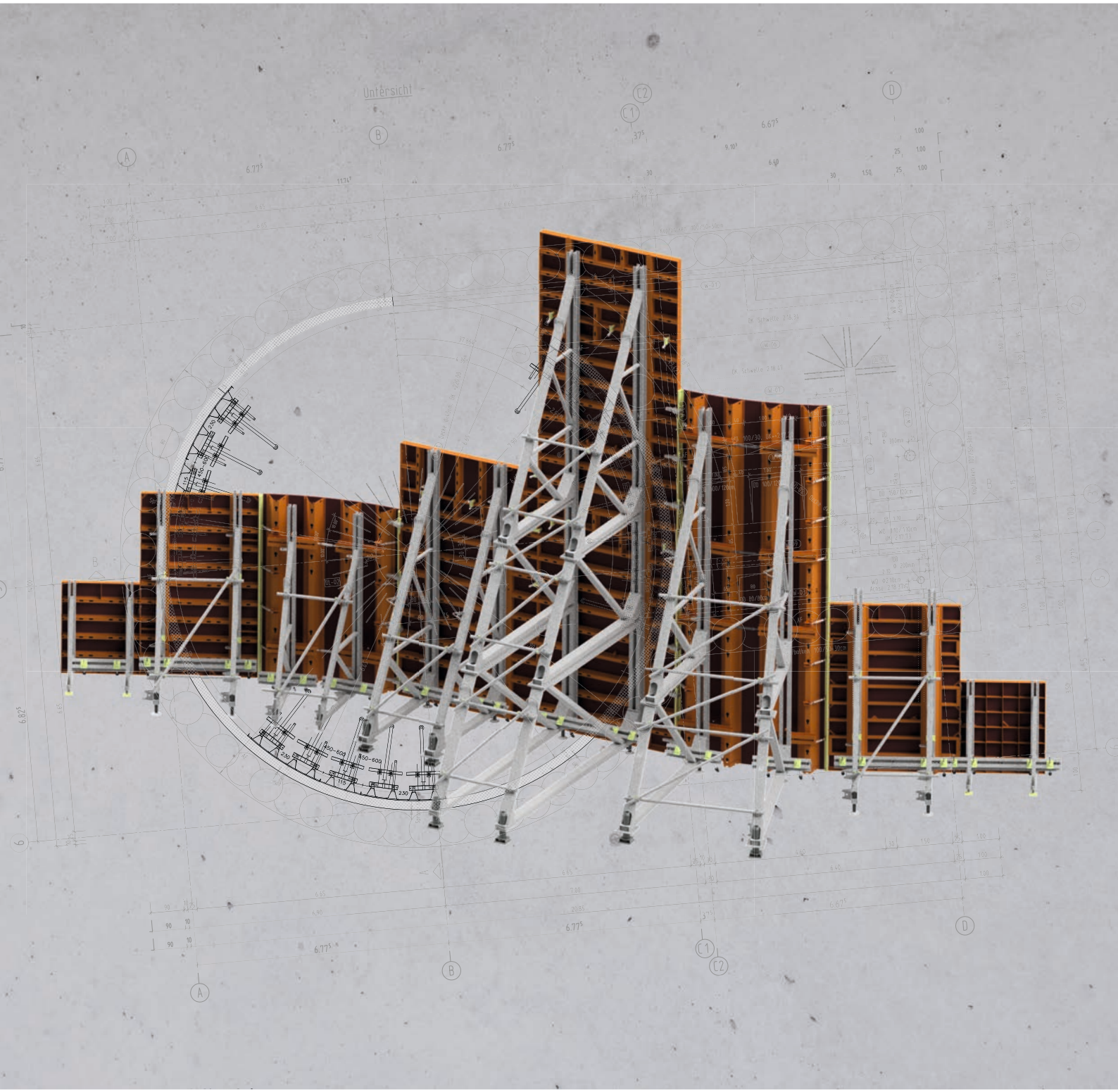
Single-sided formwork

TECHNICAL INFORMATION



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Edition 01
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GSV Guideline

Information about the intended and safe use of formwork and falsework

The company has to draw up a risk assessment and assembly instructions. The latter are typically not the same as assembly and use instructions (AuV).

- **Risk assessment**
  The company is responsible for creating, documenting, implementing and revision of a risk assessment for each construction site. Its employees are required to implement the resulting measures in accordance with the law.
- **Assembly instructions**
  The company is responsible for creating written assembly instructions. The assembly and use instructions form one of the bases for creating the assembly instructions.
- **Assembly and use instructions (AuV)**
  Formworks are technical tools intended for commercial use. The intended use must be performed exclusively by technically appropriate staff and correspondingly qualified supervisors. The assembly and use instructions (AuV) are an integral part of the formwork construction. They include at least safety information, details about the standard assembly and intended use, and the system description. The function-related instructions (standard design) in the assembly and use instructions must be precisely observed. Extensions, deviations or changes represent a potential risk and therefore require separate verification (for example by means of a risk assessment) or assembly instructions that take into account the relevant laws, standards and safety provisions. This applies analogously to the formwork / falsework parts provided on site.
- **Availability of the AuV**
  The contractor shall ensure that the employees know the assembly and use instructions provided at the place of use by the manufacturer or formwork supplier before assembly and use and are accessible at all times.
- **Representations**
  The representations shown in the assembly and use instructions are part of the assembly states and are not always complete in respect of safety. Any platform bracket with guard railing post not shown in these representations must nevertheless be installed.
- **Storage and transport**
  The specific requirements of the respective formwork constructions in respect of transport procedures and storage must be observed. The use of corresponding lashing means is stated as an example.
- **Material inspection**
  The good condition and function of the formwork and falsework material must be inspected upon arrival at the construction site / destination and before any use. Changes to the formwork material are not permitted.
- **Spare parts and repairs**
  Only original parts may be used as spare parts. Repairs may only be made by the manufacturer or by authorised institutions.
- **Use of other products**
  Mixing formwork components from different manufacturers conceal dangers. They must be checked separately and may lead to the need to draw up separate assembly and use instructions.
- **Safety symbols**
  Individual safety symbols must be observed. Examples:

Safety information:
Non-compliance can lead to material damage or damage to health (danger to life).

Visual inspection:
The action performed must be checked by visual inspection.

Note:
Additional information regarding the safe, correct and expert design of the activities.

- **Miscellaneous**
  Changes due to technical development remain expressly reserved. The respective valid versions of the country-specific laws, standards and other safety provisions must be applied to the safety-relevant application and use of the products. They form part of the employer's and employee's duties concerning occupational safety. Among other things, this results in the duty of the contractor to guarantee the stability of formwork and falsework constructions and of the structure during all construction states. This also includes the basic assembly, dismantling and transport of the formwork and falsework constructions and their parts. The entire construction has to be examined during and after assembly.

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Table of contents

Overview, general information

Table of contents

LOGO.3 wall formwork

Table of contents

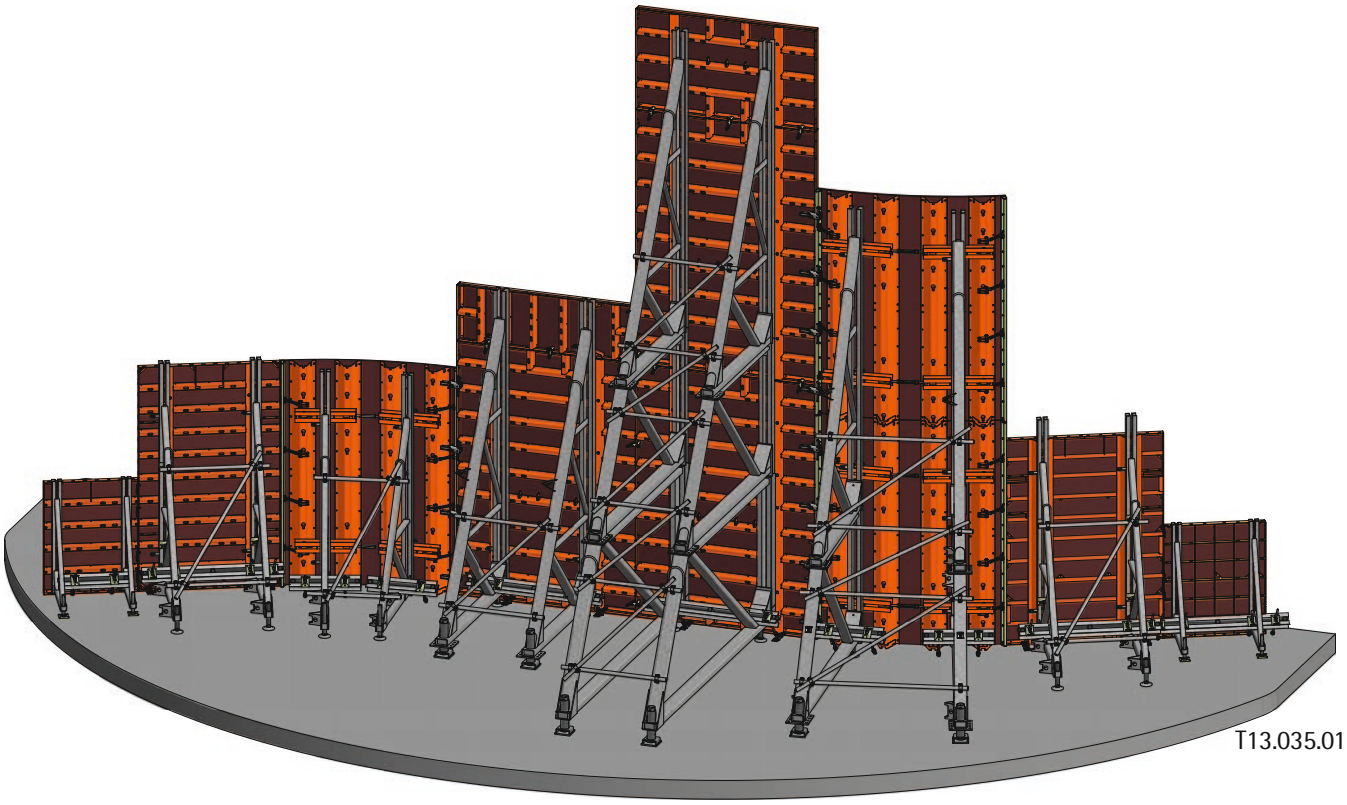
NeoR lightweight formwork

Table of contents

TTK / TTR trapezoidal girder circular formwork

System description, technical data

- All PASCHAL wall formwork systems can also be used as single-sided formwork in combination with supporting jacks.
- During concreting, the pressure forces caused by fresh concrete are transferred from the formwork panel to the supporting jack. The supporting jack then disperses these forces into the component below via pre-installed anchors. The formwork is thus secured against lift.
- The spacing between the supporting jacks or anchors is determined by the specific formwork system used. The permissible fresh concrete pressure is also determined using the relevant tables. In some cases, maximum distances can also be calculated based on the existing fresh concrete pressure or the concreting height.
- The supporting jacks are available as standard parts in various sizes for different formwork heights.
- All supporting jack sizes can be combined with any formwork system.
- The supporting jack and formwork are connected to each other by connecting pieces. This means that the supporting jack can be used to align the formwork. Units consisting of panels and supporting jacks can also be relocated, either after pre-assembly or during cycle-based formwork.
- In addition to straight walls, corner solutions are also possible within the system.
- The structural engineer must check that the floor slabs or foundations on which the supporting jacks are anchored and erected can withstand the loads specified in the table. If not, they must be reinforced. However, this should only be done if reducing the permissible concrete pressure is insufficient. In addition, the construction company, the client and the structural engineer must ensure that the components subjected to single-sided concreting have sufficient stability for the expected concrete pressure.

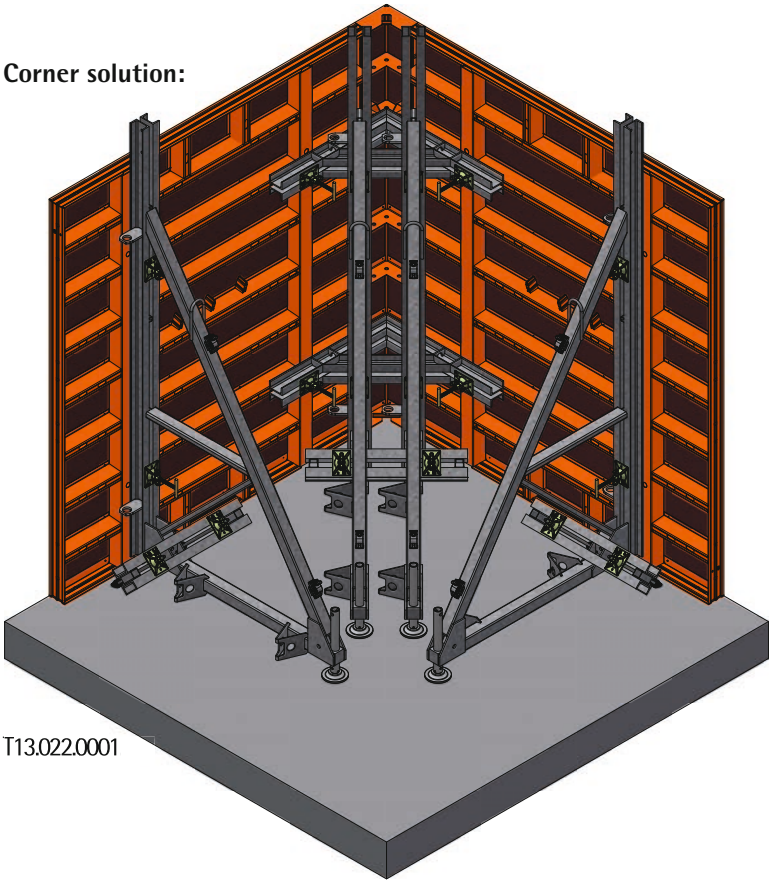


T13.035.01

System description, technical data

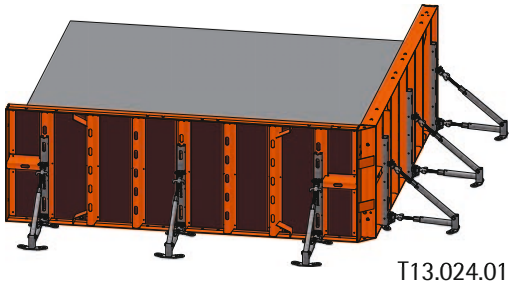
- The technical information for single-sided formwork contains all the necessary details for the standard assemblies. Uses other than these application cases require consultation with the application engineering department at the manufacturer and, if applicable, also a separate structural survey.
- For 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 complete in terms of safety.

Corner solution:



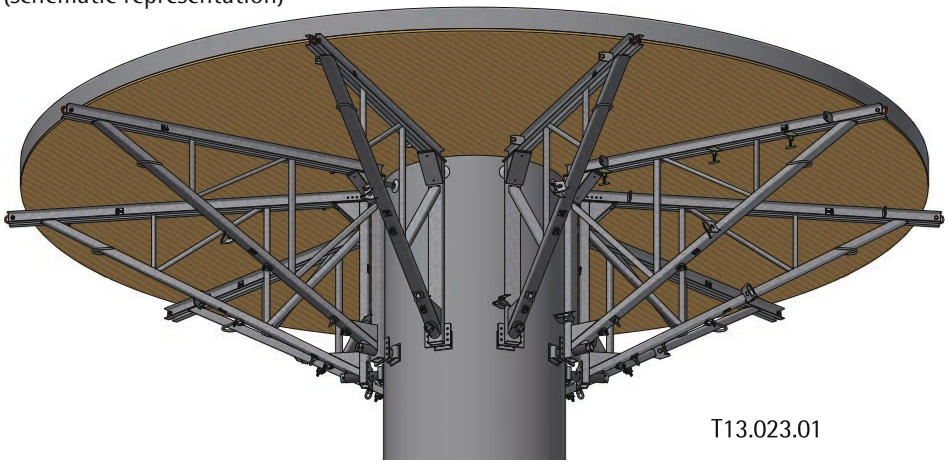
T13.022.0001

Stop end formwork of floor slabs:



T13.024.01

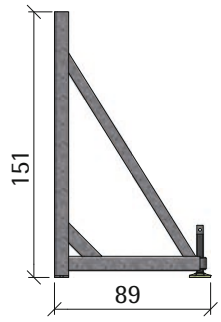
Work and safety scaffolding:
(schematic representation)

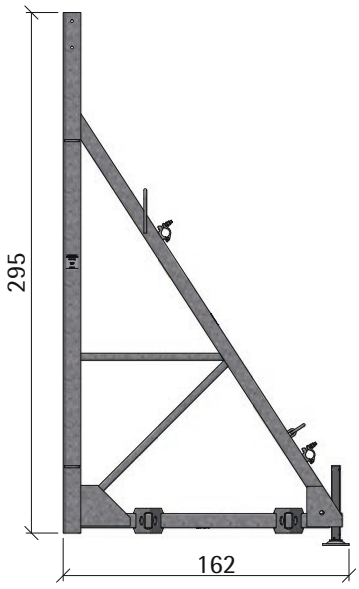


T13.023.01

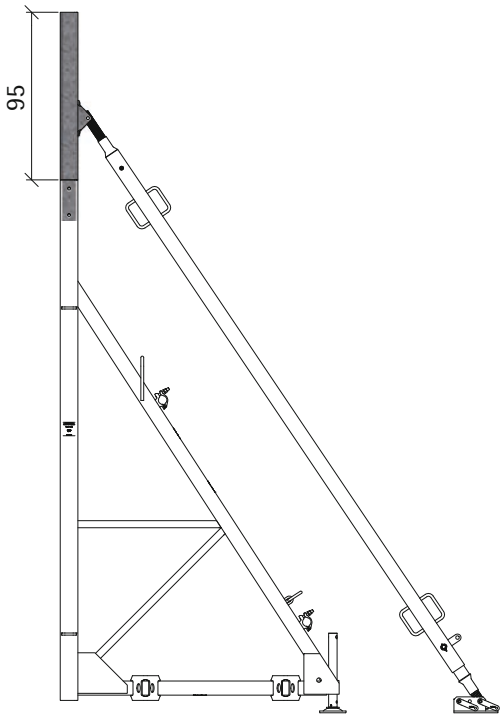
Overview of supporting jacks 1.50 m; 3.00 m; 4.00 m

