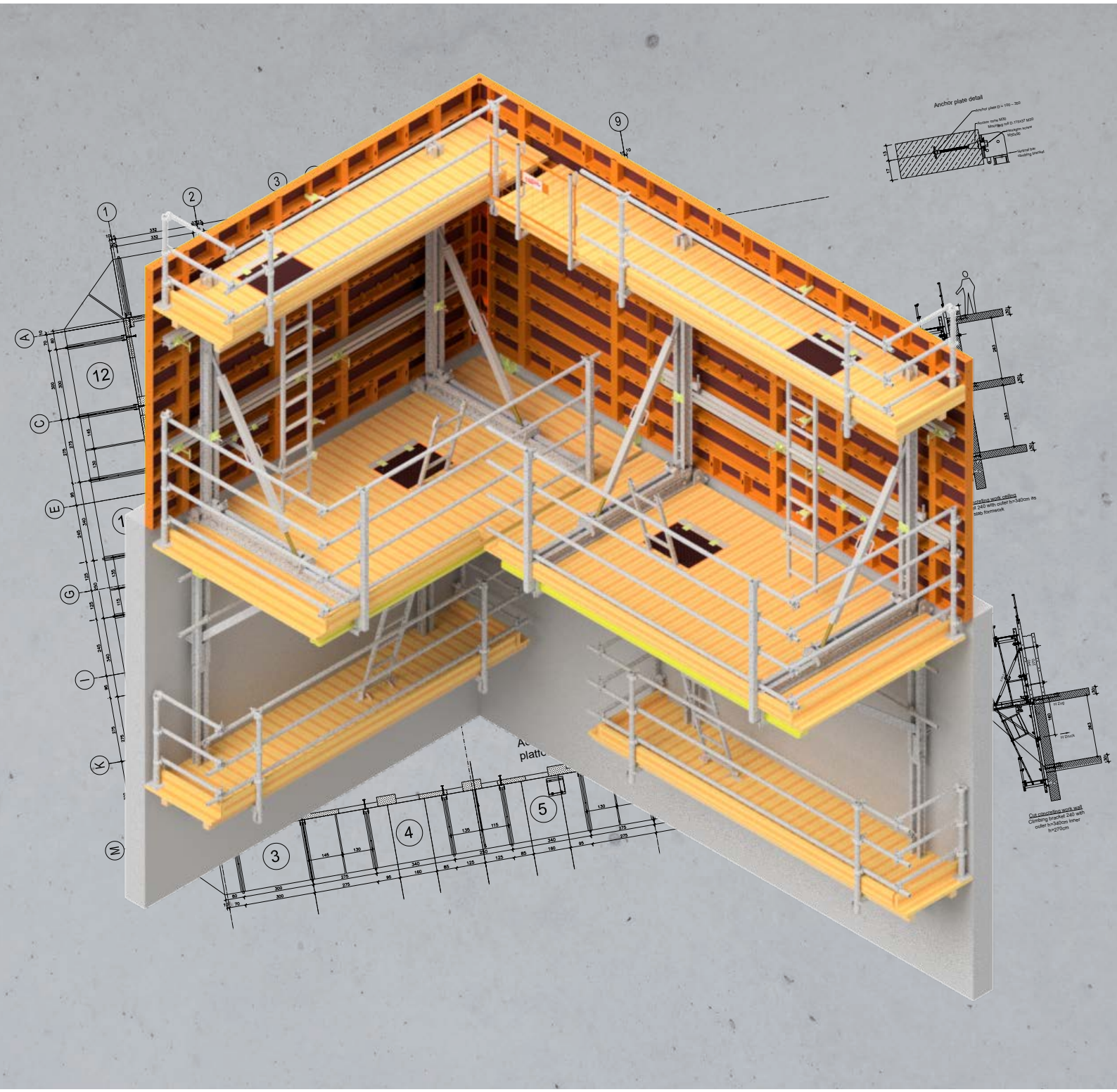
# Climbing system 240

## TECHNICAL INFORMATION

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Edition 01
as of: 01.06.2023
Item Number: N953.002.0223

# GSV guidelines

## Important information regarding the intended use and safe application of formwork and falsework

**The contractor is responsible for drawing up a comprehenrisk assessment and a set of installation instructions.**
**The latter is not usually identical to the assembly instructions.**

- **Rick Assessment**
  The contractor is responsible for the compilation, documentation, implementation and revision of a risk assessment for each construction site. His employees are obliged to implement the measures resulting from this in accordance with all legal requirements.
- **Installation Instructions**
  The contractor is responsible for compiling a written set of installation instructions. The assembly instructions forms part of the basic for the compilation of a set of installation instructions.
- **Assembly Instructions**
  Formwork is technical work equipment which is intended for commercial use only. The intended use must take place exclusively through properly trained personnel and appropriately qualified supervising personnel.
  The assembly instructions are an integral component of the formwork construction. They comprise at least safety guidelines, details on the standard configuration and intended use, as well as the system description. The functional instructions (standard configuration) contained in the assembly instructions are to be complied with as stated. Enhancements, deviations or changes represent a potential risk and therefore require separate verification (with the help of a risk assessment) or a set of installation instructions which comply with the relevant laws, standards and safety regulations. The same applies in those cases where formwork and/or falsework components are provided by the contractor.
- **Availability of the Assembly Instructions**
  The contractor has to ensure that the assembly instructions provided by the manufacturer or formwork supplier are available at the place of use. Site personnel are to be informed of this before assembly and use takes place, and that they are available at all times.
- **Representations**
  The representations shown in the assembly instructions are, in part, situations of assembly and not always complete in terms of safety considerations. The safety installations which havepossibly not been shown in these representations must nevertheless be available.
- **Storage and Transportation**
  The special requirements of the respective formwork constructions regarding transportation procedures as wellas storage must be complied with. By way of example, name the appropriate lifting gear to be used.
- **Material Check**
  Formwork and falsework material deliveries are to be checked on arrival at the construction site/ place of destination as well as before each use to ensure that they are in perfect conditionand function correctly. Changes to the formwork materials are not permitted.
- **Spare Parts and Repairs**
  Only original components may be used as spare parts. Repairs are to be carried out by the manufacturer or authorized repair facilities only.
- **Use of Other Products**
  Combining formwork components from different manufacturers carries certain risks. They are to be individually verified and can result in the compilation of a separate set of assembly instructions required for the installation of the equipment.
- **Safety Symbols**
  Individual safety symbols are to be complied with.
  Examples:

**Safety information:**
non-compliance can lead to damage tomaterials or risk to the health of sitepersonnel (also life).

**Visual check:**
the intended operation is to be carried out through a visual check.

**Note:**
supplementary information for safe, correct and professional execution of work activities.

- **Miscellaneous**

Technical improvements and modifications are subject to change without notice. For the safetyrelated applicationand use of the products, all current country-specific laws, standards as well as other safety regulations are to be complied with without exception. They form a part of the obligations of employers and employees regarding industrial safety. This results in, among other things, the responsibility of the contractor to ensure the stability of the formwork and falsework constructions as well as the structure during all stages of construction. This also includes the basic assembly, dismantling and the transport of the formwork and falsework constructions or their components. The complete construction is to be checked during and after assembly.

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Version: 07.2010

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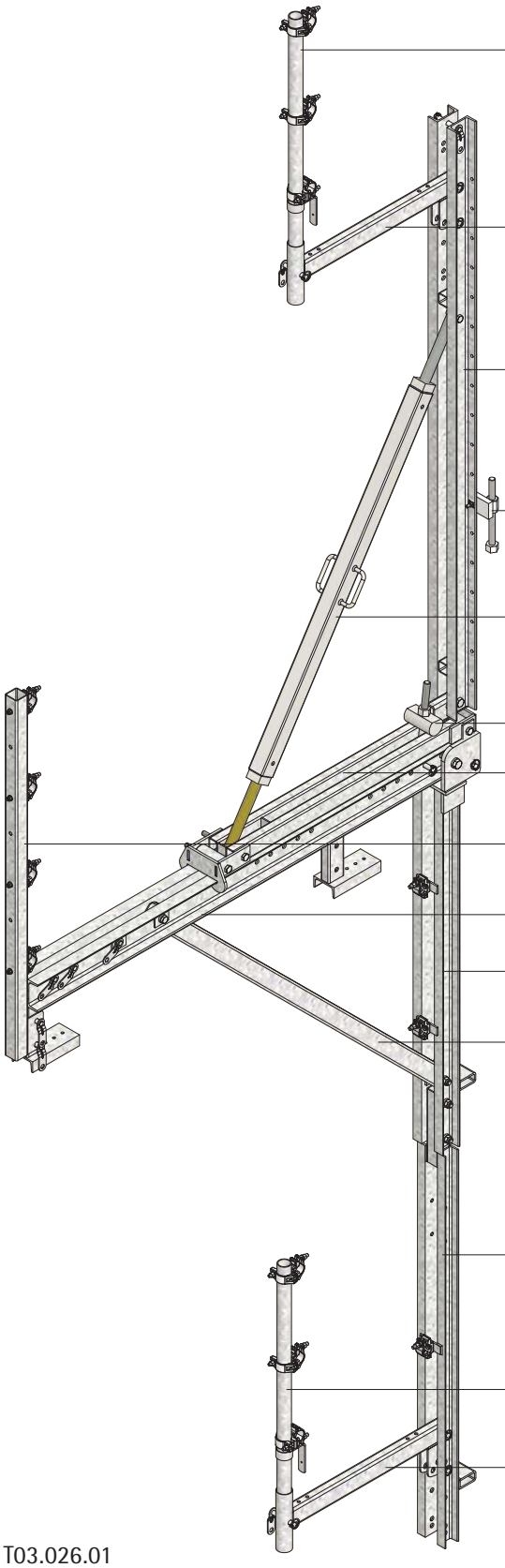
# System components



186.002.0038 Guard railing post 145 cm fitted

186.002.0028 Concreting platform fitted

186.002.0033 Vertical beam 299 cm fitted
186.002.0039 Vertical beam 480 cm fitted

186.002.0027 Height-adjustable spindle fitted

186.002.0034 Tie bar / strut 200-275 cm for climbing bracket

186.002.0036 Formwork carriage climbing bracket fitted

186.002.0025 Formwork carriage climbing bracket fitted

186.002.0029 Handrail post galvanized

186.002.0023 Horizontal bar climbing bracket fitted

186.002.0024 Vertical bar climbing bracket fitted

186.002.0035 Diagonal for climbing bracket rigid

186.002.0031 Vertical bar suspended scaffold for climbing bracket

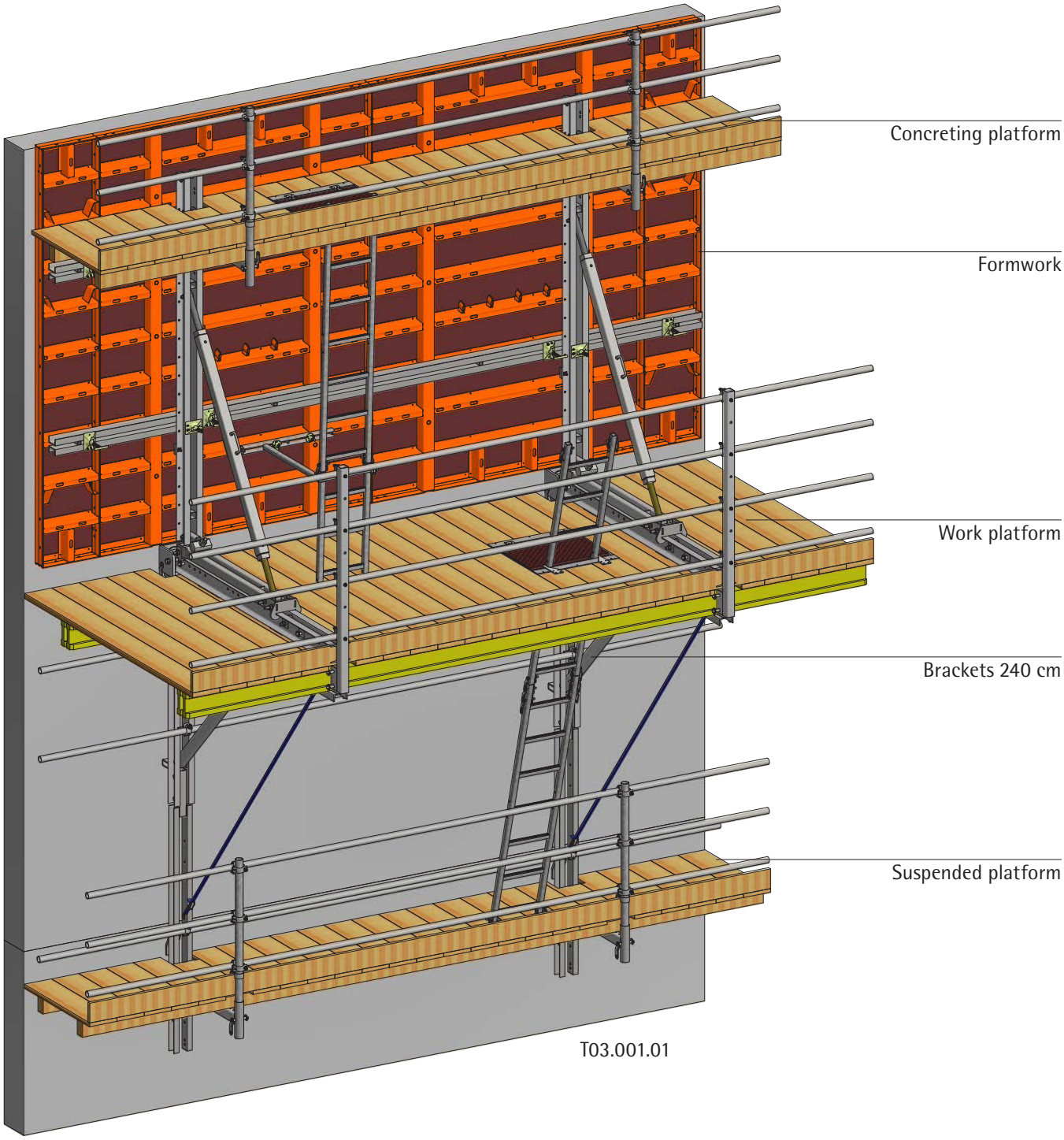
186.002.0038 Guard railing post 145 cm fitted

186.002.0028 Concreting platform fitted

T03.026.01

# System description, technical data

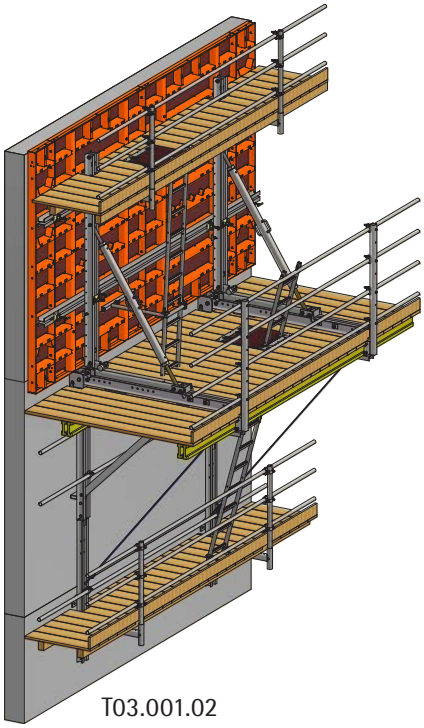
With the climbing system 240 wall formwork systems can also be used as climbing formwork. This is necessary, if structures are to be constructed upwards in multiple cycles. One complete climber unit, consisting of work platform (brackets + board), formwork, concreting platform and suspended platform is realised with only one crane in cycles upwards. As a result, economic work processes are facilitated.



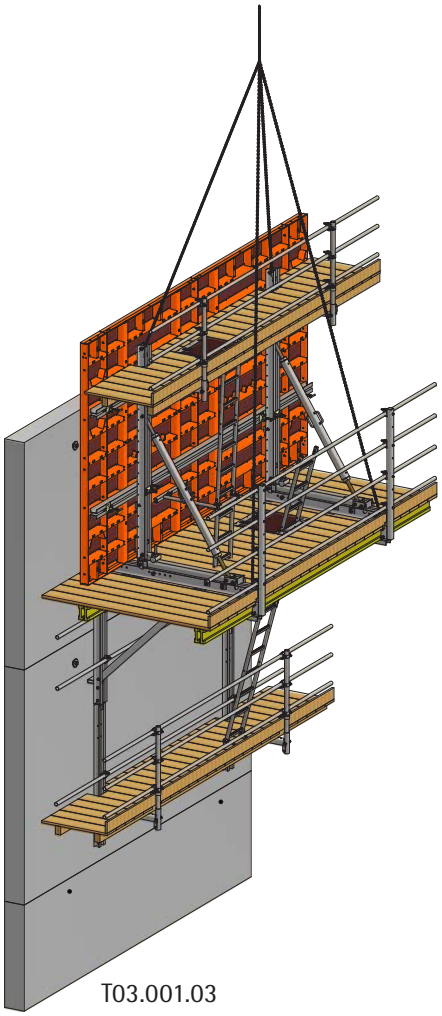

T03.001.01

# System description, technical data

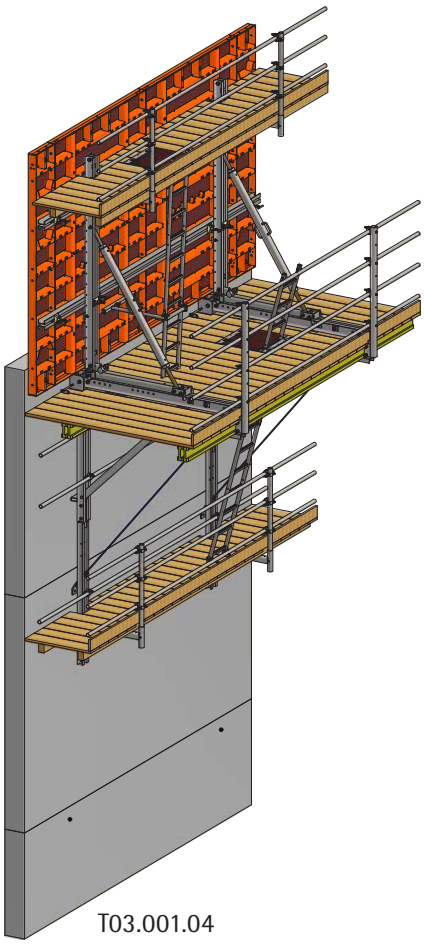
- The climbing system 240 and its anchoring form the support system for formwork and platforms when used as climbing formwork.
- As a result of the modular structure, for storage or transport all system parts can be stacked as single parts in order to save space.
- For use on the construction site as a climbing platform, two climbing brackets 240 cm are typically built together with a board as the work platform. The formwork is then assembled on it. A concreting platform is required above the work platform for supplying and compressing the concrete, the suspended platform below is used to dismantle the anchors from the previous concrete section.
- The lengths of the individual platforms are determined corresponding to the geometry of the structure and the loads to be supported.
- An adjustment up to +/- 15° is possible for inclined walls.
- The standard platform offers working space of 2.40 m between the formwork and the lateral protection. When the formwork is removed, 70 cm of space remains for installing reinforcement or cut-out boxes.
- The permitted load is 3.0 kN/m² for the work platform in the area between the formwork and the lateral protection and 4.5 kN/m² between the formwork and the building edge. 1.5 kN/m² is permitted for the concreting platform, 1.0 kN/m² for the suspended platform.
- The climbing system 240 technical information contains all the necessary details for the standard assembly. Uses other than these application cases require consultation with the application engineering department at the manufacturer and, if applicable, also a separate structural survey.
- For the safety-relevant application and use of the PASCHAL products, the laws, standards and provisions for works safety and other safety provisions at the respective place of use must be followed.
- The drawings shown in the following technical information represent some of the assembly states and therefore are not always completed in terms of safety.



T03.001.02

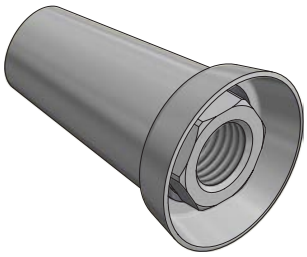
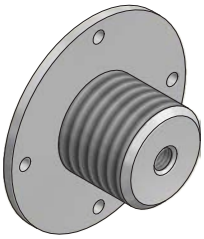
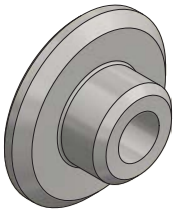
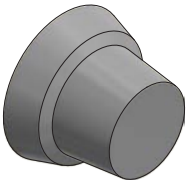


T03.001.03

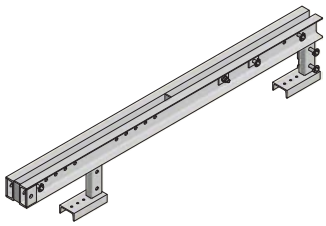
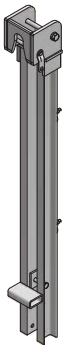
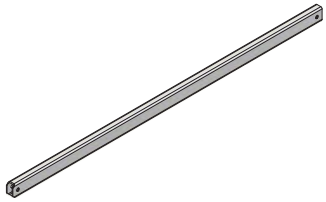
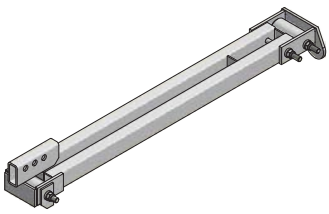


T03.001.04

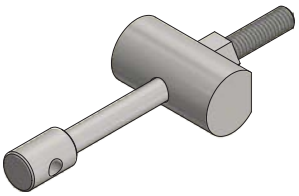
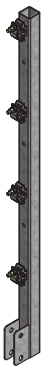
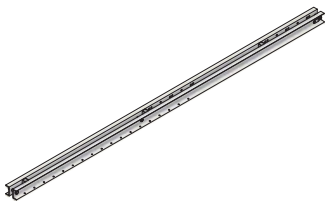
# Anchors

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.000.0050 | Anchor cone M30/DW15x105 | 1.00 |
|  | 186.000.0059 | Anchor plate D=100-100 | 0.79 |
| | 186.000.0060 | Anchor plate D=100-150 | 0.86 |
| | 186.000.0061 | Anchor plate D=100-200 | 0.93 |
| | 186.000.0062 | Anchor plate D=100-250 | 1.00 |
| | 186.000.0063 | Anchor plate D=100-300 | 1.07 |
| | 186.000.0064 | Anchor plate D=100-350 | 1.14 |
| | 186.000.0065 | Anchor plate D=100-400 | 1.21 |
| | 186.000.0066 | Anchor plate D=100-450 | 1.29 |
|  | 930.007.0042 | Sealing ring D.21x14.5x3 EPDM | 0.01 |
|  | 186.000.0051 | Nail plate M30 galvanized with thread M8 | 0.20 |
|  | 186.002.0007 | Mounting roll D.115x45 M30 galvanized | 1.50 |
|  | 189.018.0054 | FB Sealing cone for concrete cone M30/DW15 | 0.15 |

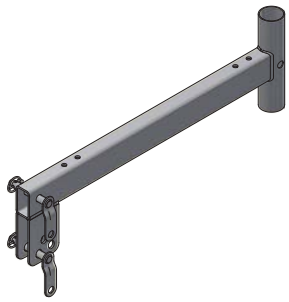
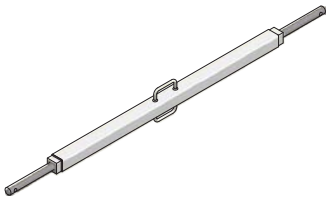
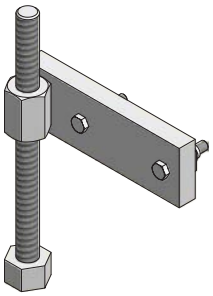
# Bracket

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0023 | Horizontal bar Climbing bracket fitted<br>incl.<br>1 pcs hexagon screw M20x120<br>1 pcs hexagon nut M20 self-.<br>1 pcs washer A22 DIN7989<br>5 pcs security bolts D.20x135<br>5 pcs clap pin 4.5x39.5 mm | 95.00 |
|  | 186.002.0024 | Vertical bar Climbing bracket fitted<br>incl.<br>1 pcs hexagon screw M20x120<br>1 pcs hexagon nut M20 self-.<br>1 pcs washer A22 DIN7989<br>1 pcs security bolts D.20x250<br>1 pcs clap pin 4.5x39.5 mm<br>1 pcs hexagon screw M24x265<br>1 pcs hexagon nut M24 self-.<br>2 pcs washer A26 DIN7989 | 68.33 |
|  | 186.002.0035 | Diagonals for climbing bracket rigid | 23.60 |
|  | 186.002.0025 | Trolley bar Climbing bracket fitted<br>incl.<br>2 pcs roller D80x148<br>3 pcs hexagon screw M20x240<br>3 pcs hexagon nut M20 DIN985<br>3 pcs washer A22 DIN7989<br>1 pcs fastening trolley left<br>1 pcs fastening trolley right | 49.60 |

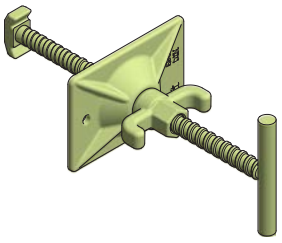
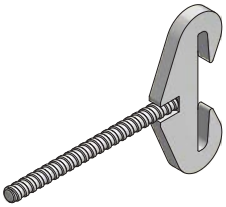
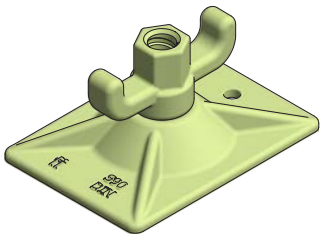
# Bracket

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0036 | Trolley fastening Climbing bracket fitted<br>incl.<br>1 pcs connection screw TR28x5x420<br>1 pcs hexagonal nut TR28x5x30 SW46<br>1 pcs bearing for carriage fastening | 7.90 |
|  | 186.002.0029 | Handrail post galvanized | 16.40 |
|  | 186.002.0033 | Vertical beam 299 cm fitted<br>incl.<br>1 pcs hexagon screw M24x110<br>1 pcs hexagon nut M24 DIN985<br>1 pcs washer A26 DIN7989<br>1 pcs hexagon screw M20x110<br>1 pcs hexagon nut M20 DIN985<br>1 pcs washer A22 DIN7989<br>1 pcs security bolt D.20x135 galvanized<br>1 pcs clap pin 4.5x39.5 mm | 81.60 |
|  | 186.002.0039 | Vertical beam 480 cm fitted<br>incl.<br>1 pcs hexagon screw M24x110<br>1 pcs hexagon nut M24 DIN985<br>1 pcs washer A26 DIN7989<br>1 pcs hexagon screw M20x110<br>1 pcs hexagon nut M20 DIN985<br>1 pcs washer A22 DIN7989<br>1 pcs security bolt D.20x135 galvanized<br>1 pcs clap pin 4.5x39.5 mm | 130.00 |

