800
--------	--------

Ladder 220/6

As access for PERI formwork systems.

Complete with

4 pc. 710224 Bolt ISO 4017 M12 x 40-8.8, galv.
4 pc. 710381 Nut ISO 7042 M12-8, galv.

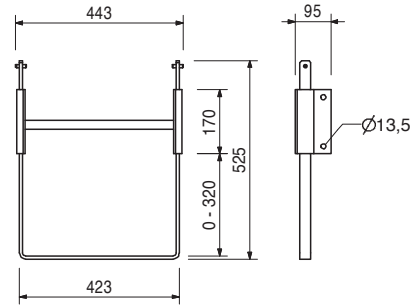
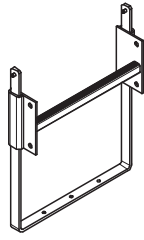


CB Climbing System, BR Shaft Platform



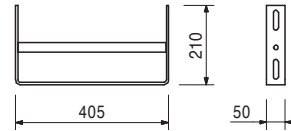
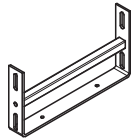
Item no.	Weight kg
109105	5,070

Ladder Base 30 adjustable, galv.
For horizontal fixing of ladders on the platform decking.



051460	2,180
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Ladder Base, galv.
As bottom ladder connection and for securing ladders against sliding on the scaffold decks.

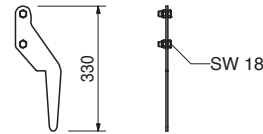


103718	0,684
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Ladder Hook, galv.
For adjusting the bottom ladder.
Always use in pairs.

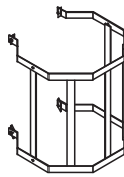


Complete with
2 pc. 710266 Bolt ISO 4017 M12 x 25-8.8, galv.
2 pc. 710381 Nut ISO 7042 M12-8, galv.

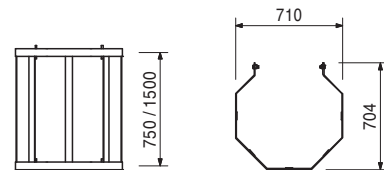


104132	15,600
051450	25,200

Ladder Safety Cages, galv.
Ladder Safety Cage 75, galv.
Ladder Safety Cage 150, galv.
Ladder safety cage for PERI access ladders.



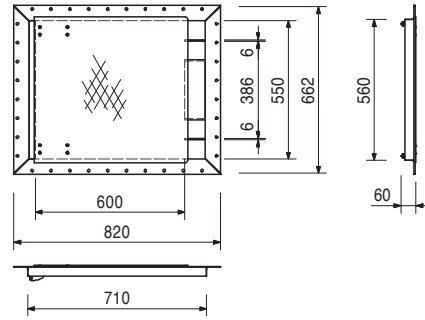
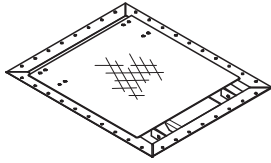
Complete with
4 pc. 710266 Bolt ISO 4017 M12 x 25-8.8, galv.
4 pc. 701763 Clamping Plate FI 25 x 10 x 90



Item no.	Weight kg
110608	15,600

Hatch 55 x 60, foldable

Self-locking hatch opening for access ladders.
Clear opening dimensions approx. 55 x 60 cm.



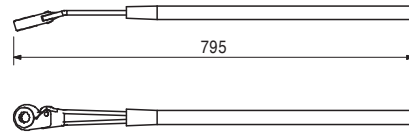
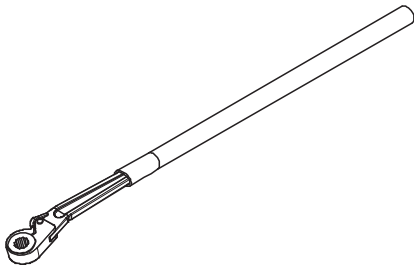
027180	1,760
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Ratchet Lever SW 19

For moving Carriage CB 240 and SKSF 240.

Note

Wrench size SW 19.



027200	0,100
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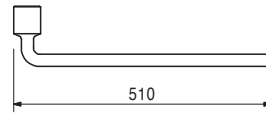
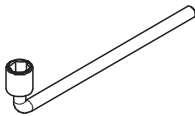
Accessories

Insert Socket SW 19

031480	2,460
--------	-------

Socket Wrench SW 36, cromatized

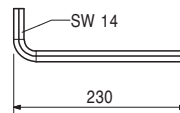
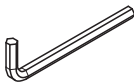
For a diverse range of uses.



027212	0,445
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Allan Key SW 14, long

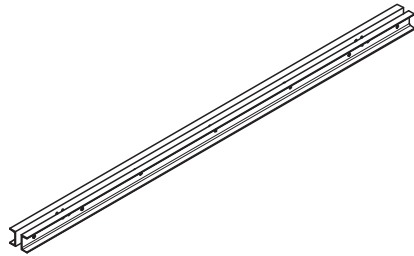
Fits to PERI Anchor Positioning Stud and allen key bolts M16.