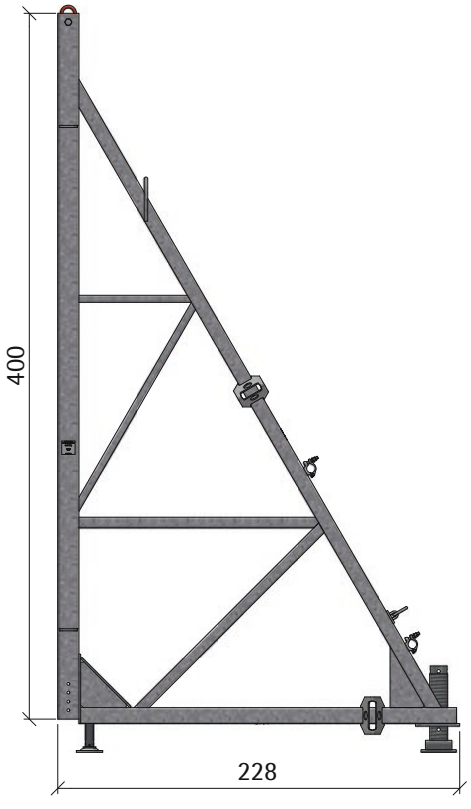
Supporting jack	**Supporting jack 1.50 m**	**Supporting jack 3.00 m, stackable**
Art. No.	189.005.0048	189.005.0120
Weight	47.50 kg	150.00 kg





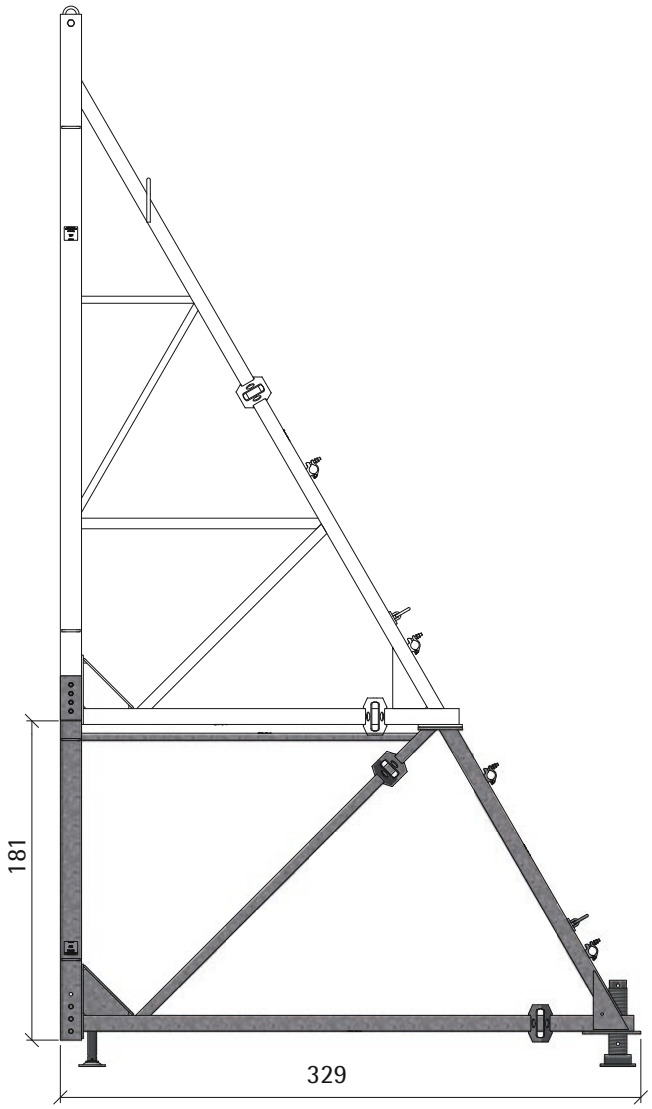
Supporting jack	**Height extension 1.00 m cpl.**	**Supporting jack 4.00 m, stackable**
Art. No.	189.005.0126	189.005.0121
Weight	28.20 kg	324.50 kg

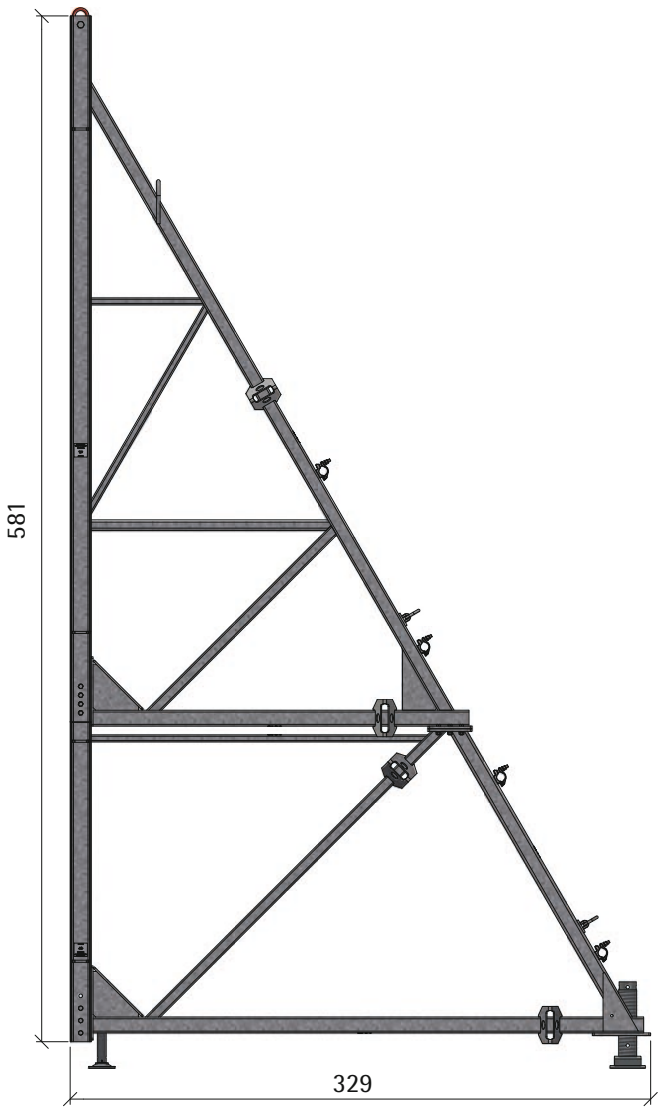




Height 6.00 m

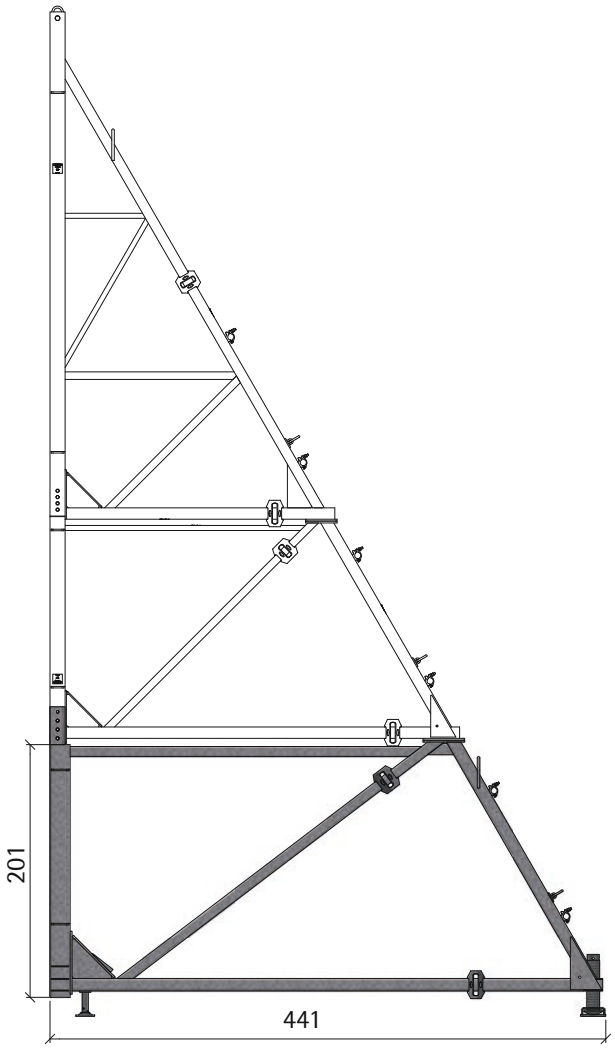
Supporting jack	Base extension 2.00 m to 6.00 m	Supporting jack 6.00 m, 2-piece
Art. No.	189.005.0124	189.005.0122
Weight	259.30 kg	575.00 kg

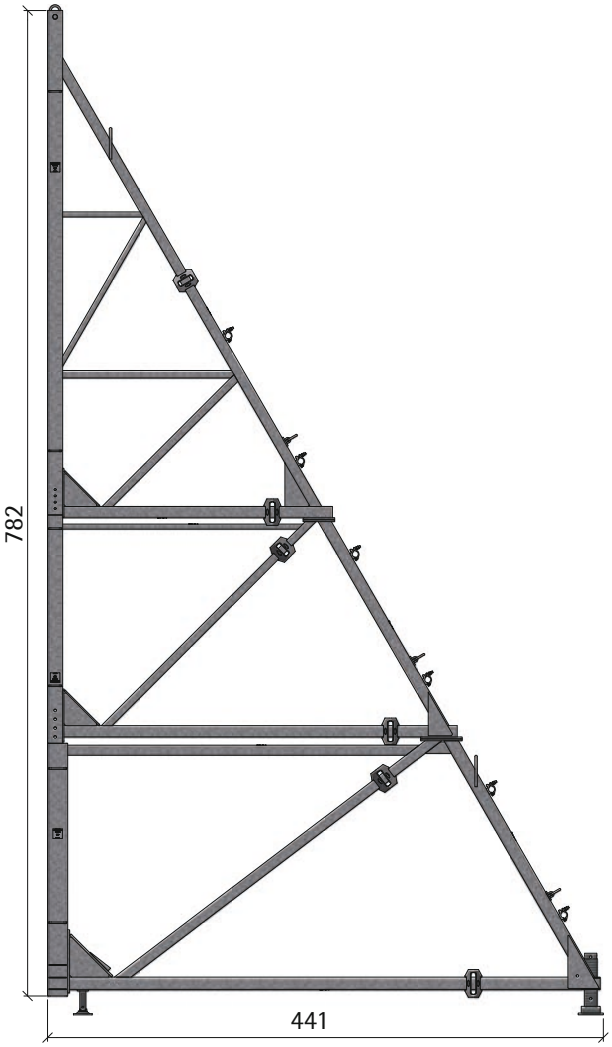




Height 8.00m

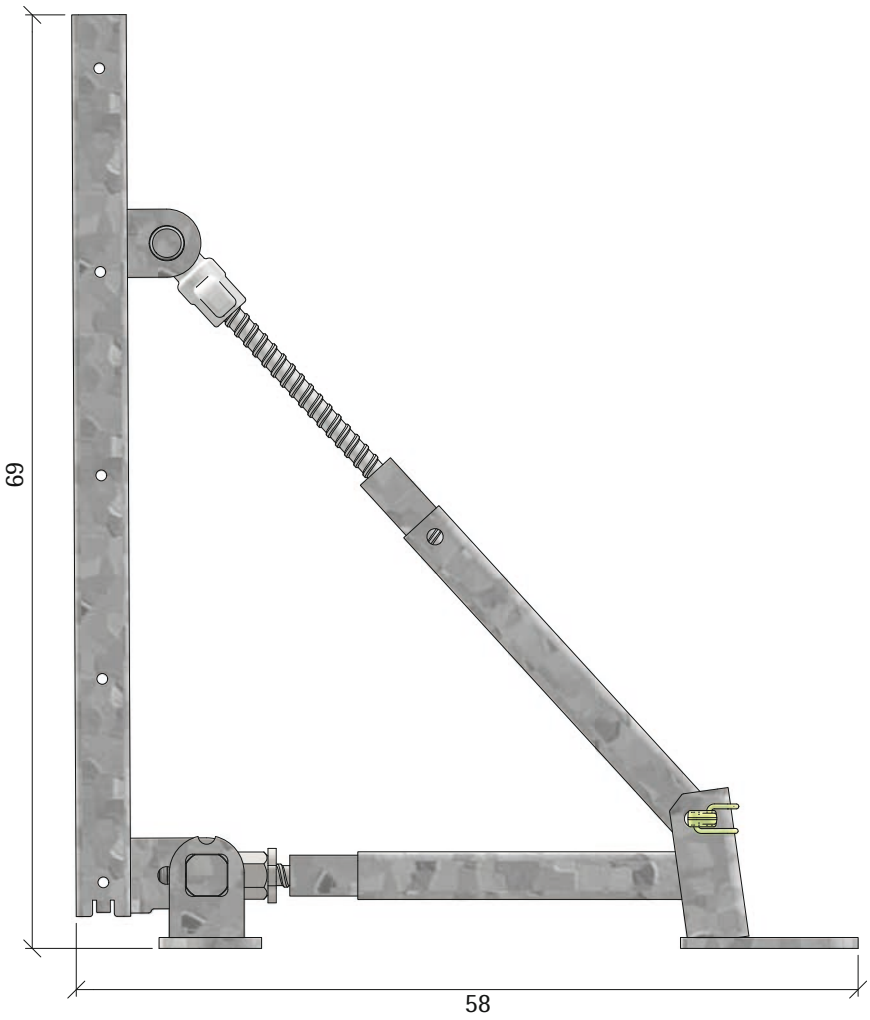
Supporting jack	Base extension 2.00 m to 8.00 m	Supporting jack 8.00 m, 3-piece
Art. No.	189.005.0125	189.005.0123
Weight	479.00 kg	1054.00 kg



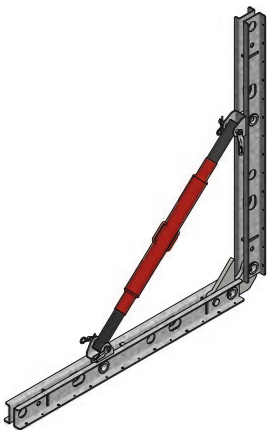
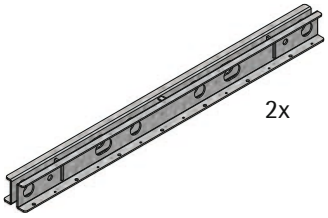
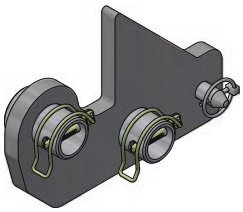
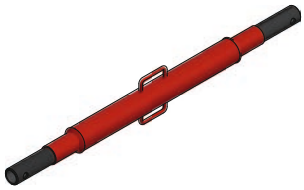
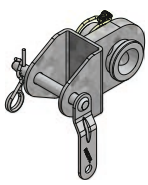


Flixstop

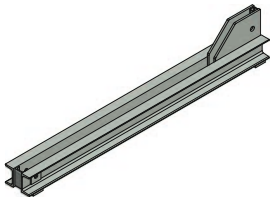
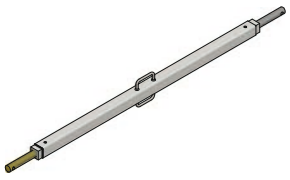
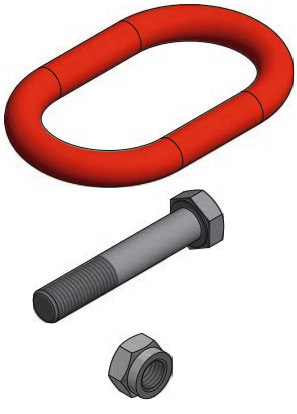
Supporting jack	**Flixstop**
Art. No.	189.005.0265
Weight	9.25 kg



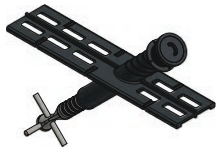
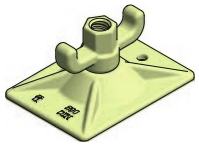
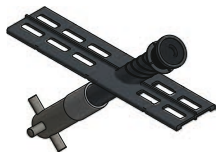
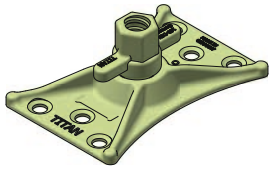
Supporting jack multi waler

		Article no.	Item description	Weight [kg]
			Supporting jack multi waler	50.44
	2x	187.500.0164	Multi waler 140	16.80
		187.500.0182	Connecting part for supporting jack multi waler, cpl.	6.90
		189.005.0012	Adjustable prop RSK1 90-150 cm	11.00
	2x	187.500.0179	Suspending piece for props multi waler, cpl.	2.30