# Bracket

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0028 | Concreting platform fitted<br>incl.<br>2 pcs security bolt D.20x135 galvanized<br>2 pcs clap pin 4.5x39.5 mm | 13.80 |
|  | 186.002.0034 | Tie bar strut 200-275 cm for climbing bracket | 36.20 |
|  | 186.002.0027 | Height-adjustment fitted<br>incl.<br>2 pcs hexagon nut M12 DIN985<br>2 pcs washer 14 DIN434 | 6.40 |

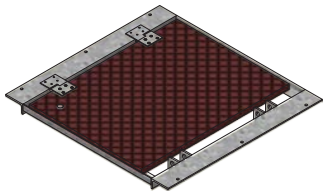
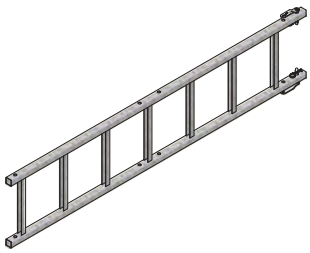
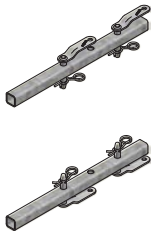
# Assembly Formwork

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 189.001.0132 | Double channel waler 100x2950 opening width 30mm | 63.00 |
| | 189.001.0133 | Double channel waler 100x3950 opening width 30mm | 84.00 |
| | 189.001.0134 | Double channel waler 100x4950 opening width 30mm | 105.00 |
| | 189.001.0135 | Double channel waler 100x2450 opening width 30mm | 52.50 |
|  | 187.500.0021 | Waler support DW15 waling length 6-20cm L/N/A | 1.95 |
|  | 186.002.0032 | Fastening for double U100 galvanized | 1.30 |
|  | 189.001.0059 | Plate with ball-and-socket joint DW15 10x14cm inclination max. 12° | 1.29 |

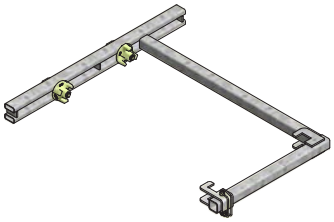
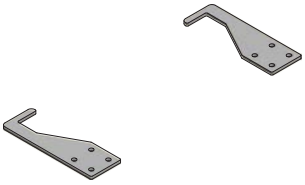
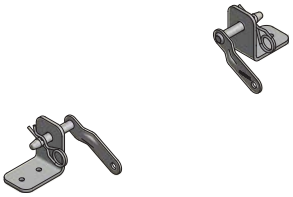
# Suspended scaffold

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0031 | Vertical bar suspended scaffold assembled for climbing bracket<br>incl.<br>2 pcs hexagon screw M20x120<br>2 pcs hexagon nut M20 DIN985<br>2 pcs washer A22 DIN7989 | 41.80 |
|  | 186.002.0041 | Vertical bar suspended scaffold 250 cm assembled for climbing bracket<br>incl.<br>2 pcs hexagon screw M20x120<br>2 pcs hexagon nut M20 DIN985<br>2 pcs washer A22 DIN7989 | 50.80 |
|  | 652.021.3000 | Tube D.48,3x3,25x3000 EN39 galvanized | 10.80 |
| | 652.021.3500 | Tube D.48,3x3,2x3500 EN39 galvanized | 12.60 |
| | 652.021.4000 | Tube D.48,3x3,2x4000 EN39 galvanized | 14.40 |
| | 652.021.4500 | Tube D.48,3x3,2x4500 EN39 galvanized | 16.20 |
| | 652.021.5000 | Tube D.48,3x3,2x5000 EN39 galvanized | 18.00 |
|  | 938.000.0046 | Sign, No access for unauthorised persons prohibited | 0.20 |

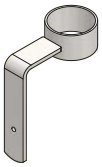
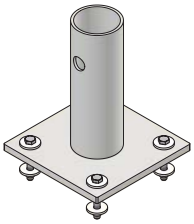
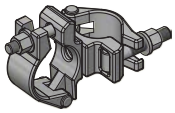
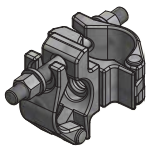
# Works safety

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 286.000.0012 | Trap 60x62cm for climbers, KBK, lifting platform | 19.00 |
|  | 189.004.0043 | Steel ladder 40/220cm cpl.<br>incl.<br>2 pcs. security bolt 100 cpl. | 12.00 |
|  | 189.004.0044 | Under-floor ladder 40/95cm cpl.<br>incl.<br>2 pcs. security bolt 100 cpl. | 7.00 |
| | 189.004.0045 | Under-floor ladder 40/63cm cpl.<br>incl.<br>2 pcs. security bolt 100 cpl. | 5.00 |
|  | 189.004.0046 | Connection ladder 40/220cm cpl.<br>incl.<br>4 pcs. security bolt 100 cpl. | 3.80 |

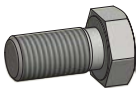
# Works safety

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 187.500.0111 | Ladder fastening steel ladder climbers fitted for L/N/A<br>incl.<br>1 pcs ladder fastening removable for steel ladder<br>1 pcs form clip 60x60 / 17x75<br>2 pcs hook headed bolt DW15x100/ 65<br>2 pcs wing nut DW15 35mm high<br>2 pcs washer B21 DIN125 | 9.70 |
|  | 189.004.0083 | Ladder bracket top cpl. | 1.00 |
|  | 189.004.0085 | Ladder support bottom cpl.<br>incl.<br>2 pcs. security bolt 100 cpl. | 1.50 |
|  | 189.004.0047 | Guard railing post 97 cm cpl. for steel ladder 40/220cm<br>incl.<br>2 pcs hexagon screw M16x60<br>2 pcs. hexagon nut M16 DIN 985 | 9.00 |
|  | 189.004.0049 | Climbing installation Guard railing post cpl.<br>incl.<br>2 pcs hexagon screw M16x80<br>2 pcs washer B17 DIN125<br>2 pcs hexagon nut M16 DIN985 | 4.00 |

# Works safety

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0017 | Guard railing post 200 cm fitted for SPK270<br>incl.<br>4 pcs. Crossover rotating joint D. 48/60<br>1 pcs security bolt D. 20x135 galvanized<br>1 pcs clap pin 4.5x39.5 mm | 16.90 |
|  | 186.002.0038 | Guard railing post 145 cm fitted<br>incl.<br>3 pcs. Crossover rotating joint D. 48/60<br>1 pcs security bolt D. 20x135 galvanized<br>1 pcs clap pin 4.5x39.5 mm | 12.60 |
|  | 186.002.0046 | Toe board holder guard railing post | 0.55 |
|  | 186.002.0045 | Support Guard railing post cpl.<br>incl.<br>4 pcs hexagon screw M8x60<br>4 pcs hexagon nut M8 DIN985<br>8 pcs washer R9 DIN440 galvanized | 3.90 |
|  | 930.002.0011 | Crossover rotating joint D.60/48 SW 22 hot-dip galvanized | 1.36 |
|  | 930.002.0002 | Normal coupling D.48 SW 19 hot-dip galvanized | 0.55 |

# Wind drift safety device

| | Article no. | Item Description | Weight [kg] |
|---|---|---|---|
|  | 186.002.0037 | Fastening anchoring | 1.80 |
|  | 186.000.0052 | Special key SW41/46 galvanized | 1.50 |
|  | 940.100.0107 | Lashing strap 5.0m with ratchet and carabiner<br>admissible capacity 25kN | 3.00 |
|  | 900.933.1701 | Hexagon screw M30x60 DIN933 8.8 | 0.59 |
| | 900.933.1702 | Hexagon screw M30x70 DIN933 8.8 | 0.65 |
| | 930.933.1704 | Hexagon screw M30x90 DIN933 8.8 | 0.76 |
|  | 282.000.0209 | Implementation transverse trapezopid beam<br>Admissible capacity 7000 kg | 130.00 |

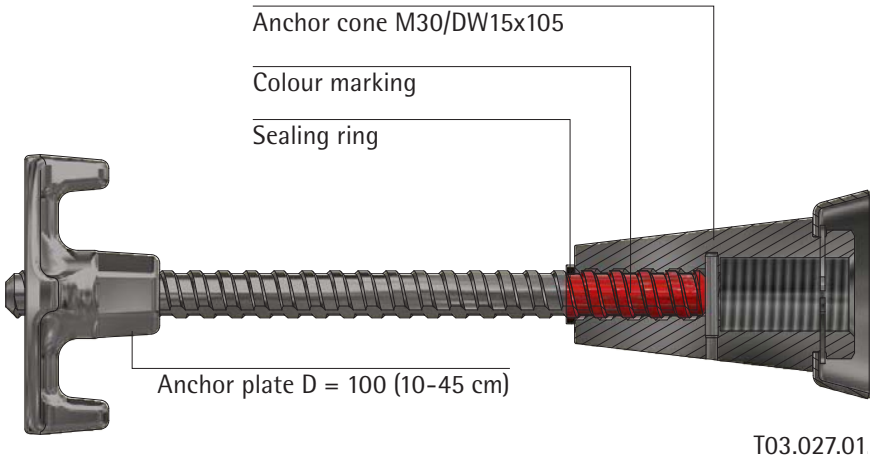
# Installation of the anchor

So that the climbing formwork can be fastened to or suspended on the erected structure, anchors (climbing cone M30/DW15) have to be concreted into the previous concreting cycle. Detailed provisions about the points:

- Anchor type, single parts
- Pre-assembly on the formwork
- Edge distances, permitted distances
- Approved loads

are stated in the technical information Climbing cone M30/DW15.

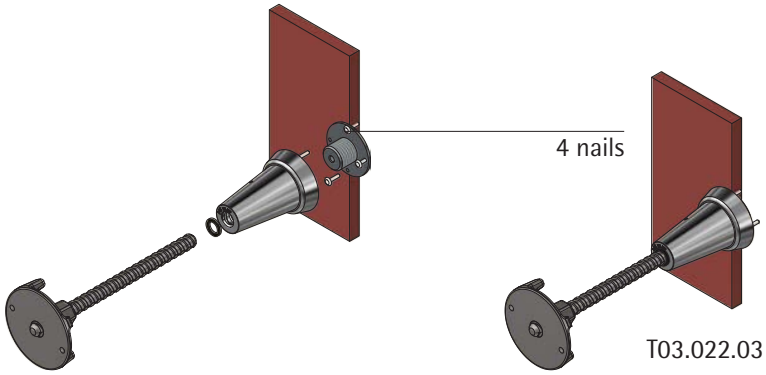
Approval number: Z-21.6.2042




T03.027.01

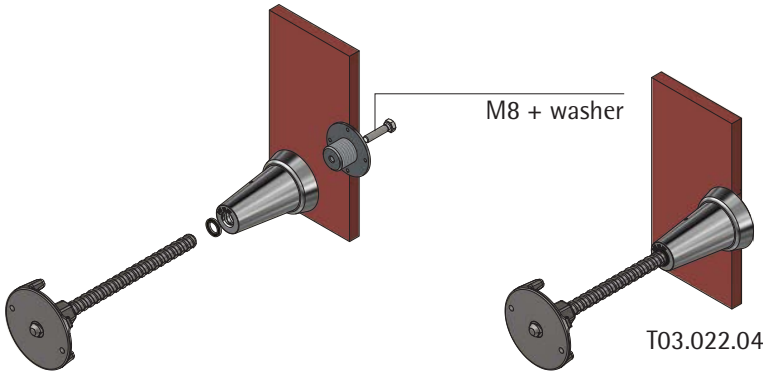
Anchoring fastening using nail plate.

- Nailed to the plywood.



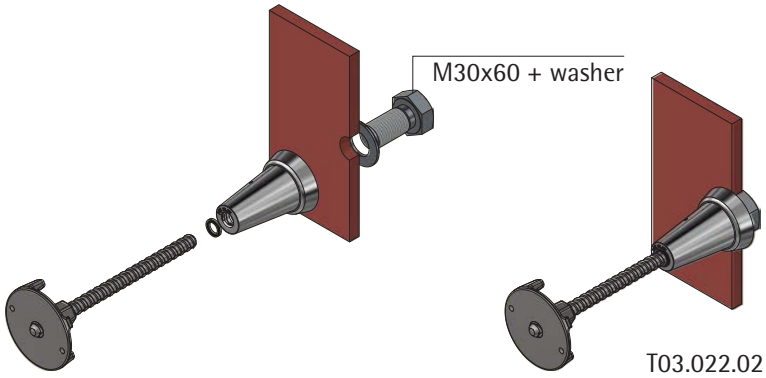

T03.022.03

- Screwed through the plywood.



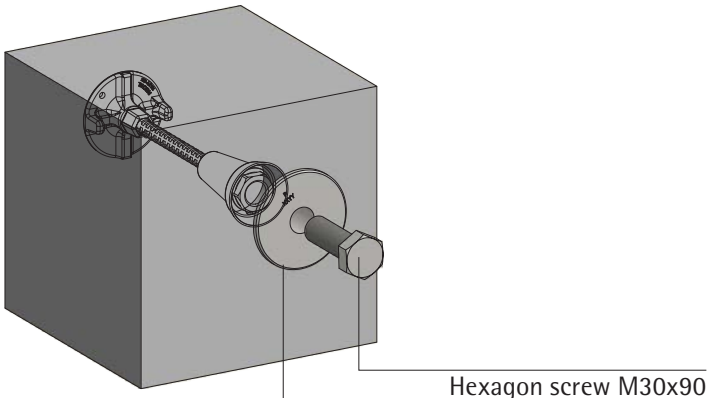

T03.022.04

- Anchoring fastening directly through the plywood.




T03.022.02

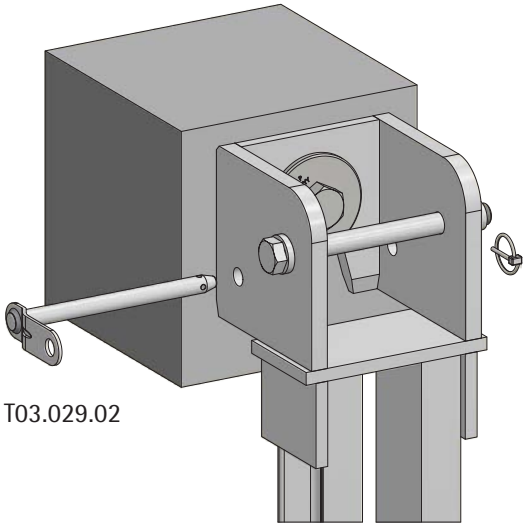
# Installation of the anchor




T03.029.01

The mounting roll is screwed to the anchor.

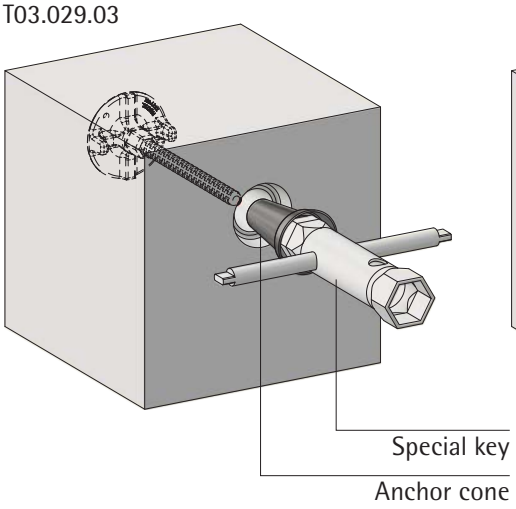
Required torque = 100 Nm



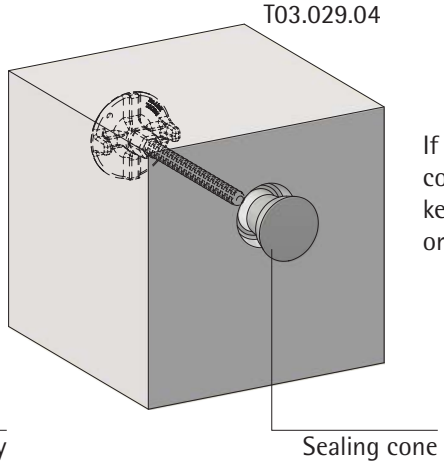
T03.029.02

The bracket is suspended in the mounting roll after the pre-assembly and secured (page 22 et seq.).

T03.029.03




T03.029.04

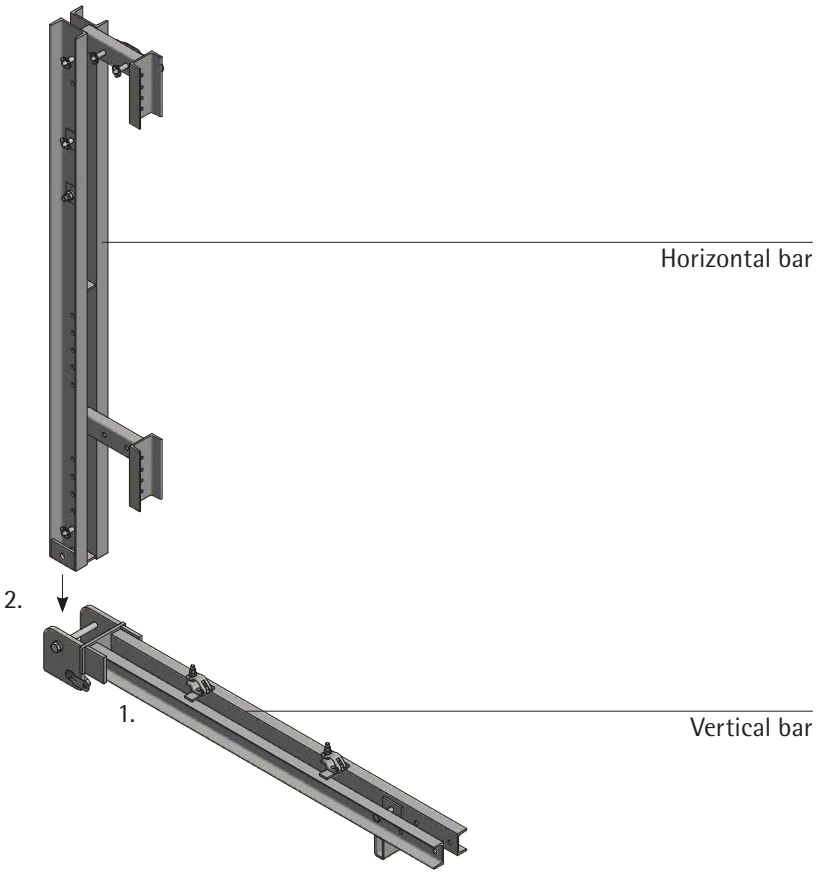



If the anchor is no longer needed, the cone can be unscrewed with the special key. The sealing cone is inserted in order to close the remaining opening.

# Assembly Climbing bracket

1. Place vertical bar on a flat base.

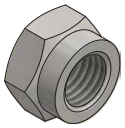
2. Thread in the horizontal bar from above.




T03.002.01

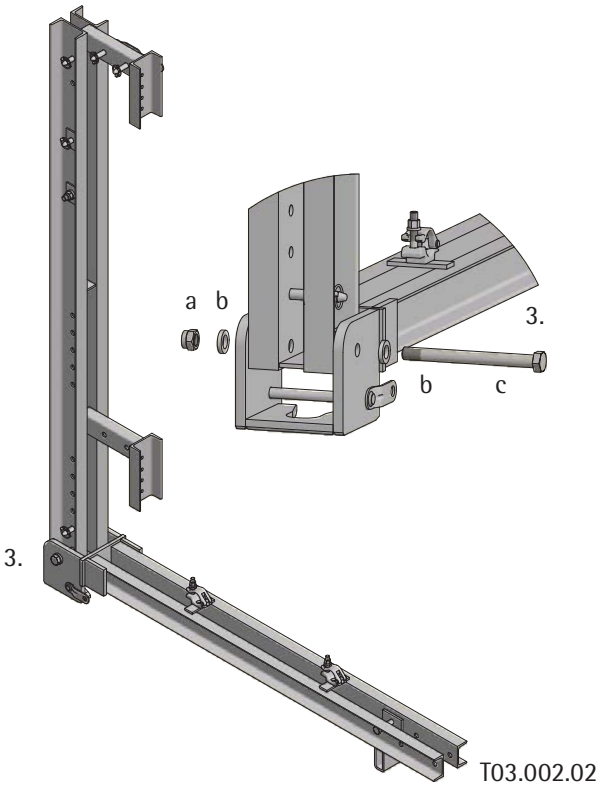
3. Establish connection with nut a, washer b and screw c.

Hexagon nut M24 DIN985
Art. No.: 900.985.0024
a



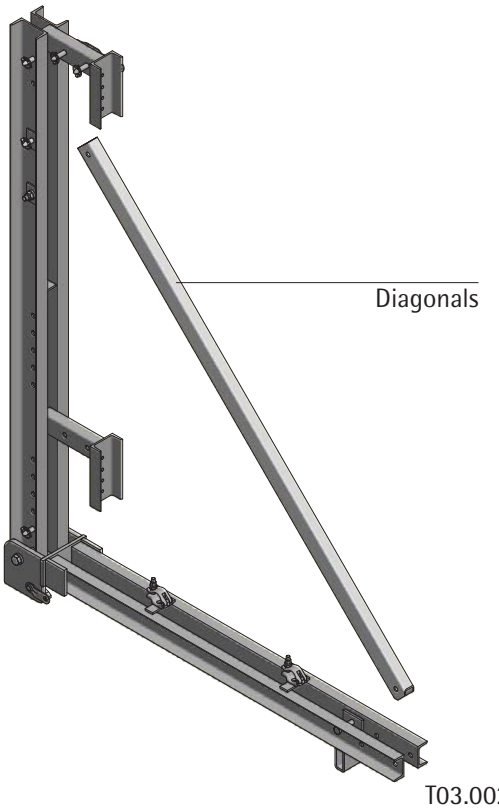
Washer A26 DIN7989
Art. No.: 907.989.0020
b

Hexagon screw M24x265 DIN931
Art. No.: 186.002.0084
c




T03.002.02

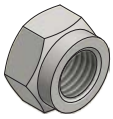
# Assembly Climbing bracket




T03.002.03

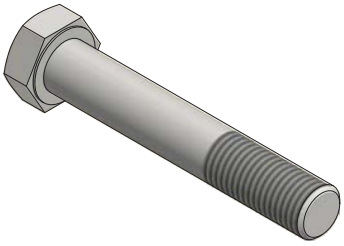
4. Screw diagonals with nut d, washer e and screw f to the vertical bar and horizontal bar.

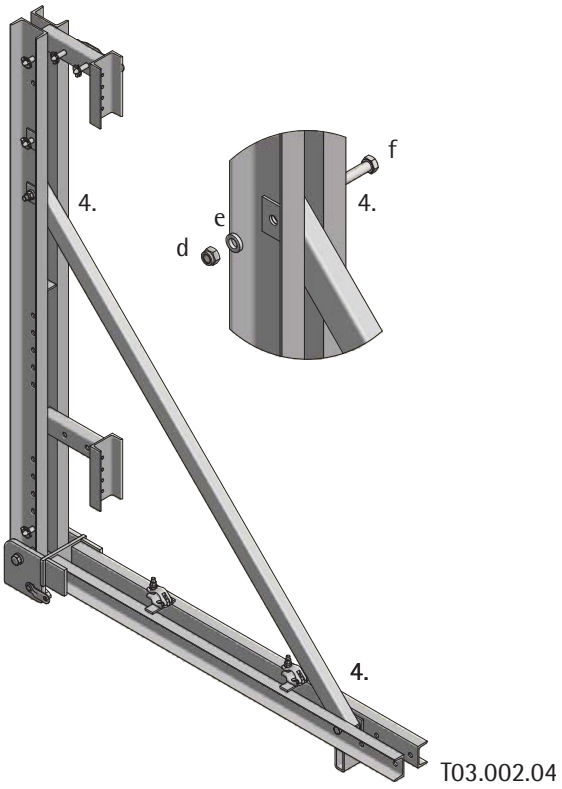
Hexagon nut M20 DIN985
Art. No.: 900.985.0020
d



Washer A22 DIN7989
Art. No.: 907.989.0015
e

Hexagon screw M24x120 DIN931
Art. No.: 900.931.0408
f






T03.002.04

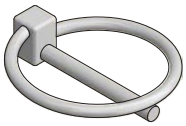
**Note:**
For angled walls, use the tie bars and struts, Art. no. 186.002.0034, instead of the diagonals (page 52)

# Assembly Climbing bracket

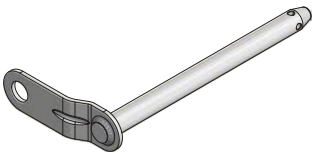
The pre-assembled brackets are secured in anchors that were inserted into the concrete section in advance (see technical information, climbing cone M30/DW15).
The anchor and bracket distances are specified in the formwork plan.

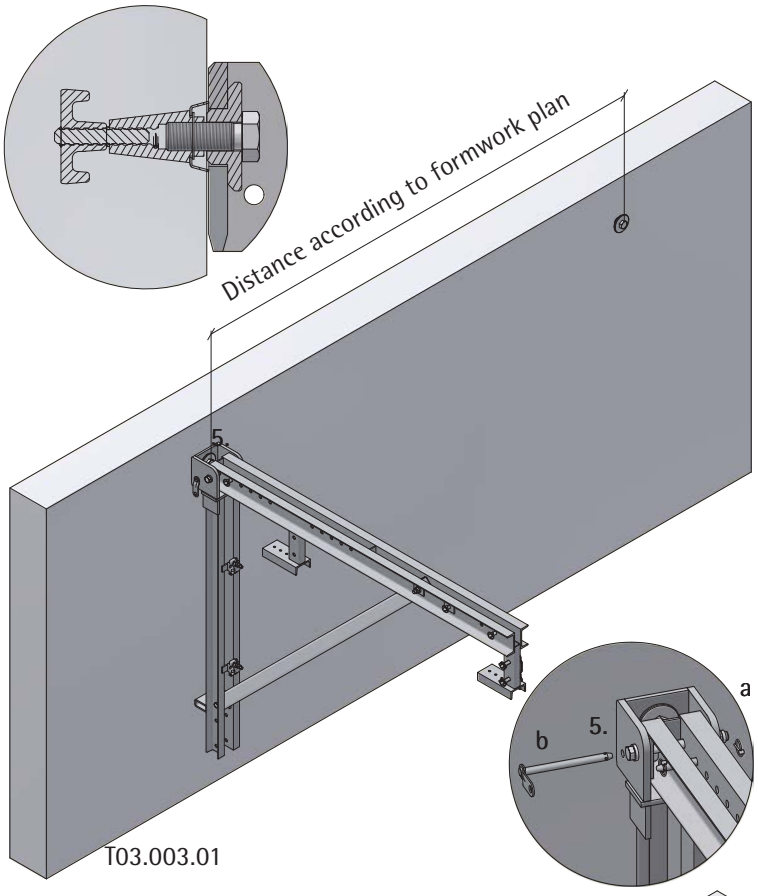
5. Suspend brackets and secure with the security bolt b and clap pin a.