Item no.	Weight kg
020320	21,800
020510	27,400
020310	32,800
020520	38,600

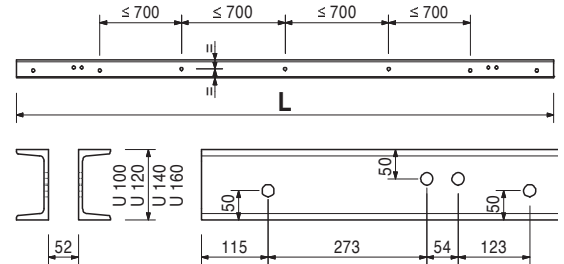
- Platform Beams BR**
- Platform Beam BR U100**
- Platform Beam BR U120**
- Platform Beam BR U140**
- Platform Beam BR U160**

As cross beam for shaft platforms.



Note

The specified item no. is for the platform beams only (2 pieces). Required accessories are to be ordered separately.
Permissible load: see PERI Design Tables.



Accessories

020620	0,561
105401	2,210
020330	12,100
020600	6,740

- Spacer for Platform Beam BR**
- Crane Eye BR 2.5 t**
- Folding Bearing Plate 25**
- Gravity Pivot Plate BR**

020620	0,561
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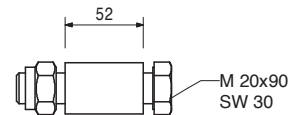
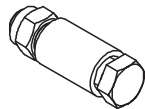
- Spacer for Platform Beam BR**
For Platform Beam BR.

Complete with

1 pc. 710226 Bolt ISO 4014 M20 x 90-8.8, galv.
1 pc. 781053 Nut ISO 7042 M20-8, galv.

Note

Spacing maximum 700 mm.
Number required depends on length of platform beam. Wrench size SW 30.

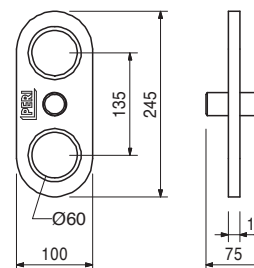


105401	2,210
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- Crane Eye BR 2,5 t**
As attachment point for moving climbing systems or Platform Beam BR.

Technical Data

Load-bearing point capacity 2.5 t.



Accessories

020620	0,561
--------	-------

- Spacer for Platform Beam BR**

Item no.	Weight kg
020600	6,740

Gravity Pivot Plate BR

For supporting Platform Beam BR in wall box-outs.
2 pieces per platform beam.

Complete with

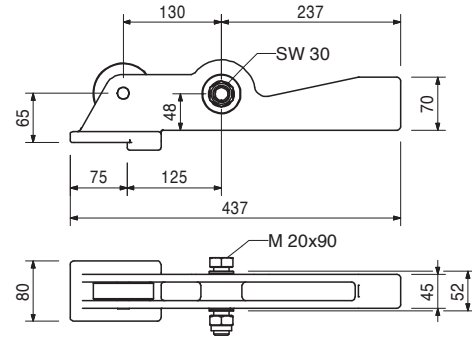
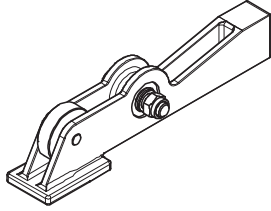
1 pc. 781053 Nut ISO 7042 M20-8, galv.
1 pc. 710226 Bolt ISO 4014 M20 x 90-8.8, galv.

Note

Wrench size SW 30.

Technical Data

Permissible load: see PERI product information.



Item no.	Weight kg
108162	1,610

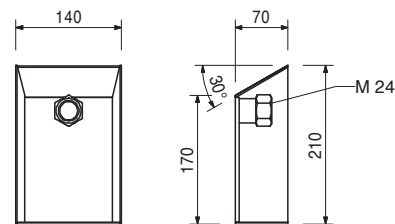
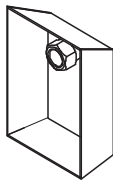
Accessories

Bearing Box BR

Item no.	Weight kg
108162	1,610

Bearing Box BR

For creating wall box-outs for mounting with the gravity pivot plate.



Item no.	Weight kg
029270	0,331

Accessories

Advancing Screw M24, galv.

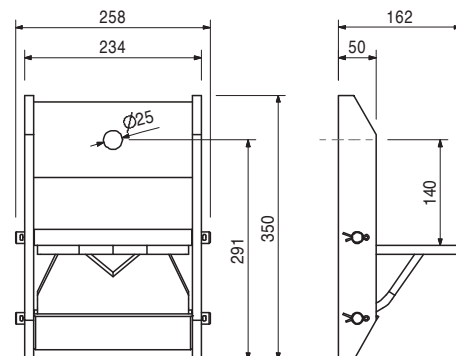
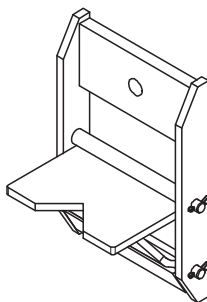
Item no.	Weight kg
020330	12,100

Folding Bearing Plate 25

For supporting Platform Beam BR with M24 anchor system. 2 pieces per platform beam.