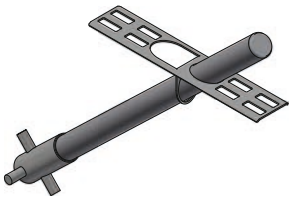
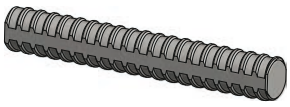
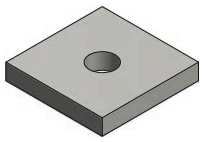
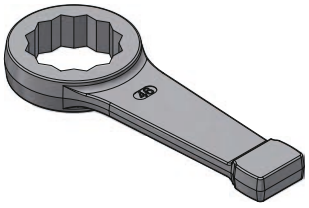
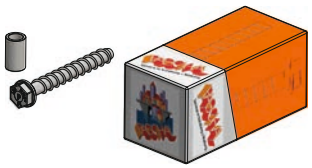
Supporting jack STB300 adjustable

	Article no.	Item description	Weight [kg]
		Supporting jack STB300, 10° adjustable made from parts of the barrier bracket	184.00
	186.002.0014	Vertical beam 290 cm mount. For SPK 270	94.00
	189.005.0127	Beginner STB300 adjustable, cpl.	44.80
	186.002.0015	Push pull prop 235-290 cm SPK270	44.50
	930.003.0030	Suspension link 16/60/110	0.54
	900.931.0307	Hexagon screw M16x90	0.17
	900.985.0016	Hexagon nut M16 DIN 985 self-locking	0.04

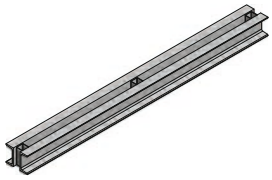
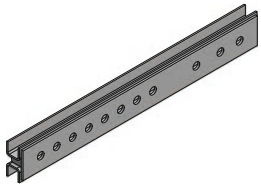
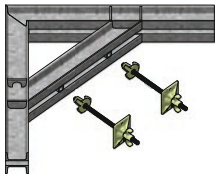
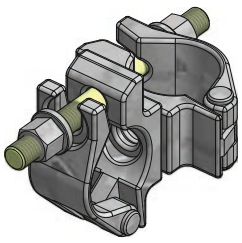
Parts list (anchors)

	Article no.	Item description	Weight [kg]
	940.014.0150	Combi V-guide DW15	0.59
	189.006.1000	Tie rod DW15 x 100 cm	1.40
	189.006.1500	Tie rod DW15 x 150 cm	2.10
	189.006.2000	Tie rod DW15 x 200 cm	2.80
	189.001.0059	Plate with ball-and-socket joint DW15 10 x 14 cm inclination max. 12°	1.29
	940.014.0151	Combi V-guide DW20	1.04
	189.040.1000	Tie rod DW20 x 100 cm	2.60
	189.040.1500	Tie rod DW20 x 150 cm	3.90
	189.040.2000	Tie rod DW20 x 200 cm	5.20
	189.001.0009	Plate with ball-and-socket joint DW20 14 x 20 cm, chrome-plated	1.65

Parts list (anchors)

	Article no.	Item description	Weight [kg]
	940.014.0153	Combi guide V DW26.5	1.20
	189.007.1500	Tie rod DW26.5 x 150 cm	5.40
	189.007.2000	Tie rod DW26.5 x 200 cm	7.10
	189.001.0008	Hexagon nut DW26.5 x 60 SW46	0.54
	189.001.0062	Counter plate 12 x 12 x 2 cm D.32	2.20
	941.015.0110	Impact ring spanner SW46 DIN 7444	0.69
	940.014.0152	Angled plug for kombi V-guide DW15 and DW20	0.01
	935.000.0016	Concrete screw 16x130 - 10 pieces (including test sleeve)	2.10

Parts list (belting)

	Article no.	Item description	Weight [kg]
	189.001.0120	Double channel waler 120 x 1800 for supporting jack 3 / 4 m	50.50
	189.001.0121	Double channel waler 120 x 900 for supporting jack 3 / 4 m	25.00
	189.001.0125	Double channel waler 160 x 1800 for supporting jack 6 / 8 m	70.00
	189.001.0126	Double channel waler 160 x 900 for supporting jack 6 / 8 m	35.50
	187.500.0006	LOGO spacer channel 15-50 cm	7.10
	189.005.0057	Corner waler for supporting jack 3.00/4.00 m cpl.	56.84
	189.005.0126	Height extension 1.00 m	28.20
	652.021.2000	Tube D.48.3 x 3.25 x 2000 EN39 galvanized	7.20
	652.021.2500	Tube D.48.3 x 3.25 x 2500 EN39 galvanized	9.00
	652.021.3000	Tube D.48.3 x 3.25 x 3000 EN39 galvanized	10.80
	930.002.0004	Rotary coupler D.48 SW19 hot-dip galvanized	1.10

Parts list (connecting pieces)

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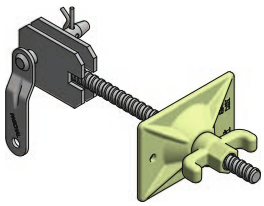
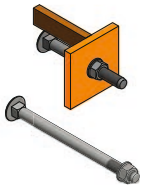
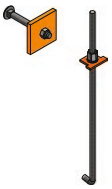
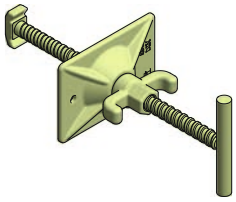
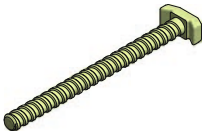
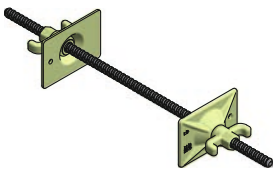
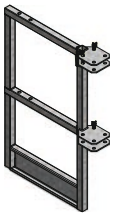
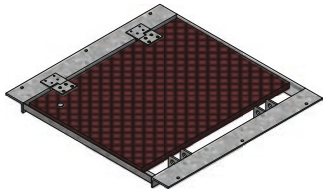
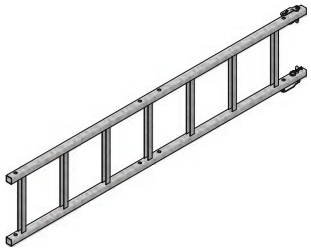
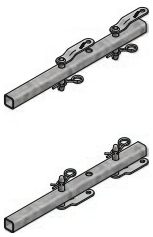
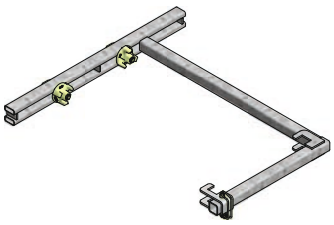
	180.000.0007	Modular formwork connecting piece cpl. for supporting jack 1.50 m	2.34
	180.000.0028	Modular formwork connecting piece cpl. for supporting jack 3.00 m	4.68
	180.000.0032	Modular formwork connecting piece cpl. for supporting jack 4.00 m	7.02
	180.000.0033	Modular formwork connecting piece cpl. for supporting jack 6.00 m	9.36
	181.000.0008	GE connecting piece cpl. for supporting jack 1.50 m	1.09
	181.000.0047	GE connecting piece cpl. for supporting jack 3.00 m	3.45
	181.000.0018	GE connecting piece cpl. for supporting jack 4.00 m	5.60
	181.000.0022	GE connecting piece cpl. for supporting jack 6.00 m	7.70
	187.500.0021	Support for walers DW15, clamping length 6-20 cm L/N/A	1.95
	187.500.0035	Connecting piece for supporting jack 3.0 m cpl. L/N/A	3.90
	187.500.0036	Connecting piece for supporting jack 4.0 m cpl. L/N/A	5.85
	187.500.0037	Connecting piece for supporting jack 6.0 m cpl. L/N/A	7.80
	187.500.0183	Connecting piece for supporting jack 8.0 m cpl. L/N/A	7.50
	183.500.0034	Hook-headed bolt DW15x220/160 L/N/A	0.42
	189.001.0001	Wing nut DW15	0.56
	182.000.0303	Trapezoidal girder connecting piece cpl. for supporting jack 1.50 m	3.48
	182.000.0091	Trapezoidal girder connecting piece cpl. for supporting jack 3.00 m	6.96
	182.000.0097	Trapezoidal girder connecting piece cpl. for supporting jack 4.00 m	10.44
	182.000.0098	Trapezoidal girder connecting piece cpl. for supporting jack 6.00 m	13.92
	182.000.0304	Trapezoidal girder connecting piece cpl. for supporting jack 8.00 m	17.4

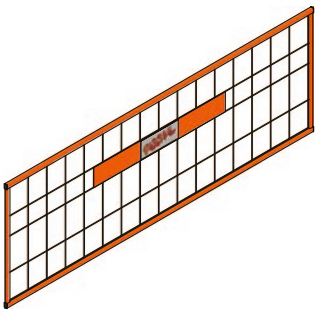
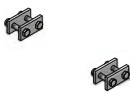
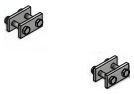
Parts list (work safety)

	Article no.	Item description	Weight [kg]
	189.000.0050	Platform bracket Secuset	9.20
	189.000.1001	Railing post 120 cm Secuset	3.20
	189.000.1010	Support for toe board Secuset	0.46
	189.000.0051	Door mounting post 60/105 cm L/N/R Secuset	9.70
	187.500.0065	Door 60/105 cm cpl. for Multip L/T/A	11.50
	187.500.0066	Door extension cpl. for Multip L/T/A	4.00

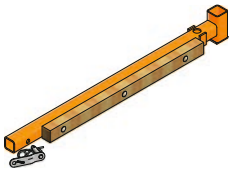
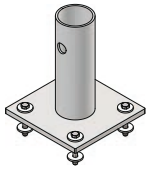
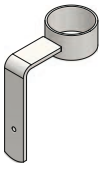
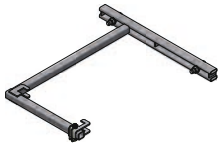
Parts list (work safety)

	Article no.	Item description	Weight [kg]
	286.000.0012	Trap for climbing bracket 60x62 cm, KBK, lifting platform	19.00
	189.004.043	Steel conductor 40/220 cm, cpl.	12.00
	189.004.0044	Bottom ladder extension 40/95	7.00
	189.004.0045	Bottom ladder extension 40/63	5.00
	189,004,046	Connection ladder 40/220 cm cpl.	2.50
	187.500.0111	Ladder fastening steel ladder for LOGO/Athl.	9.70

Parts list (work safety)

	Article no.	Item description	Weight [kg]
	189.000.1035	Lateral protection grating 230 x 80 cm Secuset	10.10
	189.000.1036	Lateral protection grating 130 x 80 cm Secuset	6.60
	189.004.0047	Ladder cage 97 cm cpl. for steel ladder 40/220cm	9.00
	189.004.0049	Clamping device for ladder cpl.	4.00
			

Parts list (work safety)

	Article no.	Item description	Weight [kg]
	182.000.0053	Platform bracket 90 cm, cpl. T	11.10
	182.000.0133	Platform bracket fastening T	5.50
	182.000.0060	Bracket 90 cm, plug-in, cpl.	8.27
	189.004.0036	Scaffolding rail 110 cm for door T with scaffolding tube couplings cpl.	6.20
	189.004.0035	Door 71x100 cm T for bracket 90 cm cpl.	10.00
	186.002.0045	Support guard railing post cpl.	3.90
	186.002.0038	Guard railing post 145 cm, assembled	12.60
	186.002.0046	Support for the board	0.55
	182.000.0305	Ladder fastening steel ladder T assembled	9.81

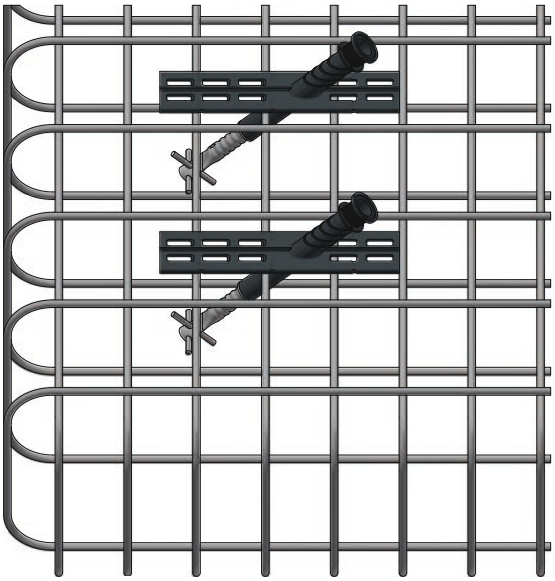
Anchor installation (spacing)

To transfer the forces from the fresh concrete pressure via the formwork and the supporting jack, anchors must be set in the foundation or floor slab. The spacing between these anchors or supporting jacks depends on the formwork system used or the panel widths: LOGO (page 36 ff.) NeoR (page 74) TTK/TTR (page 98f.)
The same applies to the distance t between the anchors and the component that will be erected later. Two anchors are generally required for each supporting jack, which must be set in concrete at a distance of 15 cm to the left and right of the supporting jack axis.

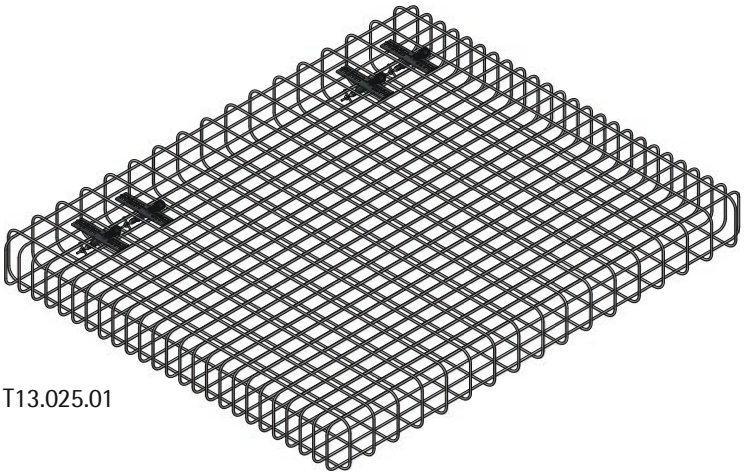
Supporting jack 1.50 m and 3.00 m:
Combi V-guide DW15

Supporting jack 4.00 m:
Combi V-guide DW20

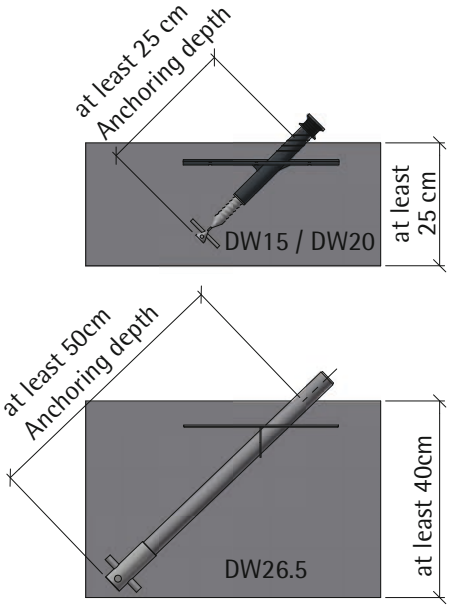
Supporting jack 6.00 m and 8.00 m:
Combi V-guide DW26.5



T13.025.02

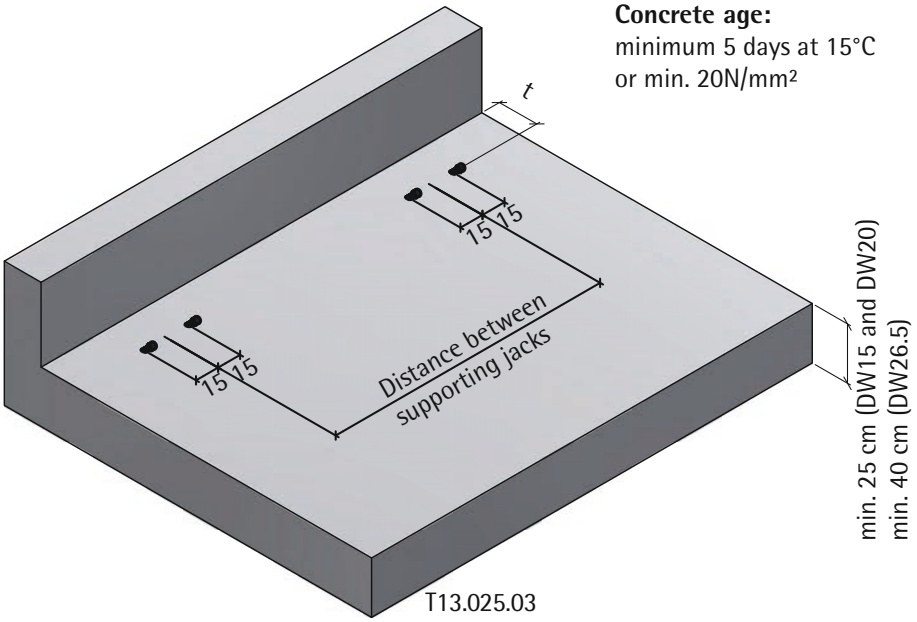


T13.025.01



T13.115.01

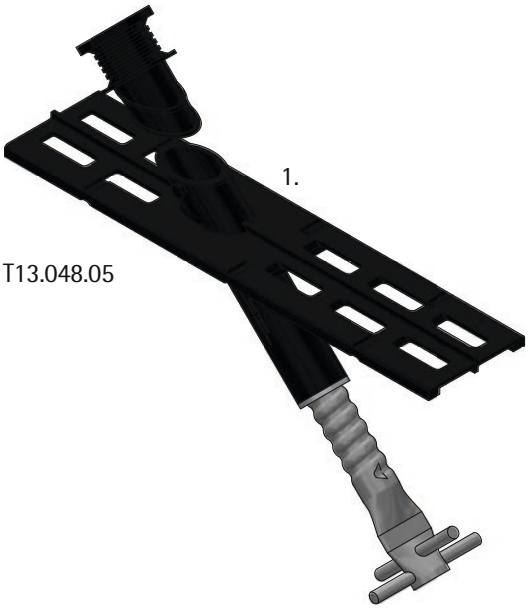
Concrete age:
minimum 5 days at 15°C
or min. 20N/mm²



T13.025.03

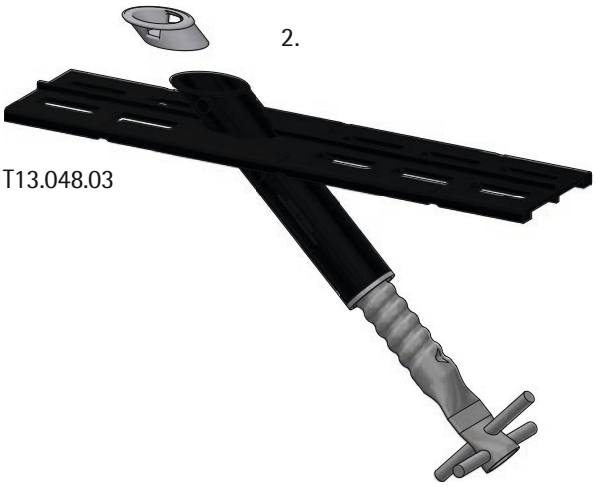
Anchor installation (angled plugs)

1.