Clap pin 4.5x39.5 mm
Art. No.: 930.007.0008
a



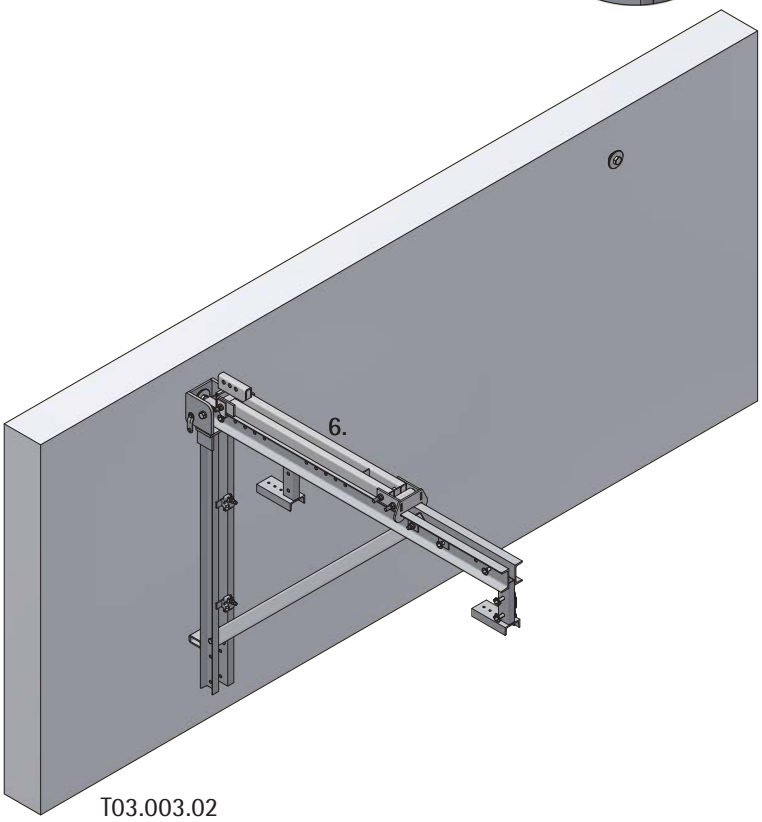
Security bolt D.20x250
Art. No.: 186.002.0005
b





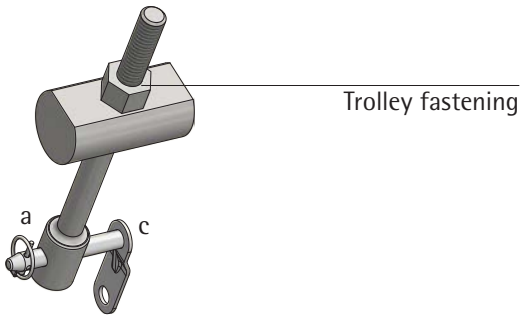

T03.003.01

6. Slide trolleys over the horizontal bar.



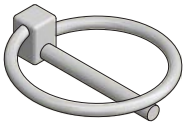

T03.003.02

# Assembly Climbing bracket

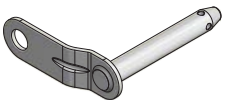


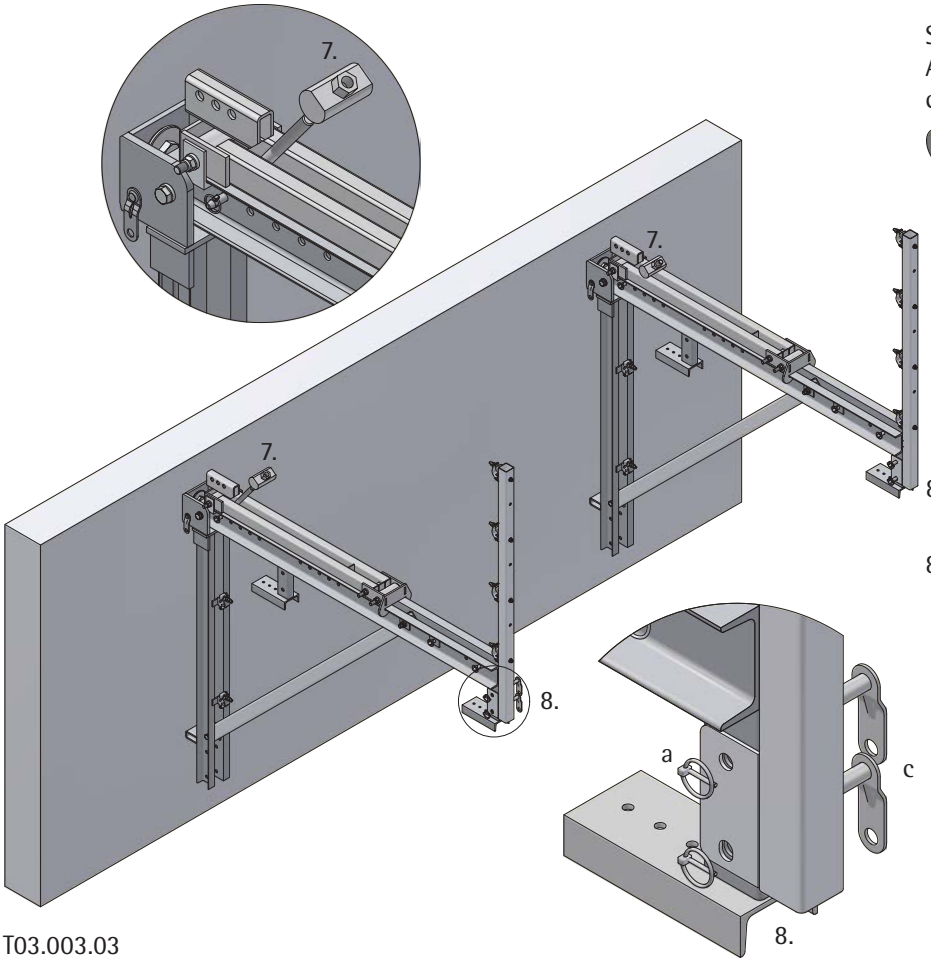

7. Fit trolley fastening to the trolley with the security bolt c and clap pin a

Clap pin 4.5x39.5 mm
Art. No.: 930.007.0008
a



Security bolt D.20x135
Art. No.: 670.000.1795
c



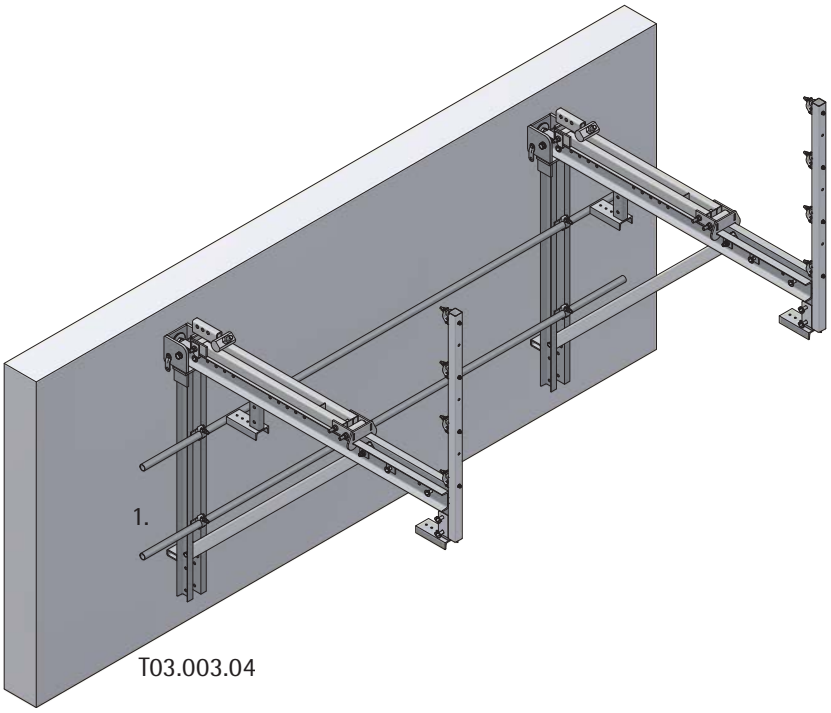



T03.003.03

8. Secure handrail post twice with security bolt c and clap pin a to the horizontal bar.

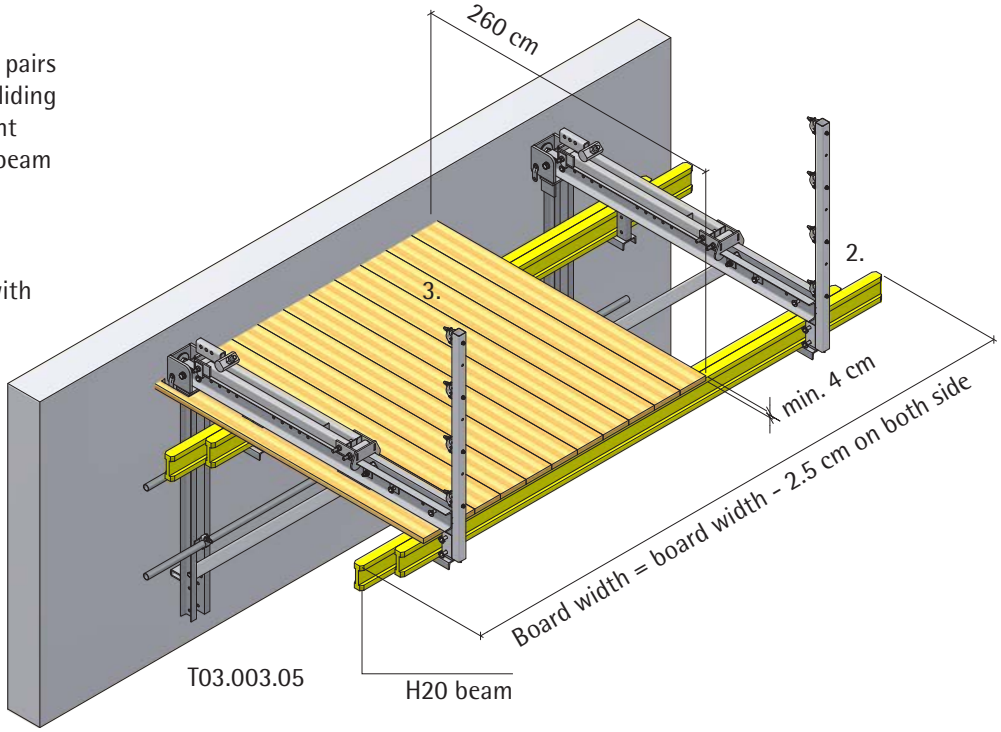
# Assembly work platform

1. Fit two scaffold tubes D. 48.3 mm corresponding to the platform width in the tube connections of the vertical bar.

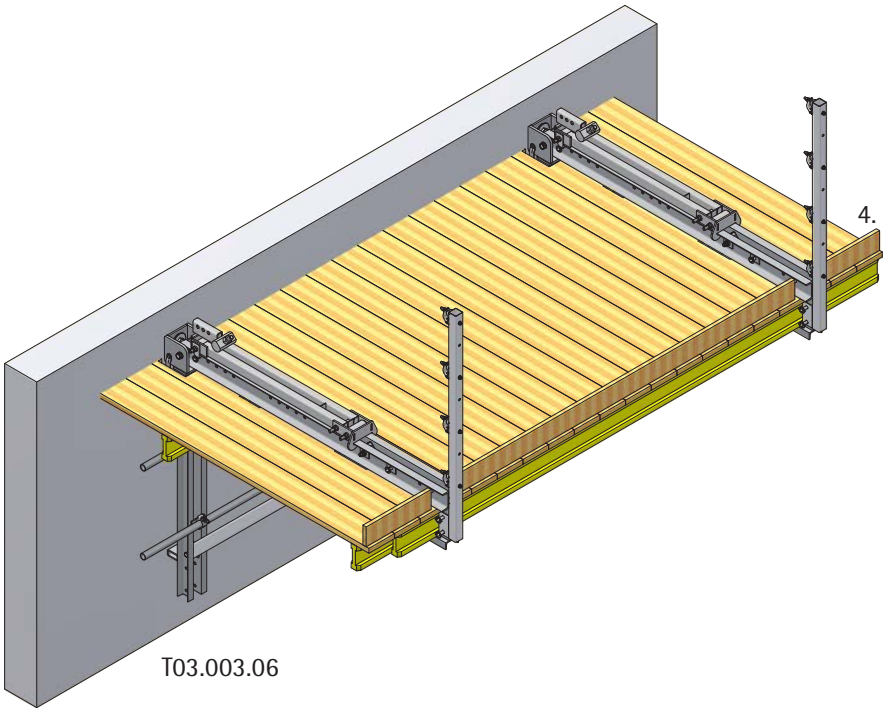



2. Positioning of H20 beams in pairs on the horizontal bars and sliding of the H20 beams to the right platform width. Screw H20 beam to the horizontal bars

3. Completely cover the area with boards and nail or screw the boards to the H20 beams.

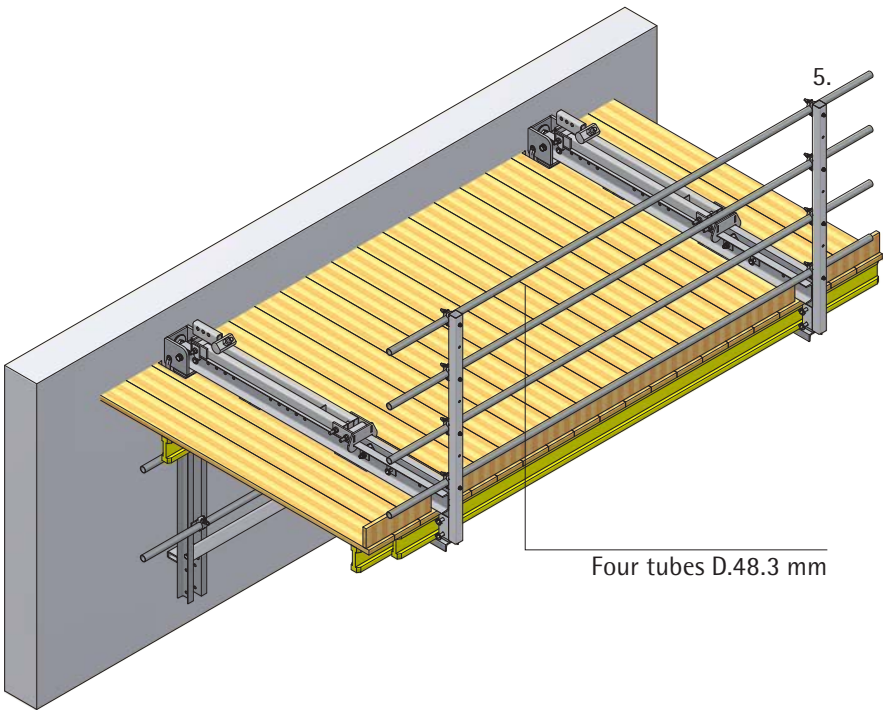


# Assembly work platform




T03.003.06

4. Position the toe board and secure on site with metal brackets.

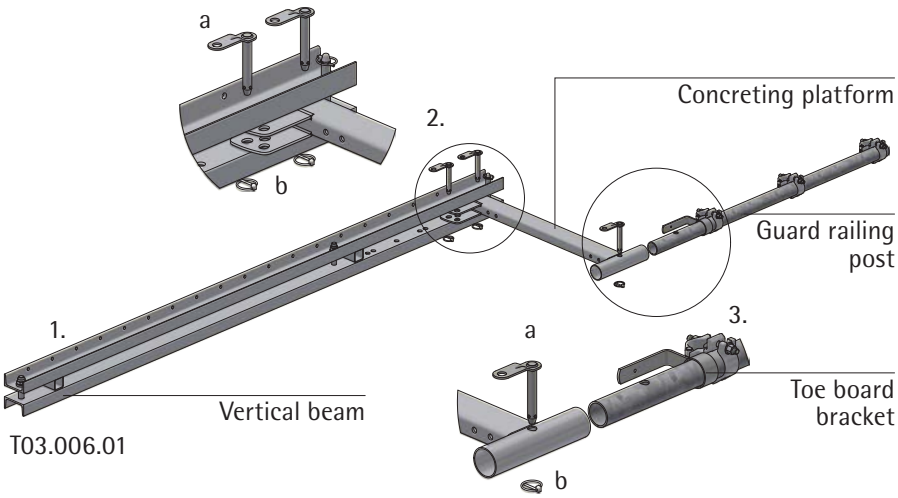



T03.003.07

5. Fit four scaffold tubes D. 48.3 mm corresponding to the platform width in the tube connections of the handrail post.

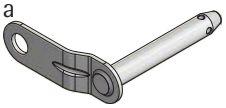
# Assembly vertical beam

1. Place vertical beam 299 cm (or 480 cm) on a flat base.
2. Secure concreting platform twice with security bolt a and clap pin b to the vertical bar.
3. Guard railing post Fit climbing bracket with toe board holders to the concreting platform with security bolt a and clap pin b.

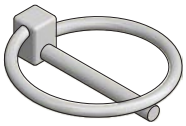



T03.006.01

Security bolt D.20x135
Art. No.: 670.000.1795
a



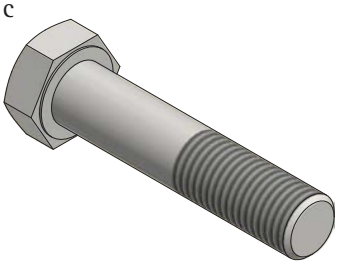
Clap pin 4.5x39.5 mm
Art. No.: 930.007.0008
b

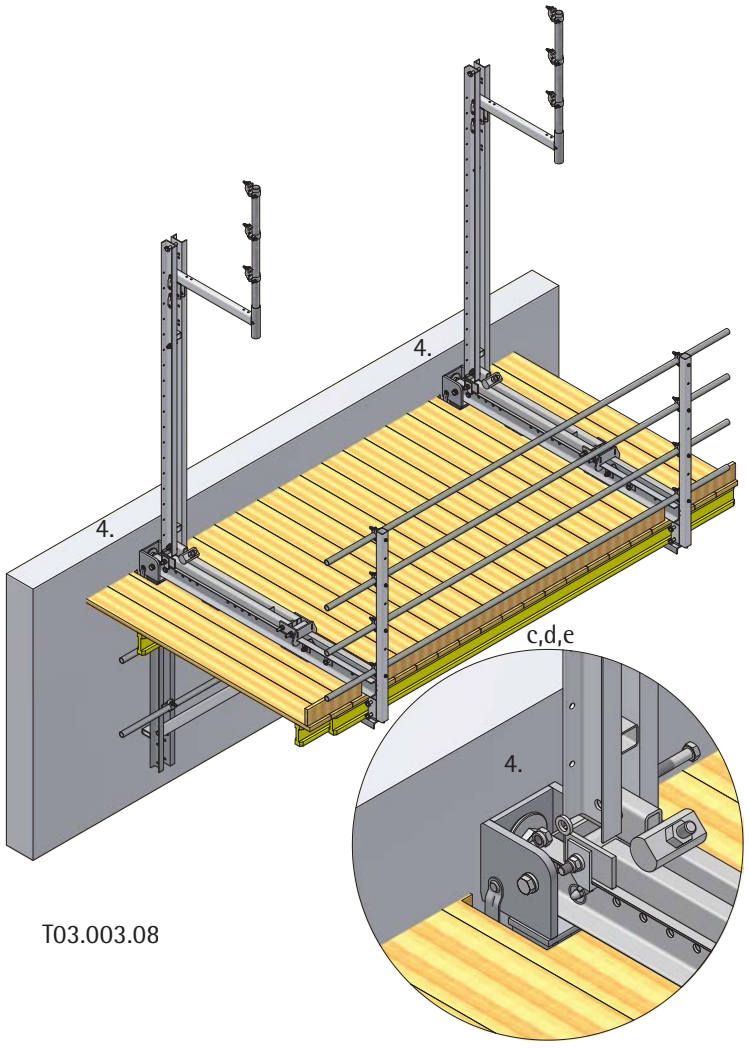


By rotating the concreting platform or selecting different holes for the connection, the concreting platform (or suspended platform) can be used at different angles. (see page 52 et seq. "Angled walls")

4. Screw pre-fitted vertical beam with screw c, washer d and nut e to the front of the trolley.

Hexagon screw M24x110 DIN985
Art. No.: 900.931.0606
c

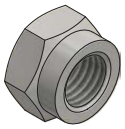





T03.003.08

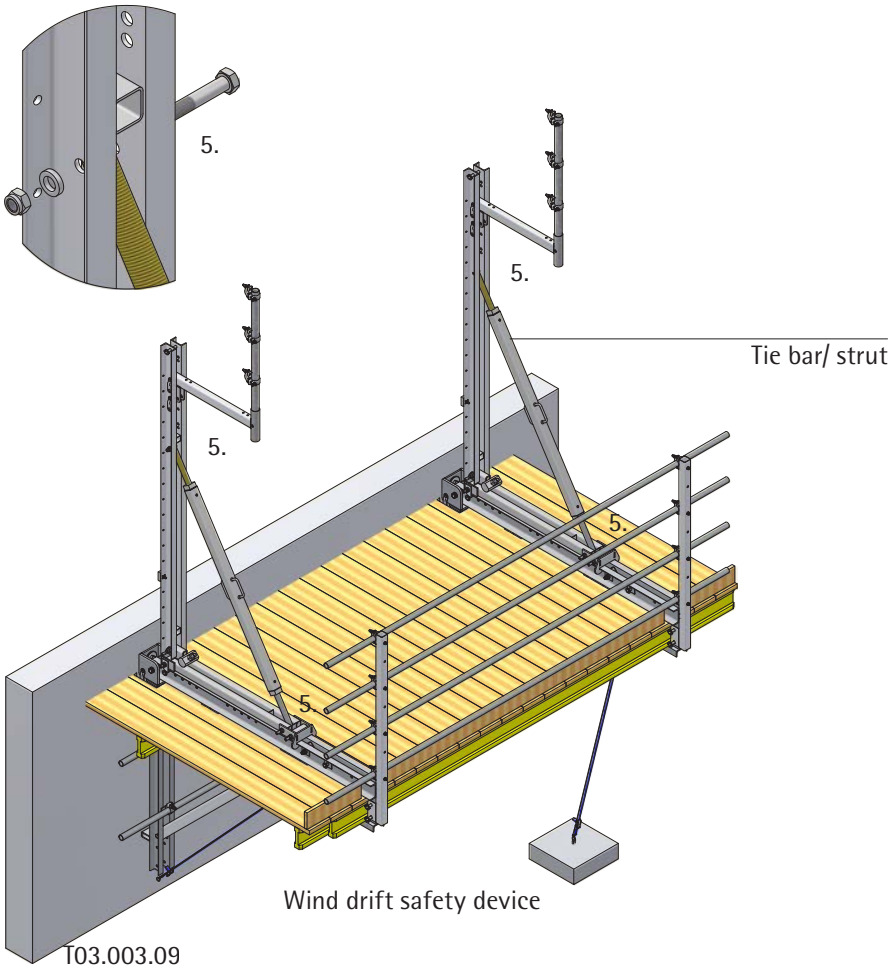
Washer A26 DIN7989
Art. No.: 907.989.0020
d

Hexagon nut M24 DIN985
Art. No.: 900.985.0024
e



# Assembly vertical beam

f(110 mm), g, h

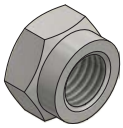



5. Screw the tie bar/ strut at the top to the vertical beam and at the bottom to the trolley using screw f (i), washer g and nut h.

Hexagon screw M22x110 DIN985
Art. No.: 900.985.0020
f

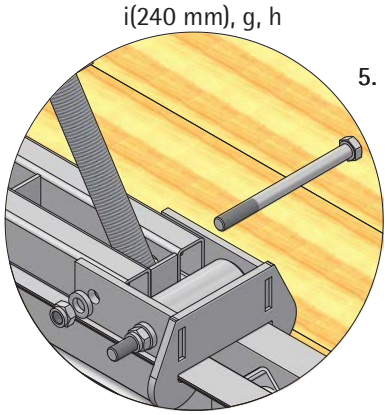
Washer A22 DIN7989
Art. No.: 907.989.0015
g

Hexagon nut M20 DIN985
Art. No.: 900.985.0020
h



Hexagon screw M20x240 DIN985
Art. No.: 900.931.0416
i

i(240 mm), g, h



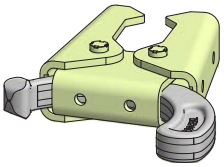

**Attention:**
Before assembly of the formwork, the platform must first be secured against wind from the platform-side.

# Assembly Formwork

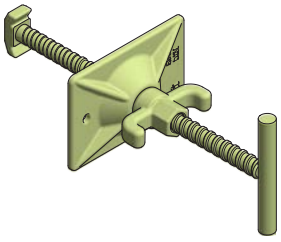
1. Place formwork elements on a flat base and connect with wedge clamps a.
2. Fasten double channel waler 100 with waler supports DW15 b to the formwork elements.
3. Sliding the fastening for the double channel waler x on to the walers.

**Note:**
The position of the parts under 2 and 3 must be noted and the resulting assembly sequence followed.

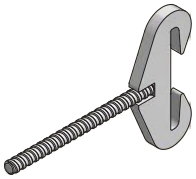
Logo Wedge clamp
Art. No.: 187.500.0100
a



Waler support DW 15
Art. No.: 187.500.0021
b

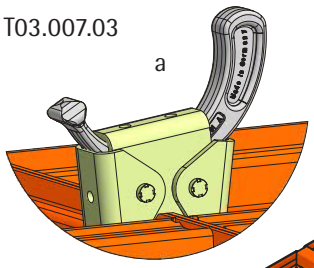


Fastening for double U100
Art. No.: 186.002.0032
c



4. Fastening of the crane suspensions, fastening of a hook and movement of the pre-assembled formwork to the work platform.

