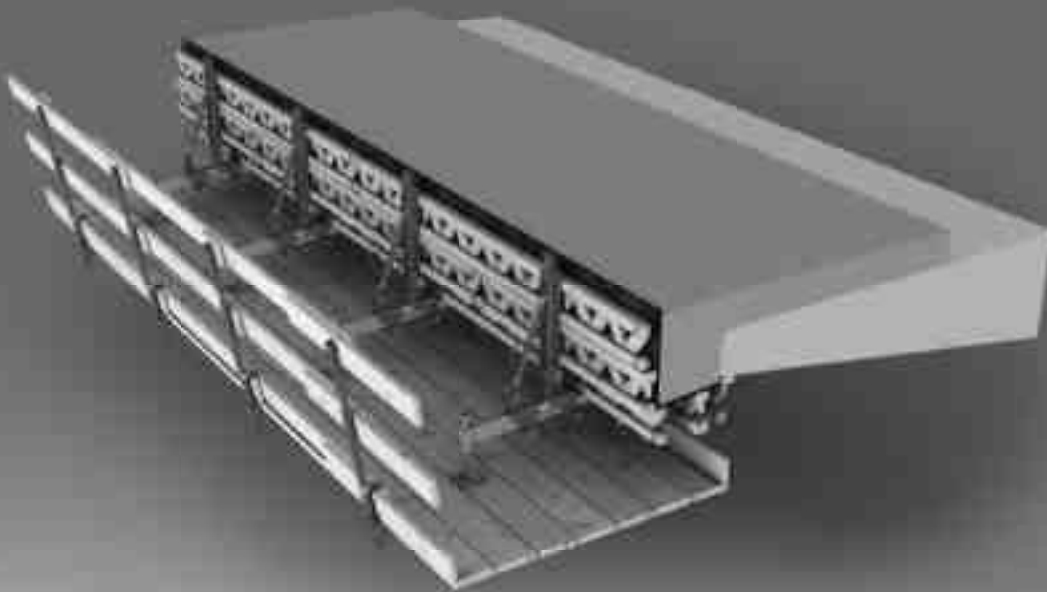


VARIOKIT VGK

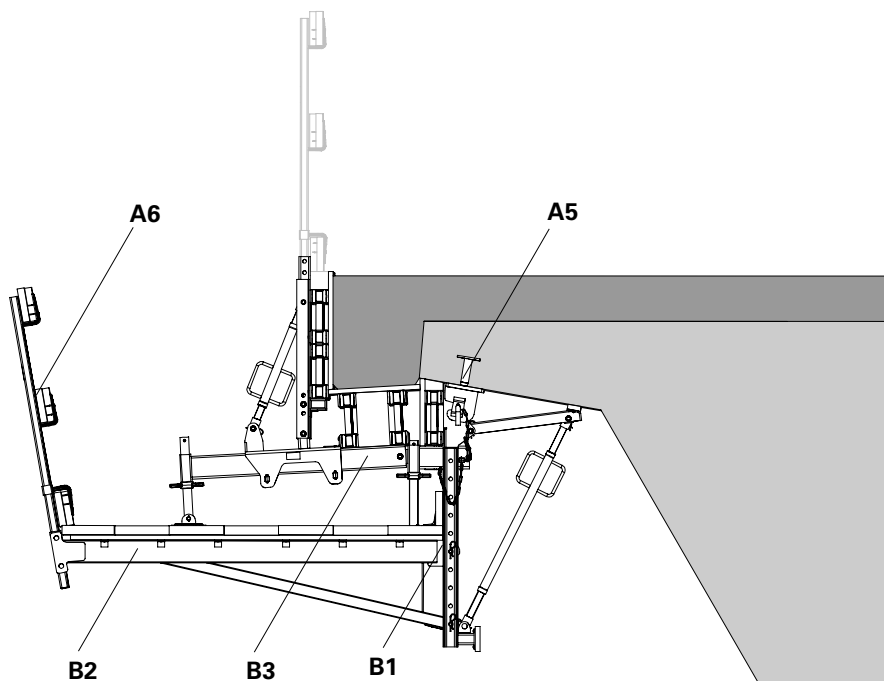
Cantilevered Parapet Bracket

Instructions for Assembly and Use – Standard Configuration

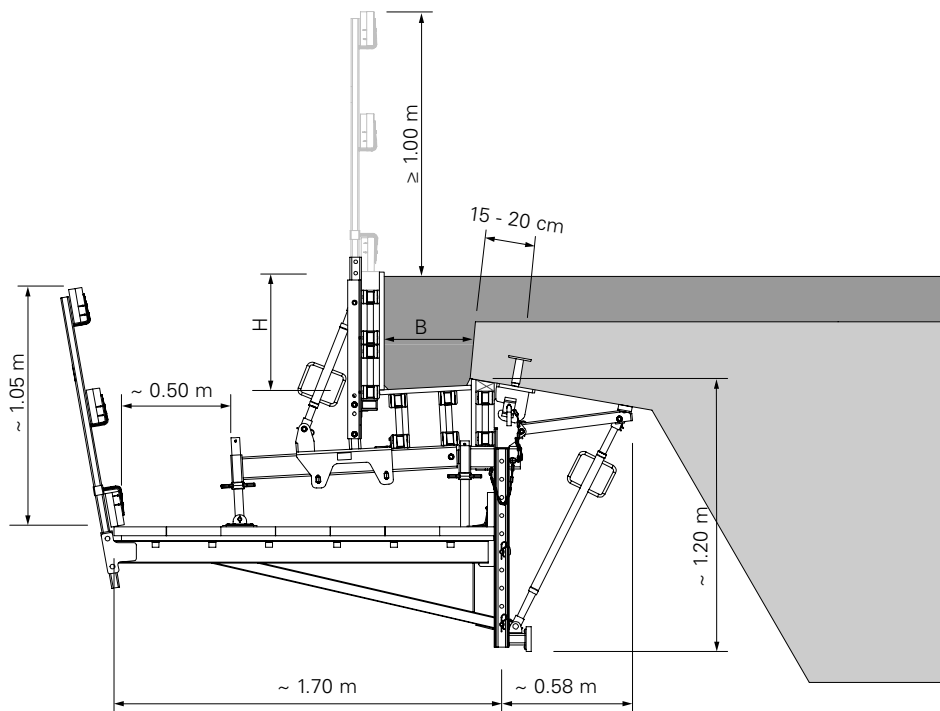


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Main components



Dimensions



Key

- A5 Anchoring
- A6 Guardrails
- B1 Bracket unit
- B2 Platform unit
- B3 Formwork unit

Pictogram | Definition



Safety instructions



Note



Visual check



Tip



Lifting point



Personal protective equipment to prevent falling from a height (PPE)



Misapplication

Dimension specifications

Dimensions are usually given in mm. Other units of measure, e.g. cm, are shown in the illustrations.

Load details are usually given in kg. Other measurement units, e.g. t, are shown in the illustrations.

Conventions

- Instructions are numbered with:
1. , 2. , 3.
- The result of an instruction is shown by: →
- Position numbers are clearly provided for the individual components and are given in the drawing, e.g. **1**, in the text in brackets, for example (1).
- Multiple position numbers, i.e. alternative components, are represented with a slash, e.g. **1 / 2**.

Arrows

- Arrow representing an action
- ⇒ Arrow representing a reaction of an action*
- Forces

* If not identical to the action arrow

Presentational reference

The illustration on the front cover of these instructions is understood to be a system representation only. The assembly steps presented in these Instructions for Assembly and Use are shown in the form of examples with only one component size. They are valid accordingly for all component sizes contained in the standard configuration.

For a better understanding, detailed illustrations are partly incomplete. The safety installations which have possibly not been included in these detailed drawings must nevertheless still be available.

Target groups

Contractors

These Instructions for Assembly and Use are designed for contractors who use the formwork systems for

- erecting, adapting and dismantling operations,
- use it, e.g. for concreting, or
- who have them used, e.g. for forming operations.

Construction site coordinator

The Safety and Health Protection Coordinator*

- is appointed by the client,
- must identify potential hazards during the planning phase,
- determines measures that provide protection against risks,
- creates a safety and health protection plan,
- coordinates the protective measures for the contractor and site personnel so that they do not endanger each other,
- monitors and ensures compliance with the protective measures.

Qualified personnel

Due to the specialist knowledge gained from professional training, work experience and recent professional activity, the qualified person has a reliable understanding of safety-related issues and can correctly carry out inspections.

Depending on the complexity of the test to be undertaken, e.g. scope of testing, type of testing or the use of a certain measuring device, a range of specialist knowledge is necessary.

Qualified specialists

Formwork systems may only be assembled, modified or dismantled by personnel who are suitably qualified to do so. For the work to be carried out, the qualified specialists must have received instructions** which contain at least the following points:

- An explanation of the plan for the assembly, modification or dismantling of the scaffolding in an understandable form and language.
- Description of measures in order to safely assemble, modify or dismantle the scaffolding.
- Designation of the preventive measures to avoid the risk of persons and objects falling.

- Designation of the safety precautions in the event of changing weather conditions which could adversely affect the safety of the scaffolding as well as the personnel concerned.
- Details regarding the permissible loads.
- Description of any other risks that are associated with the assembly, modification or dismantling procedures.



In other countries, ensure that the relevant national guidelines and regulations in the respective current version are complied with!

* Valid in Germany: Regulations for Occupational Health and Safety on Construction Sites 30 (RAB 30).

** Instructions are given by the contractor himself or a qualified person selected by him.

Additional technical documentation

- PERI Design Information
VARIOKIT VGK Cantilevered Parapet Bracket
- Instructions for Use:
 - Pallets and Stacking Devices
 - Concrete Cones
- PERI Design Tables - Formwork and Shoring
- Technical Data Sheet
 - PERI Screw-In Sleeve M16 / 164
- Brochure
PERI Tie Technology DK, SK

Intended use

Product description

PERI products have been designed for exclusive use in the industrial and commercial sectors by suitably trained personnel only.

The PERI VARIOKIT VGK Cantilevered Parapet Bracket is used for the concreting of cantilevered parapets in cantilever and abutment areas of bridges cast in-situ or constructed using prefabricated elements.

The system facilitates the forming of parapet geometries up to $H/W = 100/60$ cm. Working platforms and formwork units are separate. This allows the readjustment of the formwork unit to match the geometry of the parapet to take place from the working platform.

The individual bracket consists of a Vertical Bracket Post, Bracket Cantilever, Platform Cantilever Beam and Spindle, and can be fixed to the bridge at variable distances to one another depending on the parapet cross-section, thus resulting in excellent load optimization.

When used in bridge construction, the Bracket is anchored using the Anchor Sleeve M24. For refurbishment work, the Bracket can be anchored afterwards by means of composite anchoring systems.

Features

- Platform and formwork units are separated.
- No openings or penetration in the decking.
- Operation and adjustment is carried out from the working platform.
- Continuous inclination adjustment of the slab and side formwork.
- High load-bearing capacity.

Technical data

- Parapet dimensions
max. $H/W = 100 / 60$ cm.
- perm. width of influences
up to 185 cm.

Instructions for Use

The use in a way not intended, deviating from the standard configuration or the intended use according to the Instructions for Assembly and Use, represents a misapplication with a potential safety risk, e.g. risk of falling.

Only PERI original components may be used. The use of other products and spare parts is not allowed.

Changes to PERI components are not permitted.

Care and maintenance instructions

In order to maintain the value and operational readiness of the formwork materials over the long term, clean the elements after each use.

Some repair work may also be inevitable due to the tough working conditions.

The following points should help to keep care and maintenance costs as low as possible.

Spray the formwork on both sides with concrete release agent before each use; this allows easier and faster cleaning of the formwork. Spray the concrete release agent very thinly and evenly!

Spray the rear side of the formwork with water immediately after concreting; this avoids any time-consuming and costly cleaning operations.

When used continuously, spray the panel formlining with the concrete release agent immediately after striking; then clean by means of a scraper, brush or rubber lip scraper. Important: do not clean formlining made of plywood with high-pressure equipment; this could result in the formlining being damaged.

Fix box-outs recesses and mounting parts with double-headed nails; as a result, the nails can easily be removed later, and damage to the formlining is largely avoided.

Close all unused anchor holes with plugs; this eliminates any subsequent cleaning or repair work. Anchor holes accidentally blocked with concrete are freed by means of a steel pin from the formlining side.

When placing bundles of reinforcement bars or other heavy objects on horizontally-stored formwork elements, suitable support, e.g. square timbers, is to be used; as a result, impressions and damage to the formlining are largely avoided.

Internal concrete vibrators should be fitted, if possible, with rubber caps; as a result, any damage to the formlining is reduced if the vibrator is accidentally "inserted" between the reinforcement and formlining.

Never clean powder-coated components, e.g. elements and accessories, with a steel brush or hard metal scraper; this ensures that the powder-coating remains intact.

Use spacers for reinforcement with large-sized supports or extensive areas of support; this largely avoids impressions being formed in the formlining when under load.

Mechanical components, e.g. spindles or gear mechanisms, must be cleaned of dirt or concrete residue before and after use, and then greased with a suitable lubricant.

Provide suitable support for the components during cleaning so that no unintentional change in their position is possible.

Do not clean components when suspended on a crane.

Cross-system

General

The contractor must ensure that the Instructions for Assembly and Use supplied by PERI are available at all times and are understood by the site personnel.

These Instructions for Assembly and Use can be used as the basis for creating a risk assessment. The risk assessment is compiled by the contractor. The Instructions for Assembly and Use do not replace the risk assessment!

Always take into consideration and comply with the safety instructions and permissible loads.

For the application and inspection of PERI products, the current safety regulations and guidelines must be observed in the respective countries where they are being used.

Materials and working areas are to be inspected on a regular basis especially before each use and assembly for:

- signs of damage,
- stability, and
- function.

Damaged components must be exchanged immediately on site and may no longer be used.

Safety components are to be removed only when they are no longer required.

Components provided by the contractor must conform with the characteristics required in these Instructions for Assembly and Use as well as with all valid construction guidelines and standards. In particular, the following applies if nothing else is specified:

- timber components: Strength Class C24 for Solid Wood according to EN 338.
- scaffold tubes: galvanised steel tubes with minimum dimensions of Ø 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
- scaffold tube couplings according to EN 74.

Deviations from the standard configuration are only permitted after a further risk assessment has been carried out by the contractor. On the basis of this risk assessment, appropriate measures for working and operational safety as well as stability are determined.

Corresponding proof of stability can be provided by PERI on request if the risk assessment and resulting measures to be implemented are available.

Before and after exceptional occurrences that may have an adverse effect regarding the safety of the formwork system, the contractor must immediately

- create another risk assessment, with appropriate measures for ensuring the stability of the formwork system being carried out based on the results,
- and arrange for an extraordinary inspection by a qualified and competent person. The aim of this inspection is to identify and rectify any damage in good time in order to guarantee the safe use of the formwork system.

Exceptional occurrences can include:

- accidents,
- longer periods of non-use,
- natural events, e.g. heavy rainfall, icing, heavy snowfall, storms or earthquakes.

Assembly, modification and dismantling work

Assembly, modification or dismantling of formwork systems may only be carried out by qualified specialists under the supervision of an authorized person. The qualified specialists must have received appropriate training for the work to be carried out with regard to specific risks and dangers.

On the basis of the risk assessment and Instructions for Assembly and Use, the contractor must create installation instructions in order to ensure safe assembly, modification and dismantling of the formwork system.

The contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the system, e.g.

- safety helmet,
 - safety shoes,
 - safety gloves,
 - safety glasses,
- is available and used as intended.

If personal protective equipment (PPE) is required or specified in local regulations, the contractor must determine appropriate lifting points on the basis of the risk assessment.

The personal protective equipment to be used is determined by the contractor.

The contractor must

- 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.
- ensure the stability during all stages of construction, in particular during assembly, modification and dismantling of the formwork.
- ensure and prove that all loads can be safely transferred.

Utilisation

Every contractor who uses or allows formwork systems or sections of the formwork to be used, has the responsibility for ensuring that the equipment is in good condition.

If the formwork system is used successively or at the same time by several contractors, the health and safety coordinator must point out any possible mutual hazards and all work must be then coordinated.

System-specific

Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place.

Working areas situated below must be protected by means of appropriate measures.

Tools and materials are to be secured to prevent them from falling to the ground. Concrete excess and other forms of dirt are to be removed.

Each Cantilevered Parapet Bracket must be individually anchored, and the loosening or dismantling of the anchoring may only take place on the side of the load transfer.

Constructional requirements regarding the use of the anchoring methods are to be taken into account.

The correct installation of the anchor is to be checked before takes place. We recommend the compiling of an acceptance report.

Anchoring only may be loaded if concrete has sufficient strength.

The Anchor Sleeve M24 must be securely bolted on to the fibre cement pipe on the Anchor Positioning Stud M24.

The threaded areas on the Screw-On Cone-2 as well as the Threaded Plate 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.

Damaged anchoring components and advanced mountings must not be used.

Examples of damage:

- deformed components,
- rough or scratched cone surfaces,
- blocked threads,
- weld splashes on the threads.

Check the functionality of the slide bearings before every use. Do not use Bracket Cantilever VGK 50 if grouting is damaged!

Storage and transportation

Store and transport components ensuring that no unintentional change in their position is possible. Detach lifting accessories and slings from the lowered components only if they are in a stable position and no unintentional change is possible.

Do not drop the components.

Use PERI lifting accessories and slings as well as only those lifting points provided on the component.

During the moving procedure

- ensure that components are picked up and set down so that unintentional falling over, falling apart, sliding, falling down or rolling is avoided.
- no persons are allowed to remain under the suspended load.

The access areas on the jobsite must be free of obstacles and tripping hazards as well as being slip-resistant.

For transportation, the surface must have sufficient load-bearing capacity.

Use original PERI storage and transport systems, e.g. crate pallets, pallets or stacking devices.

Standard application on cantilevers ≥ 75 cm

(Fig. A1.01)

Take into account section A3 – System selection.