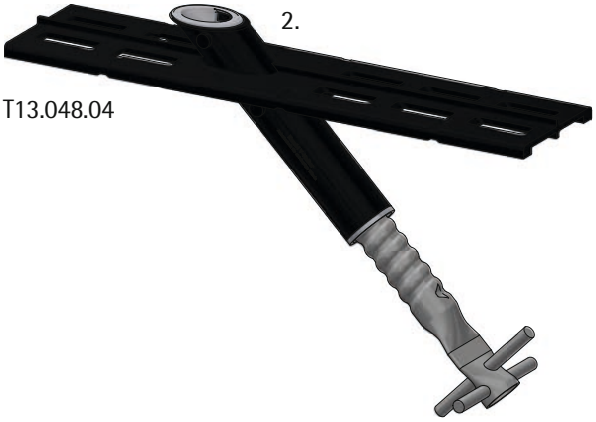
T13.048.05

2.



T13.048.03

2.



T13.048.04

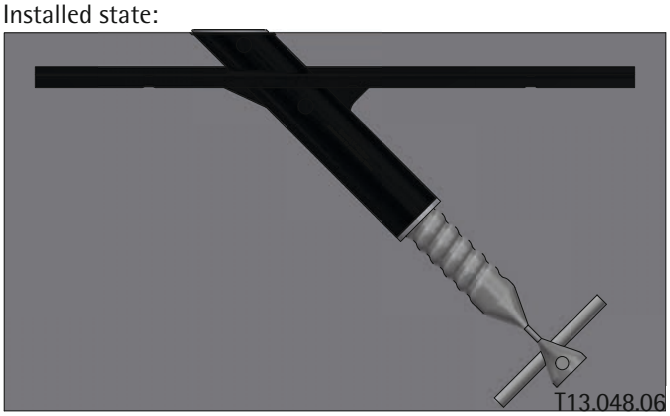
Angled plugs for kombi V-guides DW15 and DW20
Art. no.: 940.014.0152
Weight: 0.01 kg

With the angled plug, the upper end of the combi V-guide can be formed so that it is flush with the upper edge of the concrete in the part to be installed.
This means that mechanical smoothing after concreting is also possible in the area of the anchors.
The following steps are necessary before installation:

1. Shorten the sleeve of the combi V-guide at an angle of less than °45 to the required concrete cover.

2. Place the angled plugs.

Installed state:



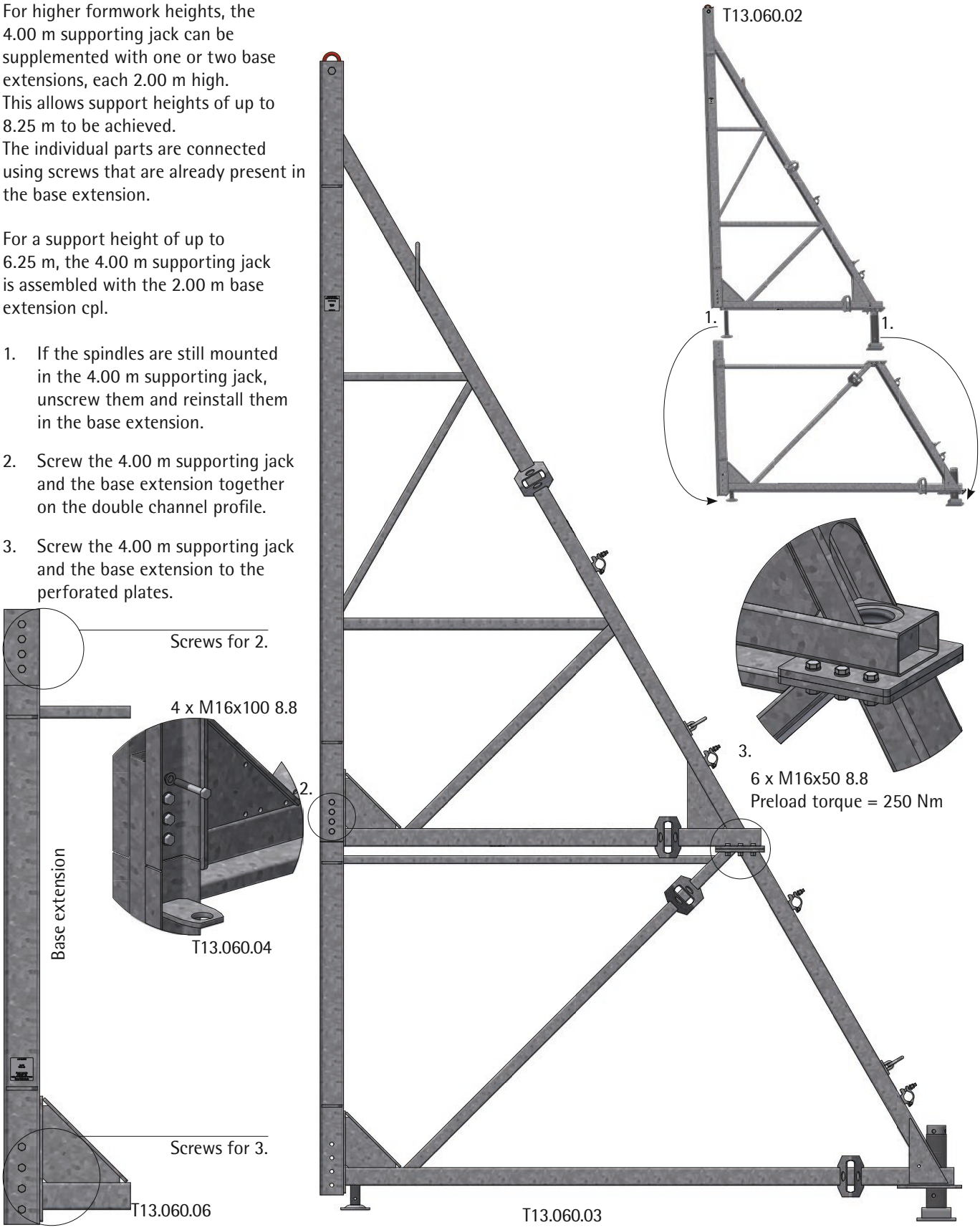
T13.048.06

Assembly of supporting jack 6.00 m

For higher formwork heights, the 4.00 m supporting jack can be supplemented with one or two base extensions, each 2.00 m high.
This allows support heights of up to 8.25 m to be achieved.
The individual parts are connected using screws that are already present in the base extension.

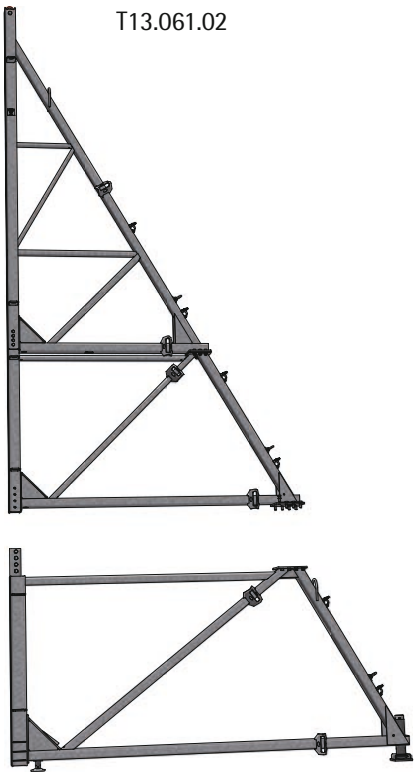
For a support height of up to 6.25 m, the 4.00 m supporting jack is assembled with the 2.00 m base extension cpl.

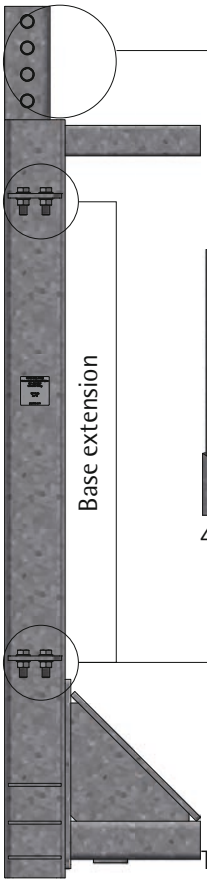
1. If the spindles are still mounted in the 4.00 m supporting jack, unscrew them and reinstall them in the base extension.
2. Screw the 4.00 m supporting jack and the base extension together on the double channel profile.
3. Screw the 4.00 m supporting jack and the base extension to the perforated plates.



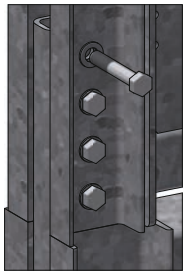
Assembly of supporting jack 8.00 m

T13.061.02

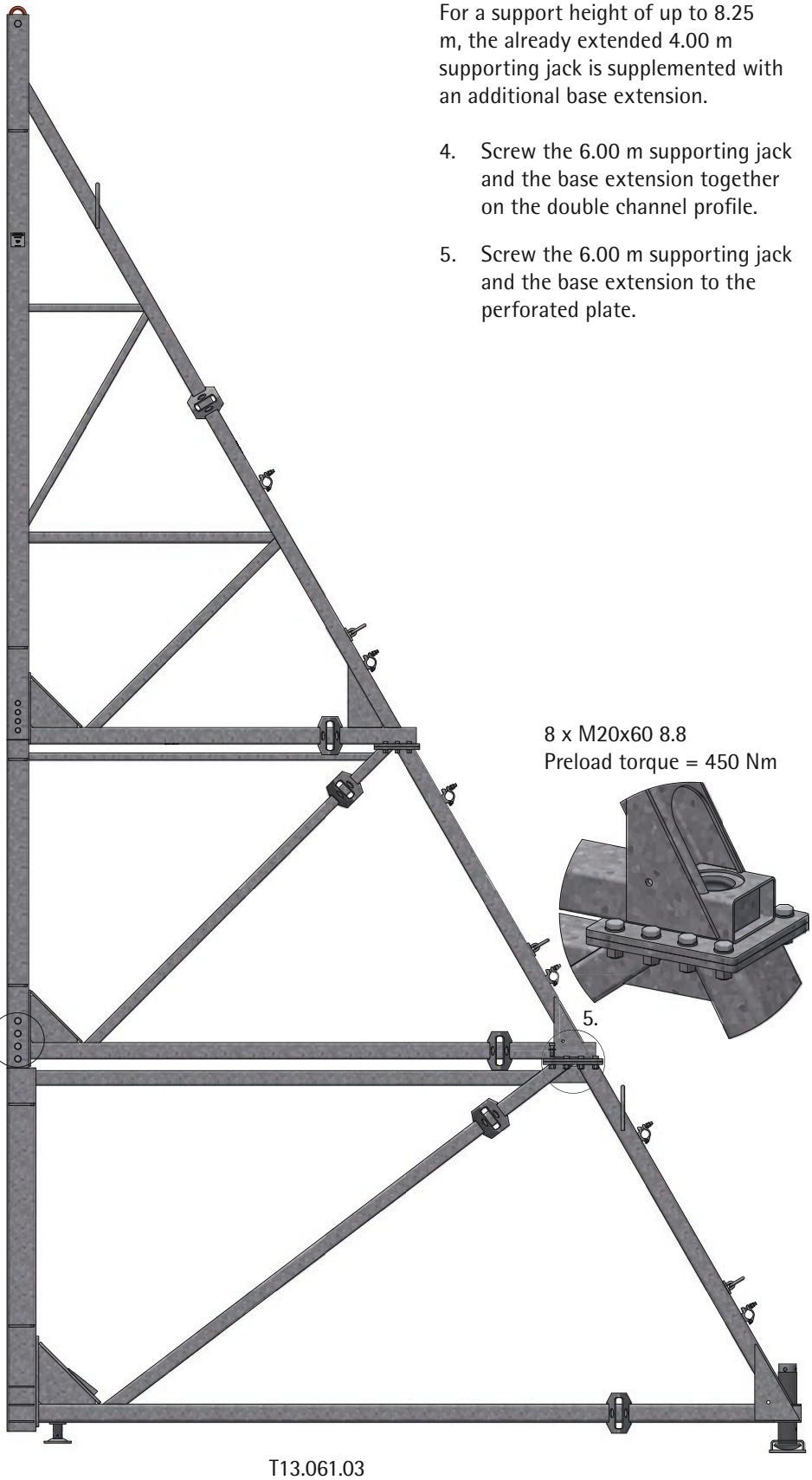




T13.061.07



4 x M20x120 8.8



T13.061.03

8 x M20x60 8.8
Preload torque = 450 Nm

For a support height of up to 8.25 m, the already extended 4.00 m supporting jack is supplemented with an additional base extension.

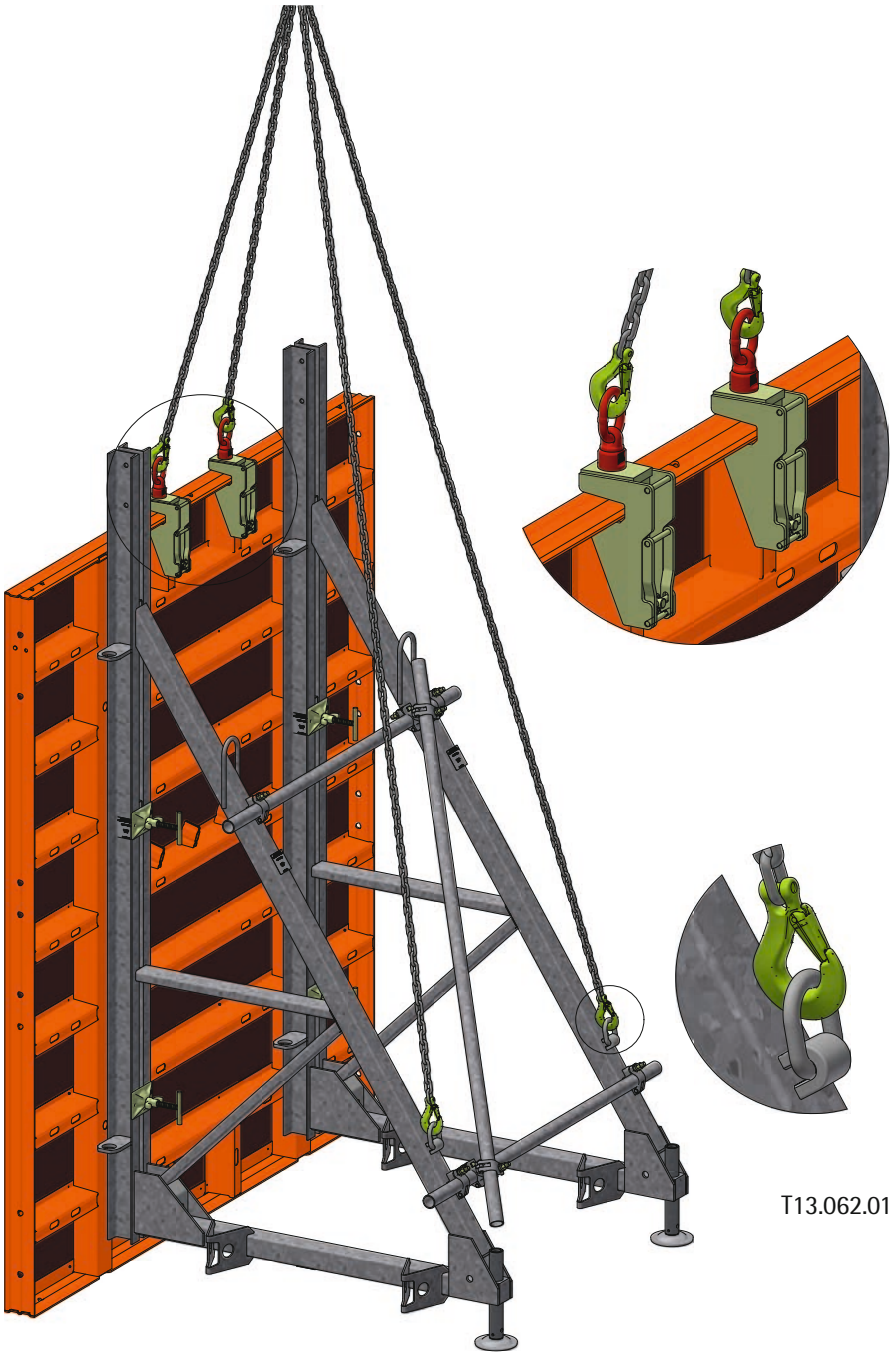
4. Screw the 6.00 m supporting jack and the base extension together on the double channel profile.