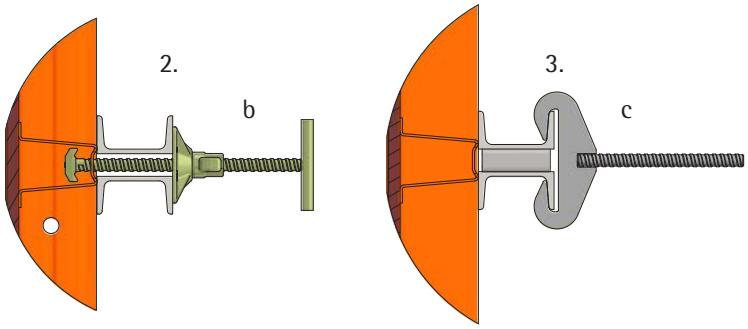
T03.007.03



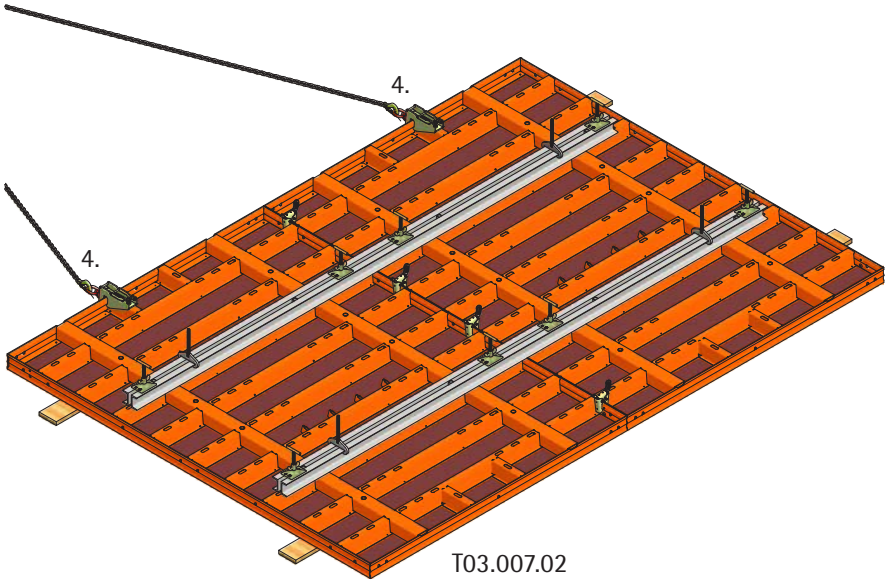




T03.007.01

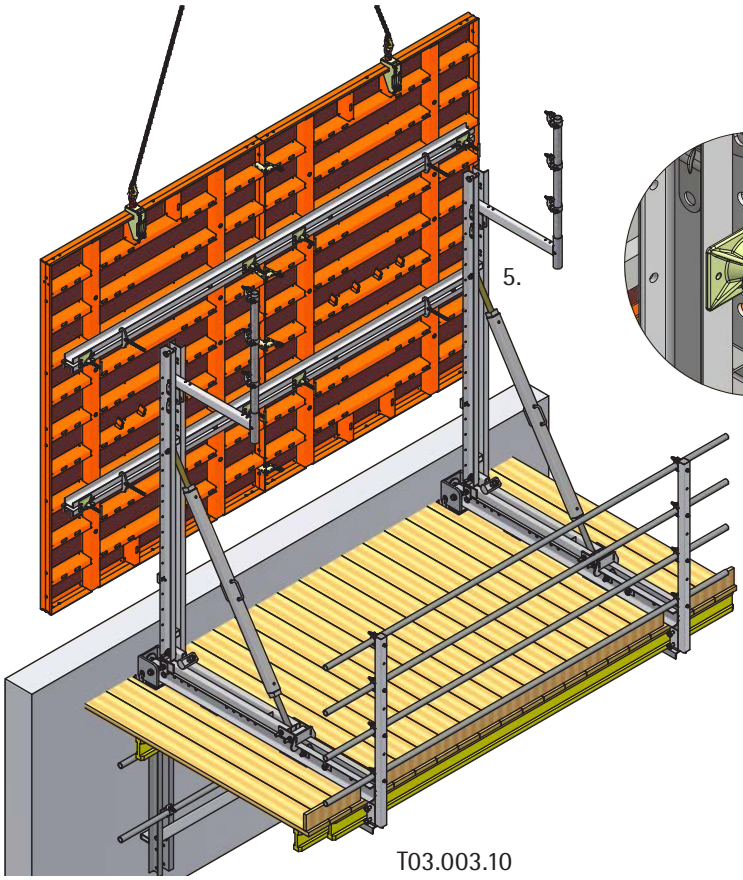



T03.007.04




T03.007.02

# Assembly Formwork

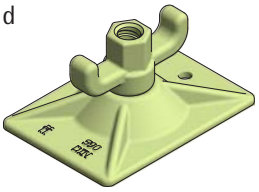



T03.003.22

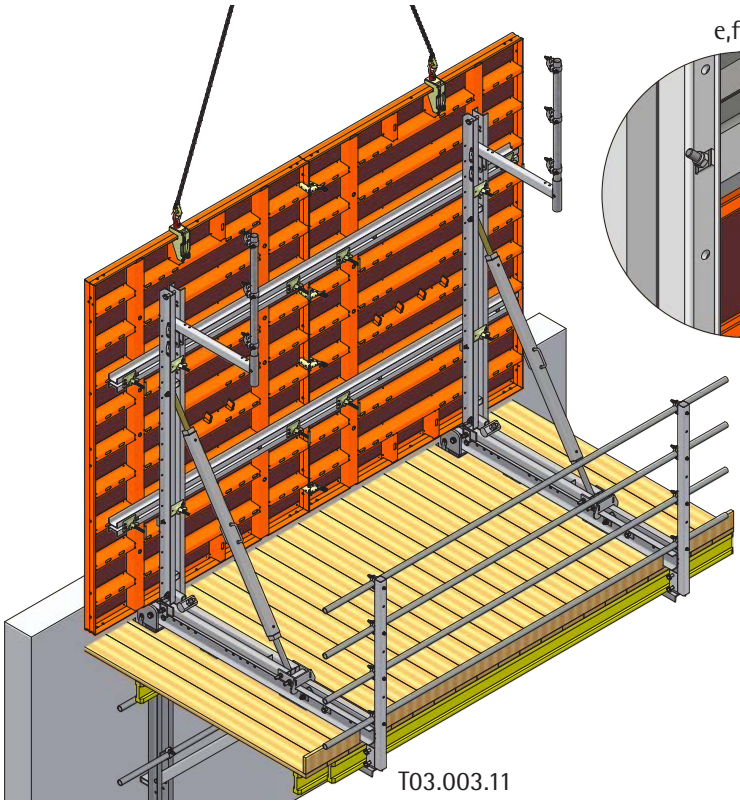
T03.003.10

5. Move pre-assembled formwork to the vertical beam
6. Thread fastenings for double U-100 walers into the vertical beams and screw with plates with ball-and-socket joints.

Plate with ball-and-socket joint
DW15 10 x 14 cm
Art. No.: 189.001.0059
d

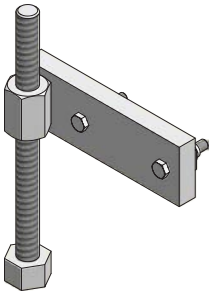


7. Screw the height adjustment to the front of the vertical beam. If necessary, the height of the formwork can be adjusted using the integrated screw.
The screw can be turned.
Thus, the height adjustment can be used on the right or left.

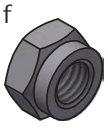



T03.003.11

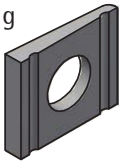
Height adjustment
Art. No.: 186.002.0027
e



Hexagon nut M12 DIN985
Art. No.: 900.985.0012
f



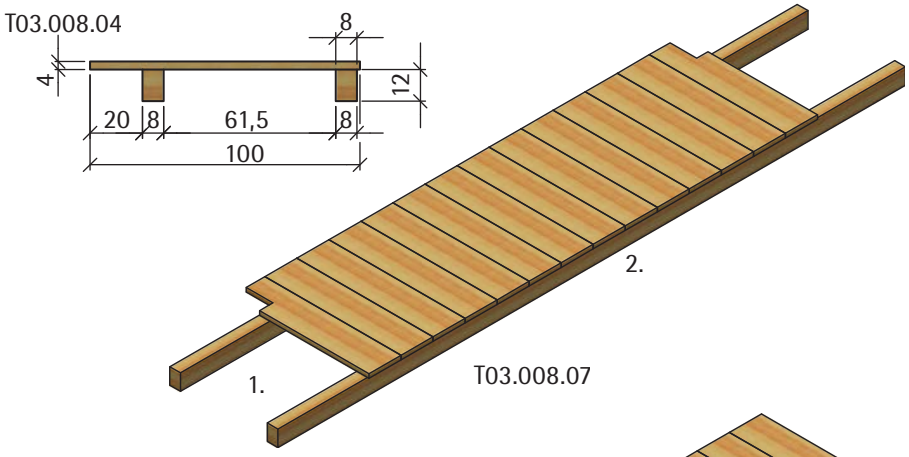
Washer 14 DIN434
Art. No.: 900.434.0003
g

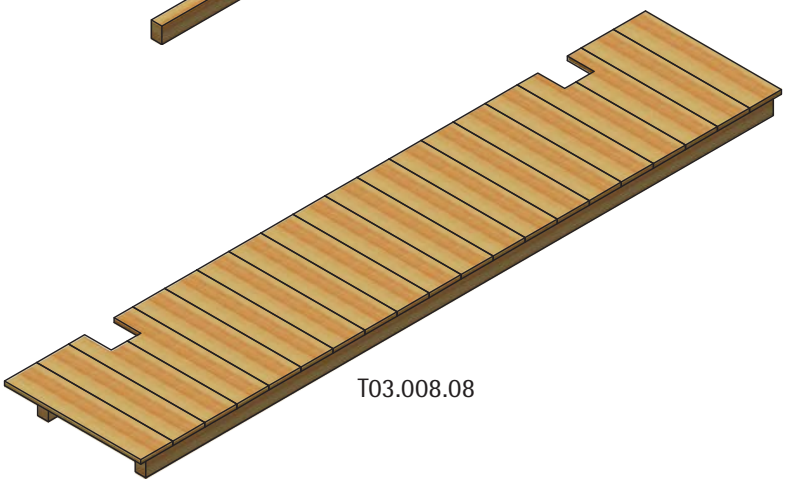


# Assembly Concreting platform

1. Place two construction planks 8x12 cm on a flat base.

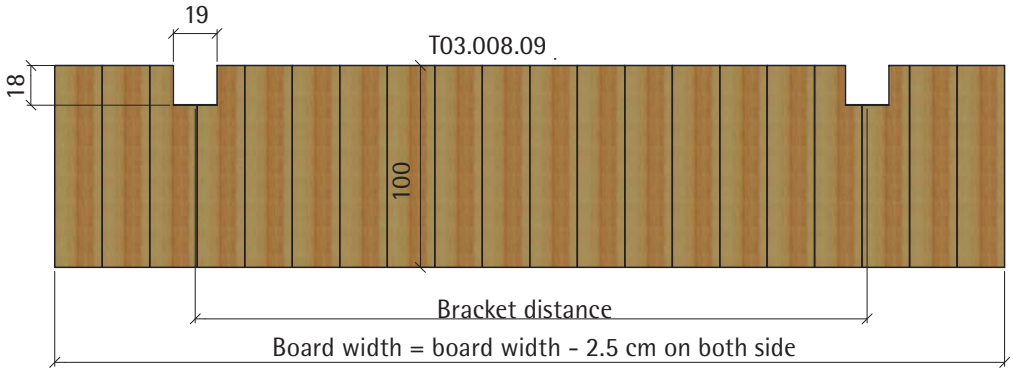
2. Place board and nail to the construction timber.



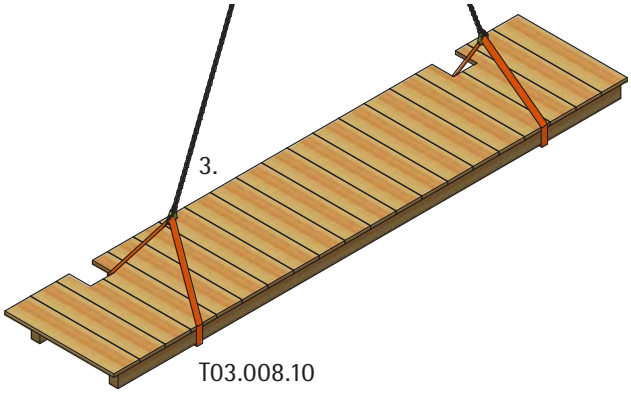




Dimensions for:
- Board length
- Board width
- Cut-out vertical bar

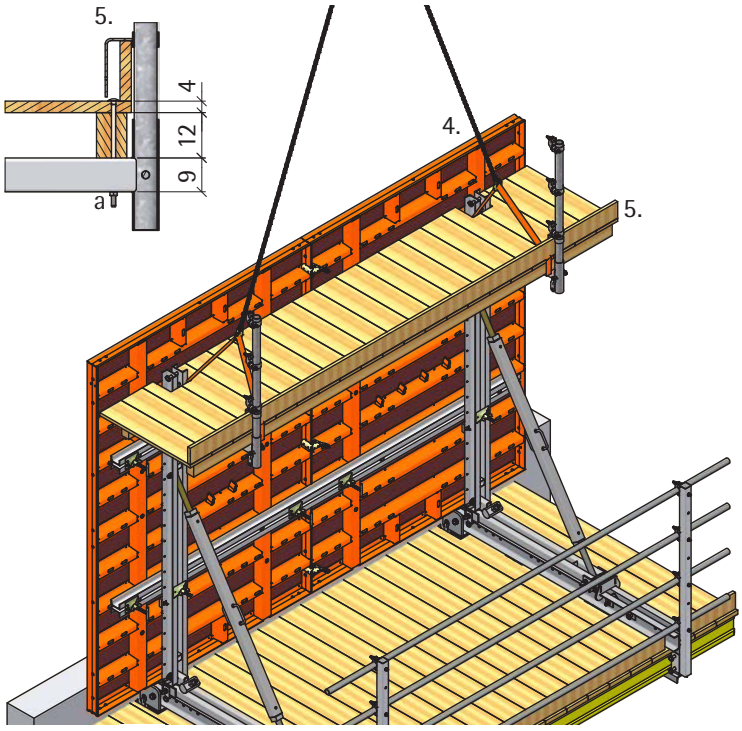
Corner solutions, see chapter Corner solutions (page 40 et seq.)




3. Fasten complete platform to the crane slings.

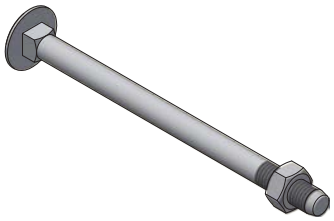


# Assembly Concreting platform




T03.003.14

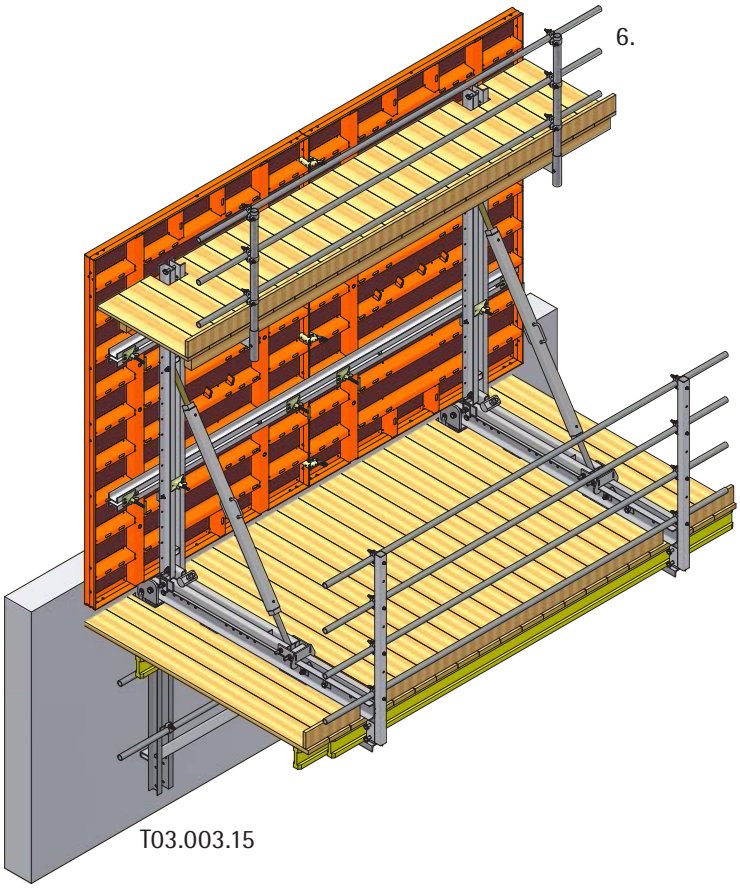
Pan head screw M12x280 MU
DIN 603 8.8 galvanized
Art. No.: 900.603.0054
a



4. Place the platform on the concreting platforms and connect with screws.

5. Attach toe board.

6. Fasten three scaffold tubes D. 48.3 mm corresponding to the platform width to the guard railing posts.




T03.003.15

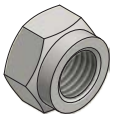
# Assembly Suspended scaffold

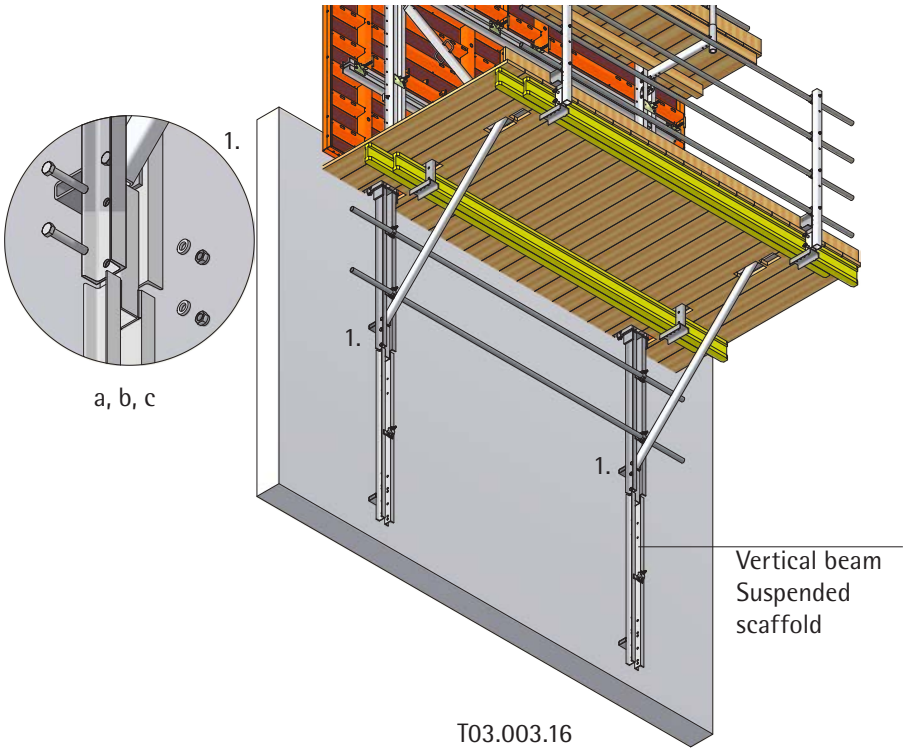
1. Vertical beam Screw suspended scaffold twice with screw a, washer b and nut c to the vertical beam of the climbing bracket.

Hexagon screw M20x120 DIN931
Art. No.: 900.931.0408
a

Washer A22 DIN7989
Art. No.: 907.989.0015
b

Hexagon nut M20 DIN985
Art. No.: 900.985.0020
c

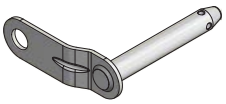




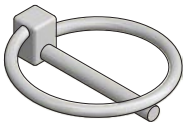

T03.003.16

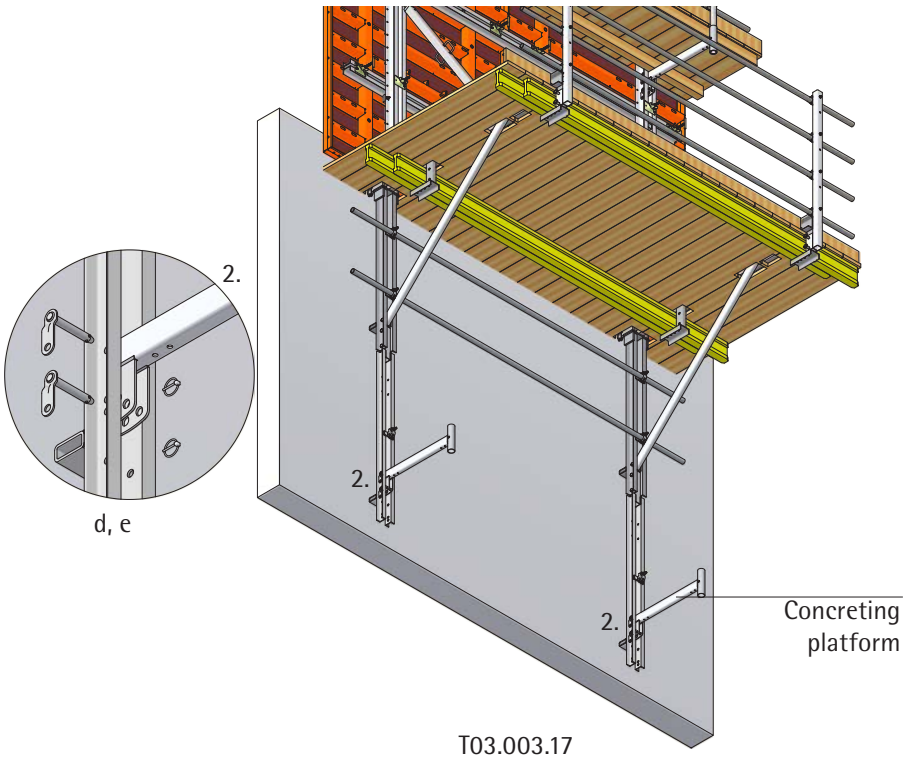
2. Connect concreting platform twice with security bolt d and clap pin e on the vertical bar suspended scaffold.

Security bolt D.20x135
Art. No.: 670.000.1795
d



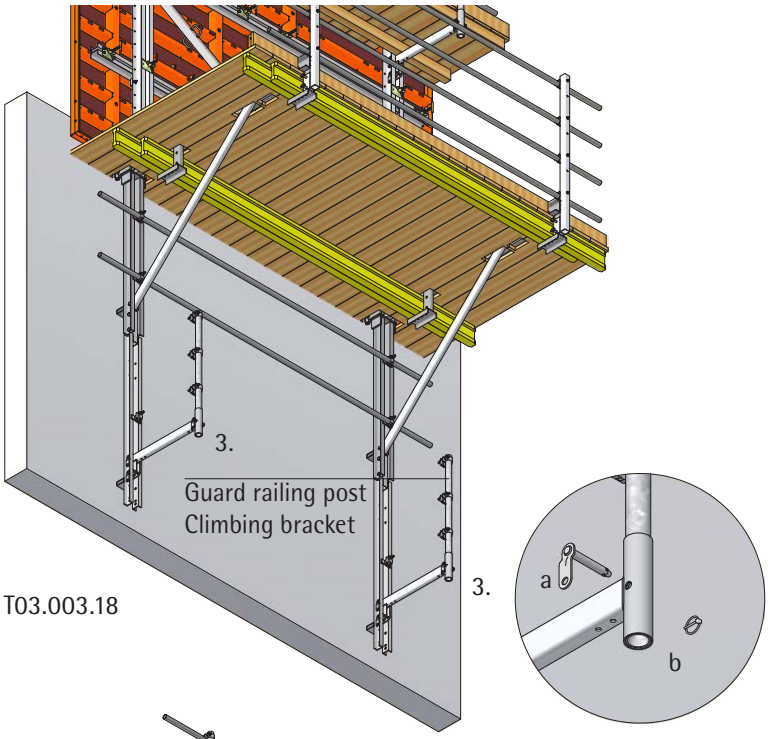
Clap pin 4.5x39.5 mm
Art. No.: 930.007.0008
e






T03.003.17

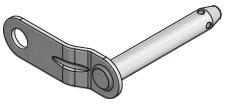
# Assembly Suspended scaffold



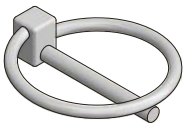

T03.003.18

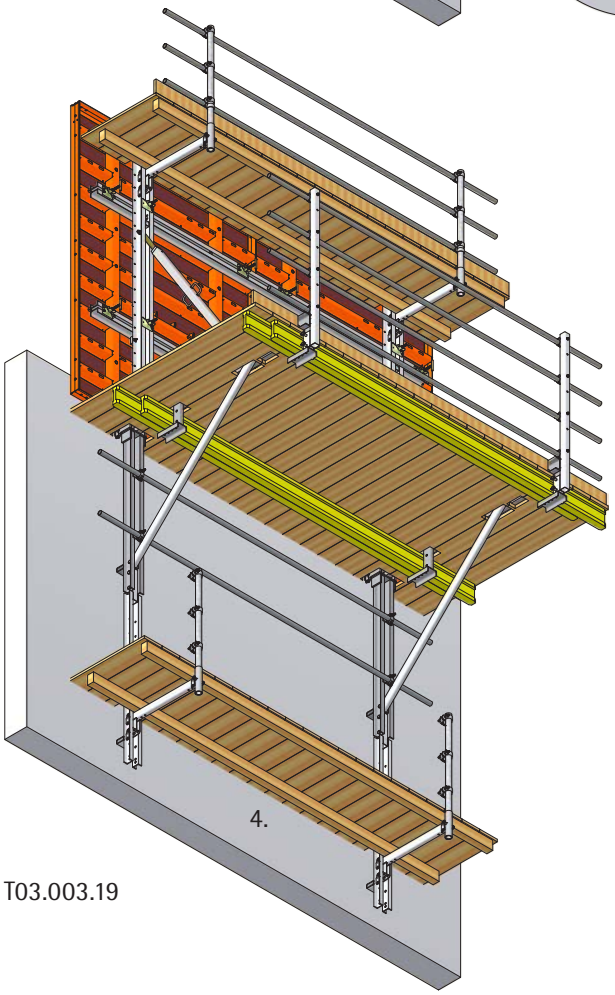
3. Insert guard railing post 145 cm climbing bracket with toe board holder into the concreting platform and secure with security bolt a and clap pin b.