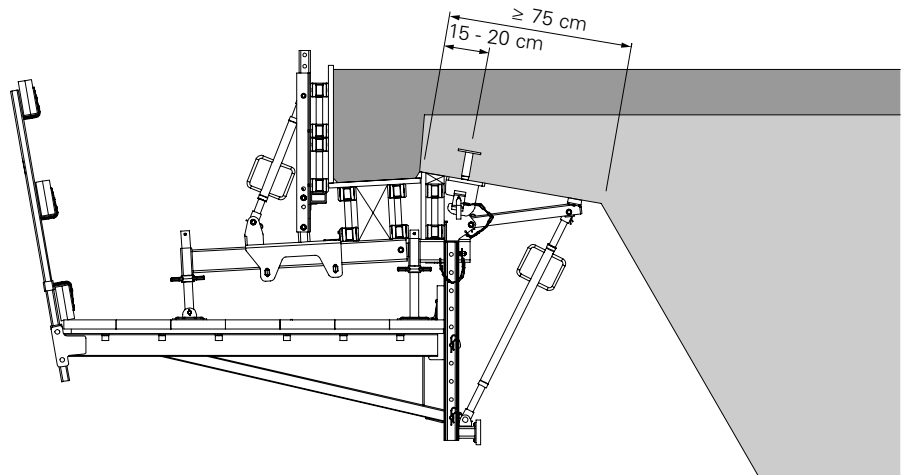


Fig. A1.01

Intermediate area on cantilevers 35 – 75 cm

With Adj. Base Plate UJB 38-80/55 (2.9).
(Fig. A1.02)

Take into account section A3 – System selection.

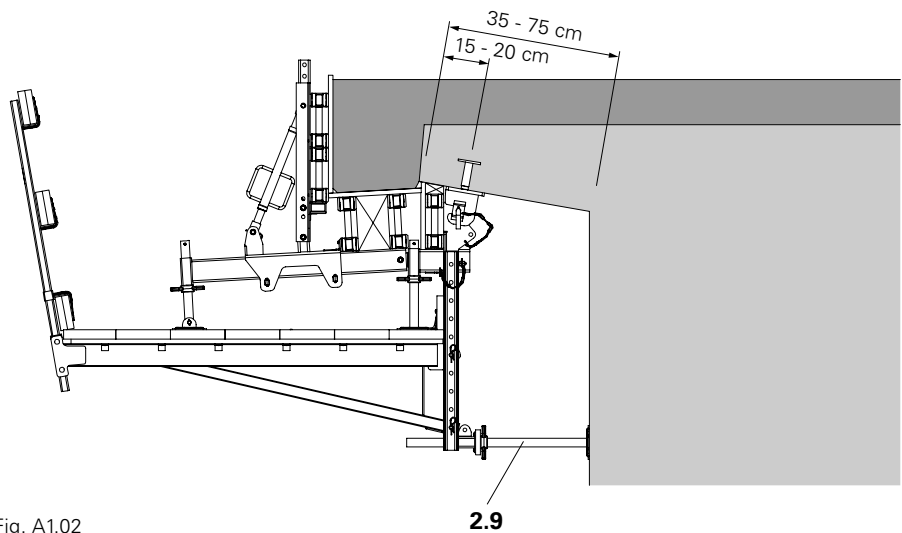


Fig. A1.02

Vertical application on abutments

Dimension x according to project-specific planning.
(Fig. A1.03)

Take into account section A3 – System selection.

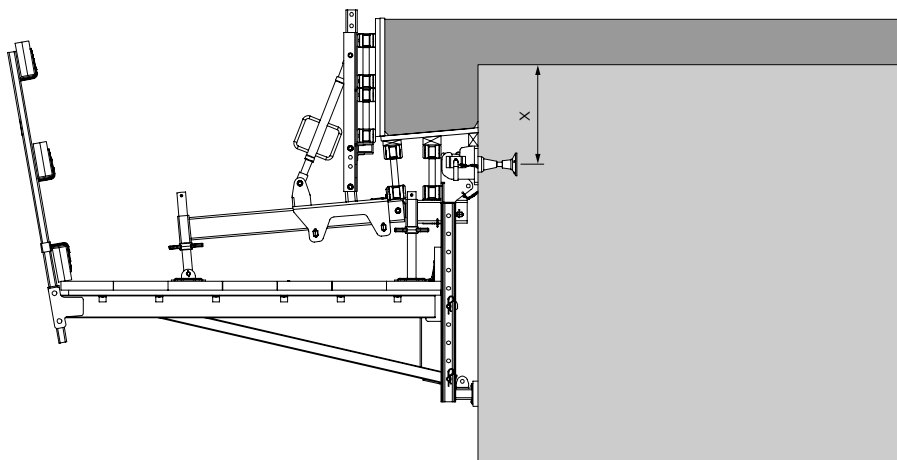


Fig. A1.03

Complete enclosure with Guardrail Post RCS/SRU 184

Assembly

1. Attach Guardrail Post RCS/SRU 184 (2.6) to Platform Cantilever Beam VGK (2.3), SW 30.

2. Attach enclosure to the Guardrail Posts.

(Fig. A1.04)

Take into account section A3 – System selection.

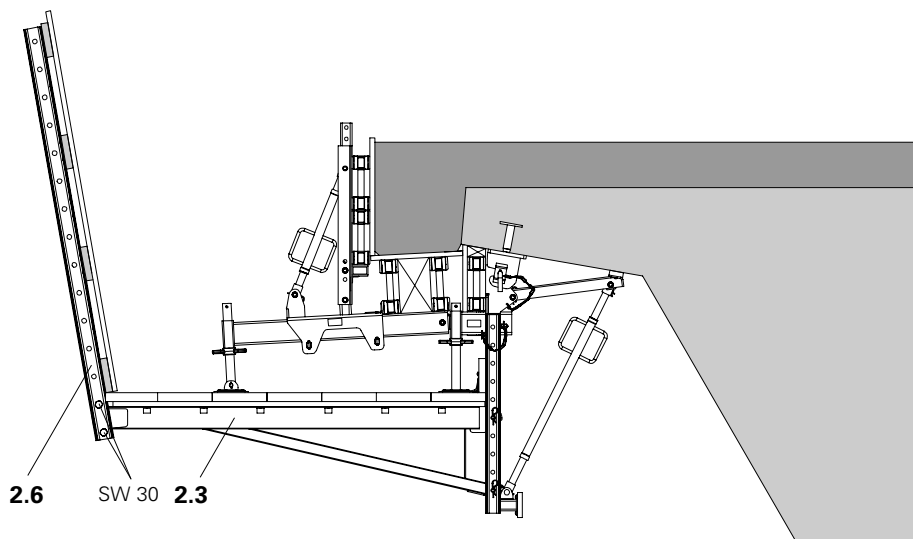


Fig. A1.04

Working scaffold

Cantilever

(Fig. A1.05)

Abutment

(Fig. A1.06)

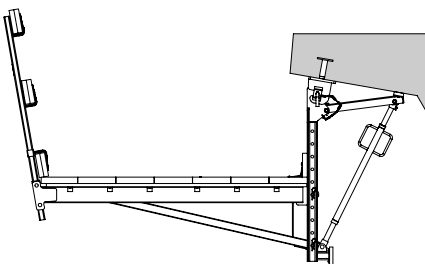


Fig. A1.05

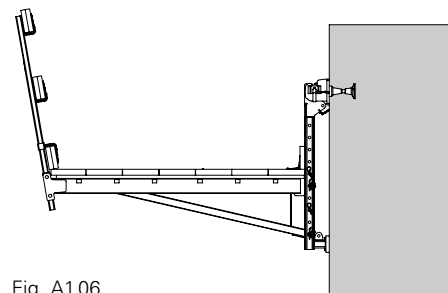


Fig. A1.06

Use as formwork scaffold

Working / Concreting

- Adjusting the formwork.
- Install reinforcement in the cantilevered parapet.
- Close side formwork and then concrete.
- Striking.
- Inspection and maintenance.
- Max. wind speed ≤ 64 km/h.

Storm (non-operational)

During longer work breaks or storm warnings with wind speeds > 64 km/h.



- Implement safety measures according to Section A7.
- Remove loose materials and equipment.
- Do not access brackets in storm conditions.
- For storm warnings with wind speeds > 111 km/h, an authorized person is to be informed and separate safety measures are to be implemented.

Load case: Working	
Live load on the platform	2.00 kN/m ²
max. working wind speed	0.20 kN/m ² ($V_w = 64$ km/h)

(Fig. A2.01)

Load case: Concreting	
Live load on the platform	0.75 kN/m ²
max. working wind speed	0.20 kN/m ² ($V_w = 64$ km/h)
hydrostatic fresh concrete pressure with	$\gamma_{\text{Beton}} = 25$ kN/m ³

(Fig. A2.02)

Load case: Storm	
Live load on the platform	0.00 kN/m ²
Storm wind peak velocity pressure $q_p(z)^*$	≤ 0.60 kN/m ² ($V_w \leq 111$ km/h)

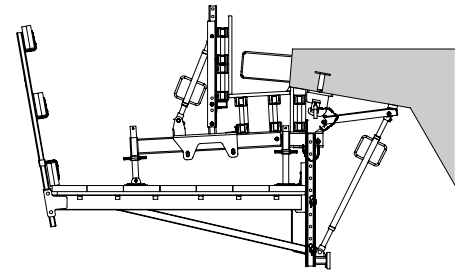


Fig. A2.01

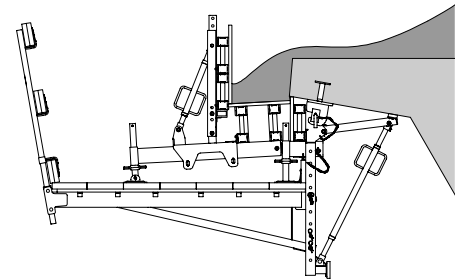


Fig. A2.02

Application as working platform for parapet refurbishment



- All demolished concrete is to be immediately removed at all times. No accumulation of demolished concrete.
- Secure working areas located underneath against falling objects.

Working

- Demolish existing cantilevered parapet.
- Continuously remove demolished concrete from the working platform.
- Carry out refurbishment work.
- Max. wind speed ≤ 64 km/h.

Storm (non-operational)

- See above.

Load case: Working	
Live load on the platform	2.00 kN/m ²
max. working wind speed	0.20 kN/m ² ($V_w = 64$ km/h)

(Fig. A2.03)

Load case: Storm	
Live load on the platform	0.00 kN/m ²
Storm wind peak velocity pressure $q_p(z)^*$	≤ 0.60 kN/m ² ($V_w \leq 111$ km/h)

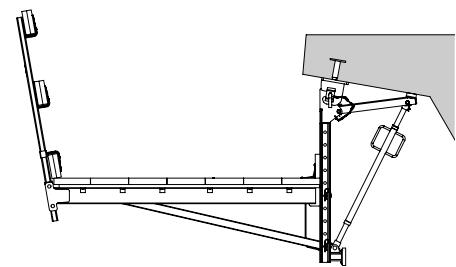


Fig. A2.03

Note

All given loads are characteristic loads.
*Max. peak velocity pressure $q_p(z)$ including reduction for temporary construction.

Cantilevered Parapet Type 1

Dimensions

External height H max. = 60 cm
 Parapet width B max. = 60 cm
 (Fig. A3.01)

Required formwork components:

- 2.1 Bracket Post VGK 110
- 2.8 Kicker AV 111
- 2.5 Guardrail Post HSGP-2 optional

(Fig. A3.02)

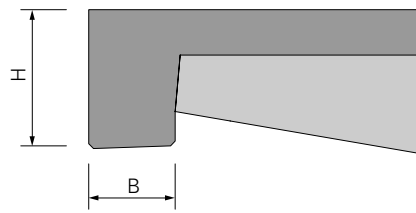


Fig. A3.01

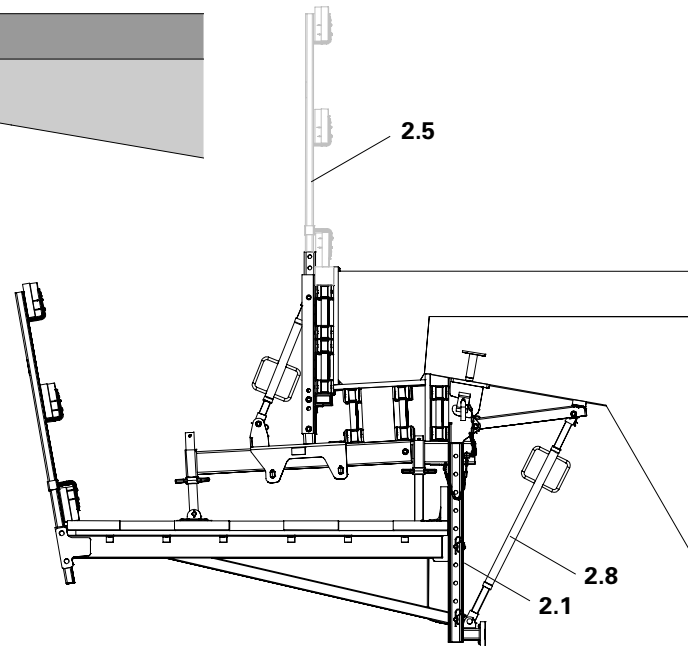


Fig. A3.02

Cantilevered Parapet Type 2

Dimensions

External height H max. = 100 cm
 Parapet width B max. = 60 cm
 (Fig. A3.03)

Required formwork components:

- 2.4 Bracket Post VGK 139
- 2.7 Kicker AV 140
- 3.4 Formwork Post Extension VGK 40
- 2.5 Guardrail Post HSGP-2

(Fig. A3.04)

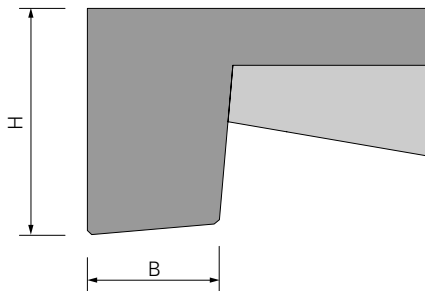


Fig. A3.03

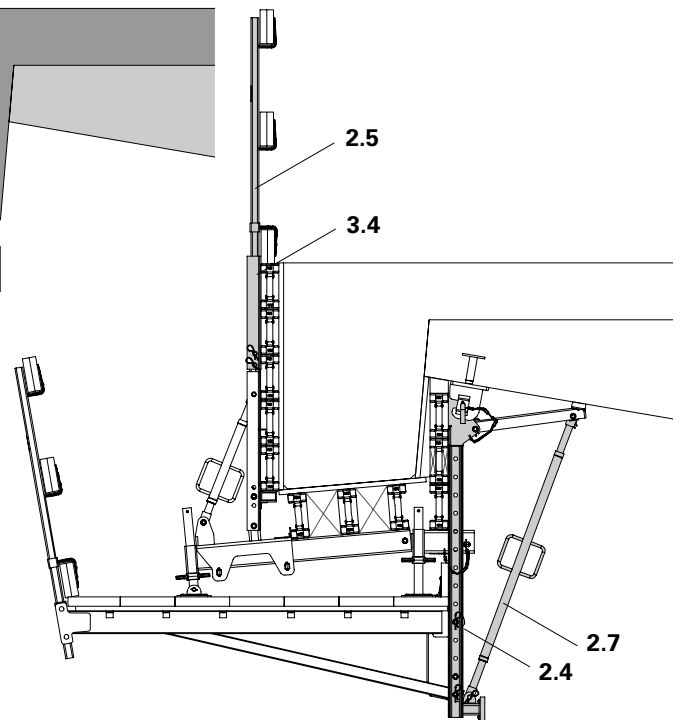


Fig. A3.04



The distance from the top edge of the parapet to the bottom edge of the bridge cantilever is max. 55 cm in accordance with the type calculations for both assembly types.
 (Fig. A3.05)

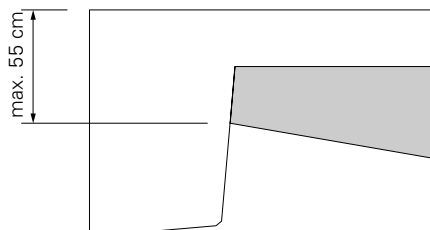


Fig. A3.05

Cantilevered Parapet Type 1

Assembly with Bracket Post VGK 110 and Kicker AV 111

- Kicker AV 111 (2.8) is always connected to the base of the Bracket Post (2.1) by means of bolts and cotter pins. (Fig. A4.01a)
- The Platform Cantilever Beam VGK 170 (2.3) is connected to the holes on the Bracket Post (2.1) according to the dimensions of the Cantilevered Parapet. (Fig. A4.01b)
- The spindling-out length of the spindle (3.1) is to be kept to an absolute minimum.



Never attach Kicker AV 111 (2.8) between the fixing points of the Platform Cantilever Beam VGK (2.3), see Fig. A4.02b.