5. Screw the 6.00 m supporting jack and the base extension to the perforated plate.

Crane transport of supporting jack 3.00 m

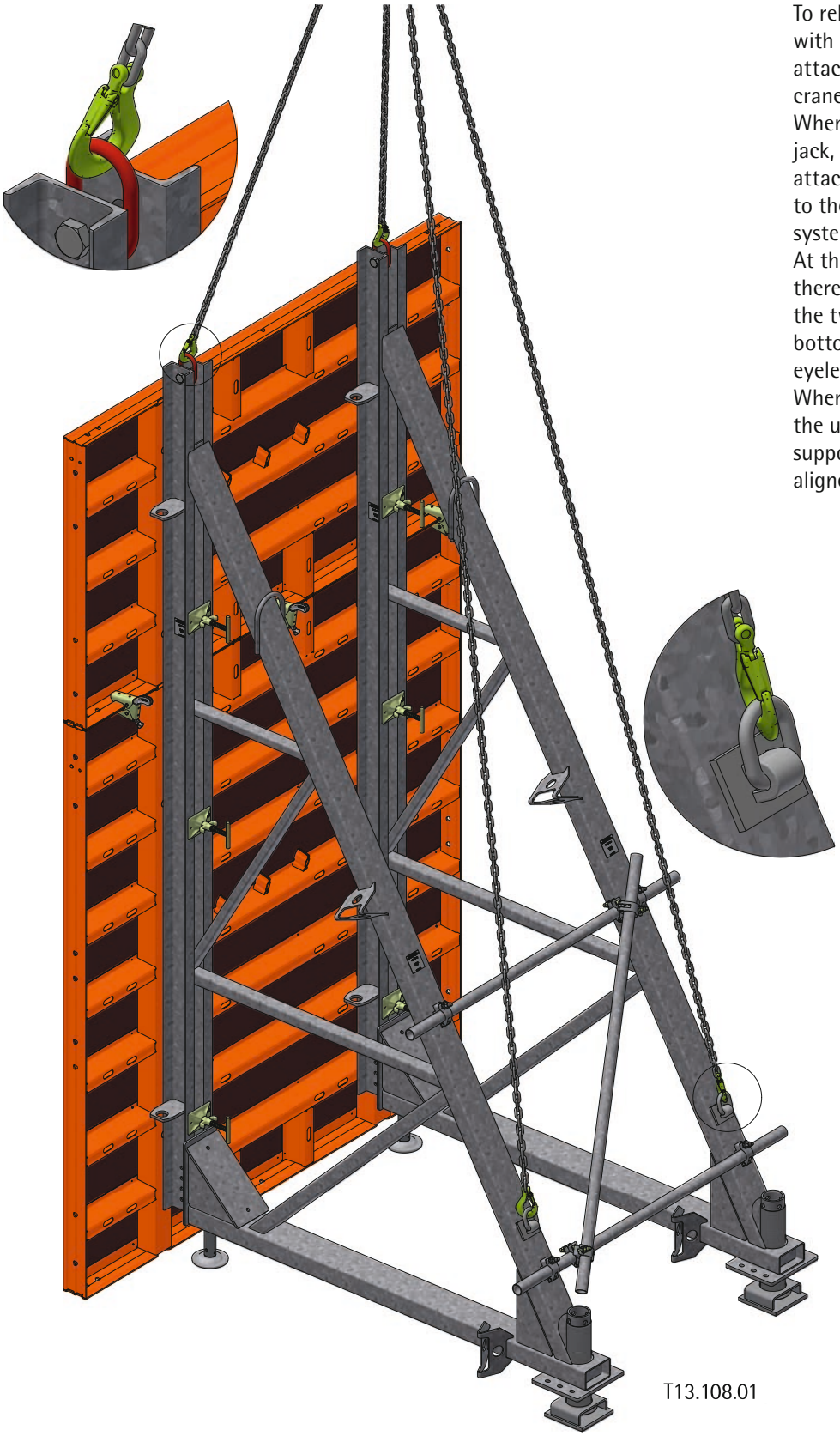
To relocate the formwork panels with mounted supporting jacks, the attachment points for the four-strand crane rope or chain are specified.
When using the 3.00 m supporting jack, two crane attachments are mounted on the formwork of the formwork system in use.
An additional attachment point is provided as a hinged eye bolt at the bottom of the supporting jack.

Note:
Crane transport is shown here with the LOGO.3 formwork panels.
If NeoR lightweight formwork or TTK or TTR circular formwork trapezoidal girders are used, the system-specific crane attachments are installed there.
When using length-adjustable ropes, the unit consisting of formwork and supporting jacks can be perfectly aligned for positioning.



T13.062.01

Crane transport of supporting jack 4.00 m

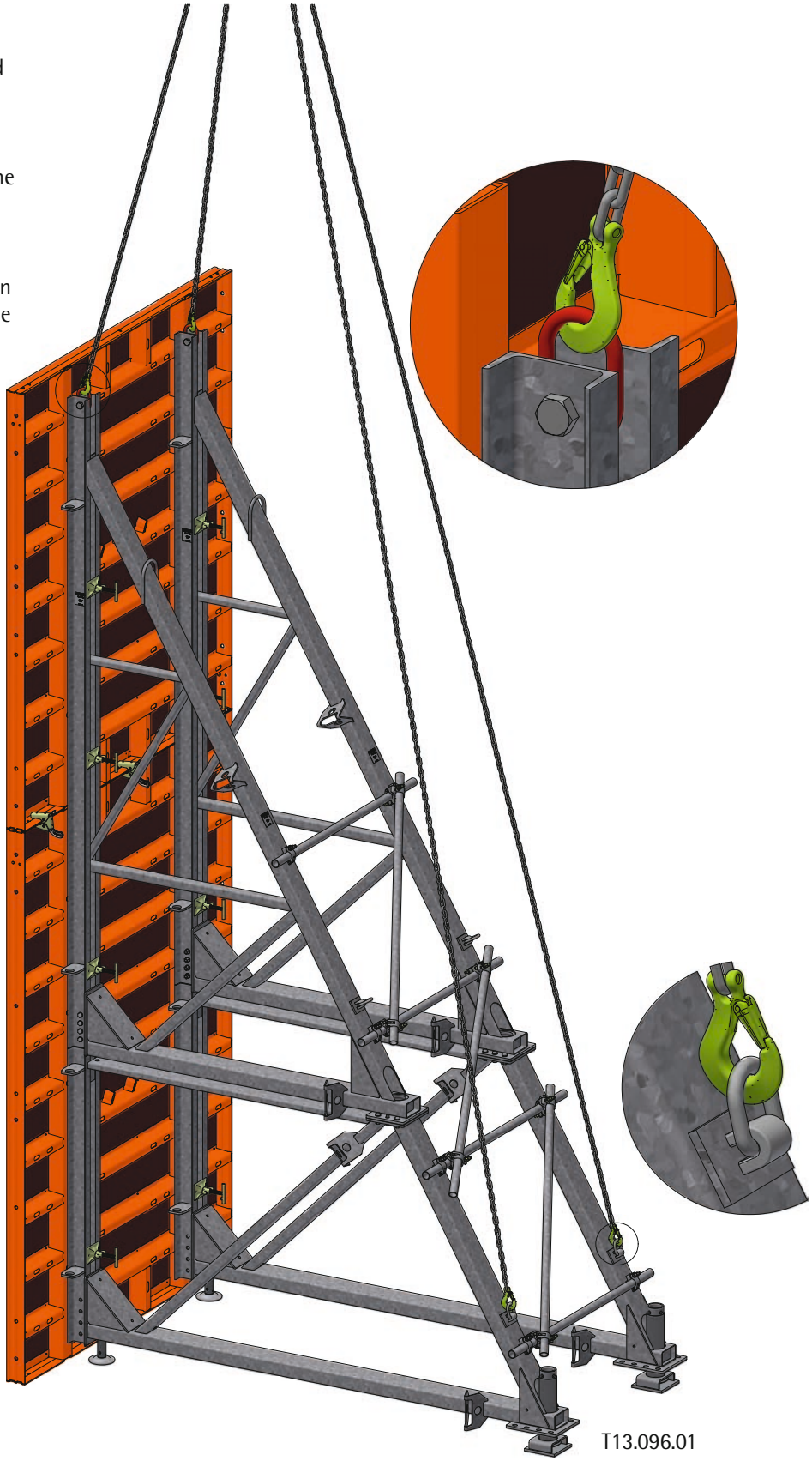


T13.108.01

To relocate the formwork panels with mounted supporting jacks, the attachment points for the four-strand crane rope or chain are specified.
When using the 4.00 m supporting jack, crane rope or chain is always attached to the supporting jacks, not to the formwork, regardless of which system is used.
At the top of the supporting jacks, there is a pre-mounted eyelet between the two double channel profiles; at the bottom, there is another articulated eyelet on the diagonal profile.
When using length-adjustable ropes, the unit consisting of formwork and supporting jacks can be perfectly aligned for positioning.

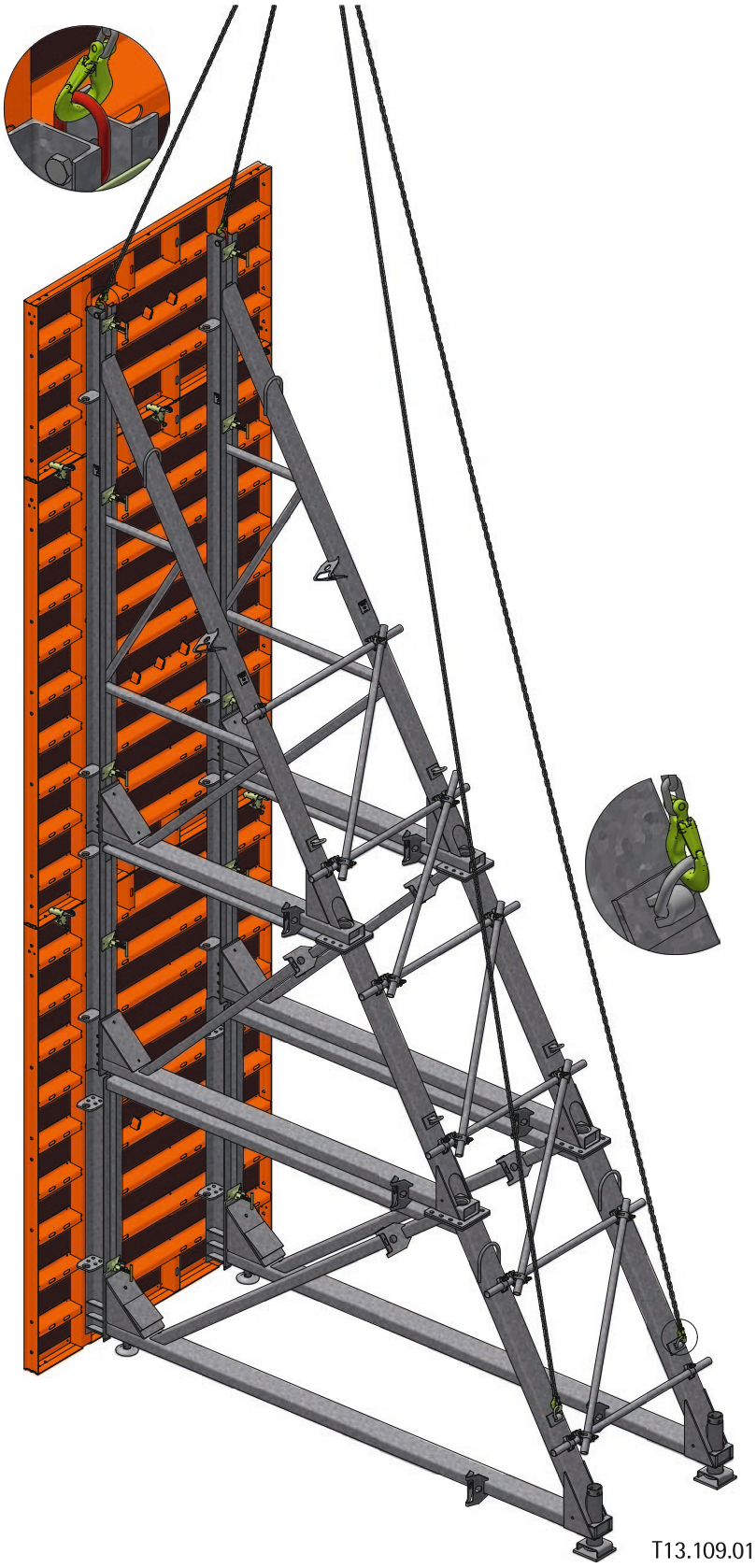
Crane transport of supporting jack 6.00 m

To relocate the formwork panels with mounted supporting jacks, the attachment points for the four-strand crane rope or chain are specified.
When using the 6.00 m supporting jack, crane rope or chain is always attached to the supporting jacks or the base extension, not to the formwork, regardless of which system is used.
At the top of the supporting jacks, there is a pre-mounted eyelet between the two double channel profiles; at the bottom of the base extension, there is another articulated eyelet on the diagonal profile.
When using length-adjustable ropes, the unit consisting of formwork and supporting jacks can be perfectly aligned for positioning.



T13.096.01

Crane transport of supporting jack 8.00 m



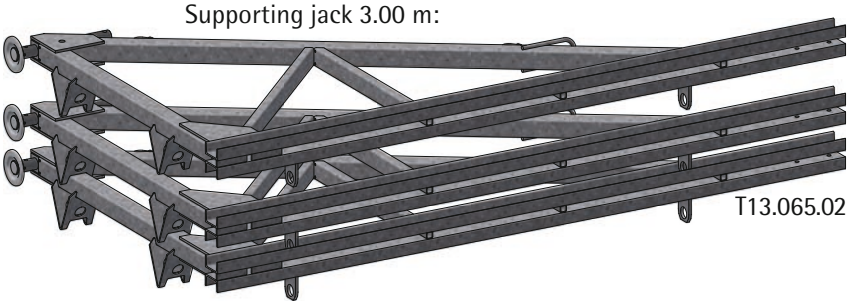
T13.109.01

To relocate the formwork panels with mounted supporting jacks, the attachment points for the four-strand crane rope or chain are specified.
When using the 8.00 m supporting jack, crane rope or chain is always attached to the supporting jacks or the base extension, not to the formwork, regardless of which system is used.
At the top of the supporting jacks, there is a pre-mounted eyelet between the two double channel profiles; at the bottom of the second base extension, there is another articulated eyelet on the diagonal profile.
When using length-adjustable ropes, the unit consisting of formwork and supporting jacks can be perfectly aligned for positioning.

Stacking

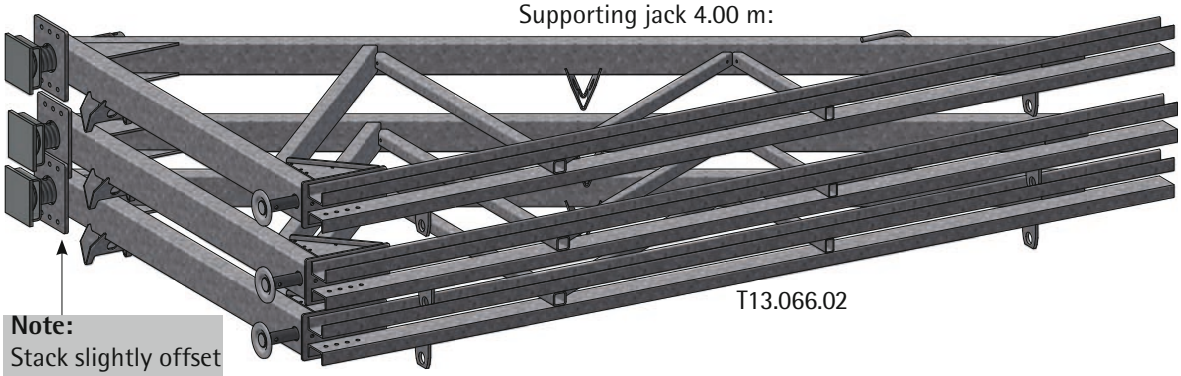
Stacking aids are provided in the various supporting jacks and base extensions.
This ensures that they can be stacked horizontally and securely on top of each other for transport and storage.