Security bolt D.20x135
Art. No.: 670.000.1795
a



Clap pin 4.5x39.5 mm
Art. No.: 930.007.0008
b

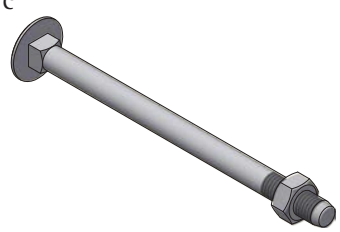


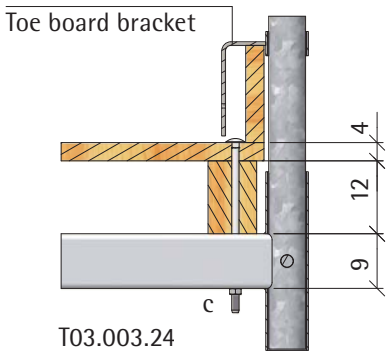



T03.003.19

4. Fit board and use screw c to secure it to the concreting platform.

Pan head screw M12x280 MU
DIN 603 8.8 galvanized
Art. No.: 900.603.0054
c

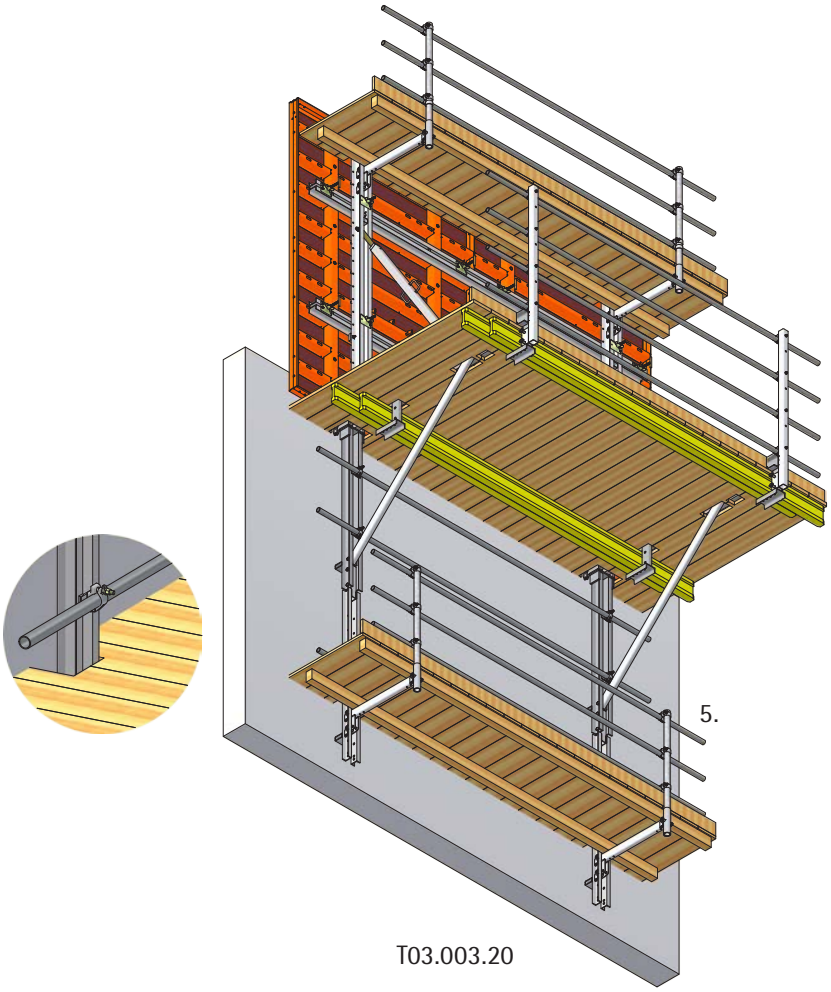





T03.003.24

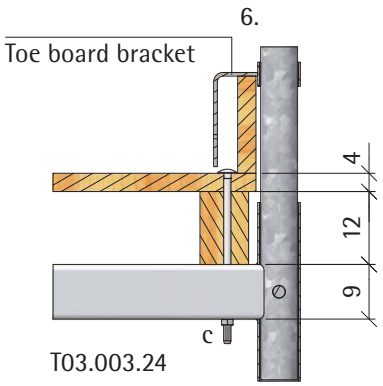
# Assembly Suspended scaffold

5. Fasten three scaffold tubes D. 48.3 mm corresponding to the platform width to the couplings on the guard railing post. On the vertical beam suspended scaffold, also attach a scaffold tube as stiffener.



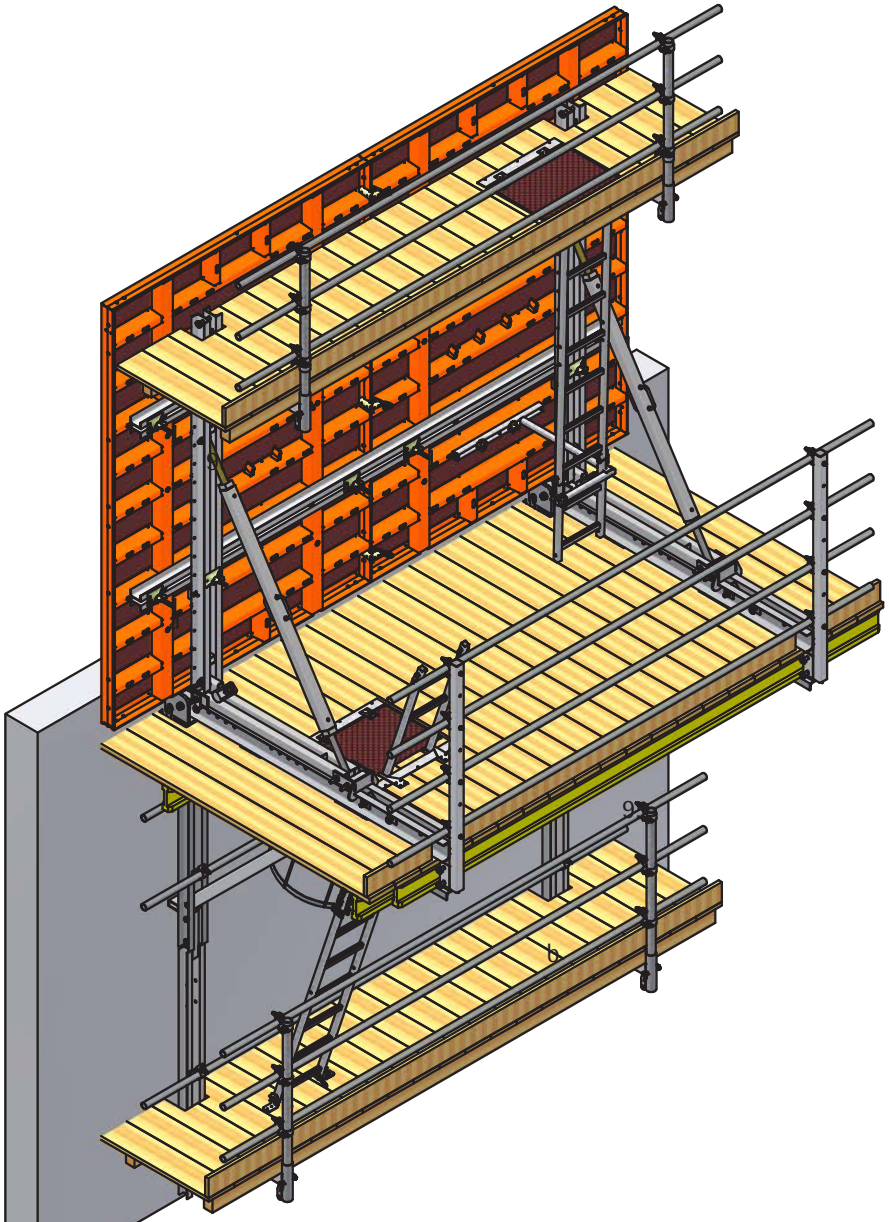

T03.003.20

6. Fasten toe board.




T03.003.24

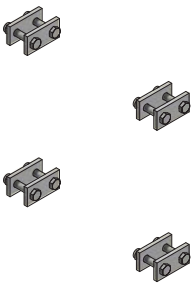
# Ladder, ascents and descents

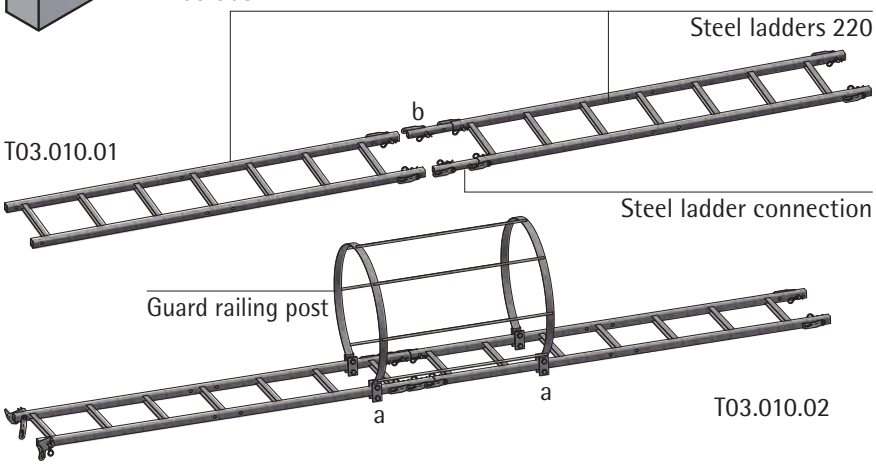


T03.003.21

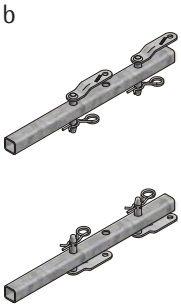
As ascents and descents, ladders are installed upwards from the work platform to the concreting platform and downwards to the suspended platform. The number of ladders and their position and distances depend on the project. The ladders can be used as single ladders 220 cm or connected for larger heights, where a safety cage is then also fitted. Shorter under-floor ladders are also available (page 14). They are connected to the platforms and formwork through permanent hooks or screws with corresponding accessories.

Climbing installation Guard railing post
Art. No.: 189.004.0049
a





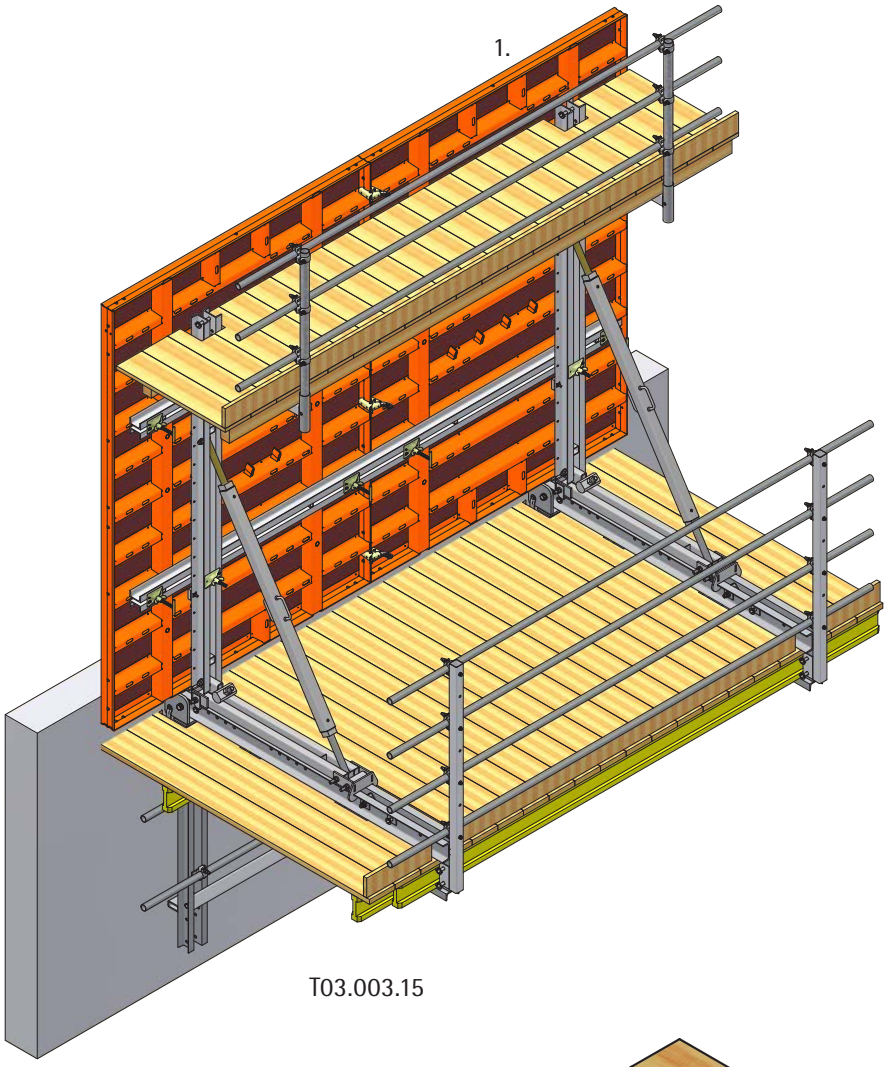

Ladder connection 40/220 cm cpl.
Art. No.: 189.004.0046
b



# Ladder, ascents and descents

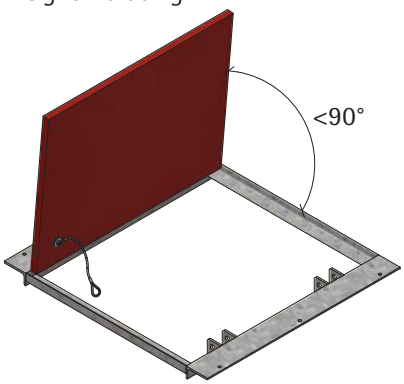
**Work platform-concreting platform**

1. Fit trap in the concreting platform, through which the ascent and descent is to be completed.

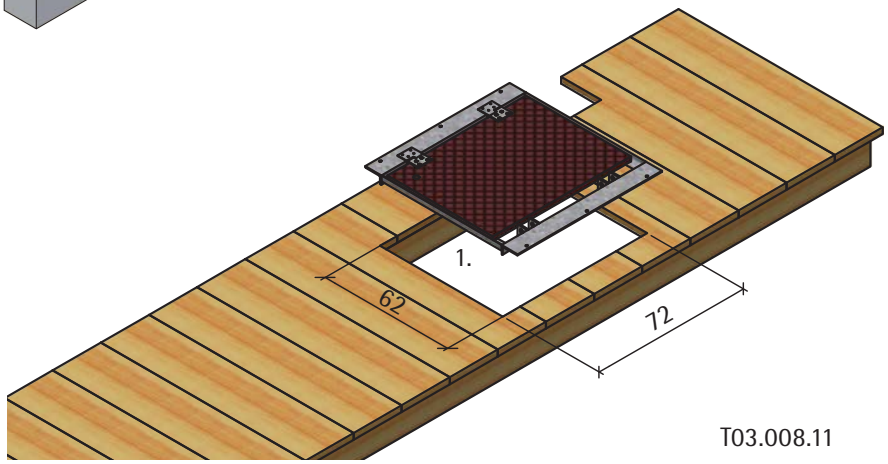



T03.003.15

Trap
Art. No.: 286.000.0012
Weight: 19.00 kg

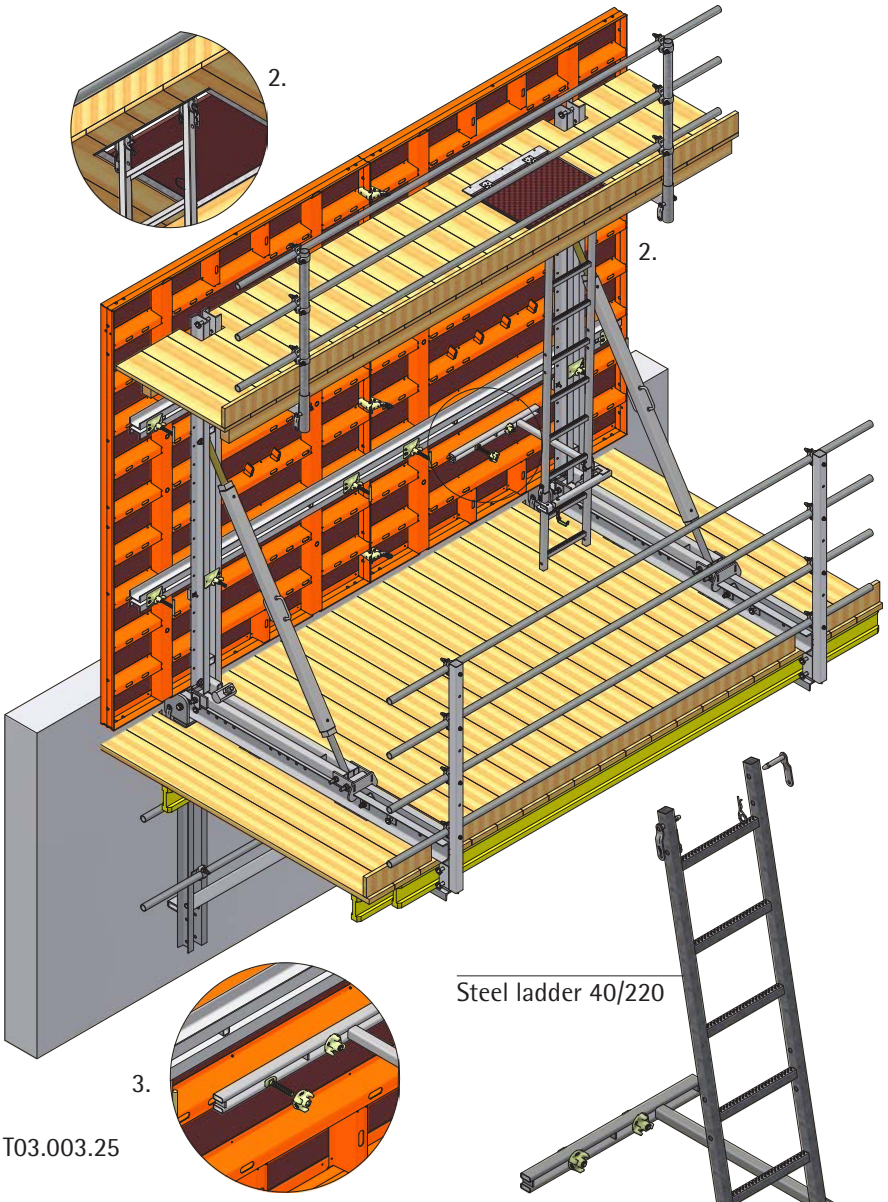



**Note:**
Fasten rotary clutch to the board such that the angle of opening of the trap is always less than 90°, so that the trap closes independently.




T03.008.11

# Ladder, ascents and descents




T03.003.25

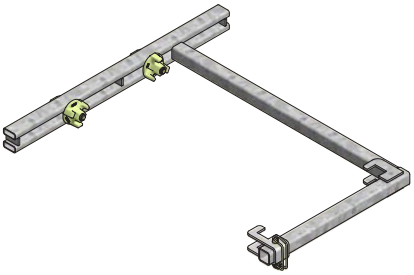
2. Suspend ladder in the trap.

3. Fit ladder fastening to the formwork.




Steel ladder 40/220

Ladder fastening steel ladder climbing
Art. No.: 187.500.0111
a



4. Connect ladder to the ladder fastening.

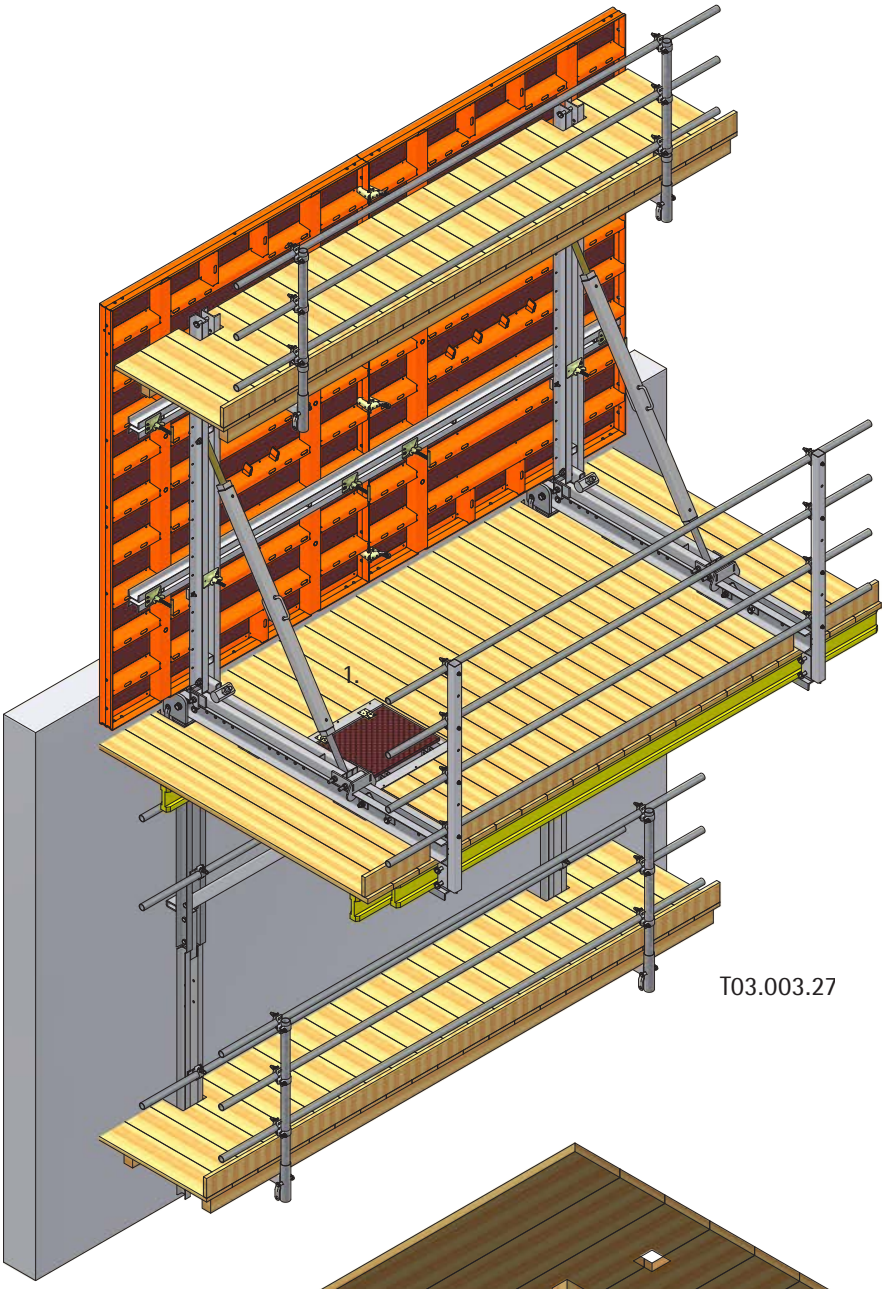
Under-floor ladder
(as required)

T03.009.01

# Ladder, ascents and descents

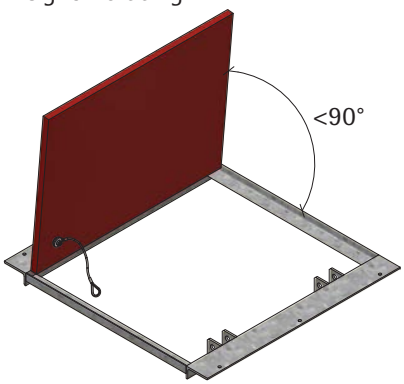
**Work platform-suspended platform**

1. Fit trap in the work platform, through which the ascent and descent is to be completed.

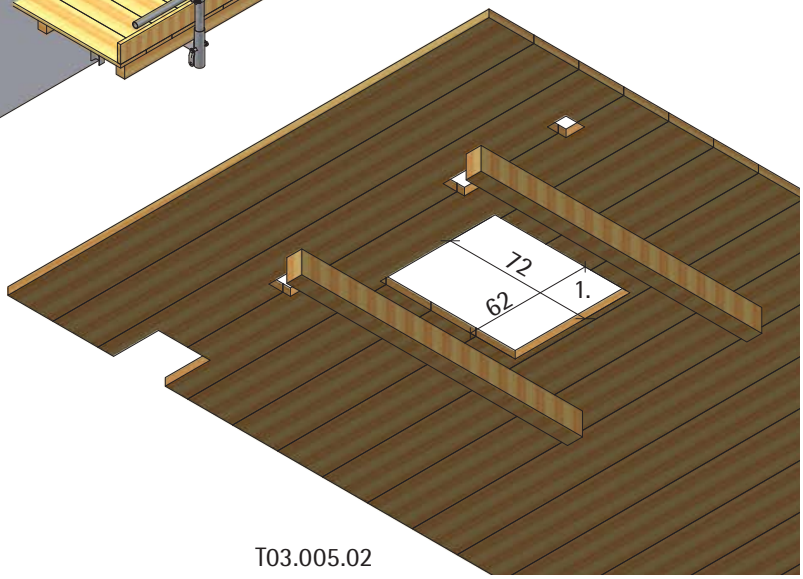



T03.003.27

Trap
Art. No.: 286.000.0012
Weight: 19.00 kg

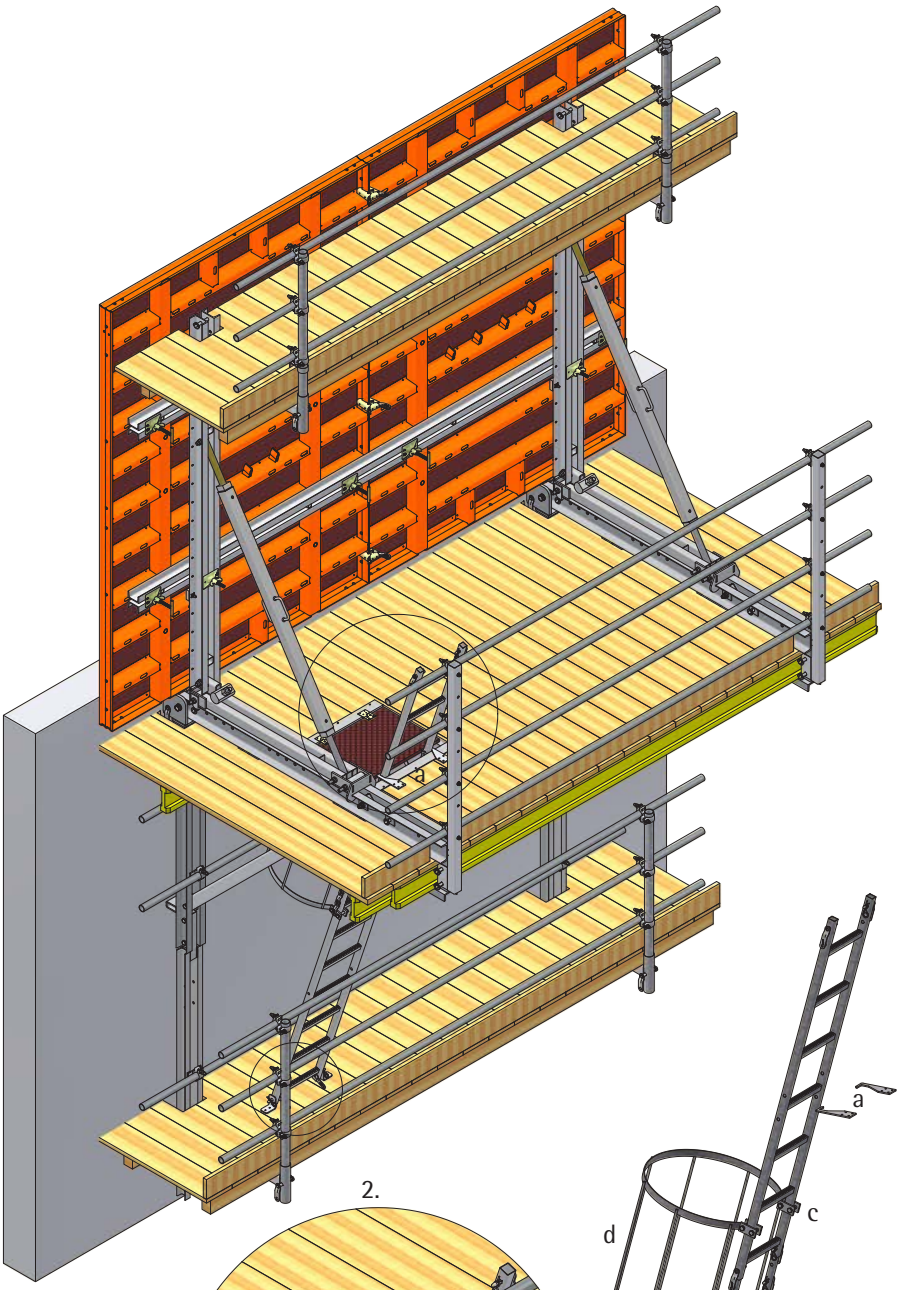


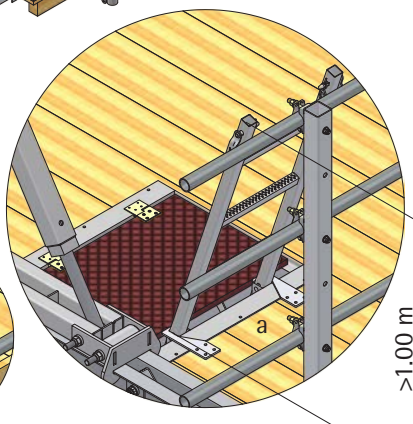

**Note:**
Fasten rotary clutch to the board such that the angle of opening of the trap is always less than 90°, so that the trap closes independently.