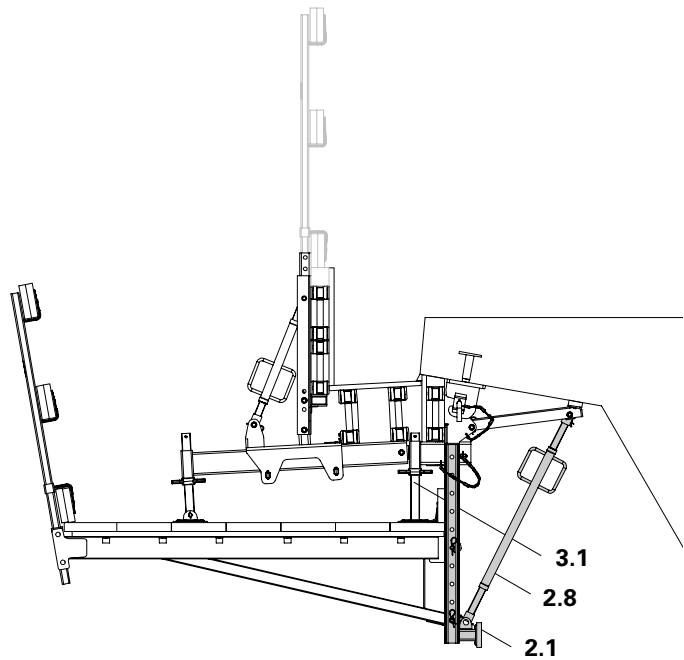


Fig. A4.01a

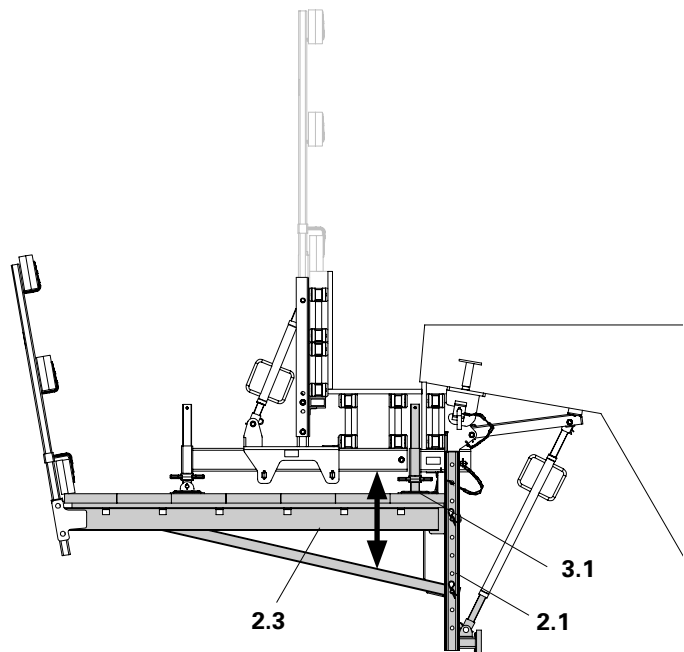


Fig. A4.01b

Cantilevered Parapet Type 2

Assembly with Bracket Post VGK 139 and Kicker AV 140

- Kicker AV 140 (2.7) is always mounted below the Platform Cantilever Beam (2.3) in the next possible hole of the Bracket Post (2.4) with bolts and cotter pins. (Fig. A4.02a)
- The Platform Cantilever Beam VGK 170 (2.3) is connected to the holes on the Bracket Post (2.4) according to the dimensions of the cantilevered parapet. (Fig. A4.02c)
- The spindling-out length of the spindle (3.1) is to be kept to an absolute minimum.

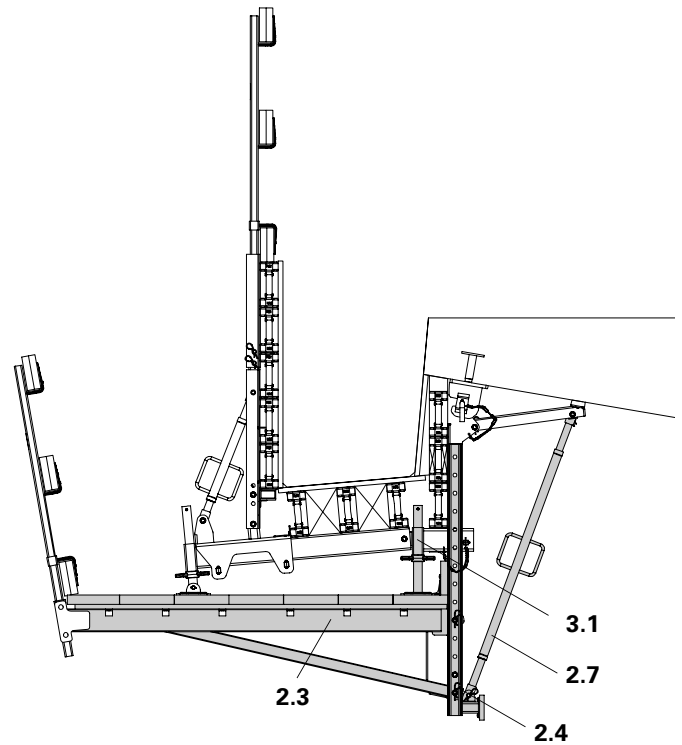


Fig. A4.02a



Never attach Kicker AV 140 between the fixing points of the Platform Cantilever Beam VGK (2.3). (Fig. A4.02b)

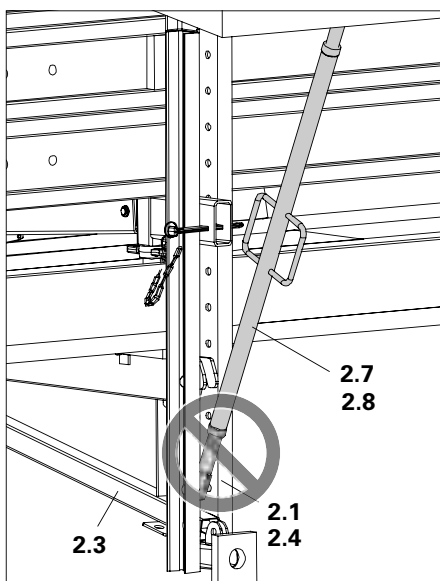


Fig. A4.02b

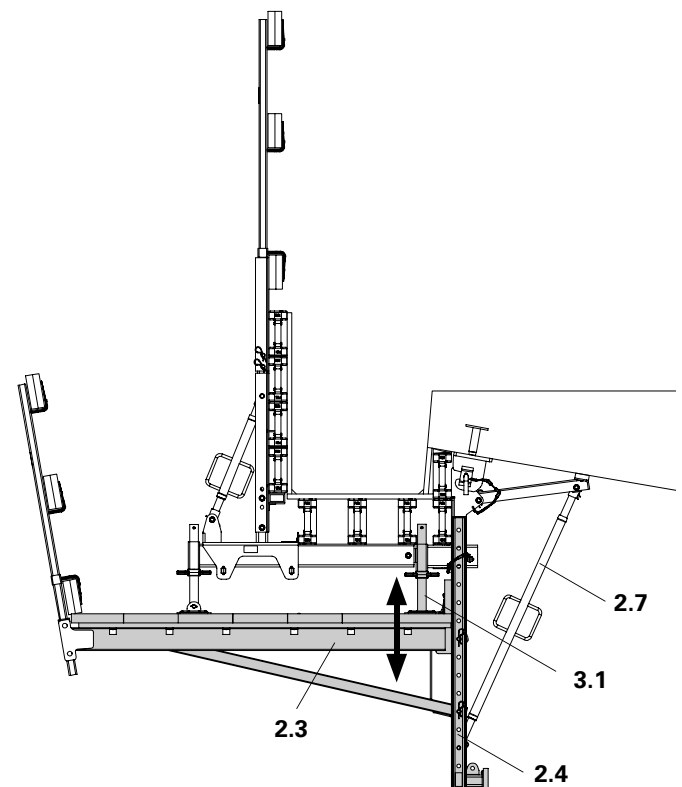
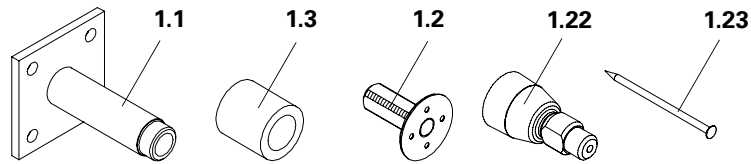


Fig. A4.02c

On the cantilever New structure

Anchor Sleeve M24

The Anchor Sleeve M24 is already installed when concreting the cantilevered parapet.



Required components per tie point:

1.1	Anchor Sleeve M24	1x
1.3	Cone FRC 32/52	1x
1.2	Anchor Positioning Stud M24 x 65	1x
	Alternative	
1.22	Threaded Cone M24/40	1x
1.23	Wire Nail Ø 4.6 x 130	1x



- Constructional requirements for use of the Anchor Sleeve M24 with cantilevered parapet systems, see design information for VGK.
- Permissible widths of influence on cantilevers: see design information for VGK.
- Keep thread of Anchor Sleeve M24 free of rust and dirt.

Installation with Anchor Positioning Stud

1. Mount Anchor Positioning Stud M24 x 65 (1.2) to the formlining by means of 4 wire nails 3 x 80.
Note: edge spacing "a".
(Fig. A5.02)
2. Push Cone FRC 32/52 (1.3) over the thread of the Anchor Positioning Stud.
3. Screw on Anchor Sleeve M24 (1.1) onto the Anchor Positioning Stud M24 as far as possible.
(Fig. A5.01)
4. Secure Anchor Sleeve M24 in the reinforcement using tie wire.

Fig. A5.01

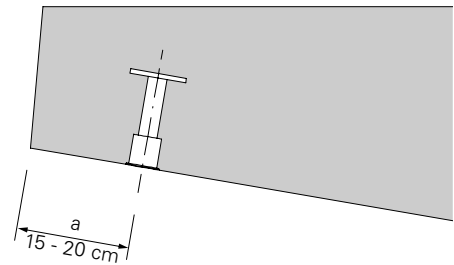
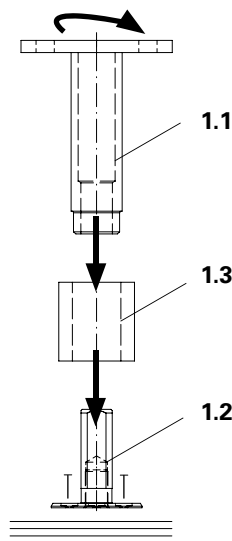


Fig. A5.01a

Installation with Threaded Cone

1. Check anchor installation components for signs of damage and replace if necessary.
2. Insert Wire Nail Ø 4.6 x 130 (1.23), Item no.129157, into the Threaded Cone (1.22).
3. Position Threaded Cone on the formlining and hammer in wire nail.
(Fig. A5.02a)

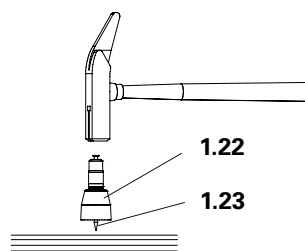


Fig. A5.02a

4. Screw in Anchor Sleeve M24 (1.1) as far as possible, at 90° to the formlining. (Fig. A5.02b)
5. Secure Anchor Sleeve M24 in the reinforcement with tie wire to ensure that it does not change its position during concreting.

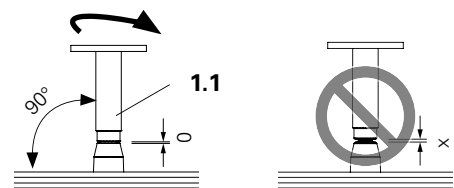


Fig. A5.02b



Check installation

- distance to edge
- anchor spacings
- ensure anchor sleeve is completely screwed in
- planned position

Checking of the anchors and reinforcement can be done at the same time.

On the cantilever Refurbishment

Adhesive Anchor System M24

For subsequent anchoring of the Cantilevered Parapet Bracket, the Adhesive Anchor System M24 can be used.

Required components per tie point

1.5	Suspension Head VGK	1x
1.7	Nut M24-8, ISO 7042	1x



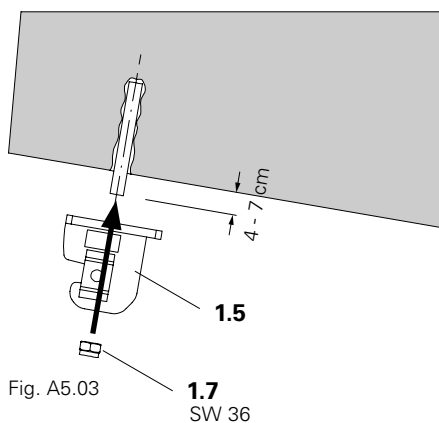
Ensure that the load is safely transferred into the structure!



Take into account manufacturer information on the Adhesive Anchor.

Assembling the Suspension Head VGK

1. Position the Adhesive Anchor with a protrusion of 4 – 7 cm.
2. Push the Suspension Head VGK (1.5) onto the Adhesive Anchor and tighten by means of self-securing Nuts M24-8 (1.7).
(Fig. A5.03)



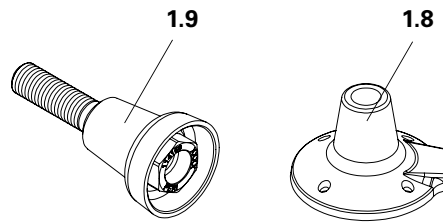
On the abutment

Screw-On Cone-2 M24/DW 20

The Screw-On Cone is also embedded when concreting the abutment.

Required components per tie point

1.9	Screw-On Cone-2 M24/DW 20	1x
1.8	Threaded Anchor Plate DW 20	1x



- Constructional requirements for the use of the Screw-On Cone-2 M24/DW 20, see design information for VGK.
- Permissible width of influence on abutments: see design information for VGK.

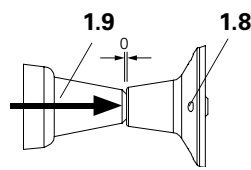


Fig. A5.04a

Assembly

Completely insert Screw-On Cone (1.9) into the Threaded Anchor Plate (1.8).

(Fig. A5.04a)

Anchoring depth = 15.5 cm.

(Fig. A5.04b)

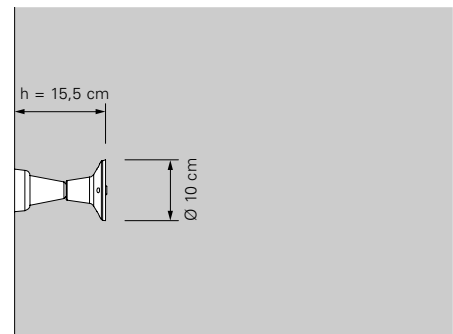
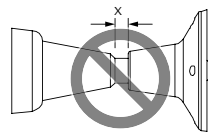


Fig. A5.04b



Check installation

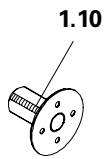
- anchor spacings
- ensure anchor sleeve is completely screwed in
- planned position

Checking of the anchors and reinforcement can be done at the same time.

Fixing with Anchor Positioning Stud M24

Required components per tie point:

1.10	Anchor Positioning Stud M24	1x
1.9	Screw-On Cone-2 M24/DW 20	1x
1.8	Threaded Anchor Plate DW 20	1x



Assembly

1. Fix Anchor Positioning Stud M24 (1.10) to the marked position with wire nails 3 x 80 (4x).
Note: minimum distance to the edge. (Fig. A5.05)
2. Tightly screw on pre-assembled anchor (1.8 + 1.9) onto the Anchor Positioning Stud M24. (Fig. A5.06)
3. Firmly connect the Threaded Anchor Plate (1.8) to the reinforcement to ensure a secure position.

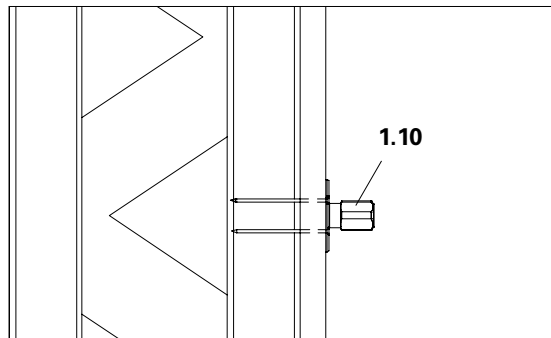


Fig. A5.05



Check assembly

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



- A more stable mounting is achieved through the installation of the Anchor Positioning Plate, see A5 “Assembly of Advancing Bolt M24”.
- In this case, the distances from the holes to be drilled to the steel struts or beams of the formwork must be large enough.

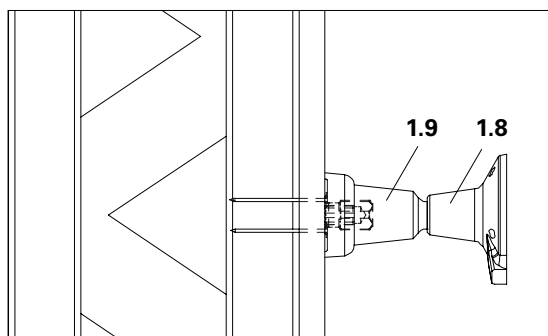
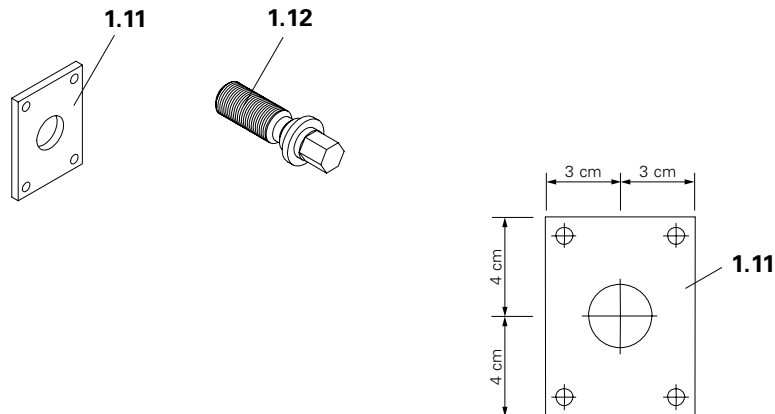


Fig. A5.06

Fixing with Advancing Bolt M24

Preparation

1. Check the required space for the Anchor Positioning Plate M24 (1.11). Lateral spacings of 3 cm or 4 cm are required.
2. Determine the set position and drill $\varnothing 25$ mm hole from the front of the formwork. (Fig. A5.07)
3. Mount the Anchor Positioning Plate M24 (1.11). Wood screws 6 x 20 DIN 571, SW 10 (4x) (1.13). (Fig. A5.08)



Assembly

1. Insert the Advancing Bolt M24 (1.12) from the rear side of the formlining through the drilled hole.
2. From the front side of the formlining, tightly screw on the anchor (1.8 + 1.9). (Fig. A5.09)
3. Firmly connect the Threaded Anchor Plate (1.8) to the reinforcement to ensure a secure position.