Supporting jack 3.00 m:



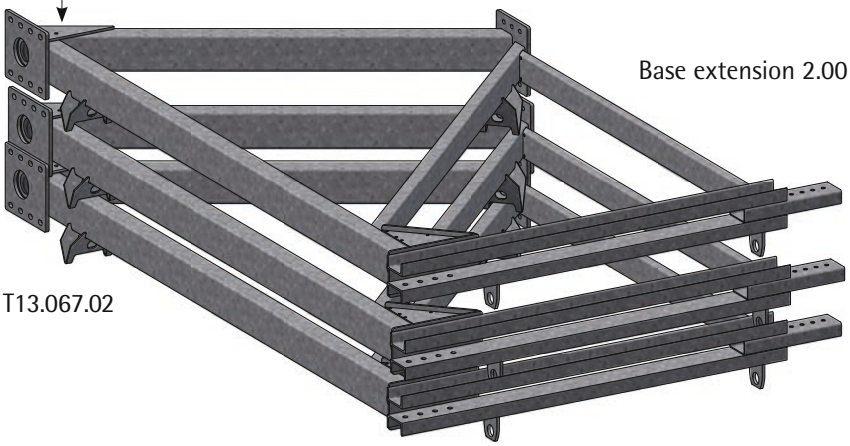
T13.065.02

Supporting jack 4.00 m:



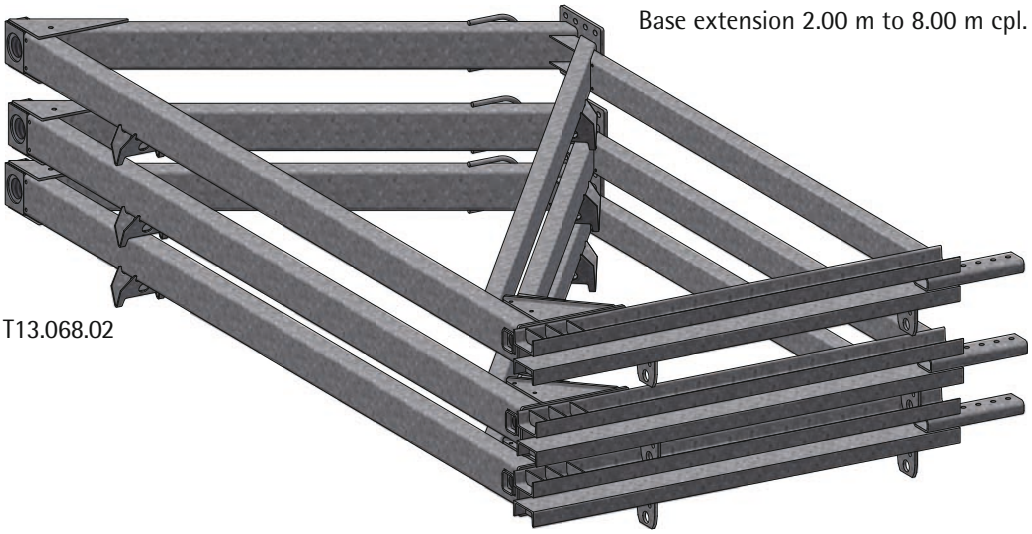
T13.066.02

Note:
Stack slightly offset from each other:



T13.067.02

Base extension 2.00 m to 6.00 m cpl. stackable.



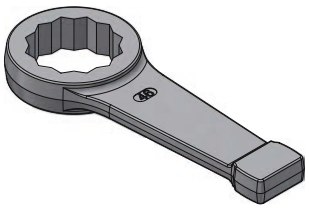
T13.068.02

Base extension 2.00 m to 8.00 m cpl. stackable.

Impact ring spanner, tie rod key

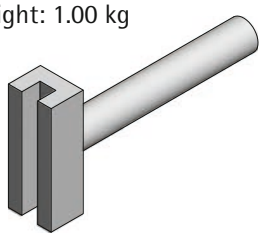
T13.069.01

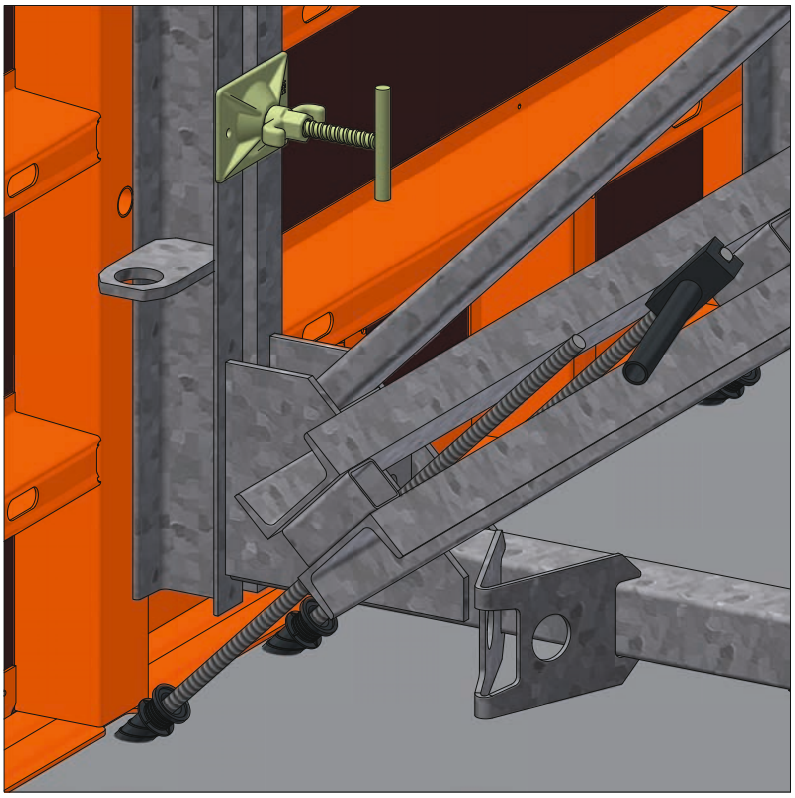
Impact ring spanner SW46
Art. no.: 941.015.0110
Weight: 0.95 kg



Counterplates and DW26.5 hexagon nuts are used for anchoring the 6.00 m and 8.00 m supporting jacks and corner solutions.
To make it easier to loosen the hexagon nut, the impact ring spanner can be placed on the nut and turned with a hammer.

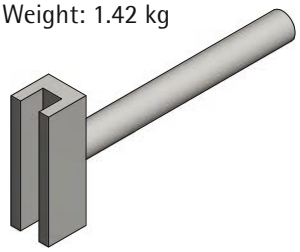
Tie rod key DW15
Art. no.: 940.014.0165
Weight: 1.00 kg





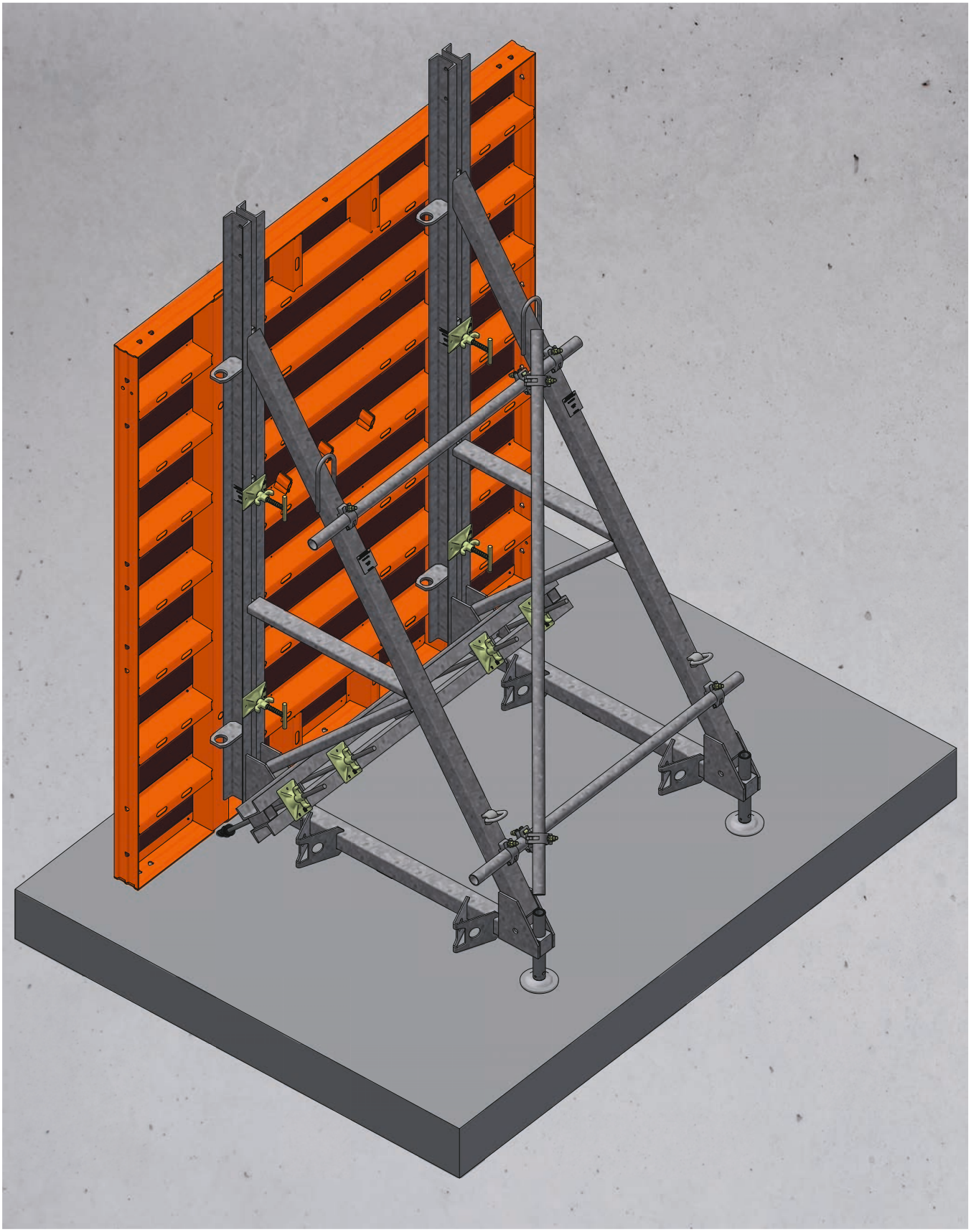
T13.034.08

Tie rod key DW20
Art. no.: 940.014.0171
Weight: 1.42 kg



In order to be able to turn the tie rods more easily during the installation or removal of the anchors,
a key is provided for the tie rod diameters DW15 and DW20. This is placed over the tie rod and then turned.

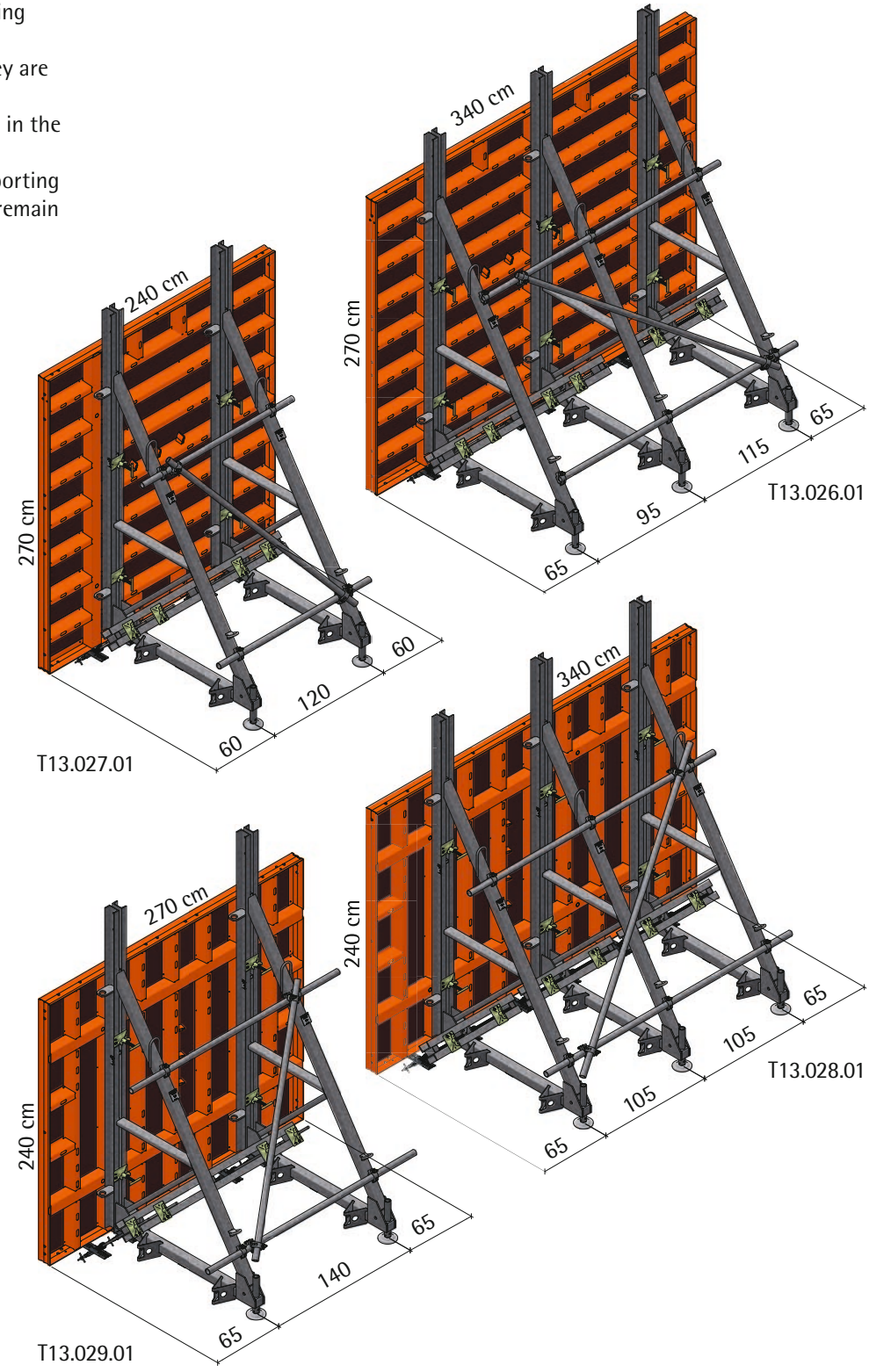
LOGO.3 wall formwork



Spacing between supporting jacks

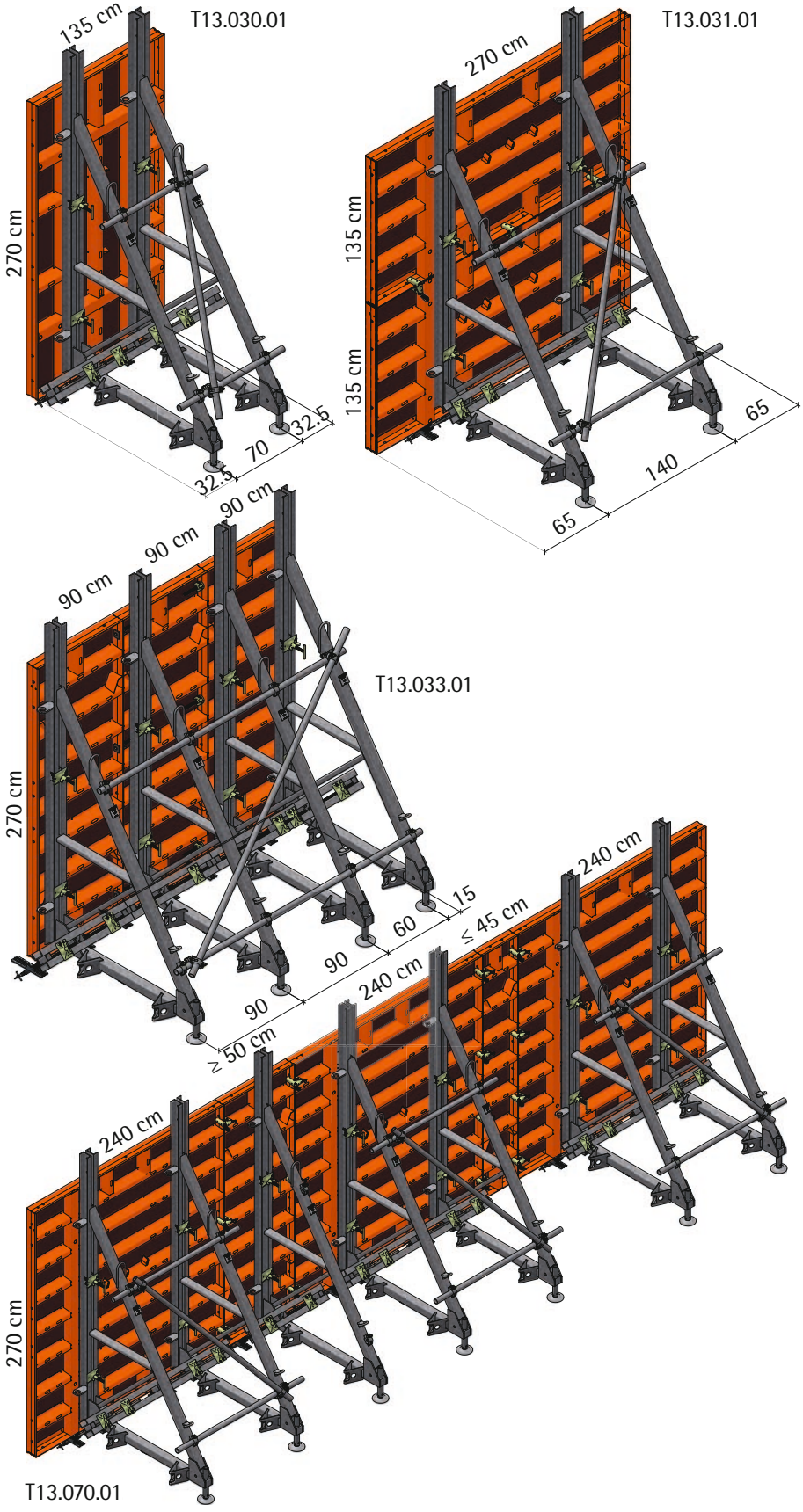
LOGO.3

The spacing between the supporting jacks depends on the size of the formwork panels and whether they are used upright or horizontally.
The standard use cases are shown in the adjacent illustrations.
For height extensions, larger supporting jacks are used, but the distances remain the same.