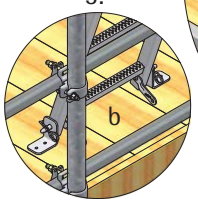



T03.005.02

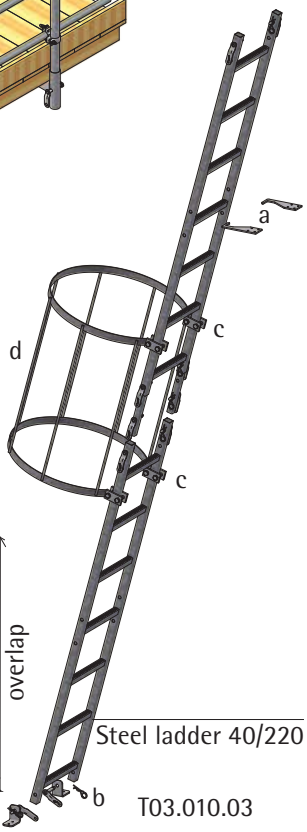
# Ladder, ascents and descents





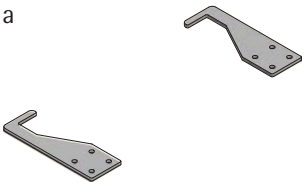




T03.003.26

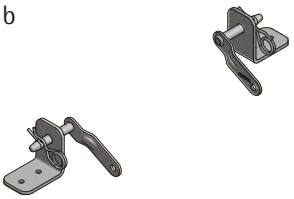



T03.010.03

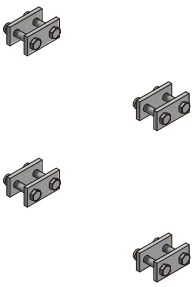
Ladder bracket top cpl.
Art. No.: 189.004.0083
a



Ladder support bottom cpl.
Art. No.: 189.004.0085
b



Climbing installation Guard railing post
Art. No.: 189.004.0049
c



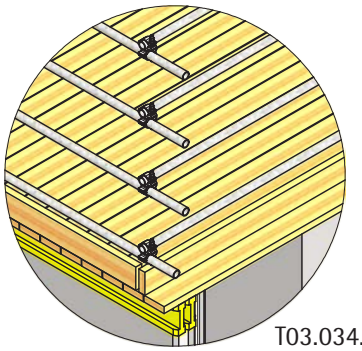
Guard railing post 97cm cpl.
Art. No.: 189.004.0047
d

2. Fasten ladder on the work platform to the top of the ladder holder.
3. Fasten ladder on the suspended platform to the bottom of the ladder holder.

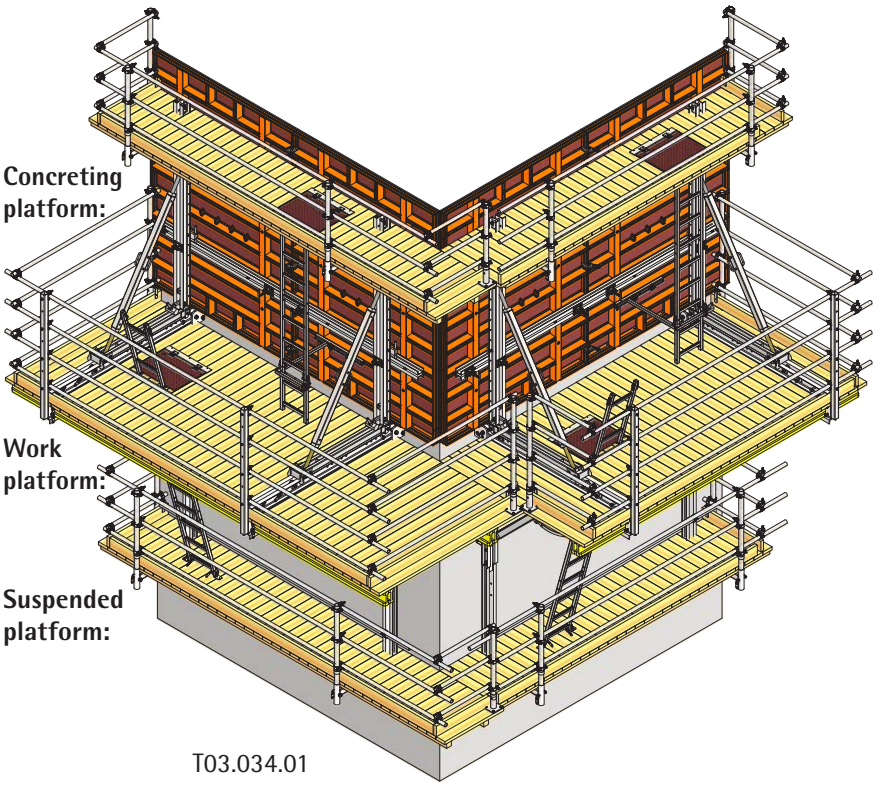
# Corner solutions outer

In the outer area of corners, from the side work platforms, concreting platforms and suspended platforms are planned flush with the edge of the structure. From the other side, the platforms are extended enough that there is sufficient overlap to surround the corner on all levels.

On the work platform, the boards can be arrow-shaped as an alternative.

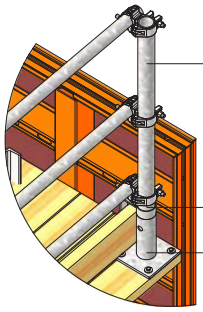


T03.034.03

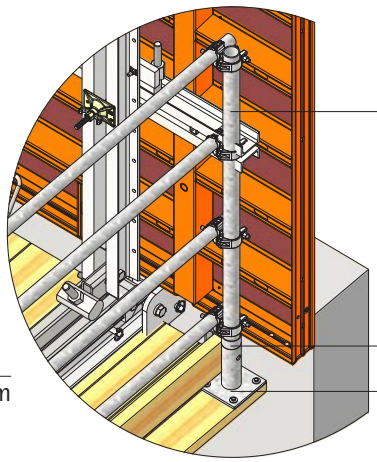



T03.034.01

**Concreting platform:**

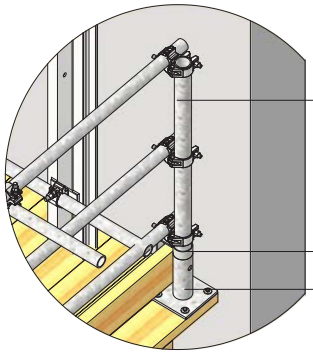



**Work platform:**

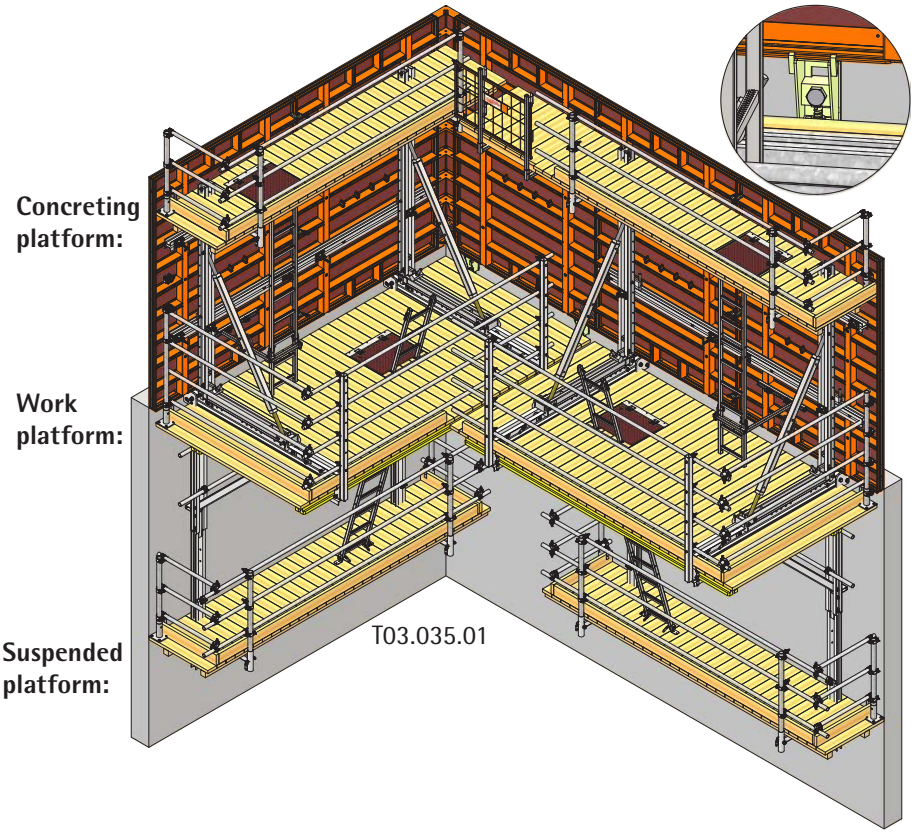



T03.034.02

**Suspended platform:**



# Corner solutions inner



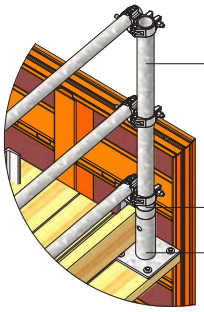

For the inside of corners, formwork and platforms have to be planned such that the three platform levels can be jointed or supplemented. From one side, work platform, concreting platform and suspended platform run as a climbing unit into the corner, from the other side the same levels have to be adjusted:

- Supplement concreting platform between the climbing units (brackets, posts, lateral protection Secuset, lateral protection with boards or grills Secuset and on-site board that fit the system).
- Join the work platforms of the two climbing units with the permitted distance.
- Connect suspended platforms as required.

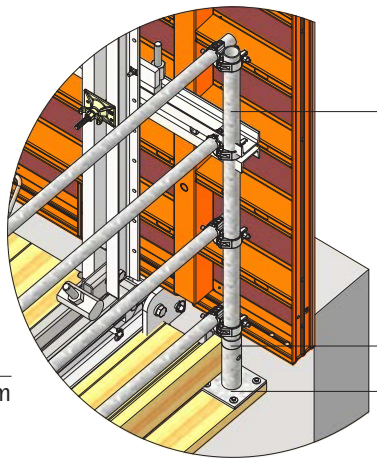
The additional formwork required on one side is supported by variable support brackets.

**Note:**
The illustrations to the side show fall protection on the back of the platforms. These are always needed on supports or formwork ends, even if climbing units are used and fall edges are created as a result.

**Concreting platform:**

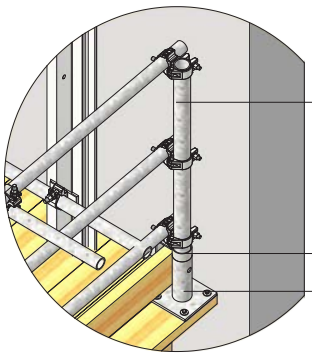



**Work platform:**




T03.034.02

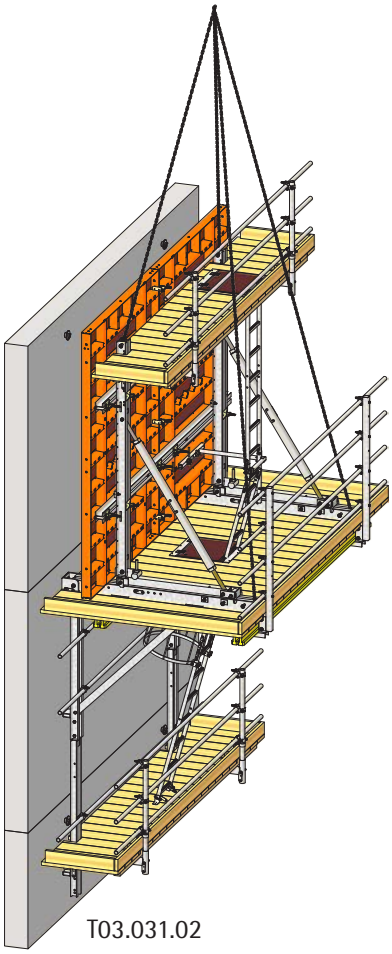
**Suspended platform:**



# Implementation

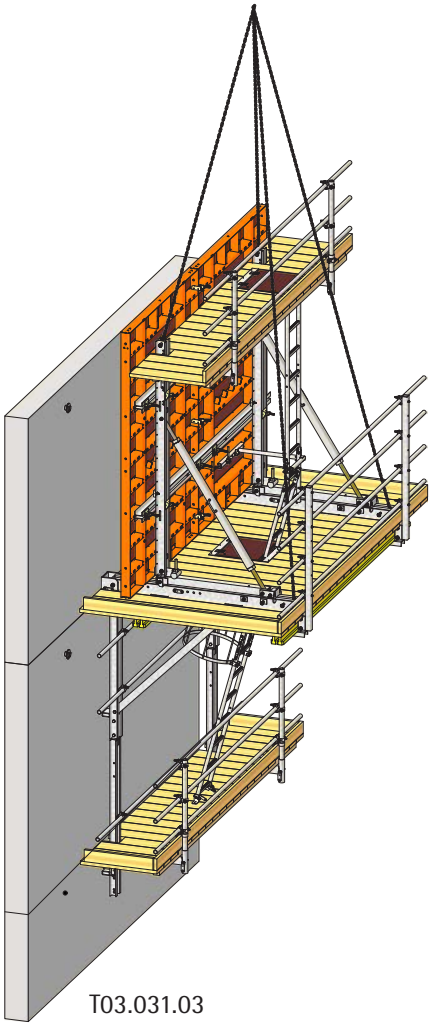
The implementation of a climbing unit to the next cycle is achieved in accordance with the steps described on the next pages.

**Hang up:**



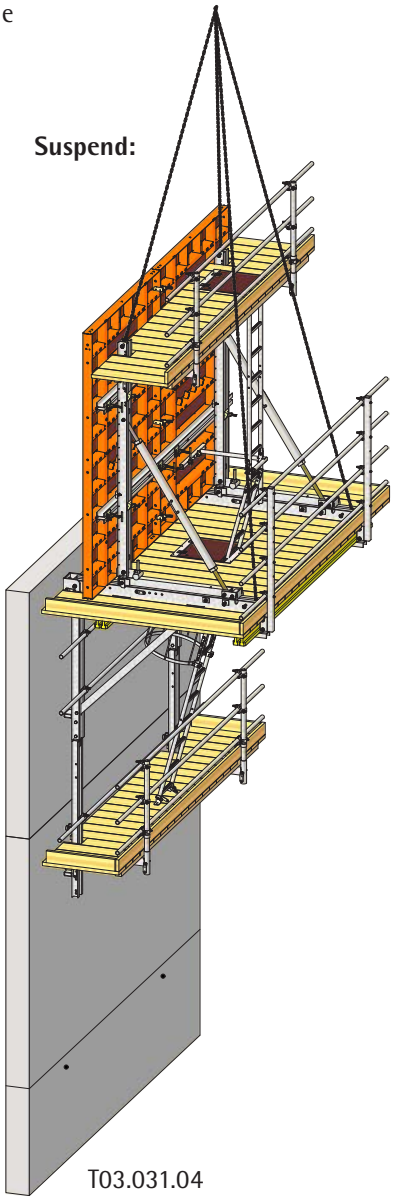
T03.031.02

**Implementation:**



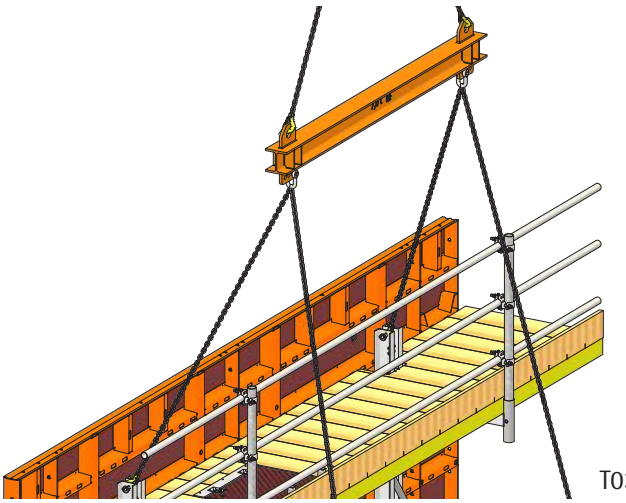
T03.031.03

**Suspend:**



T03.031.04

For particularly high loads or for wide climbing units, the implementation is with the implementation transverse trapezoidal beam (page 17)

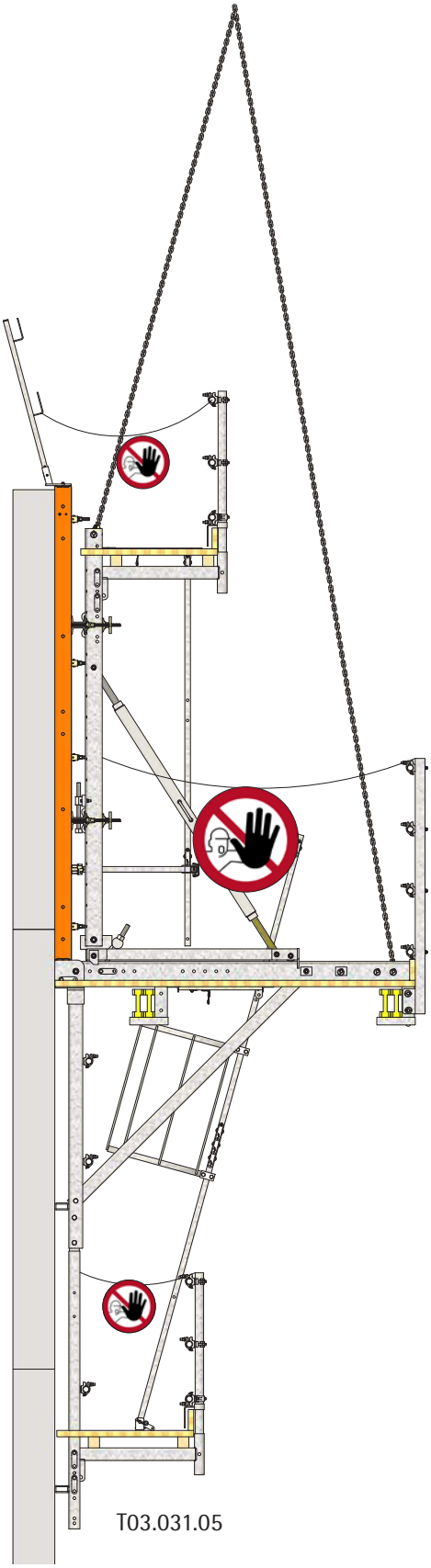


T03.039.01

# Implementation

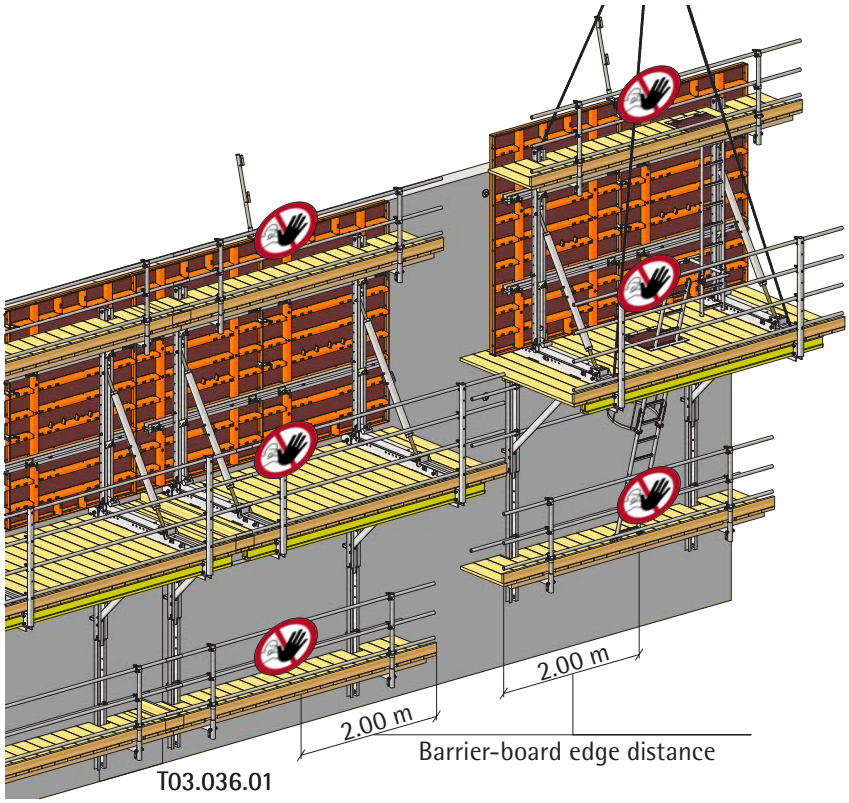
**Note:**

- Before implementation, remove loose parts from the formwork and platforms.
- Transport of people on platforms is prohibited.
- The effect of wind must be considered.
- When implementing climbing units, open fall locations are created. These must be closed by fitting lateral protection or a barrier.
- The barrier must be fitted at least 2.00 m before the edge.
- The persons charged with implementation are responsible for the correct positioning of the barriers.



T03.031.05

Prohibited sign "Access prohibited"
Art. No.: 938.000.0046

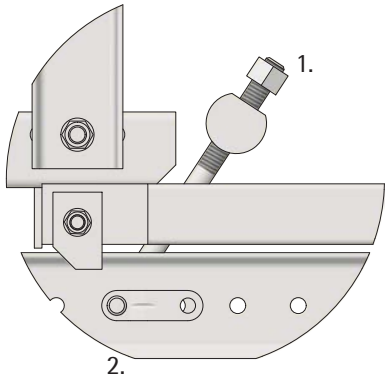


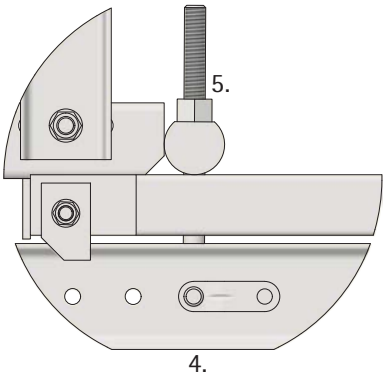

T03.036.01

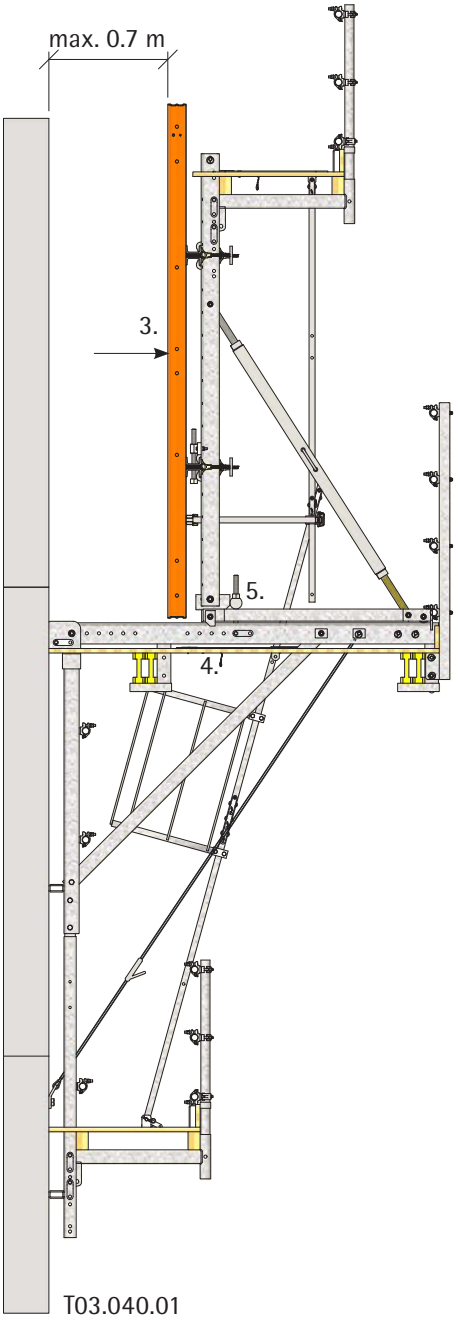
# Implementation

The implementation of a climbing unit to the next cycle is performed in accordance with the following steps.