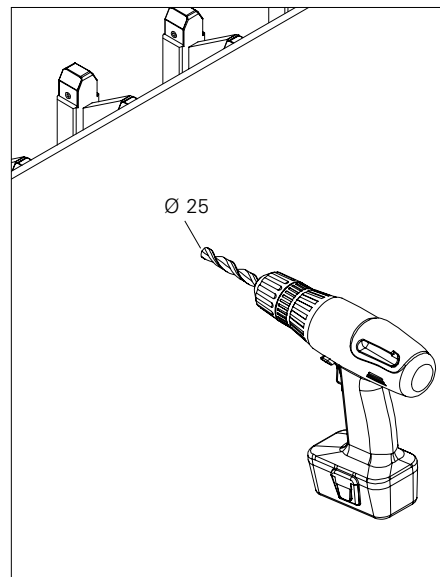


Fig. A5.07

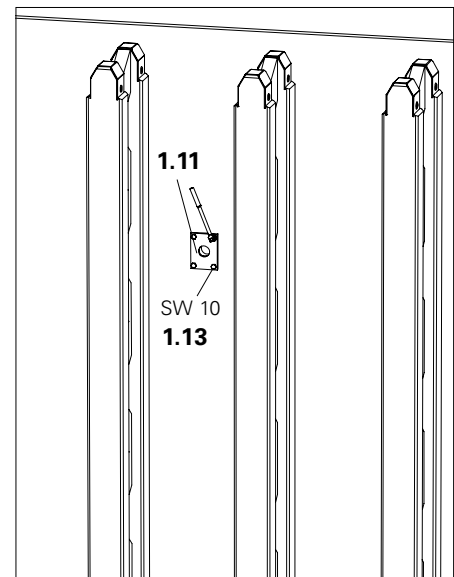


Fig. A5.08



Check assembly

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



If there is a formwork girder positioned at the rear of the anchoring, "Assembly with Anchor Positioning Stud M24" can be applied.

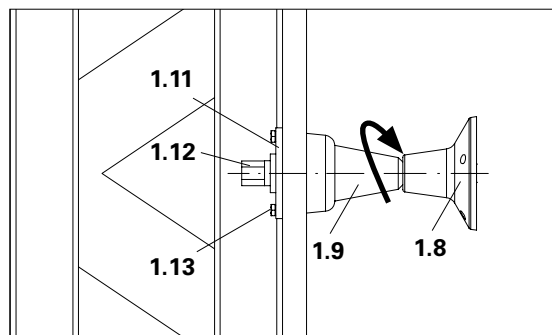


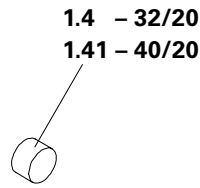
Fig. A5.09

Removal and closure



Fall hazard!

The removal and closure of the anchor holes takes place from a safe and secure working area, e.g. working platform, supporting formwork, work cage.



On the cantilever

Removal

1. Release Hex. Bolt M24 x 100-8.8, SW 36, in the Suspension Head.
2. Remove the Suspension Head.

Closure

1. Clean anchor hole.
2. Mix reposal glue according to the manufacturer's instructions.
3. Immerse Plug 32/20 (1.4 with Advancing Bolt) or 40/20 (1.41 with Threaded Cone) one-sided into the adhesive.
4. Tap into anchor hole using a rubber-headed hammer until flush with hole.
5. Remove glue residue with a spatula. (Fig. A5.10 + A5.11)

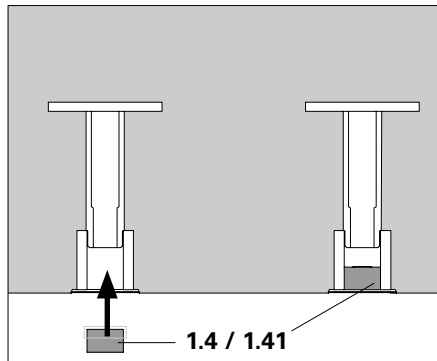


Fig. A5.10

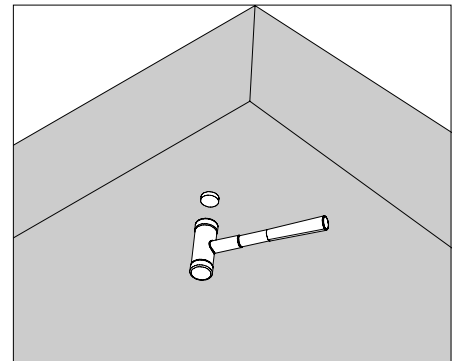


Fig. A5.11

On the abutment

Removal

1. Release Hex. Bolt M24 x 70-10.9, SW 36, in the Suspension Head.
2. Remove the Suspension Head.
3. Release Screw-On Cone-2 M24/DW 20 (1.9) by means of socket wrench SW 36.
4. Screw out the Screw-On Cone-2 M24/DW 20 by hand. (Fig. A5.12 + A5.13)

Closure

1. Clean anchor hole.
2. Close anchor hole with a suitable cone, e.g. PERI concreting cones. (Fig. A5.14)



Follow Instructions for Use for concreting cones.



For architectural concrete or required gas/water impermeability of the wall, the anchor holes can be closed with PERI Sealing Cones KK. See PERI Tie Technology, or contact your PERI sales engineer.

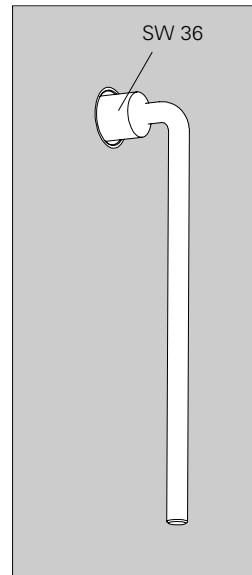


Fig. A5.12

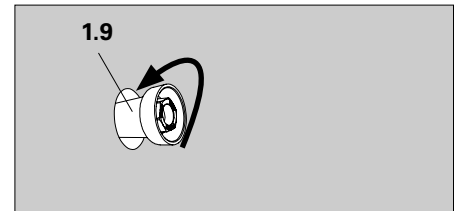


Fig. A5.13

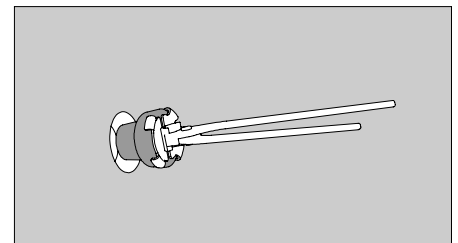


Fig. A5.14



Observe national regulations!

Platform decking

Planking according to EN 12811 and DIN 4420-1 respectively.

- Planking spans over a minimum of 2 bays, with offset joints.
- Fix planks to each platform beam using wire nails or wood screws (4.5). (Fig. A6.01)
- Secure cantilevered planking against lifting.
- With installation according to DIN 4420-1 Table 3, planking can be used as a cover which is suitable to catch falling objects. Appropriate sealing must be ensured.

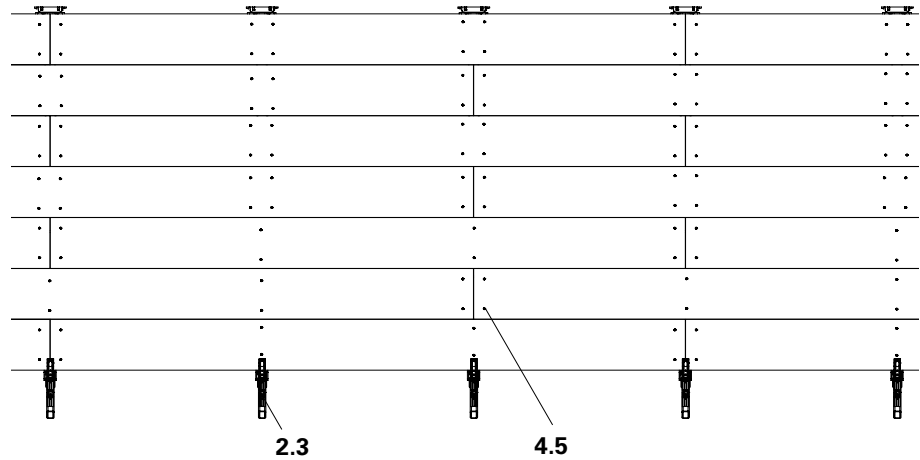


Fig. A6.01

Safety scaffold

In the absence of safety measures against falling and fall heights $h > 1.00$ m at the edge of the bridge, the planking is to be installed as safety decking according to DIN 4420-1.

- Installation of planking depending on the fall height h and span in accordance with DIN 4420-1, Table 2. (Fig. A6.02)
- Depending on the span, double thickness may be necessary.
- For planking widths > 24 cm and fall heights $h \leq 1.50$ m:

Plank thickness	max. span
4.0 cm	1.00 m
5.0 cm	1.30 m
Double thickness	
2 x 4.0 cm	1.60 m
2 x 5.0 cm	2.20 m

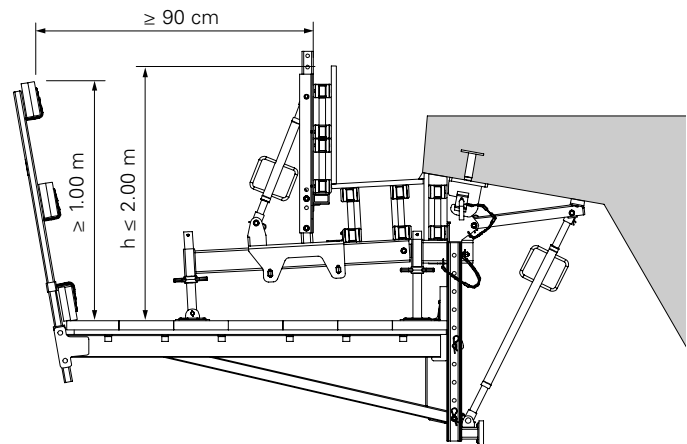


Fig. A6.02

Guardrails

Guardrails are to be mounted on working scaffolds according to EN 12811.

- Fix guardrail boards and toe boards to Guardrail Posts (2.5) with wire pins or wood screws (4.5). (Fig. A6.03)
- For partial or complete enclosure of the side protection, the perm. width of influence of the Guardrail Post can restrict the bracket spacing.

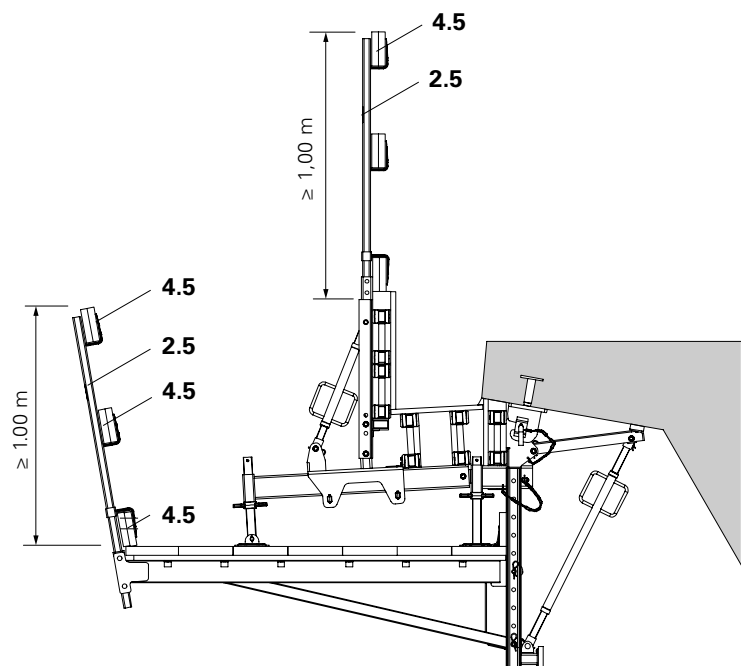


Fig. A6.03

In case of a storm, the Cantilevered Parapet Bracket VGK must be free of materials and tools as well as being secured against tipping.
Example using timbers (5).

Use as formwork scaffold

Cantilever
(Fig. A7.01)

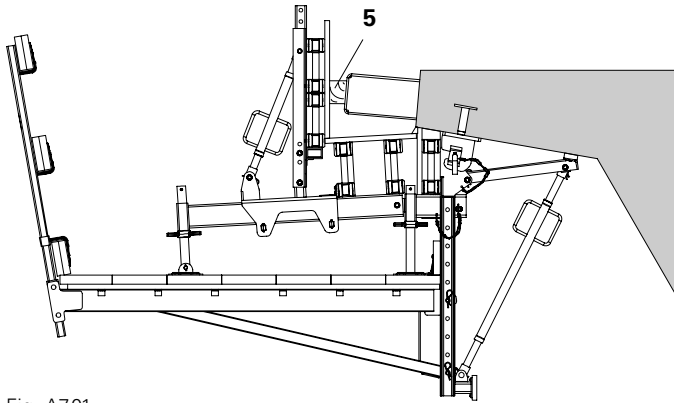


Fig. A7.01

Vertical application on abutments
(Fig. A7.02)

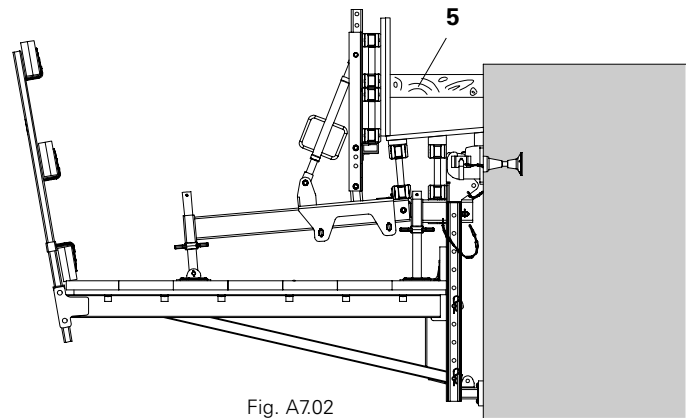


Fig. A7.02

Use as working platform

Cantilever
(Fig. A7.03)

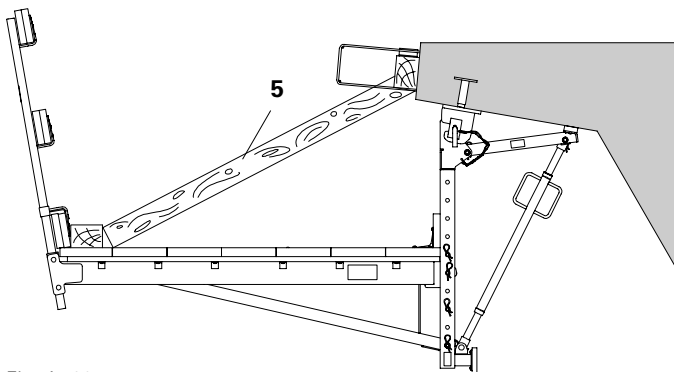


Fig. A7.03

Vertical application on abutments
(Fig. A7.04)

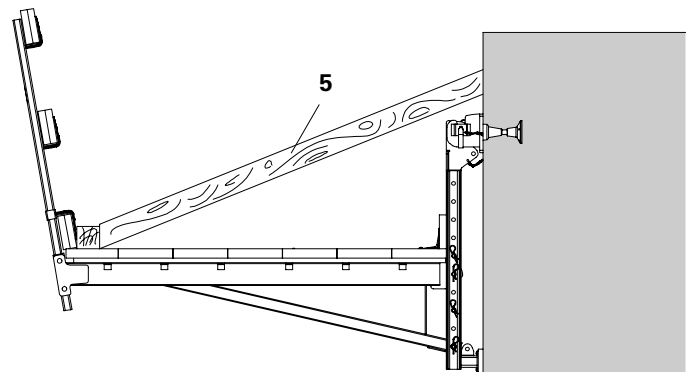
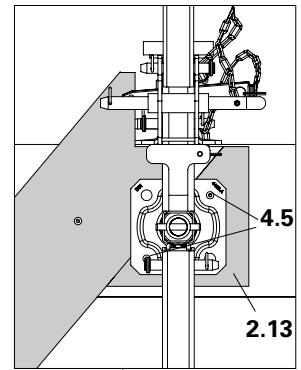


Fig. A7.04

Bridge longitudinal inclination $s > 3.0\%$



- For horizontal bracing, the brackets are always connected in pairs to the scaffold tubes and diagonal planking.
- The diagonally-positioned plank (2.12) is force-locked against the Bracket Post VGK in the direction of the inclination.
- Note the direction of inclination.



Diagonal planking

Required components:

2.12 Plank 20 x 4 (C24)	1x
2.13 Height compensation	1x
4.5 Torx 6 x 80	8x

Assembly

1. Prepare plank for a force-locked connection.
2. Position plank (2.12) diagonally between two brackets on the decking and fix with Torx 6 x 80 (4.5).
3. Mount height compensation (2.14).
4. Mount Formwork Fixing VGK (3.1) and Formwork Support VGK (3.2), see B3.
5. Fix Adjustable Base Plates with two Torx 6 x 80 (4.5) respectively. (Fig. A8.01)

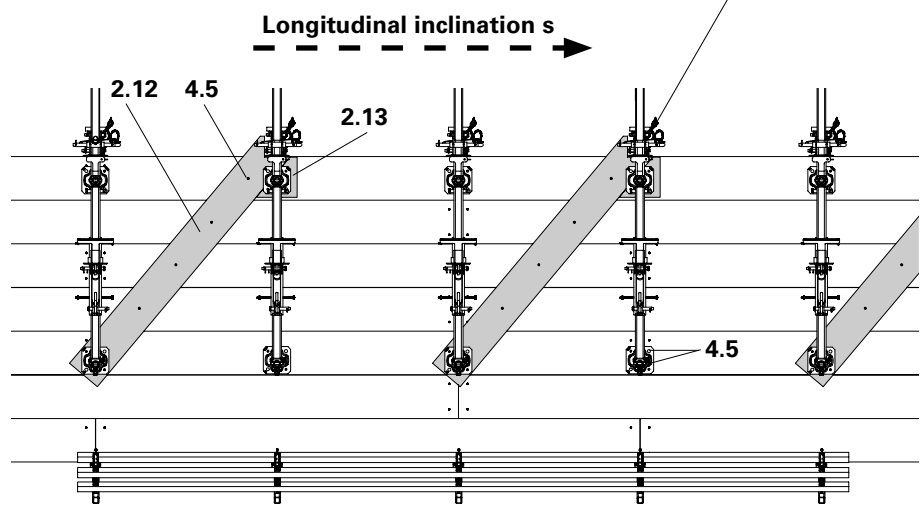


Fig. A8.01

Scaffold tube

Required components:

2.10 Brace Connector VGK	2x
2.11 Scaffold Tube $\varnothing 48.3 \times 3.2$ mm	1x

Assembly

1. Screw in Brace Connector VGK (2.10) into each Bracket Post VGK, M16 x 80, at the height of the decking.
2. Scaffold tube (2.11) mounted on two couplings.
3. Align brackets and tighten couplings, SW 19. (Fig. A8.02)

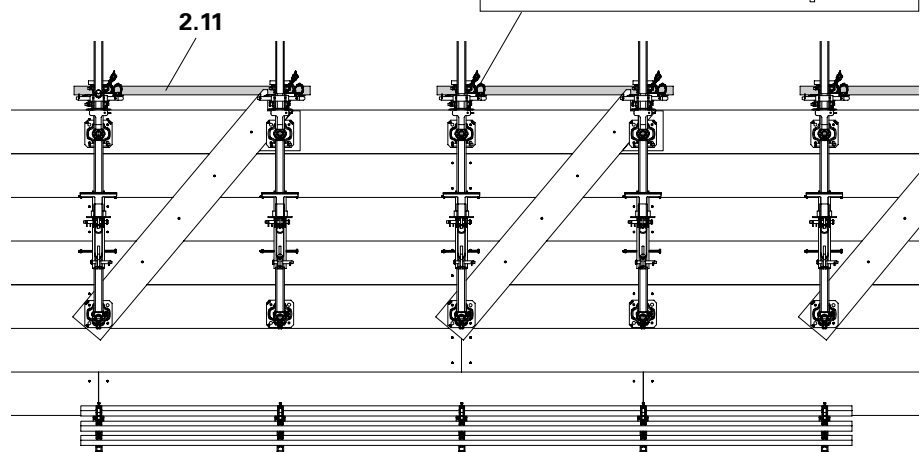
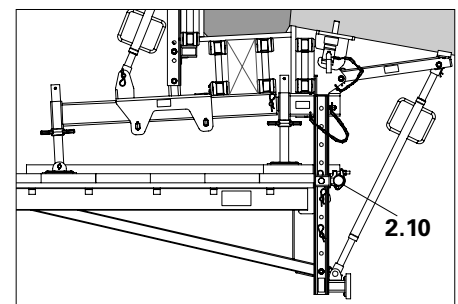


Fig. A8.02

Bracket Cantilever VGK 50

The sliding capacity of the compression bearing (6) on the Bracket Cantilever VGK 50 must be checked before each use.