LOGO.3

Spacing between supporting jacks



Midi panels:
Midi panels can be used in a vertical or horizontal position, whereby significantly fewer supporting jacks are required when used horizontally.
When used between two large-size panels, the Midi panel is fitted with a supporting jack in the centre.

Small panel widths:
When panels with a width of 90 cm or less are placed next to each other, the supporting jacks are mounted at the first oblong hole next to the panel joint.
The first panel in the row receives two supporting jacks.

Note:
In this application, locking screws are required as connecting pieces at the panel joints.

If a narrow panel width is installed between two large-size panels for the purpose of residual dimension compensation, the following rules apply up to a formwork height of 270 cm:

Panel width ≤ 45 cm – no additional supporting jack required.
(4 brackets at the panel joint)

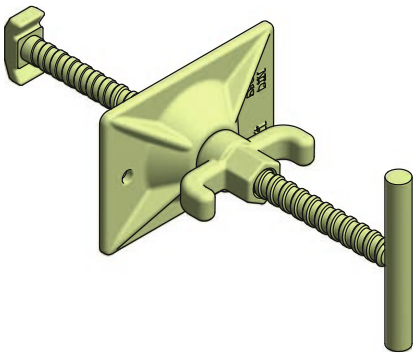
Panel width ≥ 50 cm – one additional supporting jack.

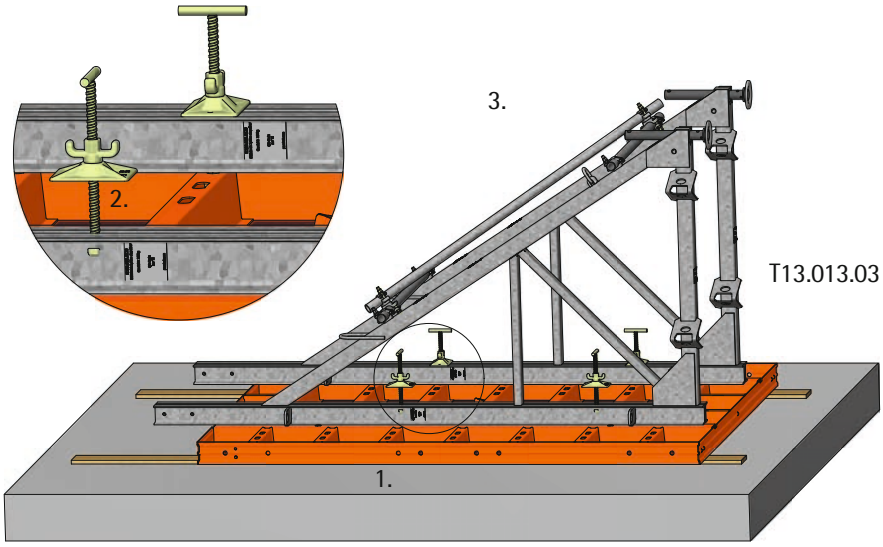
Note:
For formwork heights over 270 cm, each narrow panel width between two large-size panels must be supported in the centre.

Horizontal pre-assembly

LOGO.3

Support for walers DW15
Art. no.: 187.500.0021
Weight: 1.95 kg





T13.013.03

T13.034.07

1. Place the formwork panel on solid ground.

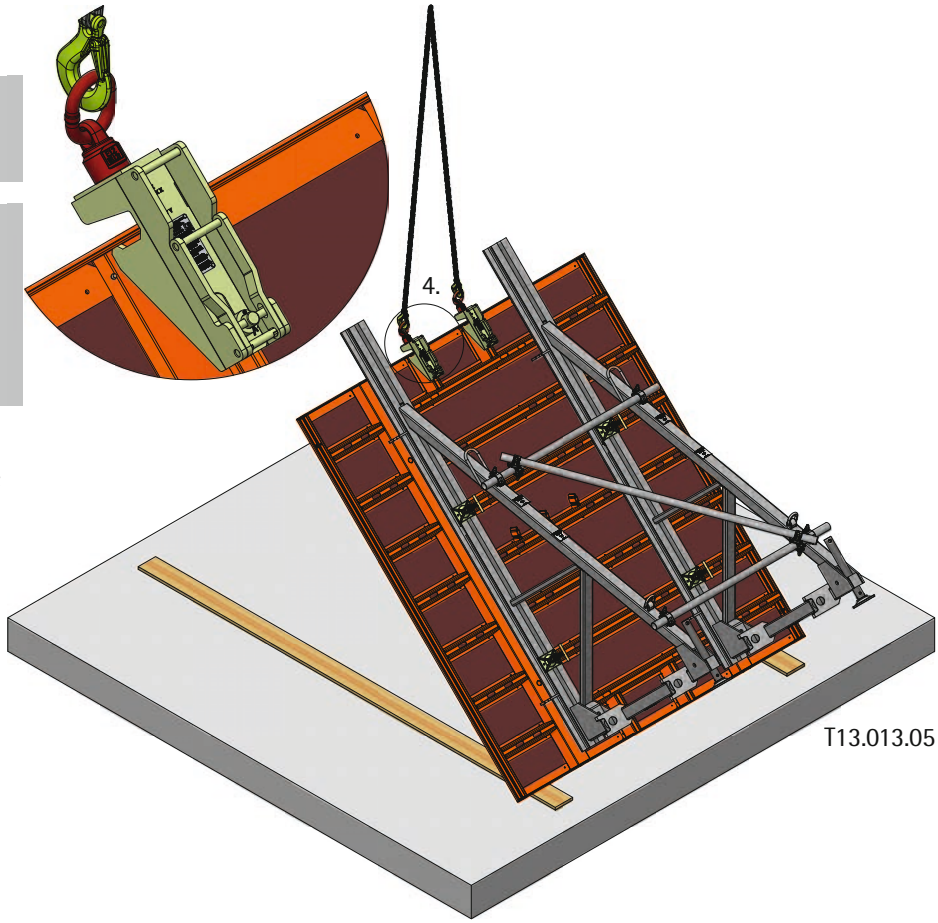
2. Place supporting jacks at the required distances and connect them to the panel using the support for walers DW15.

Note:
The supporting jacks must be secured against tipping during pre-assembly.

Note:
The supporting jacks must also be mounted at a specific distance a from the lower panel frame.
See pages (40 ff.) for the different supporting jack sizes.

3. Attach scaffold tubes D.48.3 mm to the integrated couplings of the supporting jacks.

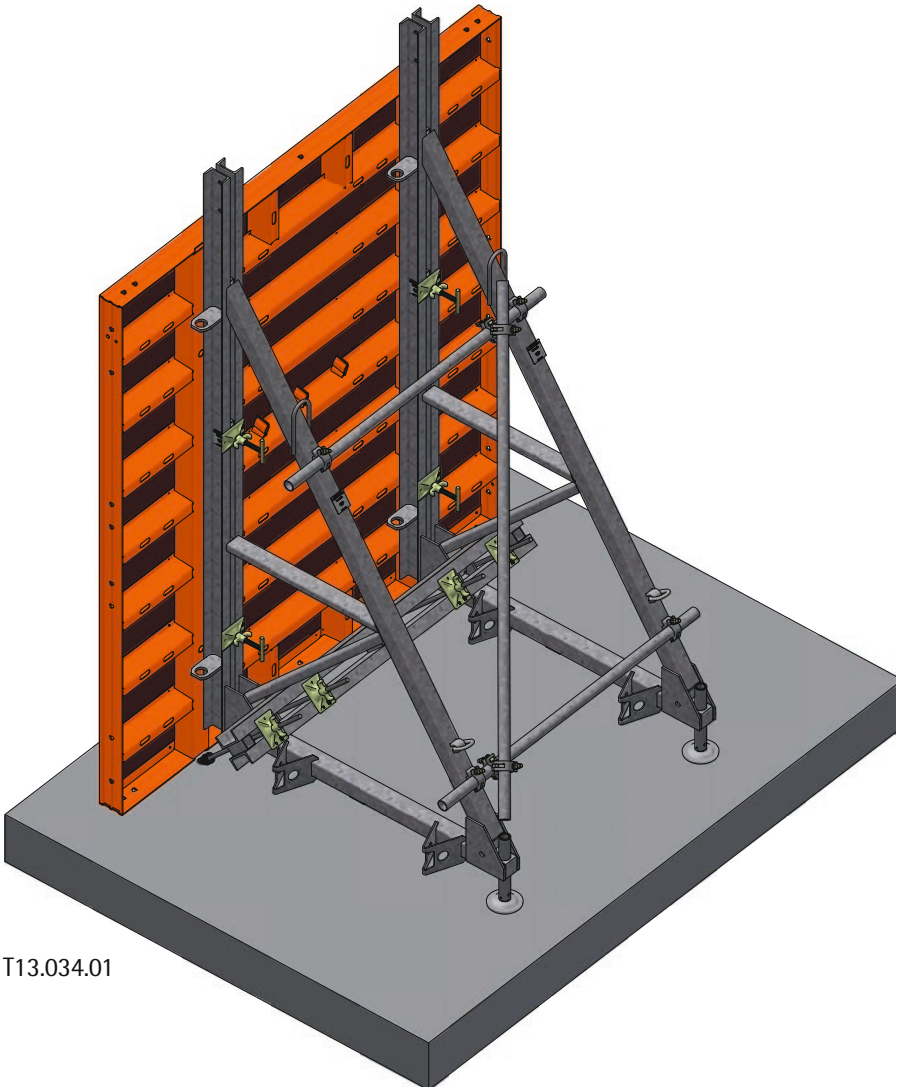
4. Attach the pre-assembled unit to the specified attachment points and transport it to the place of use with a crane.
See also pages 28 ff. for the different supporting jack sizes.



T13.013.05

LOGO.3

Tension in the anchor



T13.034.01

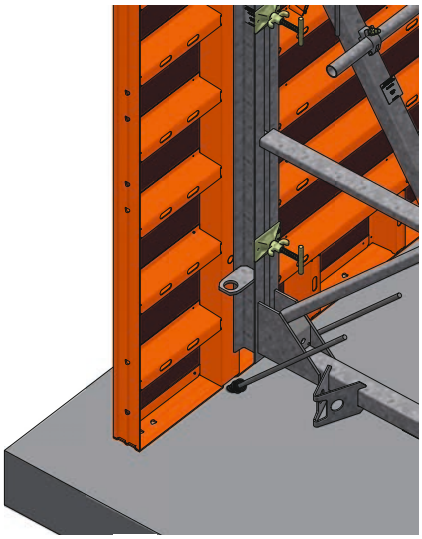
After positioning the formwork panel with the supporting jacks, anchoring is carried out as follows:

1. Screw the tie rods into the previously concreted anchors. (see also p. 33)

2. Put the double channel waler over the tie rods and set it on the supporting jacks.

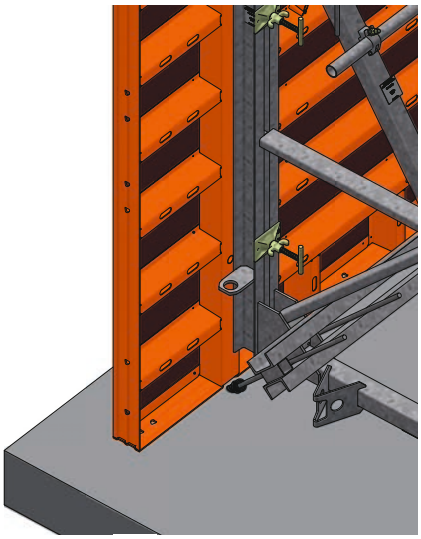
3. Screw the ball-and-socket joint plates onto the tie rods and tighten them firmly to the belting. (When using the 6.00 m and 8.00 m supporting jacks and the corner solutions, use the counter plate with the hexagon nut DW26.5).

1.



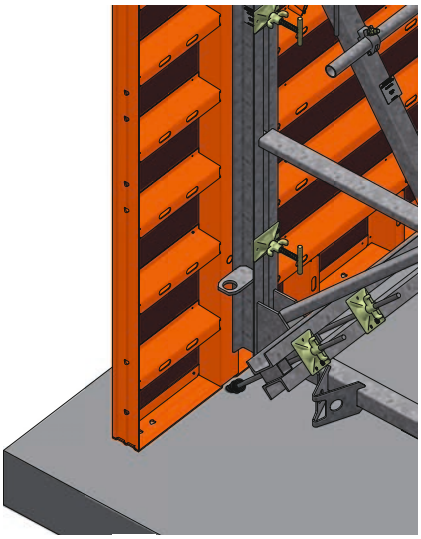
T13.034.02

2.



T13.034.03

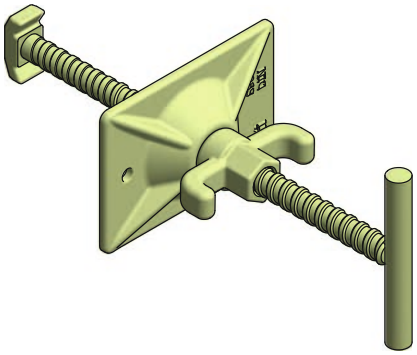
3.

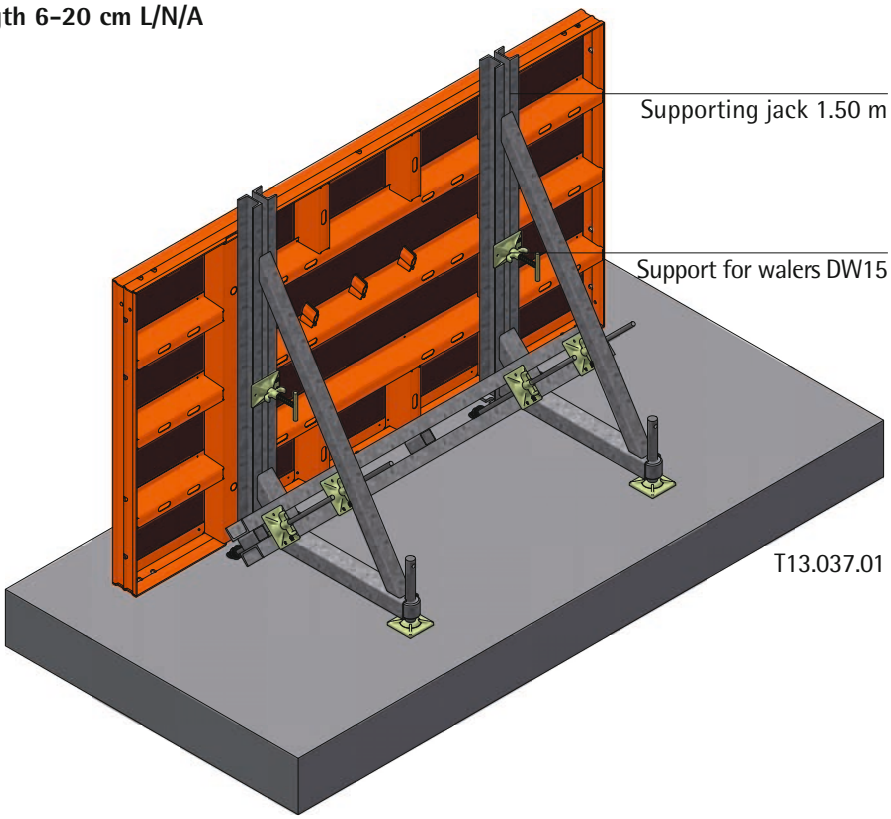


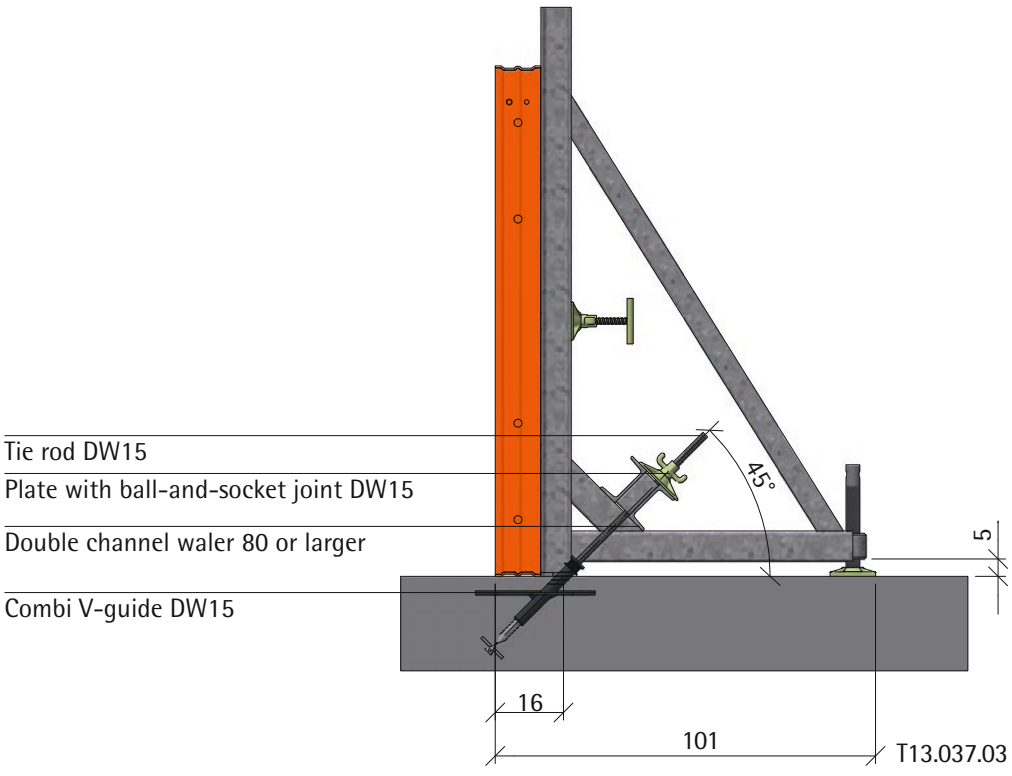
T13.034.01

Supporting jack 1.50 m, assembled LOGO.3

Support for walers DW15, clamping length 6–20 cm L/N/A
Art. no.: 187.500.0021
Weight: 1.95 kg