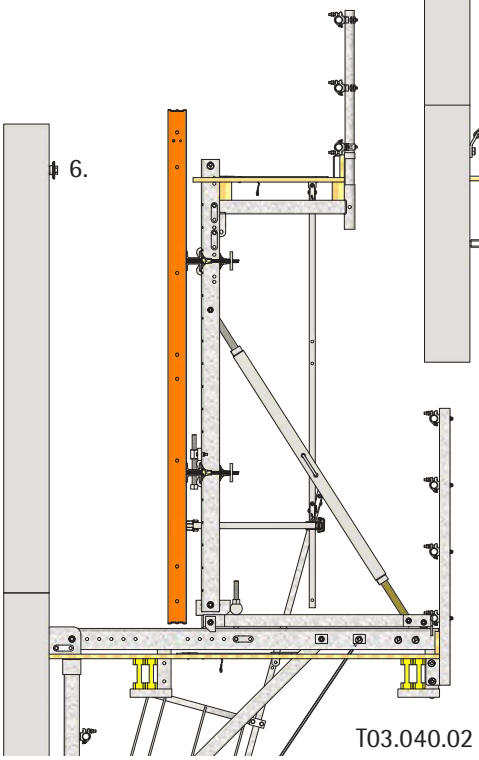
1. Loosen trolley fastening.
2. Release security bolt.
3. Slide formwork.
4. Undo trolley fastening with security bolts.
5. Secure trolley fastening again with vertical screw. Tighten nut (SW46) with 100 Nm.



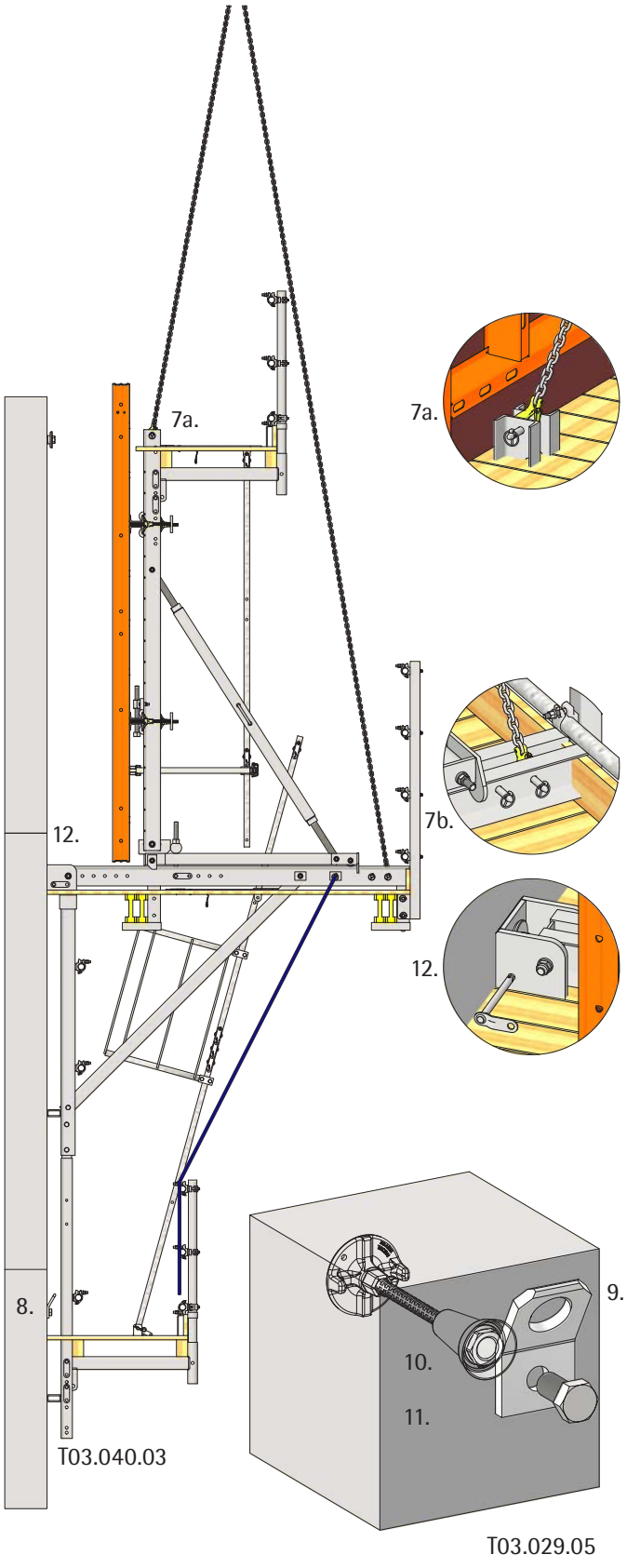




6. Fit mounting roll (page 19).



# Implementation




7. Attach four-way hook with crane to secure the implementation unit, at the top to the vertical beam and at the back to the horizontal bar.

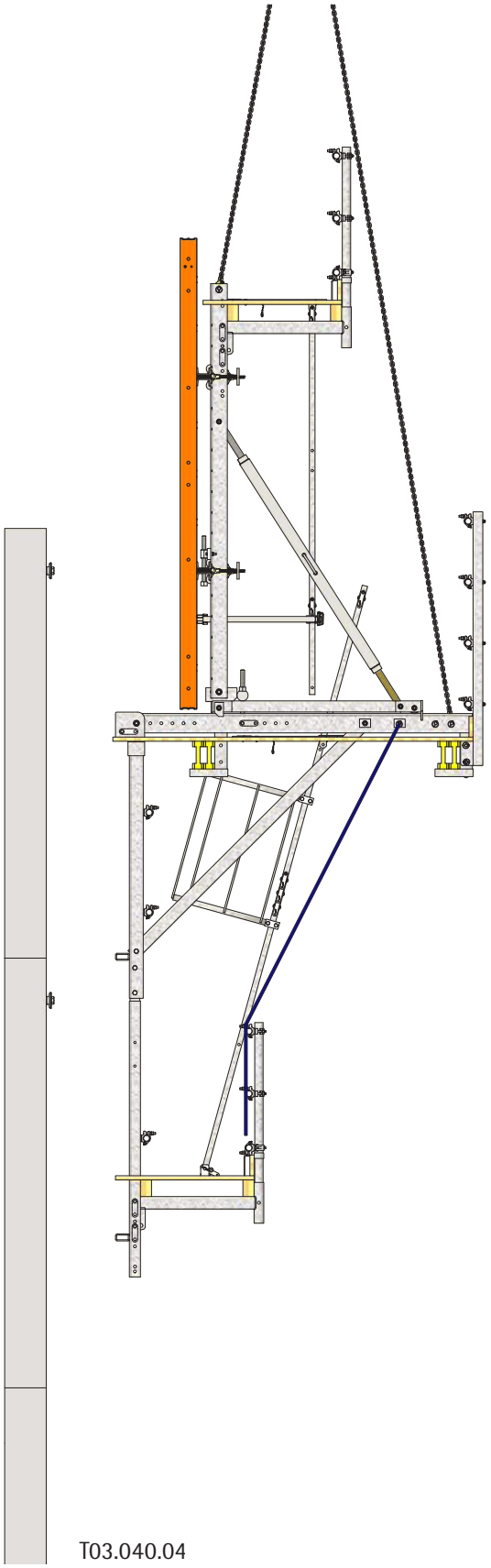
**Note:**
Attaching the crane hook to the formwork elements and the use of crane hooks suitable for the system are prohibited here.

8. Release the lashing strap above the suspended platform.
9. Release fastening anchoring.
10. Unscrew cone.
11. Close hole (p.19).
12. Remove securing bolt.

# Implementation

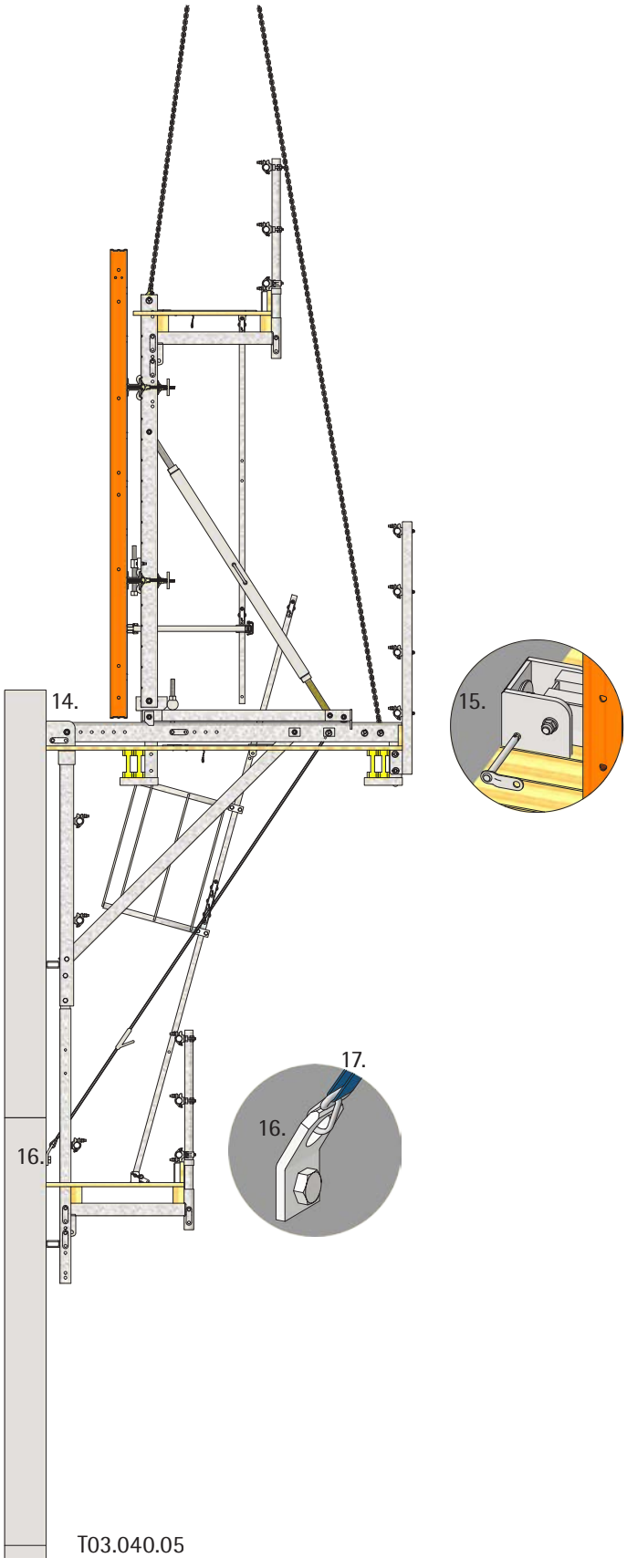
13. Implement climbing unit.
(possibly guide rope)

**Attention:**
Note wind loads.



T03.040.04

# Implementation



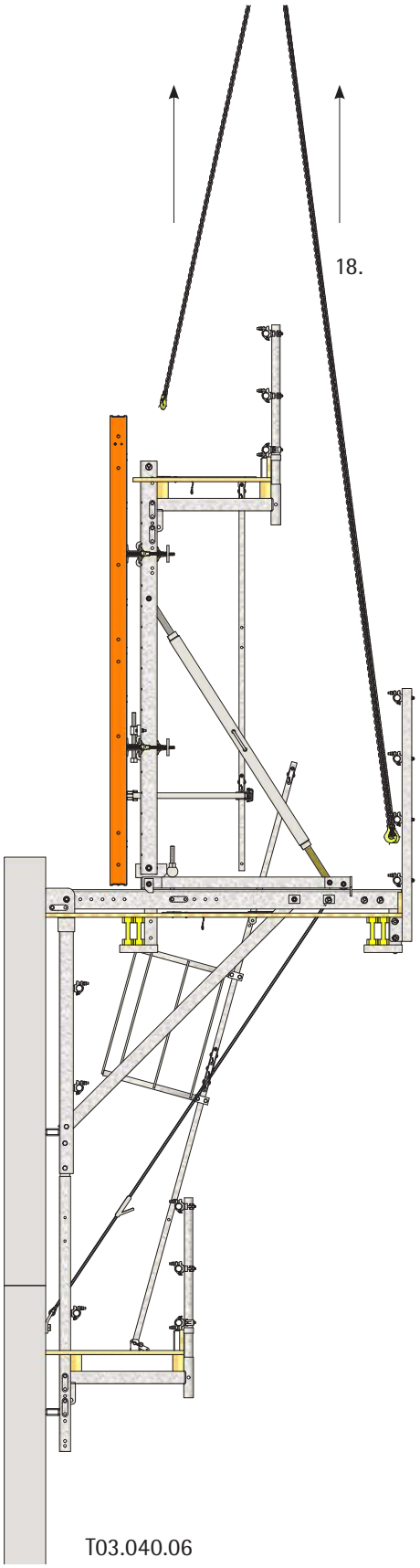

T03.040.05

14. Lower climbing unit into the mounting rolls.
15. Attach securing bolts.

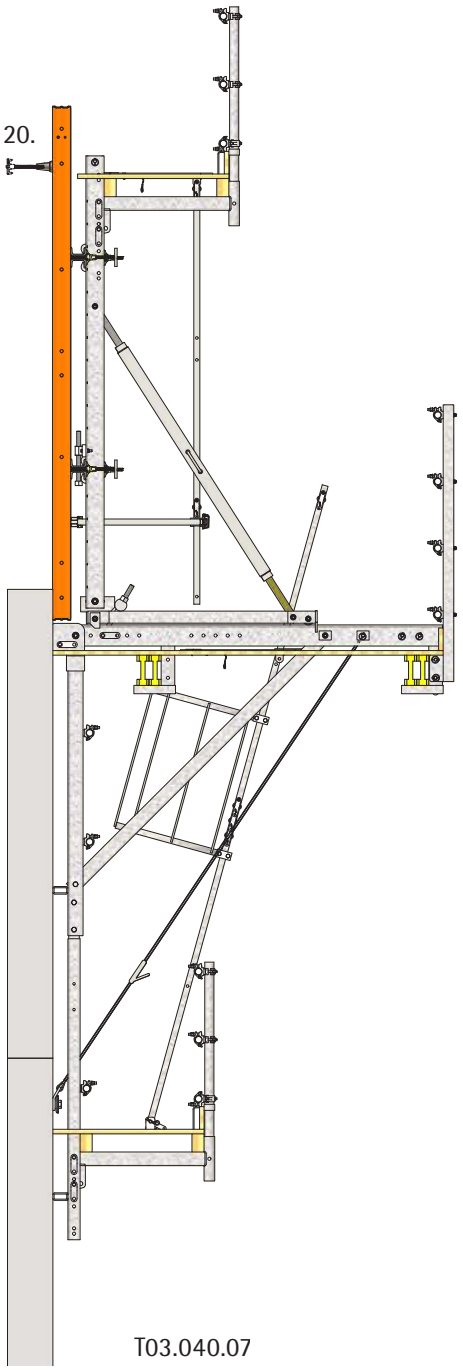
16. Remove mounting roll from previous cycle. Fit fastening anchoring in the same cone (see page 45).
17. Hook lashing strap and tighten.

# Implementation

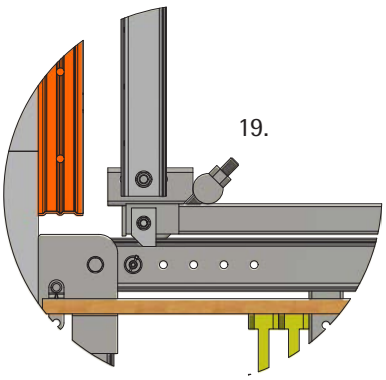
18. Release four-way hook.



# Implementation




T03.040.07




T03.016.06

19. Release trolley, slide formwork forwards and secure with the trolley fastening (reversed procedure 1. 5. Page 44).

20. Insert anchor for the following cycle.

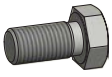
# Wind drift safety device

After implementing the climbing units, they have to be secured against wind loads from the platform side. To do this, the lashing strap 5.0 m is fastened between the horizontal bar climbing bracket and the previous position of the mounting roll of the previous cycle. This lashing is needed at every bracket.

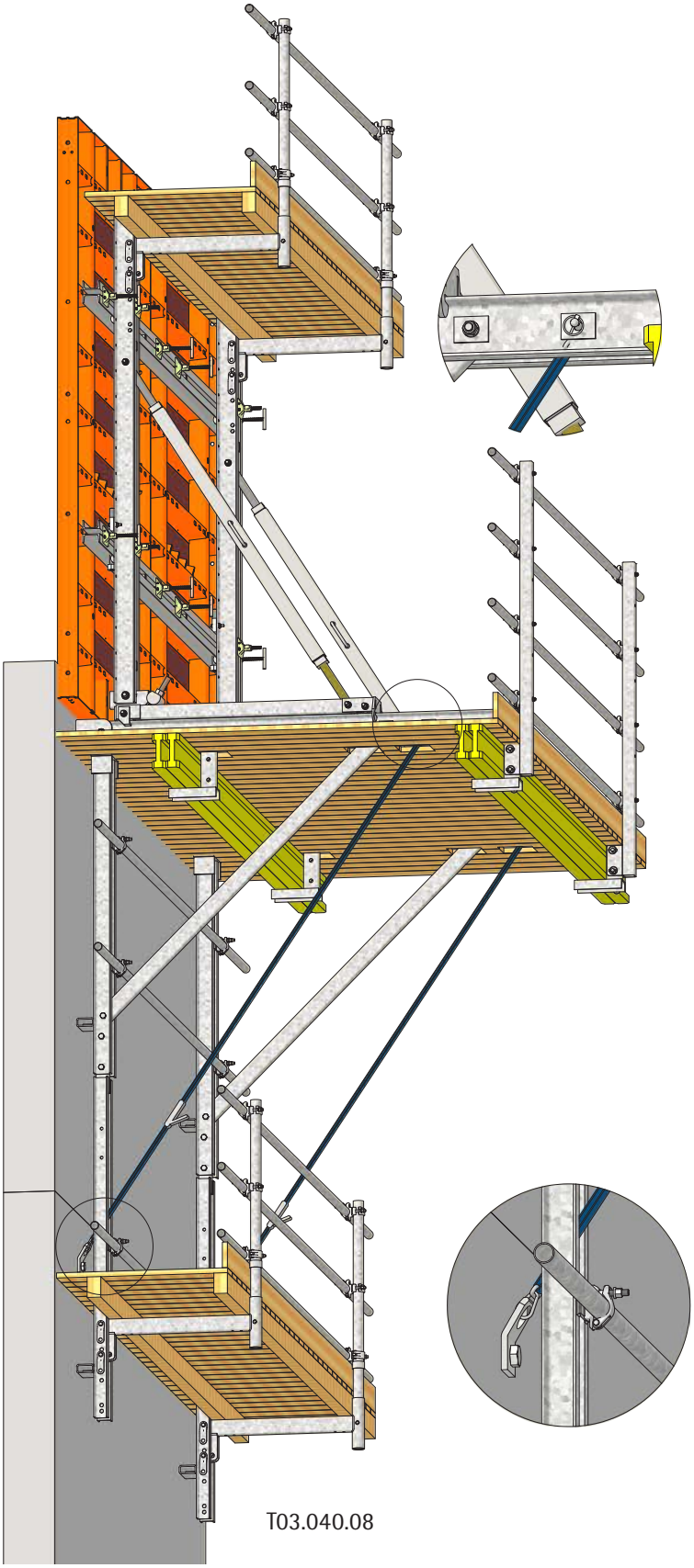
**Attention:**
The implemented climbing unit may only be removed from the crane when the downward anchoring is effective.

Fastening anchoring galvanized
Art. No.: 186.002.0037

Hexagon screw M30 x 60 DIN933
Art. No.: 900.933.1701

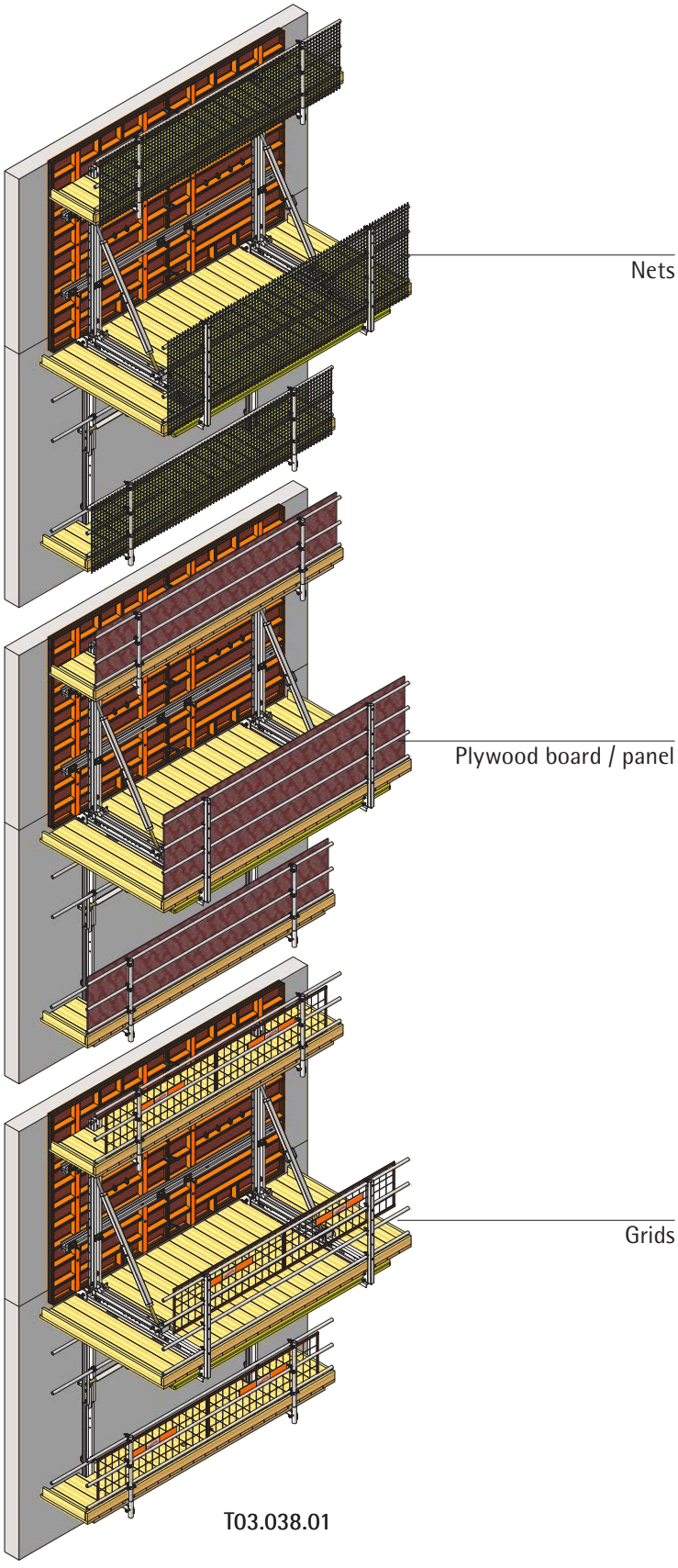


Lashing strap 5.0 m admissible capacity 25 kN
Art. No.: 940.100.0107



T03.040.08

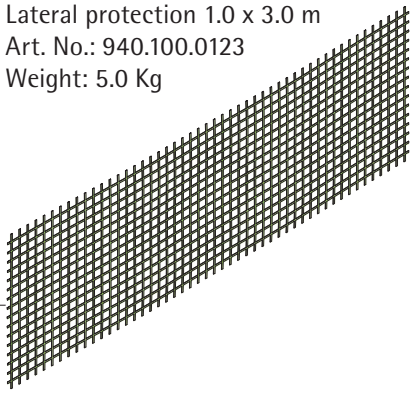
# Nets, panels, grids




T03.038.01

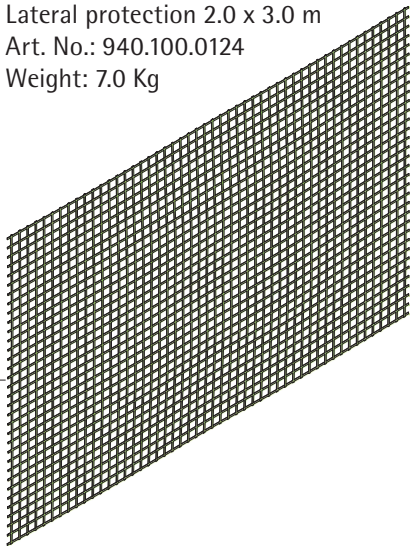
If, for reasons of works safety, nets, plywood boards, panels or grids still have to be attached to the scaffold tubes, a separate structural survey is required for this in respect of the wind load.