Bracket Cantilever is not to be used if the grouting is damaged!

The inspection includes a visual and functionality check.

Purpose

Due to the inspection carried out before the initial operations as well as regularly occurring inspections, it can be ensured that operational and functional reliability is guaranteed.

Visual check

- wear,
- cracks, grooves or similar in the grouting (6).

Functionality check

- formlining moveable - approx. 2 mm forwards, back and twistable. (Fig. A9.01 – A9.03)
- Formlining goes back automatically to the starting position.

Measures

If any defects are determined during the safety inspection, they must be eliminated according to the instructions provided by the authorised person. A new inspection is to be subsequently carried out.

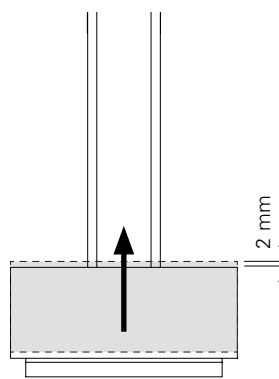
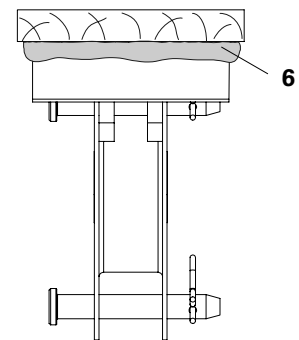
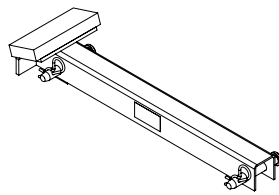


Fig. A9.01

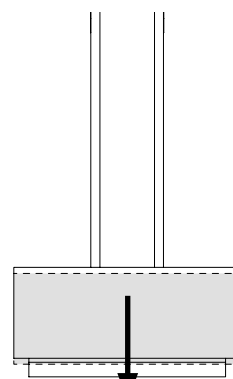


Fig. A9.02

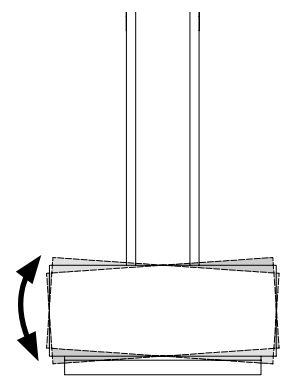


Fig. A9.03

Assembly on the cantilever



Bracket unit and platform unit with guardrails must be installed from a safe working area, e.g.

- telescopic working platform
- temporary working scaffold
- personal protective equipment to prevent falling from a height (PPE).



The formwork unit is assembled and adjusted from the platform unit. Depending on the stage of construction, temporary safety measures to prevent falling may be required.

Remove Anchor Positioning Stud

1. Straighten wire nails.
 2. Retract formwork. The wire nails must be pulled through the formlining.
 3. Remove the Anchor Positioning Stud M24 (1.2 / 1.10) from the Anchor Sleeve by means of an Allen Key SW 14.
- (Fig. B1.01)

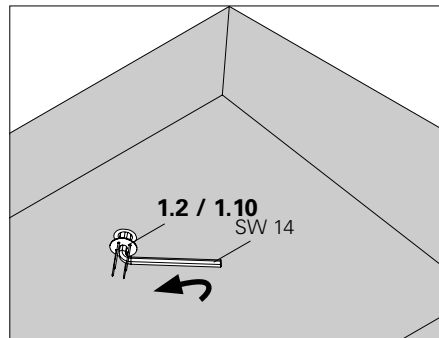


Fig. B1.01

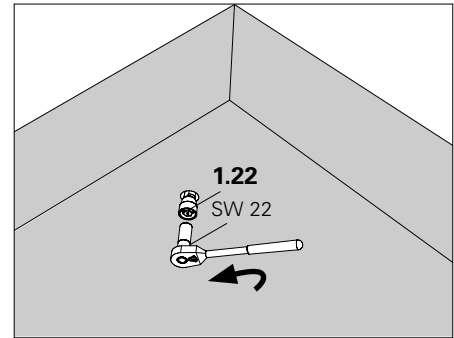


Fig. B1.01a

Remove Threaded Cone

1. Retract formwork.
 2. Push back wire nail with a hammer.
 3. Screw out Threaded Cone M24 (1.22) from the Anchor Sleeve using ratchet wrench and socket SW 22.
- (Fig. B1.01a)

Assembly

1. Attach Suspension Head VGK (1.5) to the Anchor Sleeve M24 by means of Bolts M24 x 100-8.8 (1.6). (Fig. B1.02)
2. Fix Bracket Cantilever VGK 50 (2.2) to the Bracket Post VGK (2.1 / 2.4) using bolts and cotter pins. (Fig. B1.03a)
3. Attach pre-adjusted Kicker AV 111 (2.8) or AV 140 (2.7) to the Bracket Cantilever and Bracket Post using bolts and cotter pins. (Fig. B1.03b)
4. Attach bracket unit to the Suspension Head and secure by means of locking pins (2.1a) and cotter pins. (Fig. B1.03c)
5. Vertically adjust bracket unit with Kicker AV 111 or AV 140. (Fig. B1.03c + B1.03d)

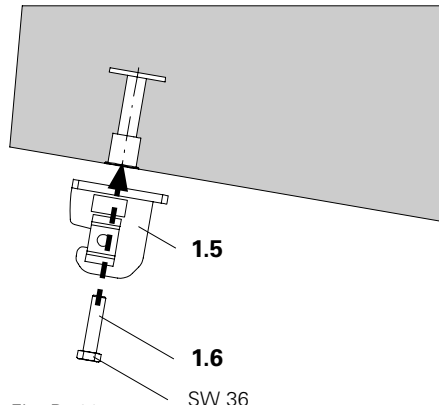


Fig. B1.02

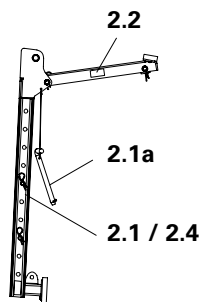


Fig. B1.03a

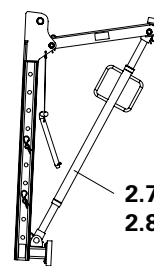


Fig. B1.03b

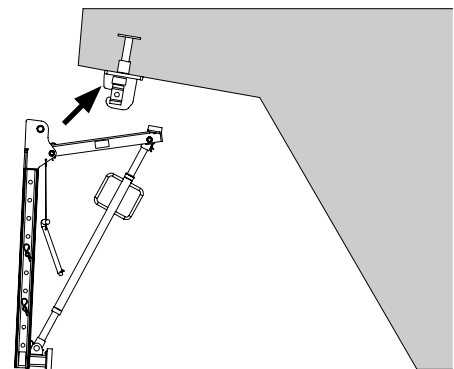


Fig. B1.03c

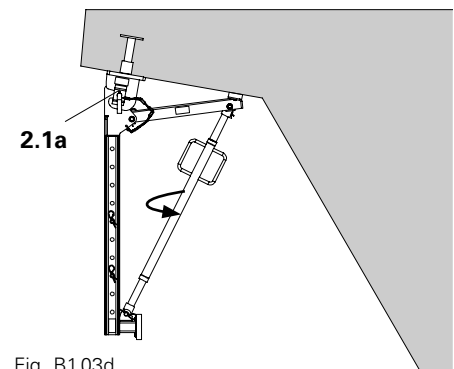


Fig. B1.03d

Assembly on the abutment

Remove Advancing Bolt

1. Loosen and remove Advancing Bolt M24 (1.12) from the rear side of the formlining, SW 19.
2. Remove formwork. (Fig. B1.04)

Assembly

1. Fix Suspension Head VGK (1.5) to the Screw-On Cone M24/DW 20 (1.9) using Bolt M24 x 70-10.9 (1.13). (Fig. B1.05)
2. Attach Bracket Post VGK (2.1) to the Suspension Head VGK and secure with locking pins (2.1a) and cotter pins. (Fig. B1.06a + B1.06b)

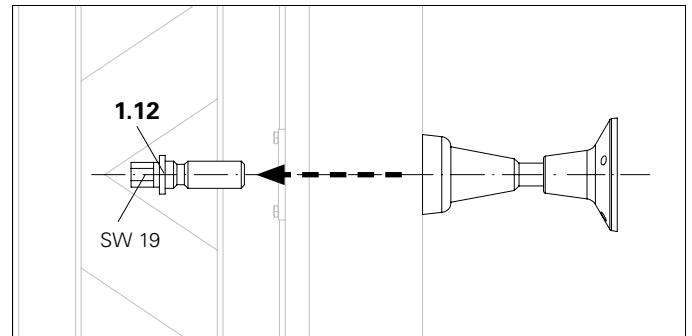


Fig. B1.04

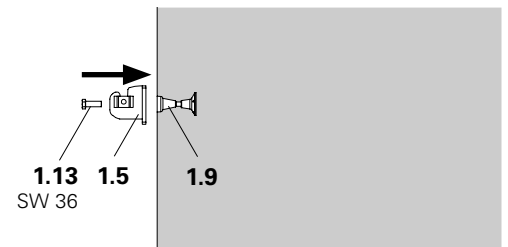


Fig. B1.05

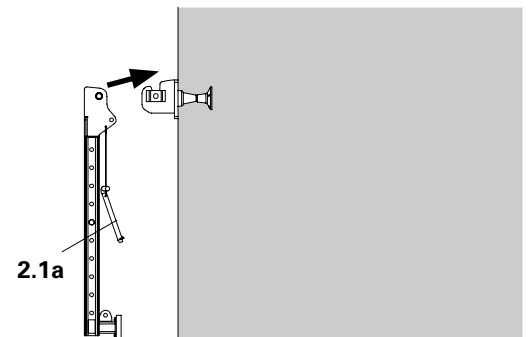


Fig. B1.06a

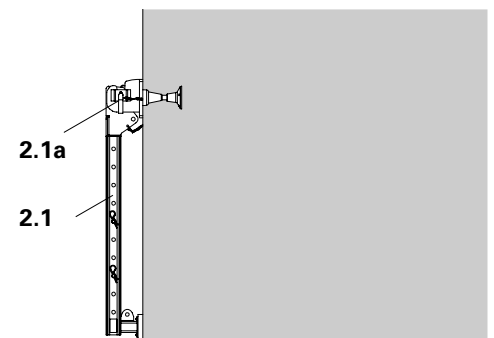
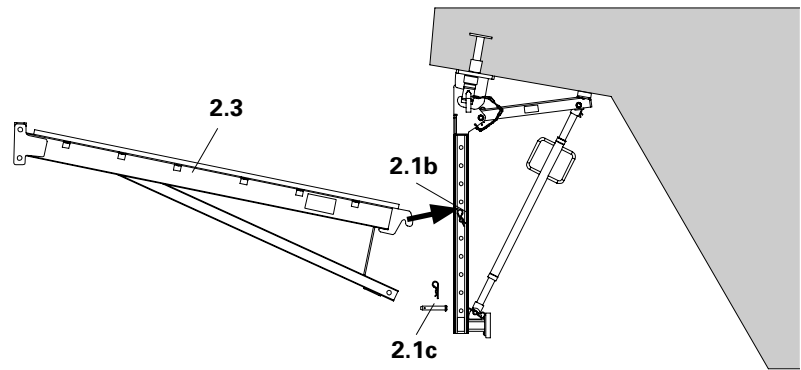


Fig. B1.06b

Assembly of Platform Cantilever Beam VGK

1. Position top bolt (2.1b) in the Bracket Post VGK at the height of the platform.
2. Remove bottom bolt (2.1c).
3. Mount Platform Beam (2.3) on the bolt (2.1b).
4. Secure with bottom bolt (2.1c). (Fig. B2.01)
5. Attach additional Platform Beams.
6. Install planking, see Section A6.

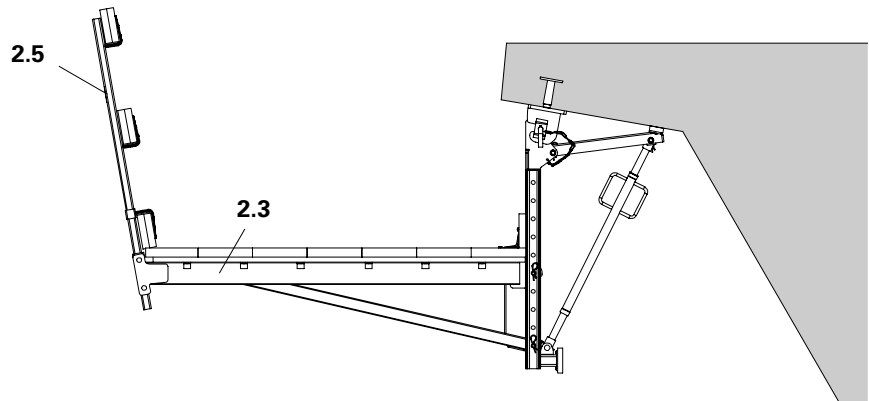
Fig. B2.01



Assembly of guardrails

1. Insert Guardrail Post HSGP-2 (2.5) in all Platform Beams (2.3). (Fig. B2.02)
2. Mount and secure guardrail boards, see Section A6.

Fig. B2.02



Assembly of Formwork Fixing VGK

1. Release wedge (3.1.1).
2. Insert Formwork Fixing (3.1) in the Bracket Post (2.1).
3. Adjust Formwork Fixing to required height with the spindle.
4. Secure Formwork Fixing with wedge (3.1.1).
5. Position Internal Stopends (3.7) on the Formwork Fixing and adjust. (Fig. B3.01)

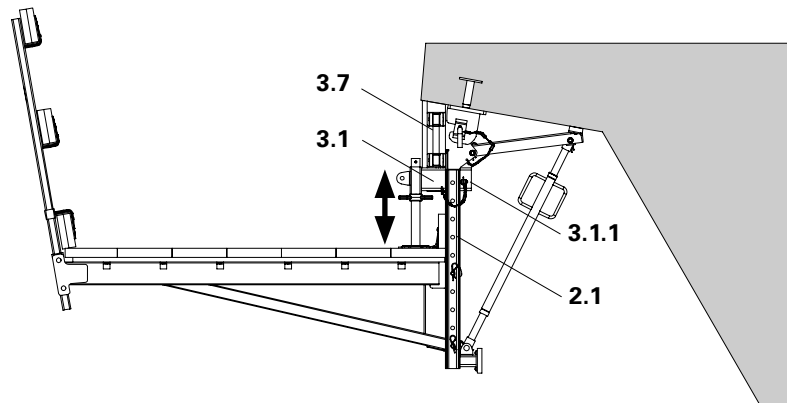


Fig. B3.01

Assembly of Platform Cantilever Beam VGK

1. Attach Platform Cantilever Beam VGK (3.2) to the Formwork Fixing (3.1) and secure with bolts.
2. Bring guide carriage (3.2.2) into position.
3. Fix slab formwork to guide carriage (3.2.2) by means of 2 Torx 6 x 60 respectively.
4. Align slab formwork with the Articulated Spindle (3.2.1) and guide carriage (3.2.2), see Fig. B3.03.
5. Fix both wedges on the guide carriage using a sledge hammer (5 kg). (Fig. B3.02)