Technical Data

Permissible load 25.0 kN.



Item no.	Weight kg
026430	0,334

Accessories

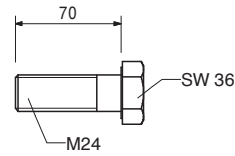
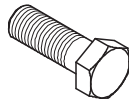
Bolt ISO 4014 M24 x 70-10.9, galv.

CB Climbing System, BR Shaft Platform

Item no.	Weight kg
026430	0,334

Bolt ISO 4014 M24 x 70-10.9, galv.
High-strength bolts for anchoring climbing systems.

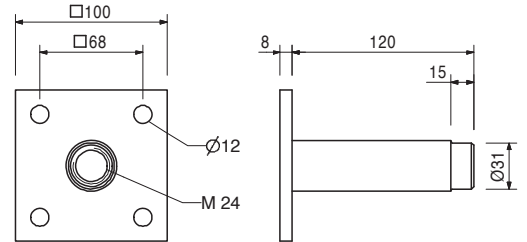
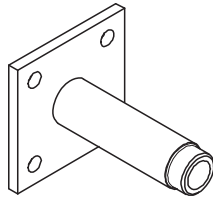
Note
Wrench size SW 36.



026230	1,010
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Anchor Sleeve M24
To anchor platform systems.

Note
Permissible load: see PERI product information.



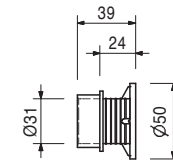
Accessories

026240	0,026
026250	0,005

Spacer PP Ø 31/26, C = 25
Plug Ø 26 mm for Bolt Anchor Sleeve M24

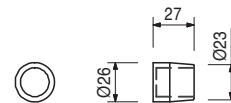
026240	0,026
--------	-------

Spacer PP Ø 31/26, C = 25
Results in a concrete cover of 25 mm.



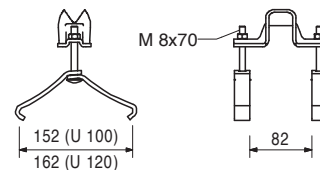
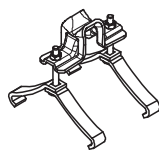
026250	0,005
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Plug Ø 26 mm for Bolt Anchor Sleeve M24
For closing the cone for the Anchor Sleeve M24.



024070	0,691
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Hook Strap HB 24-100/120, galv.
For fixing GT 24 girders to Steel Waler SRZ and SRU Profile U100 - U120.

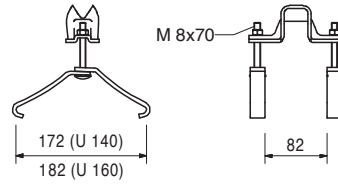
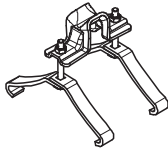


CB Climbing System, BR Shaft Platform



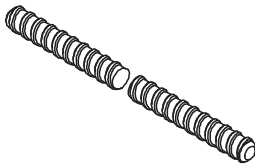
Item no.	Weight kg
024080	0,695

Hook Strap HB 24-140/160, galv.
For fixing GT 24 girders to Steel Waler SRZ and SRU Profile U140 - U160.



030740	1,550
030050	0,000
030150	0,420

Tie Rods B 15
Tie Rod B 15 spec. length
Cutting Cost Tie Rod DW 15/ B 15
Tie Rod B 15 l = 0.30 m

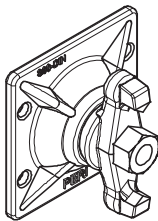


Note
Weldable! Take official approval into consideration!
Technical Data
Permissible load 85 kN.

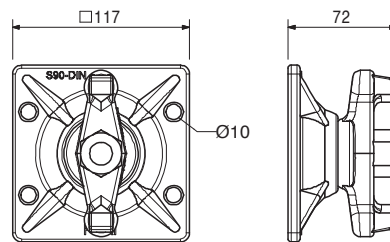


030370	1,660
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Wingnut Pivot Plate DW 15, galv.
For anchoring with Tie Rod DW 15 and B 15. With pivoting captive nut. Maximum angle of tilting 8°.



Note
Wrench size SW 27.
Technical Data
Permissible load 90 kN.

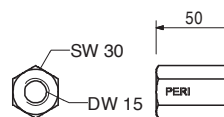


030070	0,222
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Hex. Nut DW 15 SW 30/50, galv.
For anchoring with Tie Rod DW 15 and B 15.



Note
Wrench size SW 30.
Technical Data
Permissible load 90 kN.





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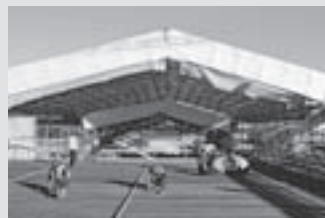
Facade Scaffold



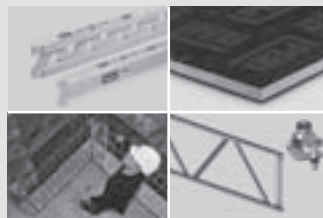
Industrial Scaffold



Access



Protection Scaffold



System-Independent Accessories



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