Lateral protection 1.0 x 3.0 m
Art. No.: 940.100.0123
Weight: 5.0 Kg

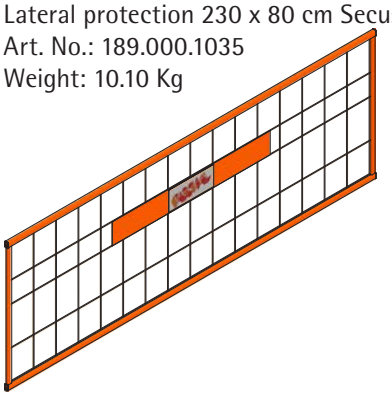


Mesh size 6cm
Thickness 5mm

Lateral protection 2.0 x 3.0 m
Art. No.: 940.100.0124
Weight: 7.0 Kg



Lateral protection 230 x 80 cm Secuset
Art. No.: 189.000.1035
Weight: 10.10 Kg



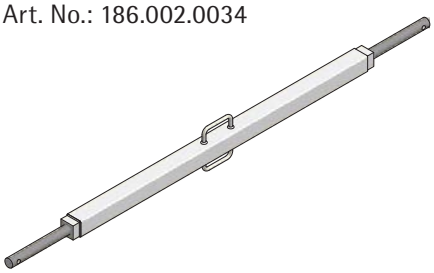
Lateral protection 130 x 80 cm Secuset
Art. No.: 189.000.1036
Weight: 6.60 Kg

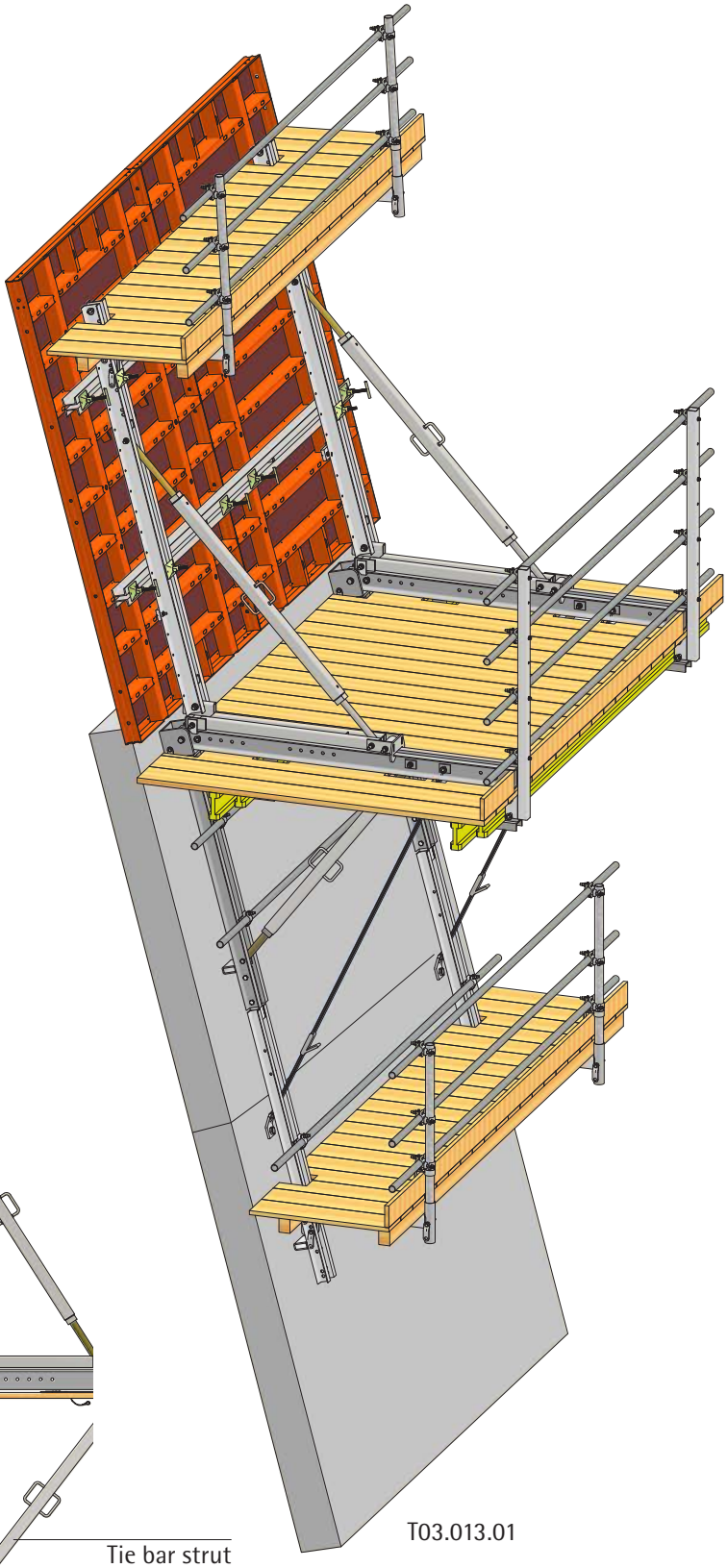
# Angled walls

As a result of the articulated fastening of the vertical bar, to which the formwork is fastened, the formwork can be angled to the bracket by +- 15°. Consequently, the work platform always has a horizontal position in respect of angled walls.
For this use, the diagonals under the board have to be replaced with tie bar struts 200-275 cm.

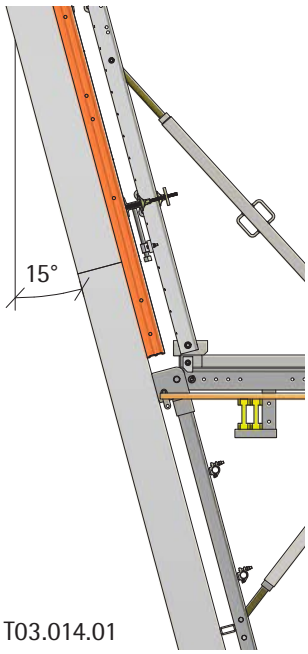
**Attention:**
For angled walls, additional loads occur as a result of the weight of the concrete. All load-bearing parts (brackets, diagonals) and the anchorings must be appropriate for this.

Tie bar strut 200-275 cm for climbing bracket
Art. No.: 186.002.0034

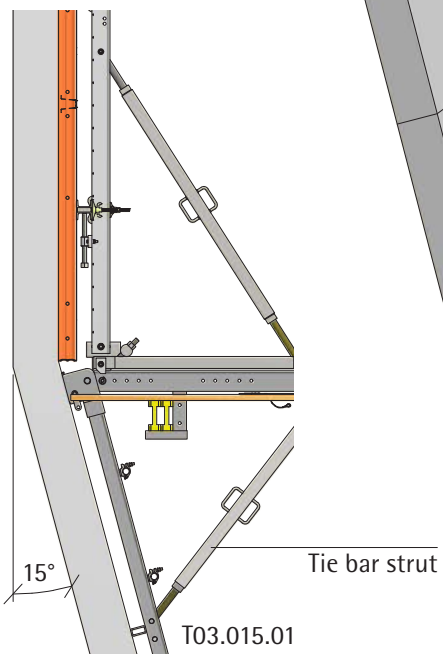




T03.013.01



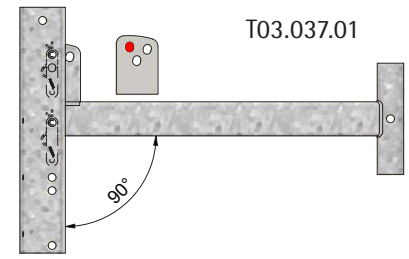

T03.014.01

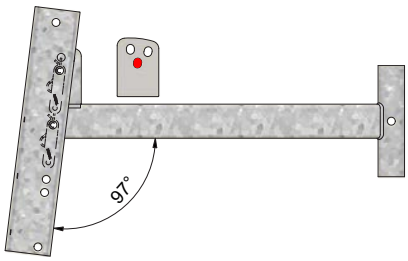


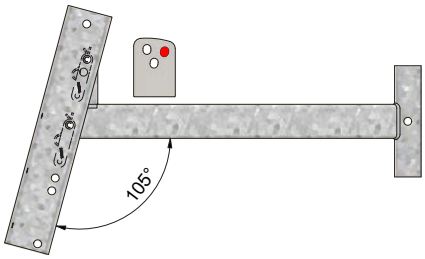

T03.015.01

# Angled walls

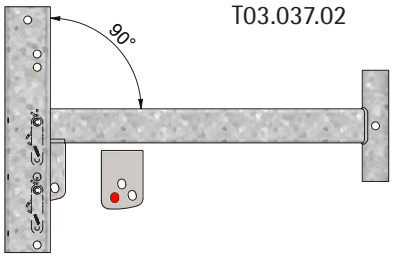
T03.037.01

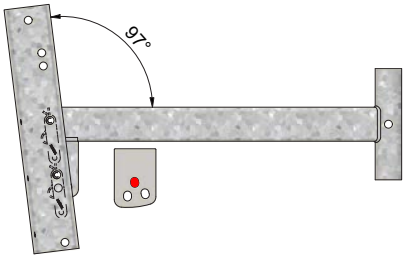


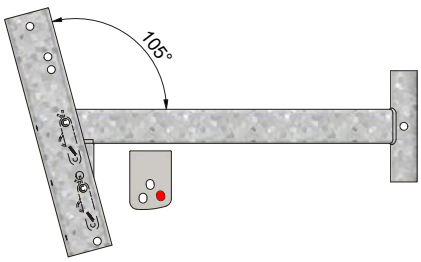



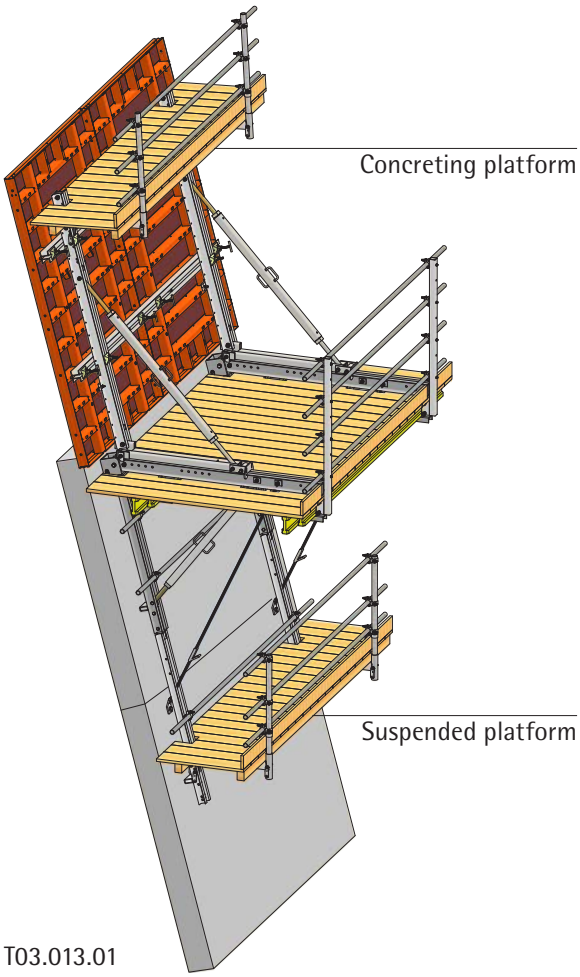

T03.037.02



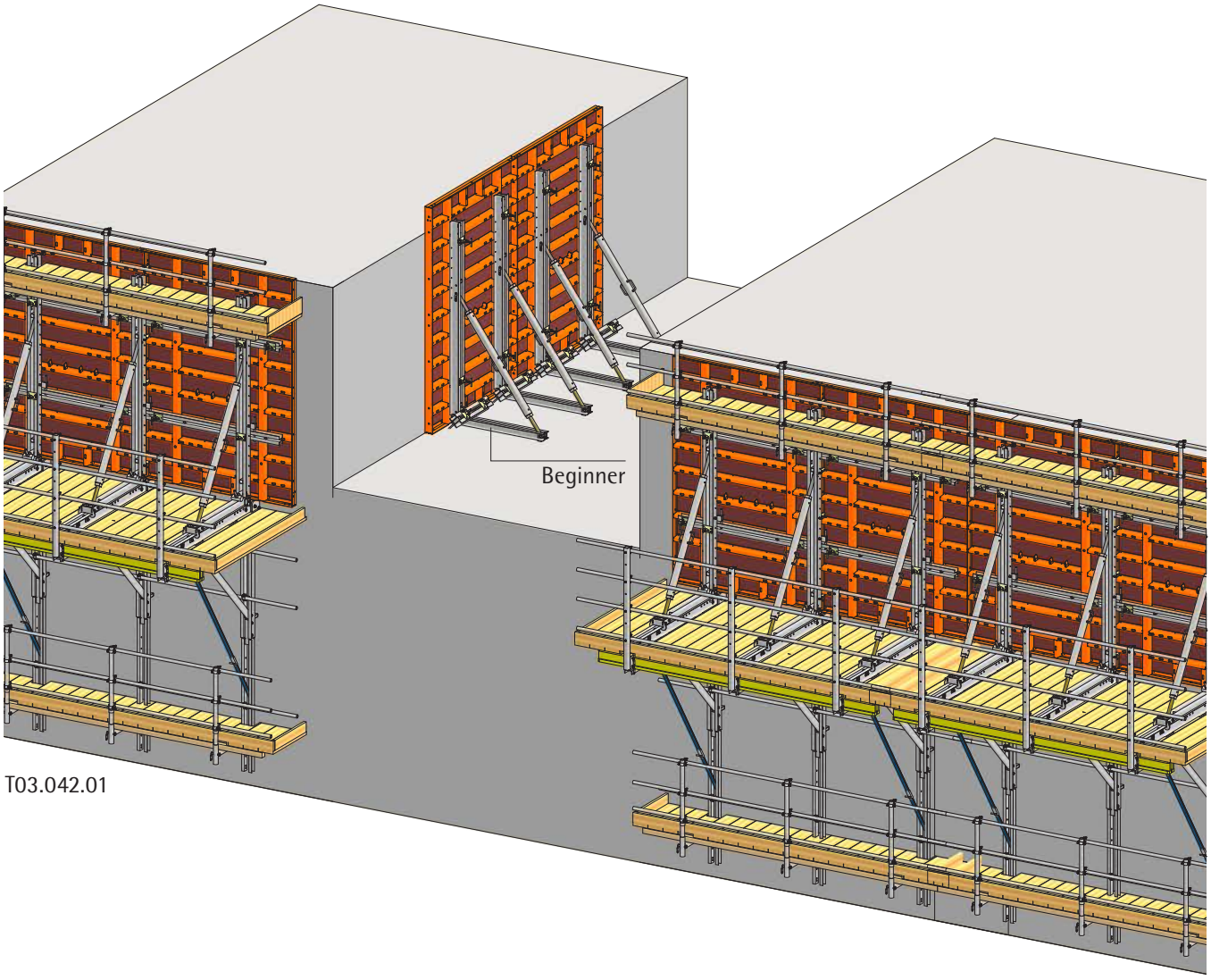

An adjustment to different angles is also possible for the concreting platform and suspended platform through multiple openings in the perforated panel. The concreting platform can also be rotated.




T03.013.01

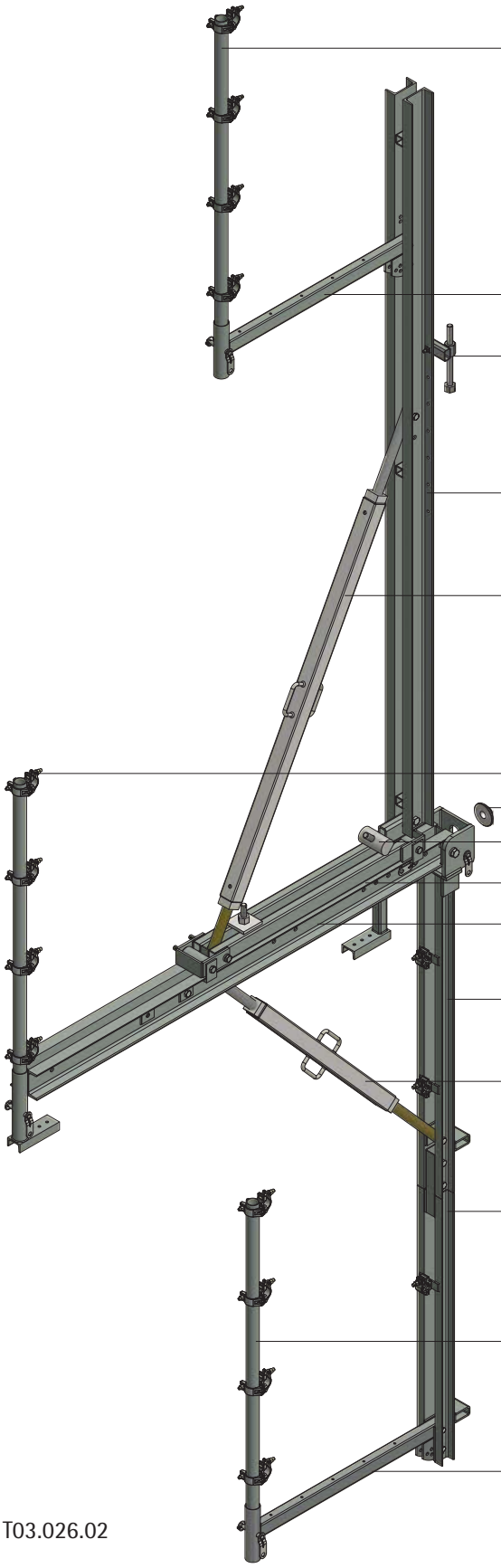
# System description, technical data, barrier bracket SPK 270

- With the barrier bracket SPK 270, climbing formwork can also be designed single-sided. This is necessary for barrages or dams, and for port facilities or inner-city bridging structures. The SPK 270 can also be used as a replacement for the brackets in the climbing system 240.
- All system formworks from PASCHAL can be fitted to the barrier brackets.
- The formwork can be angled for dismantling and removed on a trolley.
- The formwork can be smoothly angled on the barrier brackets up to max. 38° in both directions.
- A supporting jack (with starter) can be built from the components of the barrier brackets for the first concreting section.
- The assembly of the individual parts into brackets or platforms corresponds to the procedure for the climbing system 240, as do the safety-relevant requirements when implementing the units.
- The anchors are sized, the bracket distances and platform sizes determined for the object depending on the respective load assumptions available.




T03.042.01

# System components



186.002.0017 Guard railing post 200 cm fitted for SPK 270

186.002.0019 Platform bracket cpl. 120 cm fitted for SPK 270

186.002.0018 Height-adjustable spindle fitted for SPK 270

186.002.0014 Vertical support 290 cm fitted for SPK 270

186.002.0012 Tie bar strut 155-235 cm for SPK 270
186.002.0015 Tie bar strut 235-290 cm for SPK 270

186.002.0017 Guard railing post 200 cm fitted for SPK 270

186.002.0002 Mounting roll

186.002.0016 Carriage fastening fitted for SPK 270

186.002.0013 Carriage fitted for SPK 270

186.002.0010 Horizontal bar 270 cm fitted for SPK 270

186.002.0011 Vertical bar 200 cm fitted for SPK 270

186.002.0012 Tie bar strut 155-235 cm for SPK 270
186.002.0015 Tie bar strut 235-290 cm for SPK 270

186.002.0020 Vertical bar suspended scaffold fitted for SPK 270

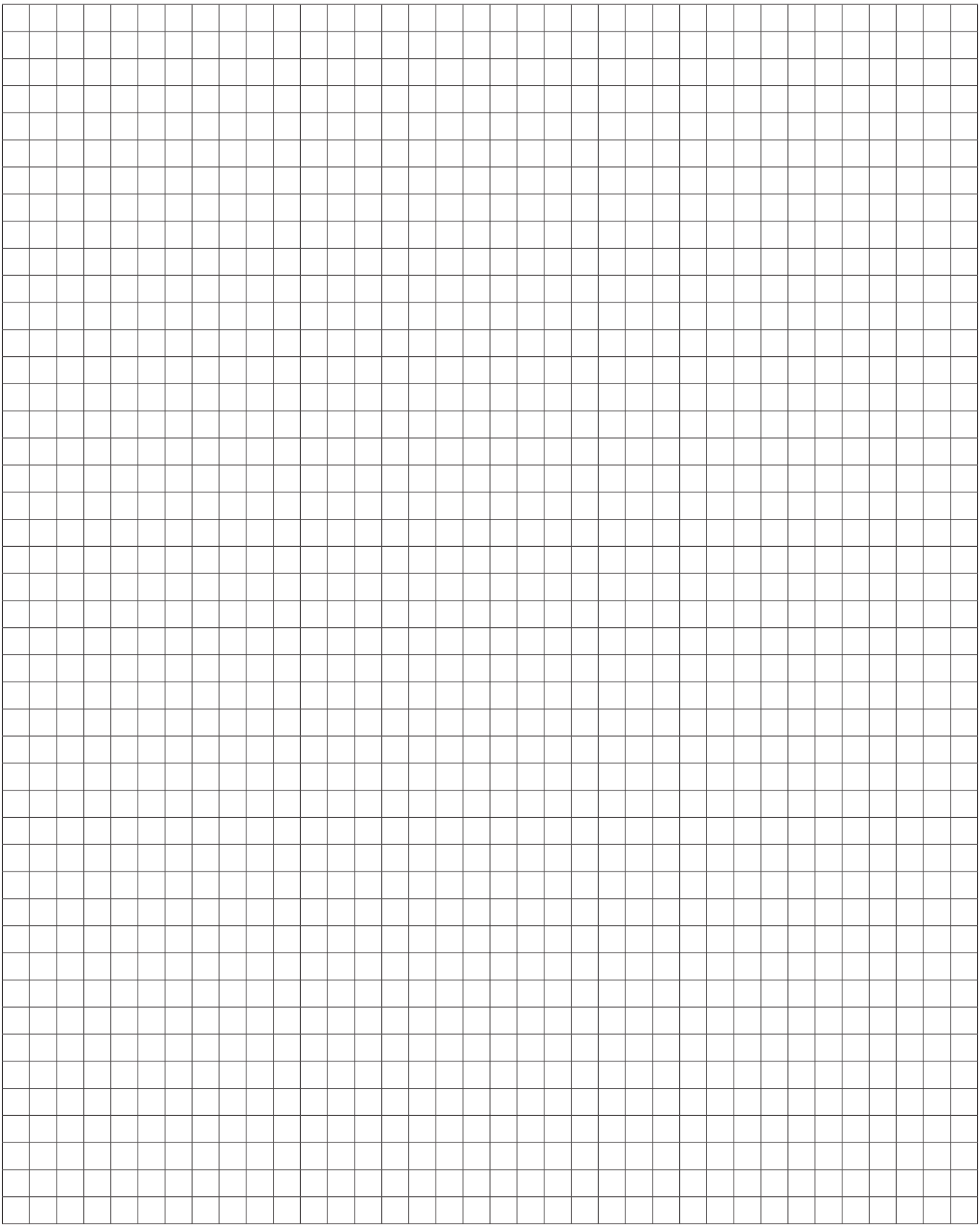
186.002.0017 Guard railing post 200 cm fitted for SPK 270

186.002.0019 Platform bracket cpl. 120 cm fitted for SPK 270

T03.026.02

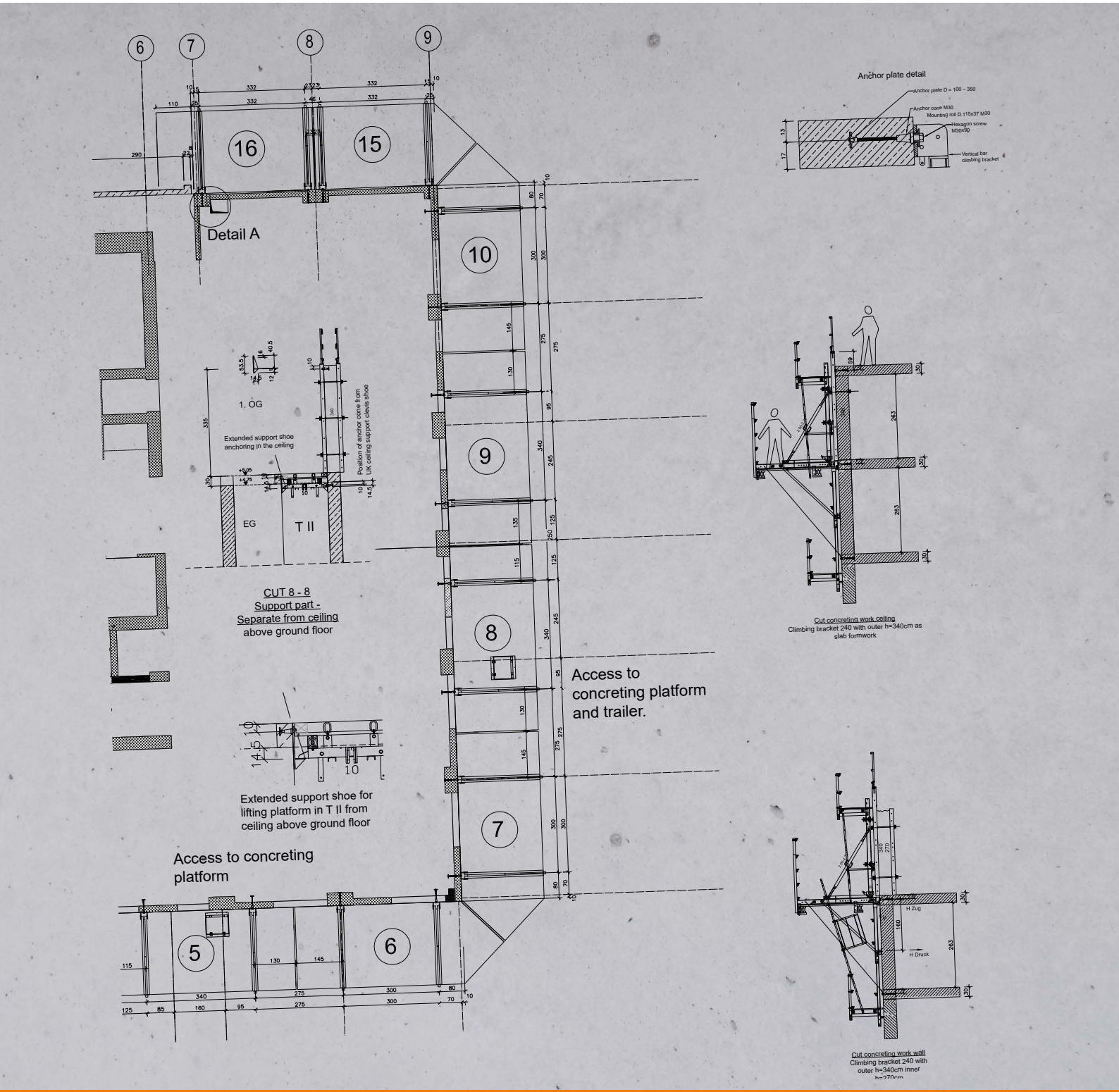
# Index

# Notes



# Notes

# Notes

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