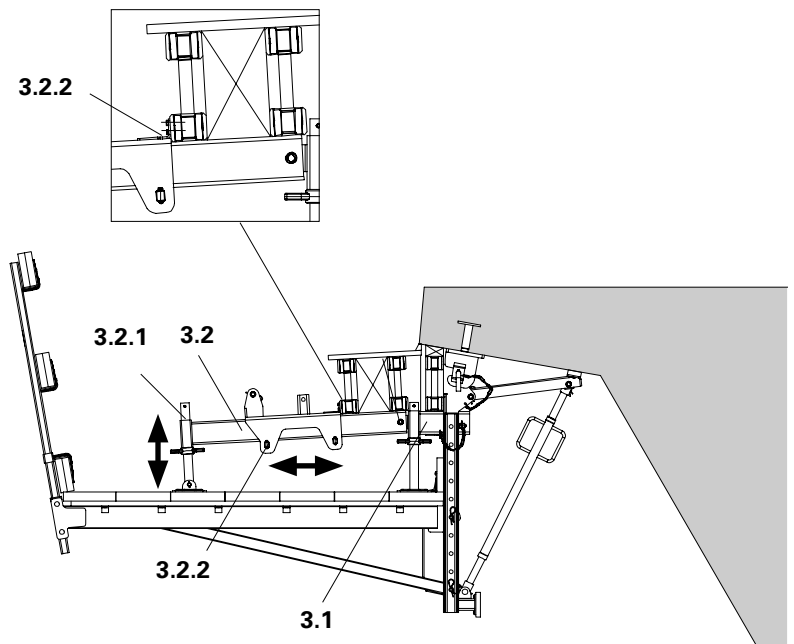


Fig. B3.02

Assembly of Formwork Post VGK for side formwork

1. Attach Formwork Post (3.3) to the guide carriage (3.2.2) by means of bolts.
2. Fix Kicker AV 81 (3.5) to the guide carriage and Formwork Post with bolts.
3. Insert Beam Support (3.3.1) in the corresponding position. (Fig. B3.03)

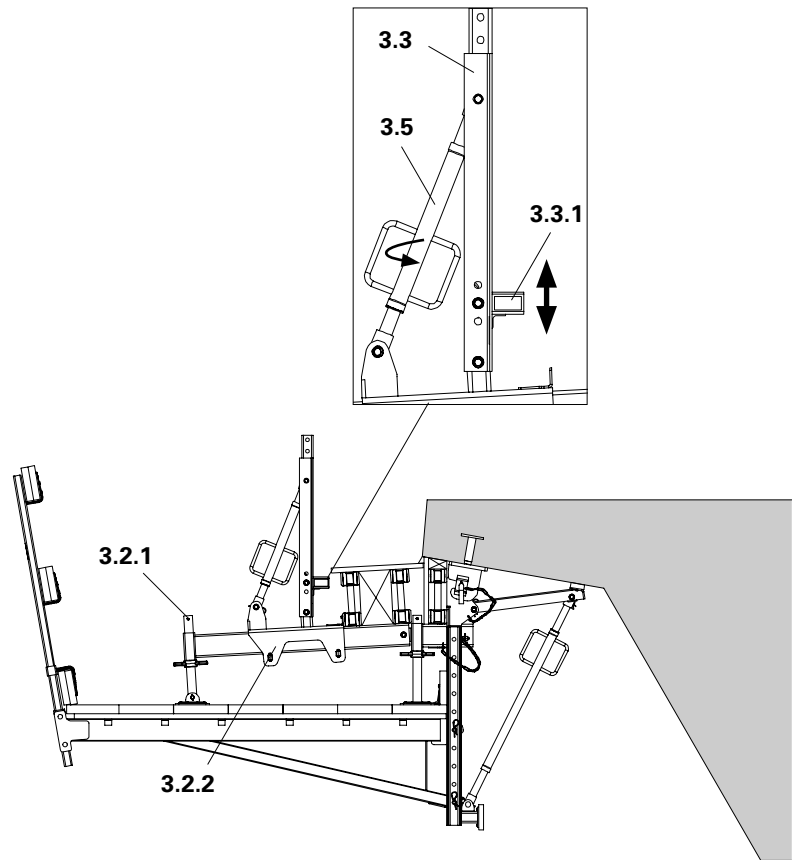


Fig. B3.03

Assembly of side formwork

1. Place side formwork on Beam Support (3.3.1) and slab formwork and fix to Formwork Post with wood screws.
2. Align Formwork Post (3.3) with Kicker AV 81 (3.5). (Fig. B3.04)

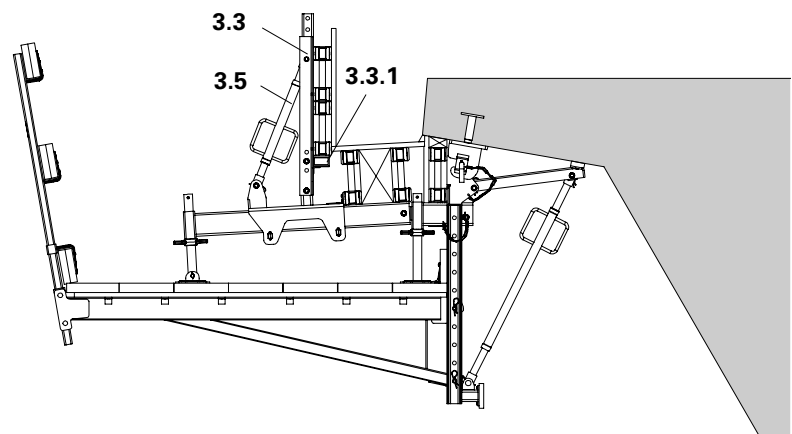


Fig. B3.04

Arrangement of formwork supports



For optimal concreting results, offset the joints of the formwork supports for the slab formwork and side formwork. (Fig. B4.01)

Top view

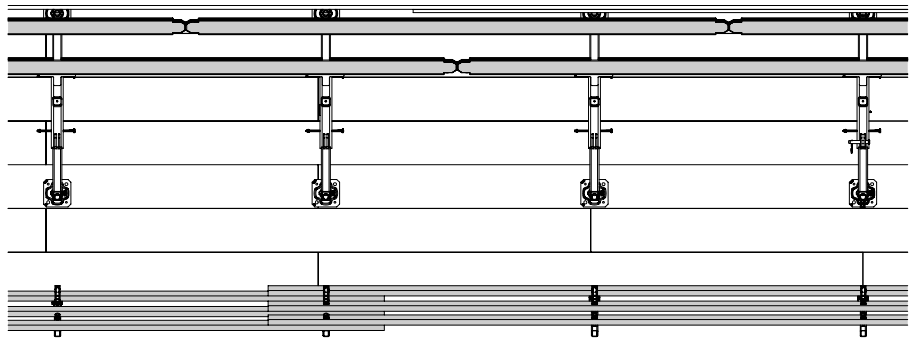


Fig. B4.01

Forward inclination of the side formwork



The forward inclination is dependent on the height of the cantilevered parapet "H" and refers to the top edge of the cantilevered parapet. (Fig. B4.02)

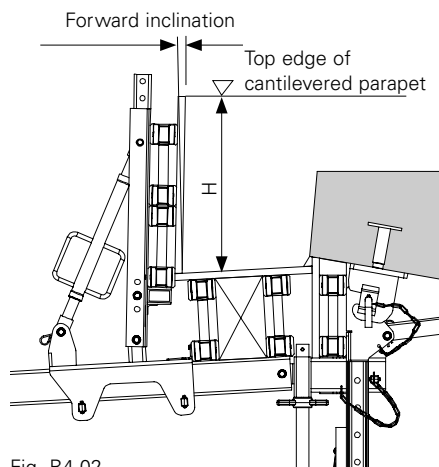


Fig. B4.02

Cantilevered parapet height H [cm]	Forward inclination v * [mm]
100	23
80	9
60	3
40	0

*Value with 1 m width of influence. Intermediate values can be interpolated linearly.



Overloading!

- Do not pour the concrete directly from the mixer vehicle or concrete bucket into the formwork construction!
- Avoid any accumulation of concrete in the area of the Cantilevered Parapet Bracket! (Fig. C1.01)

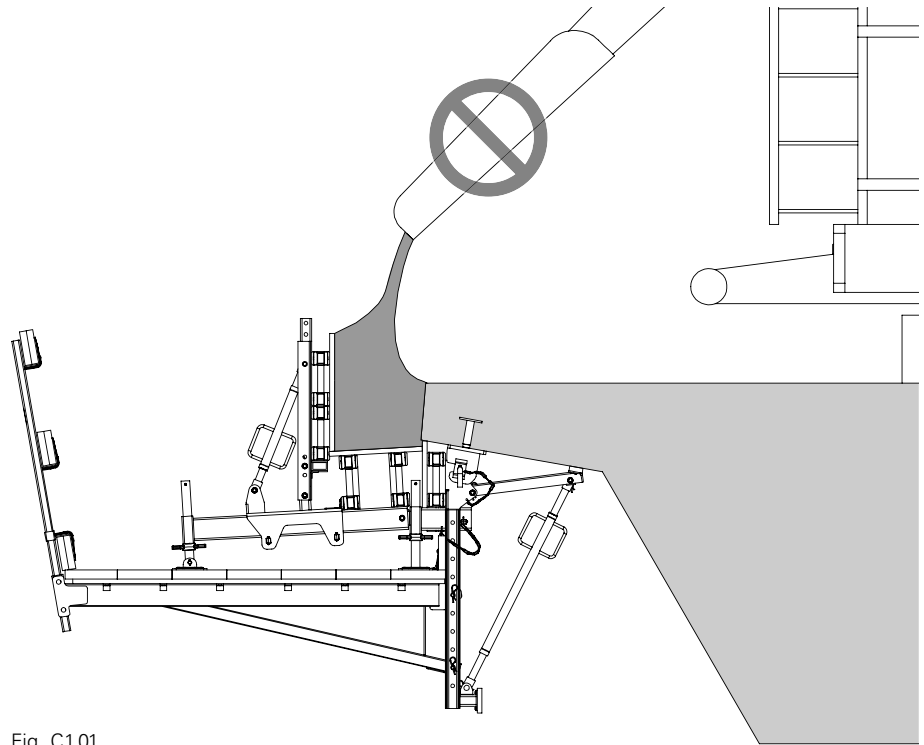


Fig. C1.01

Concreting

1. Pour concrete on the bridge cantilever.
2. Bring concrete into the formwork construction using a rake or something similar.
3. Compact concrete. (Fig. C1.02)

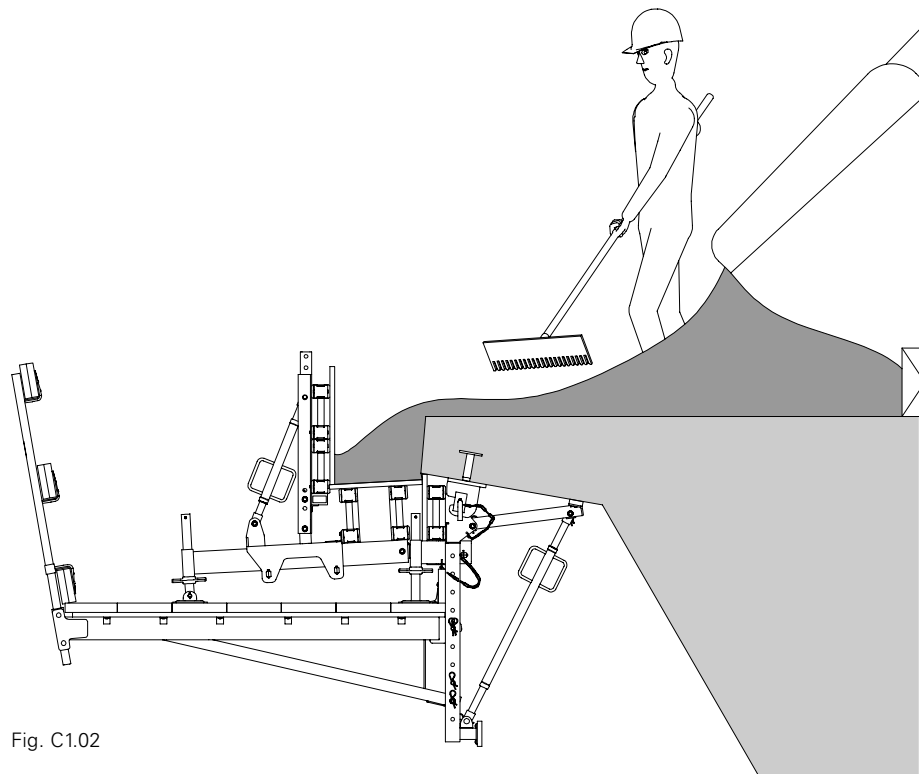


Fig. C1.02

Formwork unit



Striking and dismantling of the formwork unit is carried out from the platform unit.

Side plate

1. Turn Formwork Post VGK (3.3) back with the Kicker AV 81 (3.5) until the side plate is released from the cantilevered parapet.
2. Remove side formwork. (Fig. C2.01)

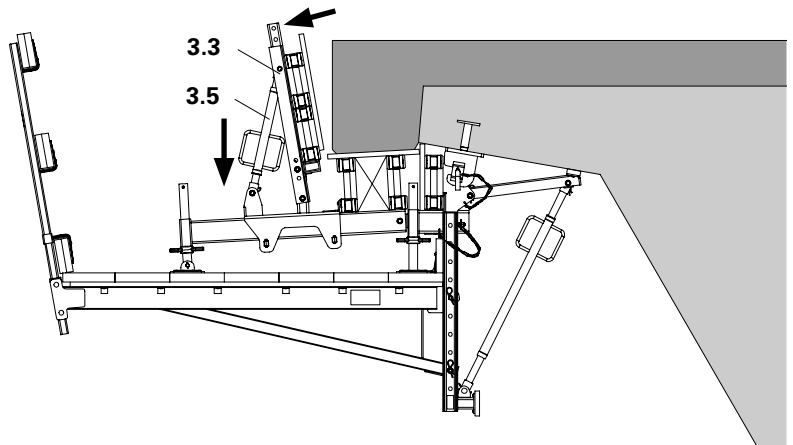


Fig. C2.01

Slab formwork

1. Release wedge (3.1.1) on the Formwork Fixing VGK and wedges (3.2.2) of the guide carriage.
2. Turn spindle downwards until the slab formwork is released from the cantilevered parapet. (Fig. C2.02)

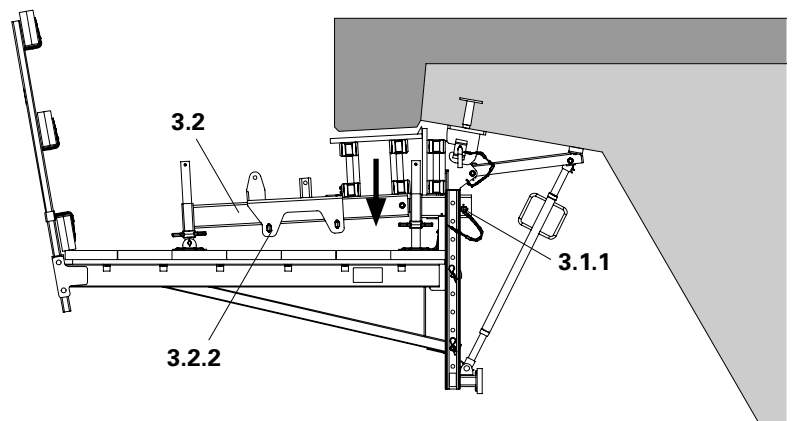


Fig. C2.02

C3 Dismantling

On the cantilever

Formwork unit

1. Remove Formwork Post VGK (3.3) and Kicker AV 81 (3.5).
2. Remove slab formwork.
3. Remove Formwork Support VGK (3.2).
4. Remove Formwork Fixing VGK (3.1) and Internal Stopend. (Fig. C3.01)

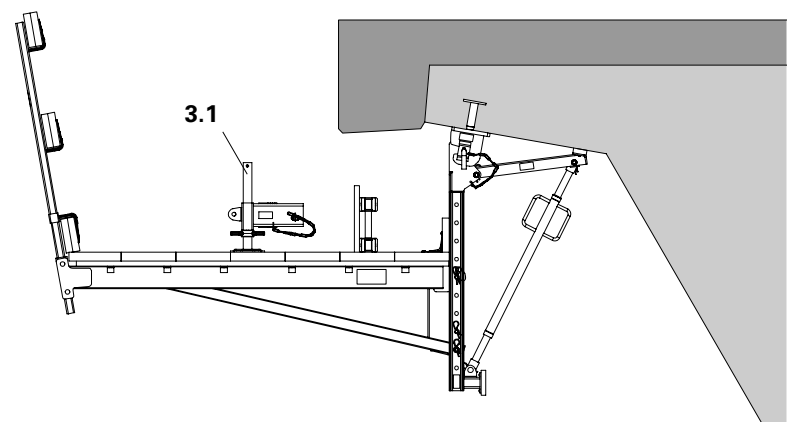


Fig. C3.01

On the cantilever



Anti-fall protection!

Platform unit and bracket unit are to be dismantled from a safe and secure working area, e.g.

- telescopic working platform
- temporary working scaffold
- personal protective equipment to prevent falling from a height (PPE).



Depending on the stage of construction, temporary safety measures to prevent falling may be required.

Platform unit

1. Remove guardrail boards and guardrail posts (2.5). (Fig. C3.02)
2. Planking is continuously removed accordingly.
3. Remove Platform Cantilever Beam VGK (2.3).
4. Install bolts and cotter pins (2.1.1) in the Bracket Post VGK (2.1). (Fig. C3.03)

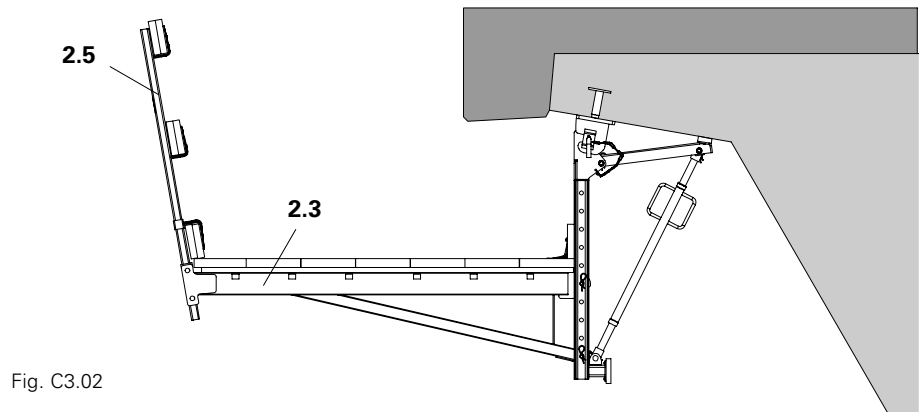


Fig. C3.02

Bracket unit

1. Remove locking pins (2.1a) on the Suspension Head (1.5) and detach bracket unit. (Fig. C3.04)
2. Place bracket unit on the ground and dismantle.
3. Release Bolts M24 x 100-8.8 (1.6) and remove Suspension Head (1.5).
4. Close anchor holes, e.g. with Plugs, see Section A5. (Fig. C3.05)

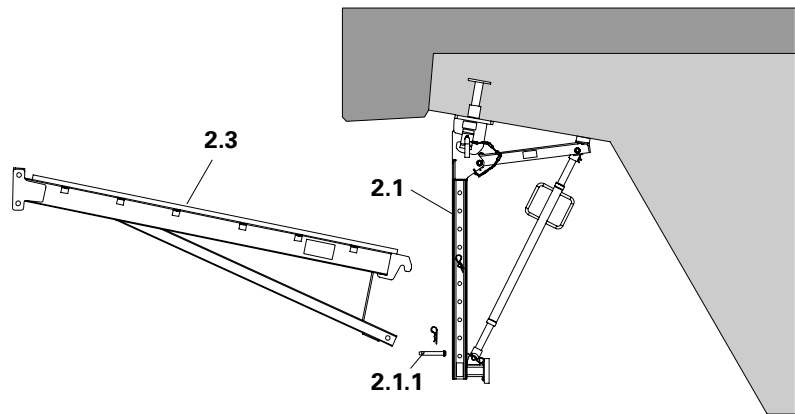


Fig. C3.03

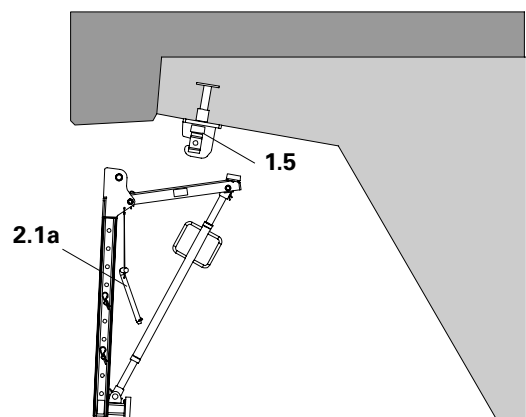


Fig. C3.04

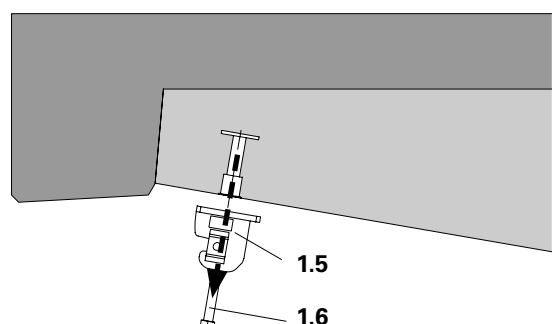


Fig. C3.05

On the abutment



Anti-fall protection!

Platform unit and bracket unit are to be dismantled from a safe and secure working area, e.g.

- telescopic working platform
- temporary working scaffold
- personal protective equipment to prevent falling from a height (PPE).

Dismantling the Cantilevered Parapet Bracket takes place in the same way as on the cantilever.

- Dismantle and remove the formwork unit. (Fig. C3.06)
- Dismantle and remove the platform unit. (Fig. C3.07)
- Dismantle and remove the bracket unit. (Fig. C3.08)
- Loosen Bolts M24 x 70-10.9 (1.13) and remove Suspension Head (1.5).
- Remove the anchors and close the anchor holes, e.g. with PERI Concreting Cones, see Section A5. (Fig. C3.09)

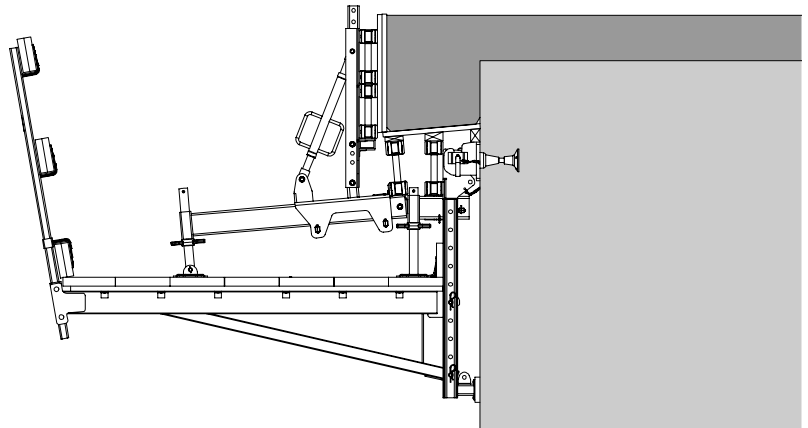


Fig. C3.06

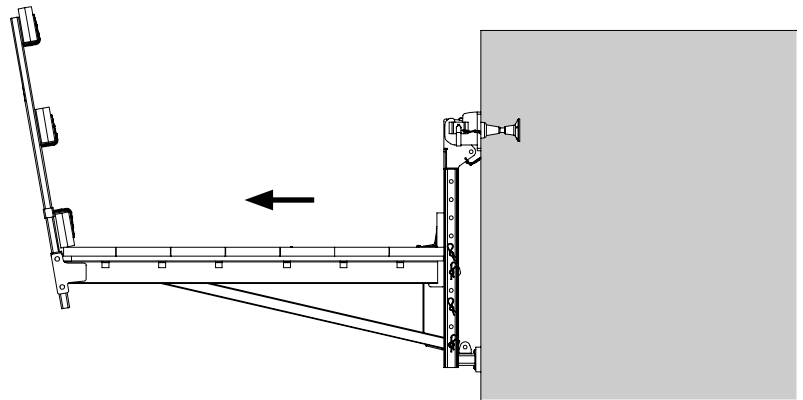


Fig. C3.07

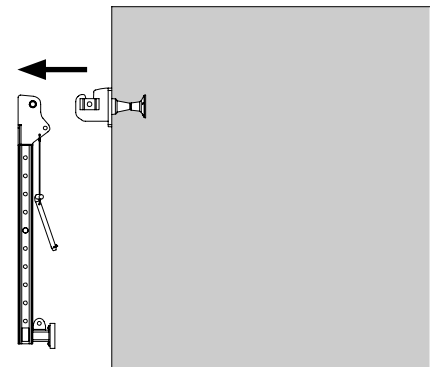


Fig. C3.08

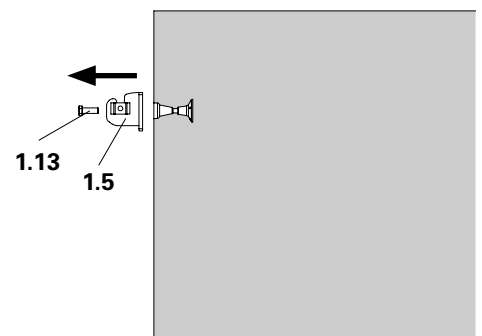


Fig. C3.09

Guardrail Post GKB

For temporary fall protection on bridge edges, the Guardrail Post GKB is to be used in accordance with EN 13374. The Side Guardrails are to be installed according to Table 1 and 2.



- All occurring loads must be safely transferred!
- Reinforcement stirrups must have sufficient load-bearing capacity!

Two mounting versions are possible:

Version 1

The Guardrail Post GKB is clamped in the reinforcement stirrup.
(Fig. C4.01)

Required components:

4.1 Guardrail Post GKB	1x
4.6 Guardrail Boards	3x



Guardrails are assembled and dismantled from a safe and secure working area, e.g. with PPE.

Assembly

1. Pre-adjust Guardrail Post (4.1) with the crank.
2. Place the Guradrail Post in the reinforcement stirrup and tension with the crank.
3. Position Guardrail Boards (4.6) and secure, e.g. by means of wire pins or wood screws.
(Fig. C4.01 + C4.01a + C4.02)

Dismantling

Turn crank until the lower holder is free and the Guardrail Post can be removed from the top reinforcement.

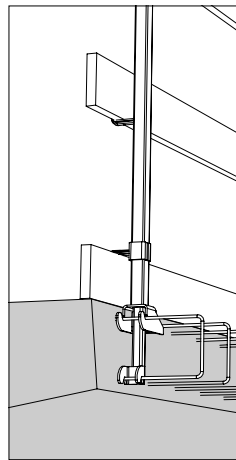


Fig. C4.01a

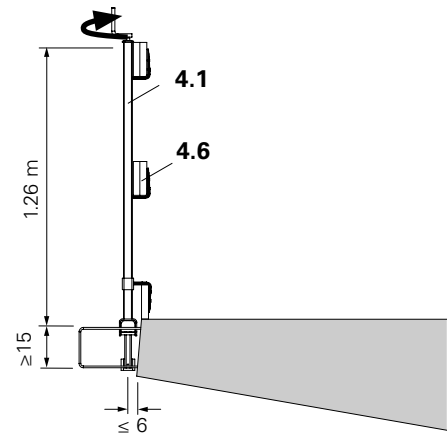


Fig. C4.01

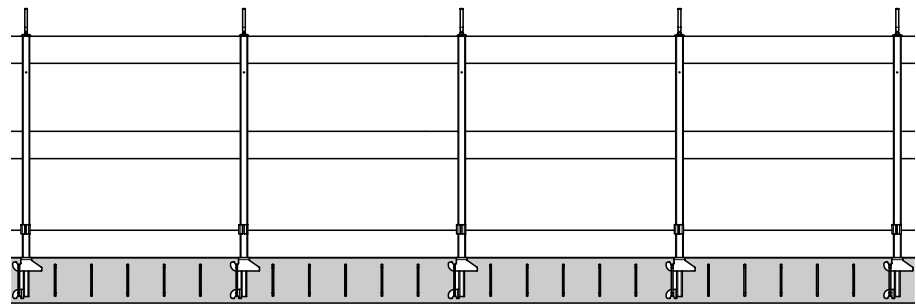


Fig. C4.02

Table 1
Permissible width of influence for the Guardrail Posts

Guardrail Board h / w [cm]	perm. width of influence*[m]
12 / 4	1.60
15 / 3	1.55

***Values are valid only in compliance with the following boundary conditions**

- Tightening torque with crank ≥ 60 Nm
- Reinforcement stirrup spacing ≥ 15 cm
- $d_{\text{reinforcement}} \geq 12.0$ mm
- Spacing of Guardrail Post axis to front side of concrete ≤ 6 cm.
- For guardrail boards which extend across only 2 bays, the permissible width of influence is to be divided by 1.25.

Version 2

The Guardrail Post GKB is fixed to the parapet / bridge.
(Fig. C4.03 + C4.04)

Required components:

4.1 Guardrail Post GKB	1x
4.2 Screw-On Sleeve PERI M16/1641x	
4.3 Bolt M16 x 120 ISO 4017	1x
4.4 Washer R 17.5 ISO 7094	1x



- Installation of the PERI Screw-In Sleeve M16/164, see Technical Data Sheet. (Fig. C4.05)
- Tighten Bolt M16 x 120, SW 24 with Washer R 17.5, and slightly pre-tension.

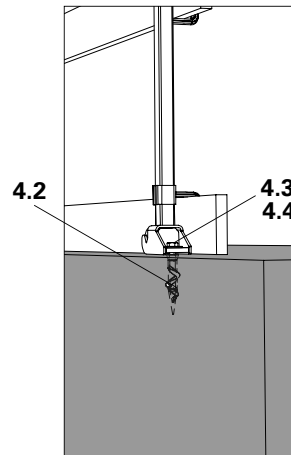


Fig. C4.03a

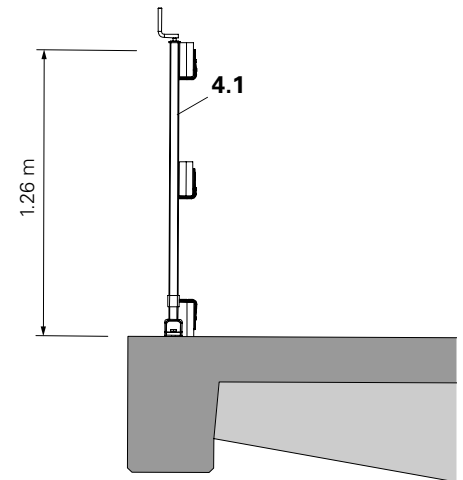


Fig. C4.03

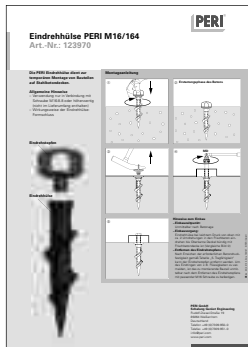


Fig. C4.05

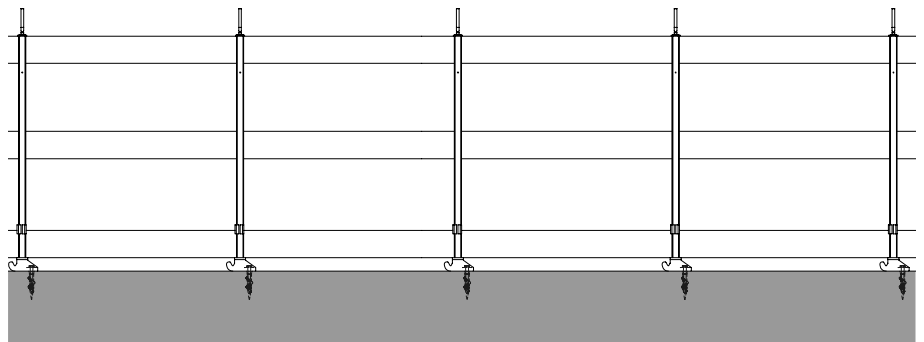


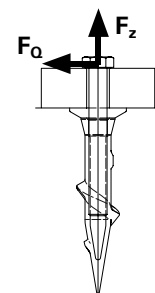
Fig. C4.04

Table 2

Permissible width of influence for the Guardrail Posts when using the PERI Screw-In Sleeve.

Guardrail board h / w [cm]	perm. width of influence* [m]	Actual tensile force F_z on the anchoring [kN]	Actual shear force F_Q on the anchoring [kN]
12 / 4	1.20	9.89	0.53
15 / 3	0.95	9.74	0.53

- The forces shown in the table can be linearly reduced or increased when using other anchoring methods with smaller or larger widths of influence.
- The permissible width of influence in Version 2 is limited:
- Guardrail board h/w = 12 cm / 4 cm: perm. width of influence = 1.50 m
- Guardrail board h/w = 15 cm / 3 cm: perm. width of influence = 1.20 m
- For guardrail boards which extend across only 2 bays, the permissible width of influence is to be divided by 1.25.
- The safe transfer of existing forces into the building must be guaranteed.
- Take into account the manufacturer's information on the selected anchoring.



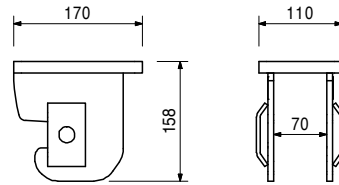
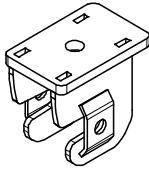
VARIOKIT VGK Cantilevered Parapet Bracket



Item no.	Weight kg
124413	4.390

Suspension Head VGK

To attach the Bracket Post VGK 110/139 to the structure.



124404	17.300
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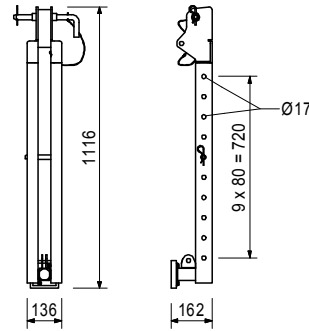
Bracket Post VGK 110

For connection of the Platform Cantilever Beam VGK 170 and formwork with parapet height up to 60 cm.



Complete with

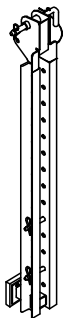
- 1 pc. 118463 Bolt \varnothing 16 x 90, galv.
- 1 pc. 113012 Pin \varnothing 20 x 260, galv.
- 2 pc. 018060 Cotter Pin 4/1, galv.



124427	22.000
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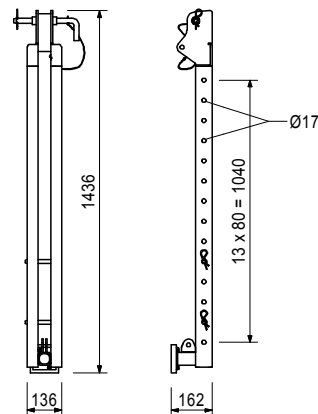
Bracket Post VGK 139

For connection of the Platform Cantilever Beam VGK 170 and formwork with parapet heights from 60 to 100 cm.



Complete with

- 2 pc. 118463 Bolt \varnothing 16 x 90, galv.
- 1 pc. 113012 Pin \varnothing 20 x 260, galv.
- 3 pc. 018060 Cotter Pin 4/1, galv.



VARIOKIT VGK Cantilevered Parapet Bracket



Item no. Weight kg

057087	3.720
057088	4.410

Kickers AV

Kicker AV 82

Kicker AV 111

For aligning PERI formwork systems.

min. L max. L

500	820
790	1110

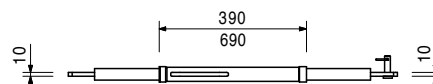
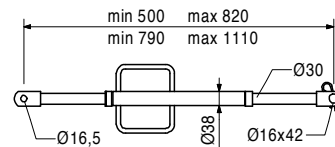
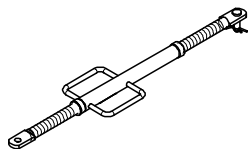
Complete with

1 pc. 027170 Pin Ø 16 x 42, galv.

1 pc. 018060 Cotter Pin 4/1, galv.

Note

Permissible load see PERI Design Tables.



028110 5.180

Kicker AV 140

Extension length l = 1.08 – 1.40 m.

For aligning PERI formwork systems.

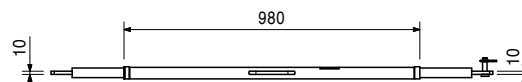
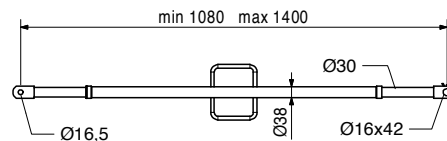
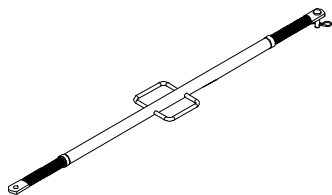
Complete with

1 pc. 027170 Pin Ø 16 x 42, galv.

1 pc. 018060 Cotter Pin 4/1, galv.

Note

Permissible load see PERI Design Tables.



124455 2.930

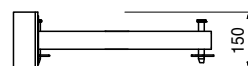
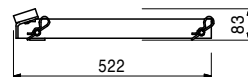
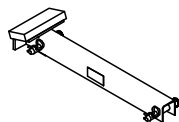
Bracket Cantilever VGK 50

For assembly of the bracket unit with Bracket Post VGK 110/139 and Kicker AV 111/140.

Complete with

2 pc. 118463 Bolt Ø 16 x 90, galv.

2 pc. 018060 Cotter Pin 4/1, galv.



VARIOKIT VGK Cantilevered Parapet Bracket



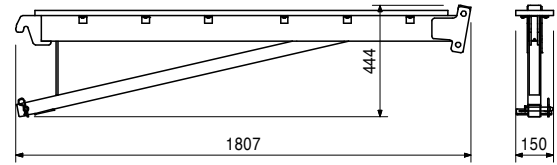
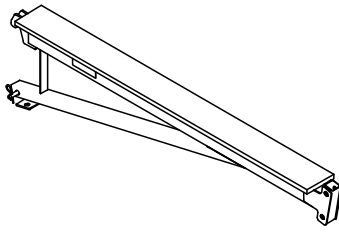
Item no.	Weight kg
124447	21.100

Platform Cantilever Beam VGK 170

For connection to the Bracket Post VGK 110/139 and installation of a fully closed platform planking.

Complete with

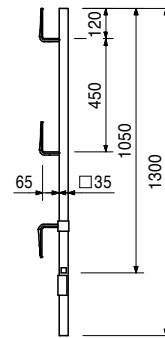
- 1 pc. 118463 Bolt \varnothing 16 x 90, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.



116292	4.730
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Guardrail Post HSGP-2

As guardrail for different systems.



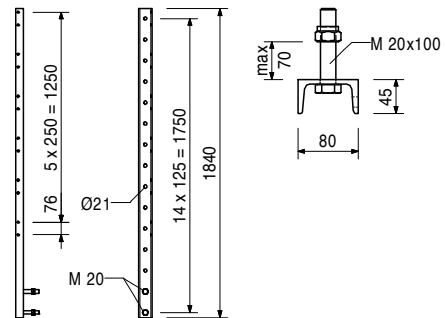
114328	16.600
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Guardrail Post RCS/SRU 184

For assembly of the guardrail on the Platform Beam RCS/SRU or Angle connector RCS/SRU.

Complete with

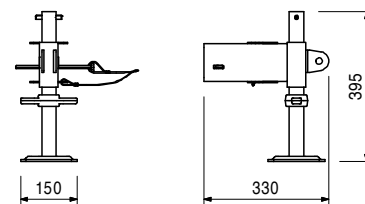
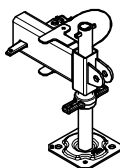
- 2 pc. 114727 Bolt ISO 4017 M20 x 100-8.8, galv.
- 2 pc. 781053 Nut ISO 7042 M20-8, galv.



124394	6.670
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Formwork Fixing VGK 2

For connection of the Formwork Support VGK 100 to the Bracket Post VGK 110/139.



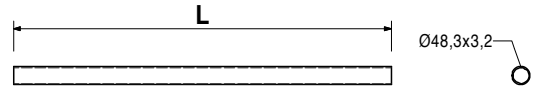
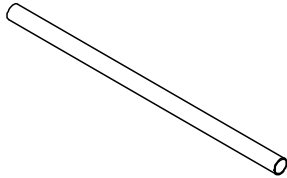
VARIOKIT VGK Cantilevered Parapet Bracket

Item no.	Weight kg		
124438	20.100	Formwork Support VGK 100 For connection of the bottom and lateral formwork.	Complete with 1 pc. 118463 Bolt Ø 16 x 90, galv. 1 pc. 018060 Cotter Pin 4/1, galv.
124371	7.300	Formwork Post VGK 70 For mounting of the lateral formwork.	Complete with 3 pc. 118463 Bolt Ø 16 x 90, galv. 3 pc. 018060 Cotter Pin 4/1, galv.
124360	4.500	Formwork Post Extension VGK 40 For extension of the Formwork Post VGK 70 with parapet height from 60 to 100 cm.	Complete with 2 pc. 118463 Bolt Ø 16 x 90, galv. 2 pc. 018060 Cotter Pin 4/1, galv.
124934	1.550	Brace Connector VGK For bracing due to longitudinal inclination.	Complete with 1 pc. 710222 Bolt ISO 4014 M16 x 80-8.8, galv. 1 pc. 710229 Nut ISO 4032 M16-8, galv.

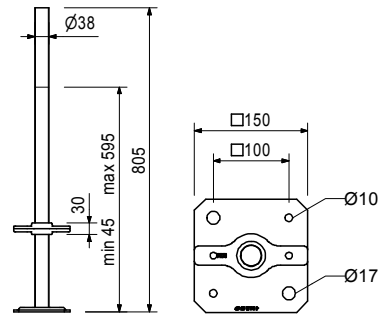
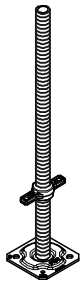
VARIOKIT VGK Cantilevered Parapet Bracket



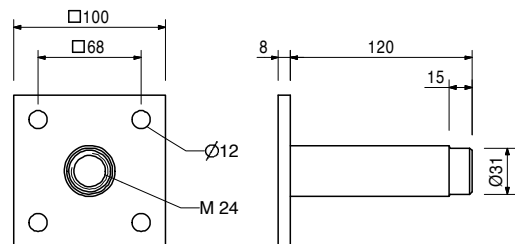
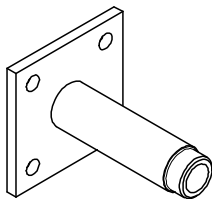
Item no.	Weight kg		L
		Scaffold Tubes Steel Ø 48.3 x 3.2	
026415	3.550	Scaff. Tube Steel Ø 48.3 x 3.2, special length	
026417	0.000	Cutting Cost Scaffold Tube	
026411	3.550	Scaff. Tube Steel Ø 48.3 x 3.2, l = 1.0 m	1000
026412	7.100	Scaff. Tube Steel Ø 48.3 x 3.2, l = 2.0 m	2000
026413	10.650	Scaff. Tube Steel Ø 48.3 x 3.2, l = 3.0 m	3000
026414	14.200	Scaff. Tube Steel Ø 48.3 x 3.2, l = 4.0 m	4000
026419	17.750	Scaff. Tube Steel Ø 48.3 x 3.2, l = 5.0 m	5000
026418	21.600	Scaff. Tube Steel Ø 48.3 x 3.2, l = 6.0 m	6000



100242	4.570	Adj. Base Plate UJB 38-80/55	Note With captive yellow Quick Jack Nut.
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026230	1.010	Anchor Sleeve M24 To anchor platform systems.	Note Separate design information on request.
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Accessories

026240	0.026	Cone PP Ø 31/26, c = 25
026250	0.005	Plug Ø 26 mm
116233	0.116	Cone FRC Ø 32/52, c = 40
026420	0.123	Anchor Positioning Stud M24, galv.
116234	0.033	Plug FRC D = 32
115150	0.200	Anchor Positioning Stud M24 x 65, galv.
123800	0.045	Metric Threaded Cone M24

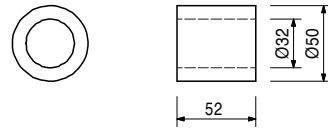
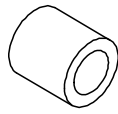
VARIOKIT VGK Cantilevered Parapet Bracket

Item no. Weight kg

116233 0.116

Cone FRC Ø 32/52, c = 40

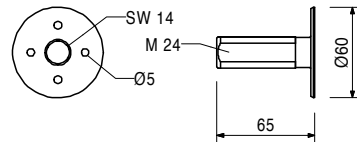
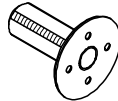
Ensures a concrete cover of 40 mm in conjunction with Anchor Sleeve M24. Made of fibre reinforced concrete.



115150 0.200

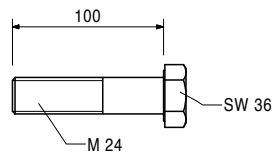
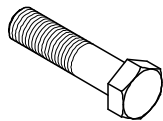
Anchor Positioning Stud M24 x 65, galv.

For fixing the Anchor M24 Sleeve if fixation through formlining is not possible.



124031 0.452

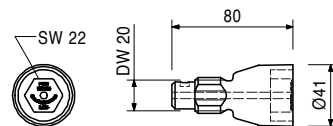
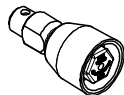
Hex Bolt ISO 4014-M24 x 100-8.8, galv.



123800 0.045

Metric Threaded Cone M24

For pre-fixing of Anchor Sleeve M24 with a concrete cover of 40 mm in bridge cantilevers



Accessories

026230 1.010

Anchor Sleeve M24

123820 0.063

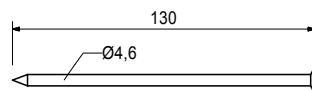
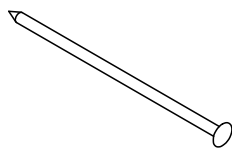
Plug FRC D = 40

129157 0.017

Nail 4.6 x 130

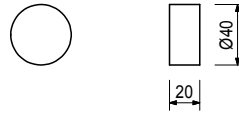
129157 0.017

Nail 4.6 x 130



Item no.	Weight kg
123820	0.063

Plug FRC D = 40
For closing the tie hole when using Threaded Cone M24.

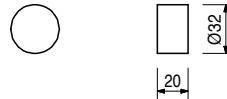


Item no.	Weight kg
031550	1.000

Accessories
Repoal Glue

116234	0.033
--------	-------

Plug FRC D = 32
For closing the Cone FRC Ø 32. Made of fibre reinforced concrete.



Item no.	Weight kg
031550	1.000

Accessories
Repoal Glue

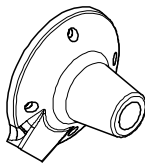
031550	1.000
--------	-------

Repoal Glue
Two-component adhesive for bonding fibre reinforced concrete plugs.
Requirements: 1 kg adhesive for approx. 200 Plugs FZR 32 or 330 Plugs FZR 22.

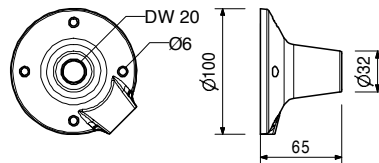
Note
See Safety Data sheet!
Delivery unit 1.0 kg

030860	0.792
--------	-------

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.



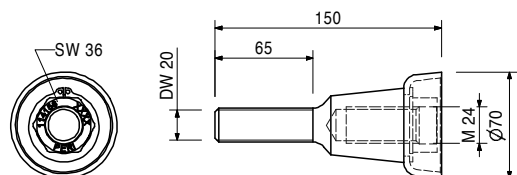
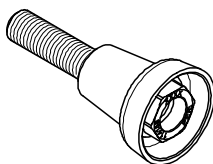
Note
Lost anchor part.



114158	1.030
--------	-------

Screw-On Cone-2 M24/DW 20, galv.
Anchor system M24.
For anchoring climbing systems.

Note
Separate design information on request.



Item no.	Weight kg
030860	0.792

Accessories
Threaded Anchor Plate DW 20

VARIOKIT VGK Cantilevered Parapet Bracket



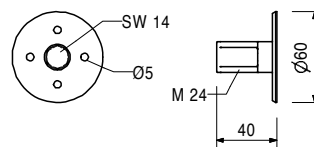
Item no.	Weight kg
026420	0.123

Anchor Positioning Stud M24, galv.

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

Note

Allen Key SW 14.



027212	0.445
710312	0.005

Accessories

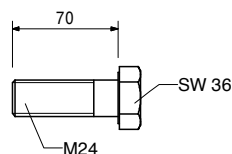
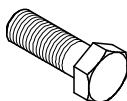
Allen Key SW 14, long

Nail 3 x 80

026430	0.334
--------	-------

Bolt ISO 4014 M24 x 70-10.9, glav.

High-strength bolt for anchoring climbing systems.



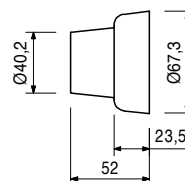
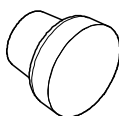
031652	0.247
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KK Concrete Cone M24-67/52

For closing anchor points with Climbing Cone-2, M24/DW 15 and Screw-On Cone-2 M24/DW 20.

Note

Delivery unit 50 pieces.



113127	5.400
--------	-------

Accessories

Glue for Concrete Cones-3, 5,4-kg-Set

113127	5.400
--------	-------

Glue for Concrete Cones-3, 5,4-kg-Set

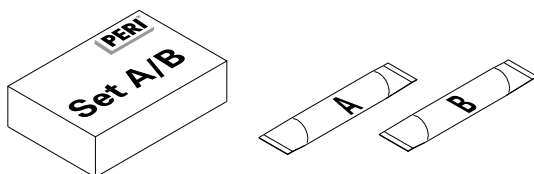
For bonding PERI concrete cones.

Note

See Safety Data sheet!

Consisting of:

6 x Component A, 6 x Component B
2 x Stirring Container, 3 x Stirring Staff



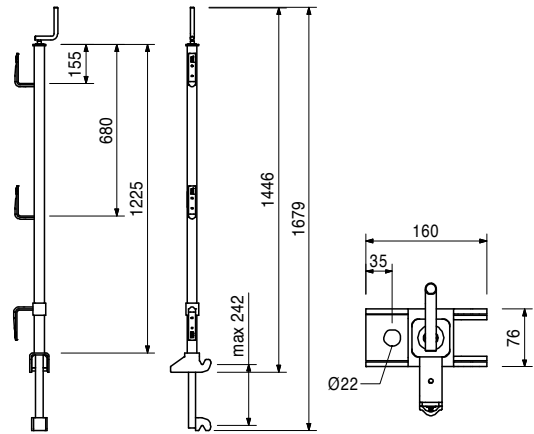
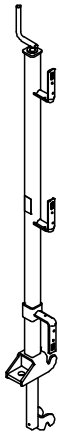
VARIOKIT VGK Cantilevered Parapet Bracket



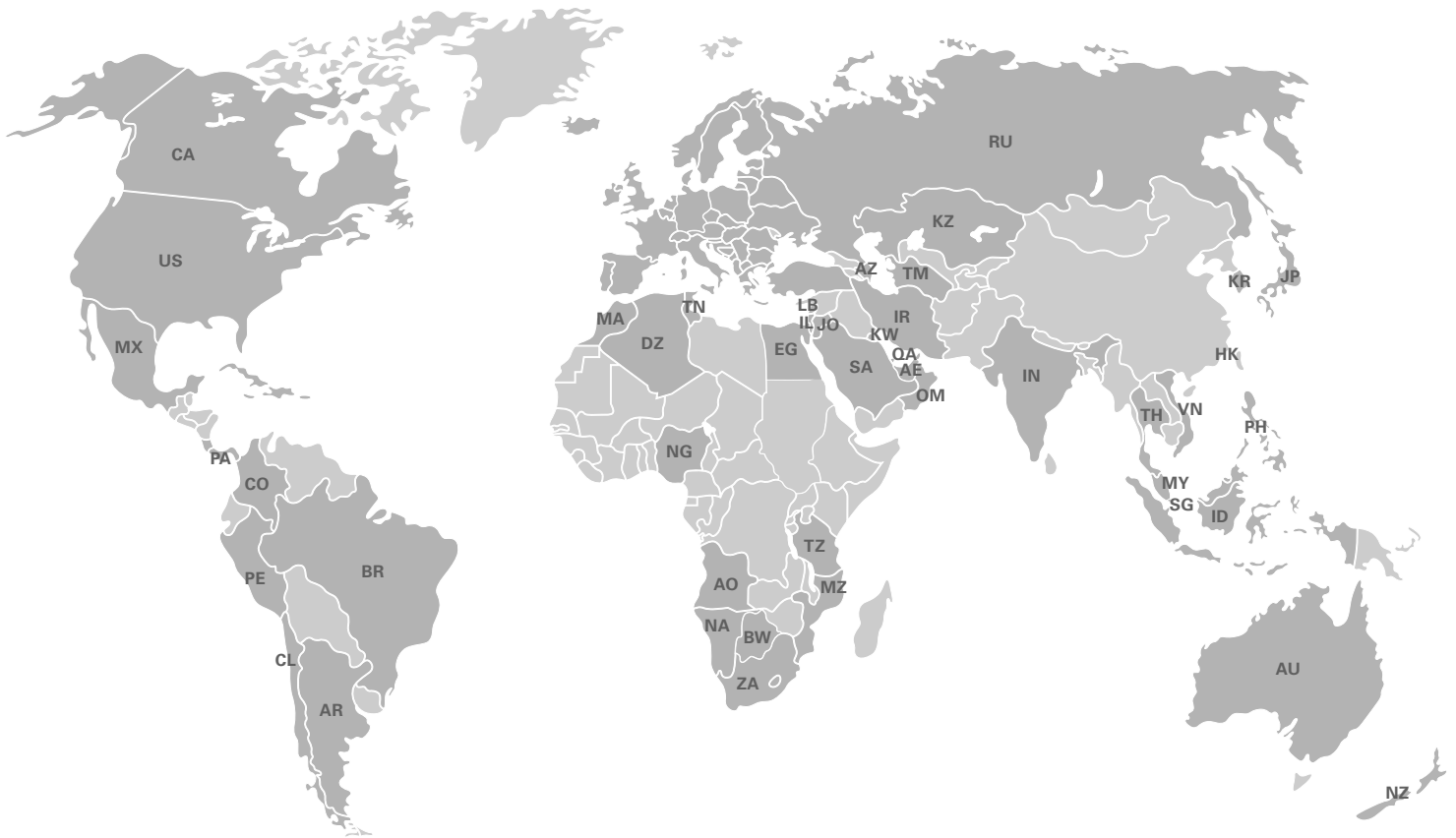
Item no.	Weight kg
114299	9.520

Guardrail Post GKB

For fixing to the reinforcement or to the embedded anchors.



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