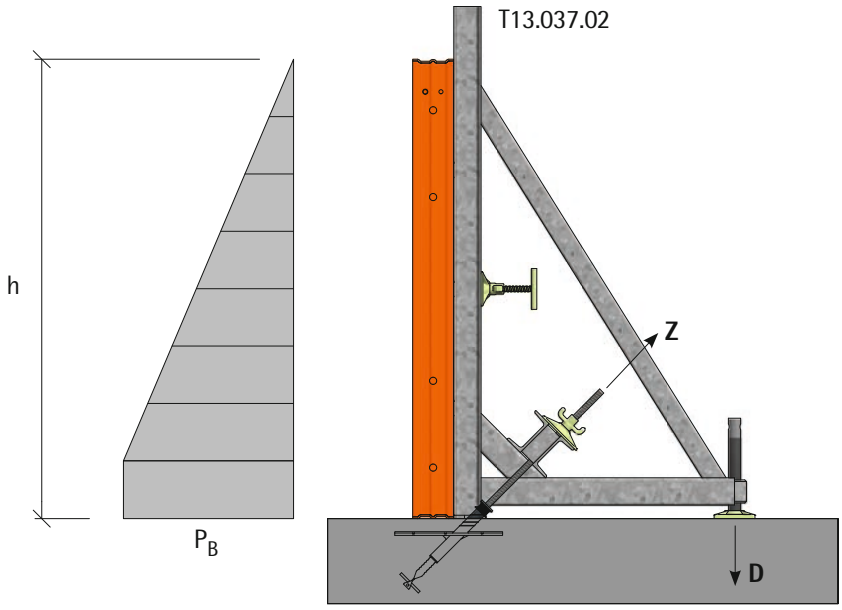






LOGO.3

Supporting jack 1.50 m, dimensions



Anchoring with 2 anchors DW15 per supporting jack:
Perm. Z = 90 kN/anchor

Pressure spindle:
Perm. D = 43 kN/supporting jack

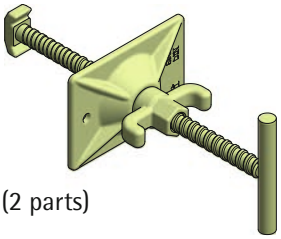
Belting:
Double channel 80 or larger

Concrete height	Pressure	Anchor force	Spindle force
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]
1,00	25	18	6
1,25	30	27	10
	40	28	11
1,50	30	39	17
	40	40	18
1,75	30	49	28
	40	54	29
	50	55	30
2,00	30	60	40
	40	68	42
	50	71	43
The values specified in the table apply to a supporting jack distance of 1.00 m and a fresh concrete raw weight of 25 kN/m³			

Supporting jack 3.00 m, assembled

LOGO.3

Connecting piece for supporting jack 3.0m cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg

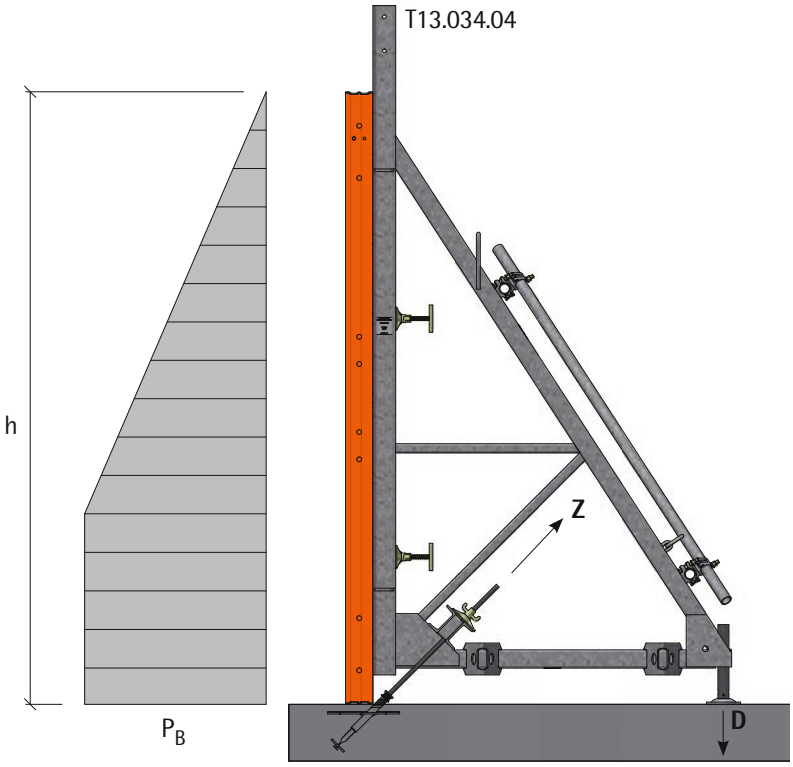


(2 parts)

T13.034.01

LOGO.3

Supporting jack 3.00 m, dimensions



To prevent buckling from the supporting jack level, all supporting jacks must be connected in pairs with scaffolding tubes.

Anchoring with 2 DW15 anchors per supporting jack:
Perm. Z = 90 kN/anchor

Pressure spindle:
Perm. D = 120 kN/supporting jack

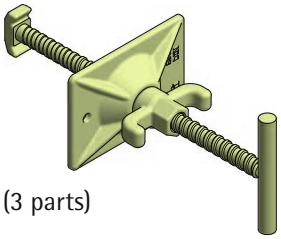
Belting:
Double channel 120

Concrete height	Pressure	Anchor force	Spindle force
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]
2,50	40	96	41
	50	106	43
	60	110	43
2,75	40	110	54
	50	124	56
	60	132	58
3,00	40	124	67
	50	141	72
	60	153	74
3,25	30	113	72
	40	139	83
	50	159	90
	60	174	94
3,50	30	123	85
	40	153	100
	50	177	110
	60	195	115
The values specified in the table apply to a supporting jack distance of 1.00 m and a fresh concrete raw weight of 25 kN/m³			

Supporting jack 4.00 m, assembled

LOGO.3

Connecting piece for supporting jack 4.0 m cpl. L/N/A
Art. no.: 187.500.0036
Weight: 5.85 kg



(3 parts)

LOGO.3

Supporting jack 4.00 m, dimensions

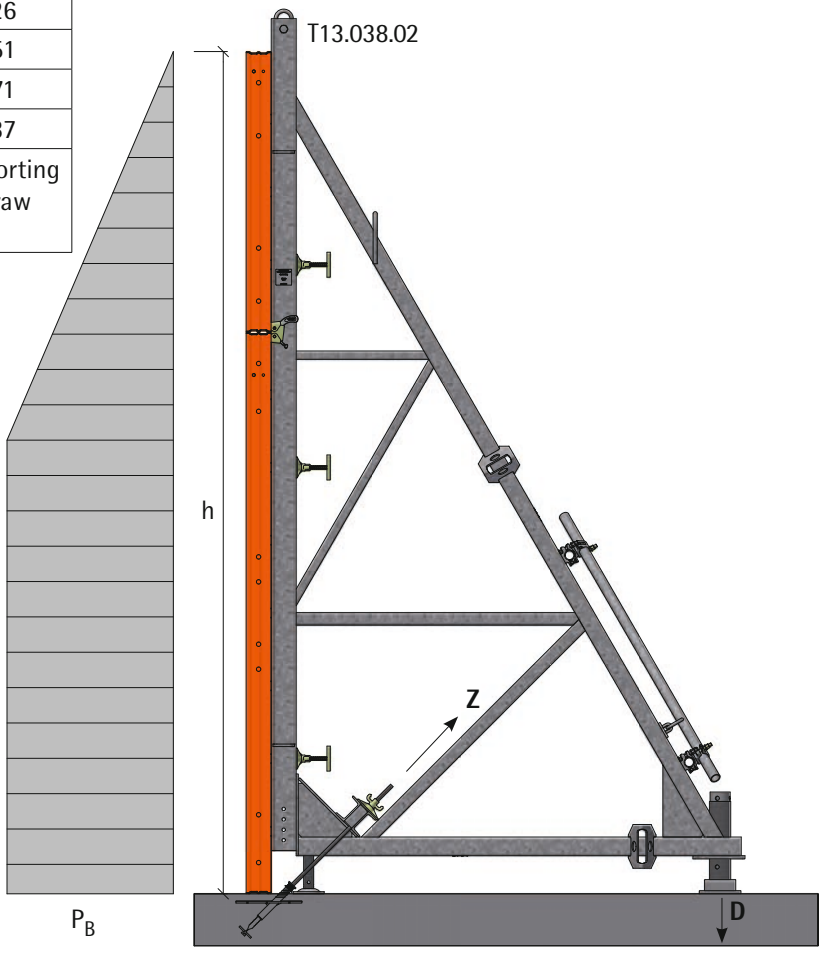
Concrete height	Pressure	Anchor force	Spindle force
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]
3,50	40	153	71
	50	177	78
	60	195	82
3,75	40	167	85
	50	195	94
	60	216	100
4,00	40	181	100
	50	212	111
	60	238	119
4,25	40	195	115
	50	230	130
	60	259	140
4,50	30	166	112
	40	209	132
	50	248	150
	60	280	162
4,75	30	176	126
	40	223	151
	50	265	171
	60	301	187
The values specified in the table apply to a supporting jack distance of 1.00 m and a fresh concrete raw weight of 25 kN/m³			

To prevent buckling from the supporting jack level, all supporting jacks must be connected in pairs with scaffolding tubes.

Anchoring with 2 DW20 anchors per supporting jack:
Perm. Z = 160 kN/anchor

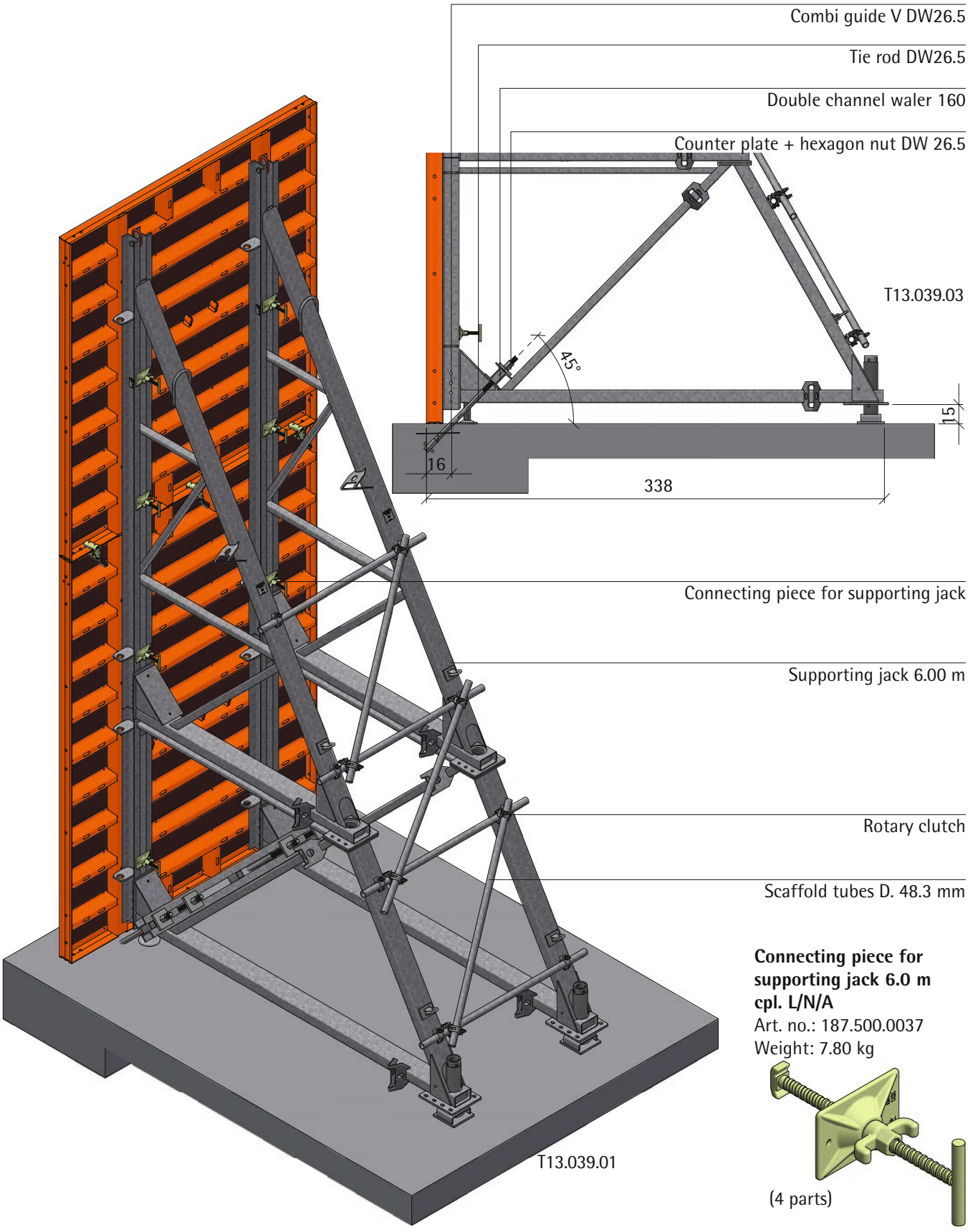
Pressure spindle:
Perm. D = 180 kN/supporting jack

Belting:
Double channel 120



Supporting jack 6.00 m, assembled

LOGO.3



Connecting piece for supporting jack 6.0 m cpl. L/N/A
Art. no.: 187.500.0037
Weight: 7.80 kg

(4 parts)

LOGO.3

Supporting jack 6.00 m, dimensions

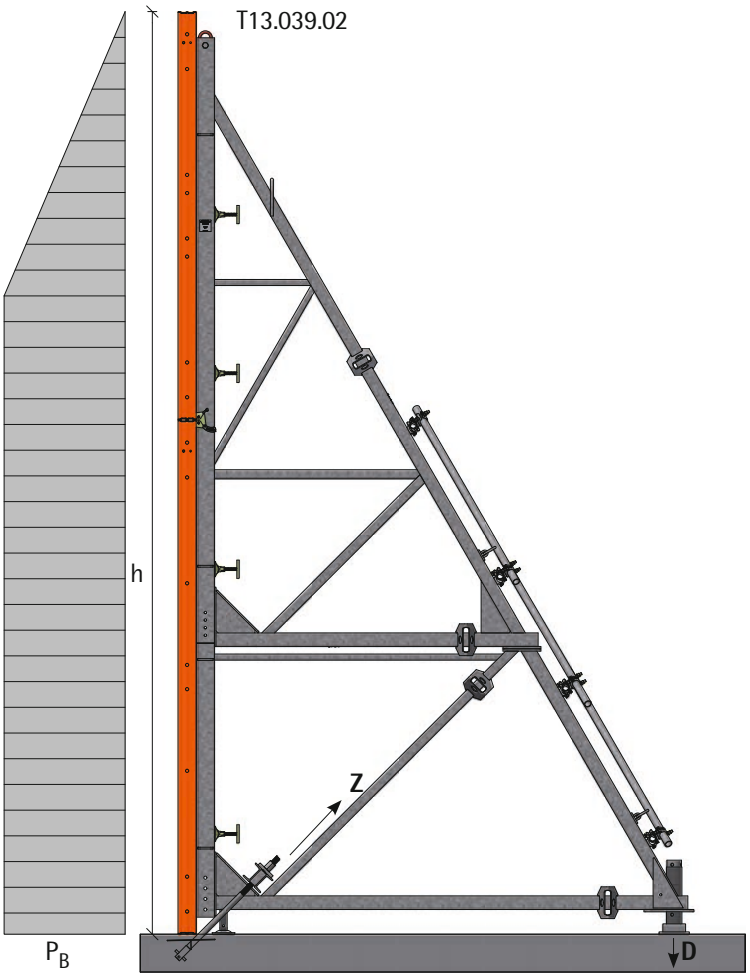
Concrete height	Pressure	Anchor force	Spindle force
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]
4,50	40	209	90
	50	248	101
	60	280	110
4,75	40	223	102
	50	265	116
	60	301	127
5,00	40	238	115
	50	283	132
	60	322	144
5,25	40	252	129
	50	300	148
	60	344	163
5,50	30	266	144
	40	318	166
	50	365	184
5,75	40	280	159
	50	336	185
	60	386	205
6,00	30	230	142
	40	294	176
	50	354	204
	60	407	228
6,25	30	240	155
	40	309	193
	50	372	225
	60	429	251
The values specified in the table apply to a supporting jack distance of 1.00 m and a fresh concrete raw weight of 25 kN/m³			

To prevent buckling from the supporting jack level, all supporting jacks must be connected in pairs with scaffolding tubes.

Anchoring with 2 DW26.5 anchors per supporting jack:
Perm. Z = 230 kN/anchor

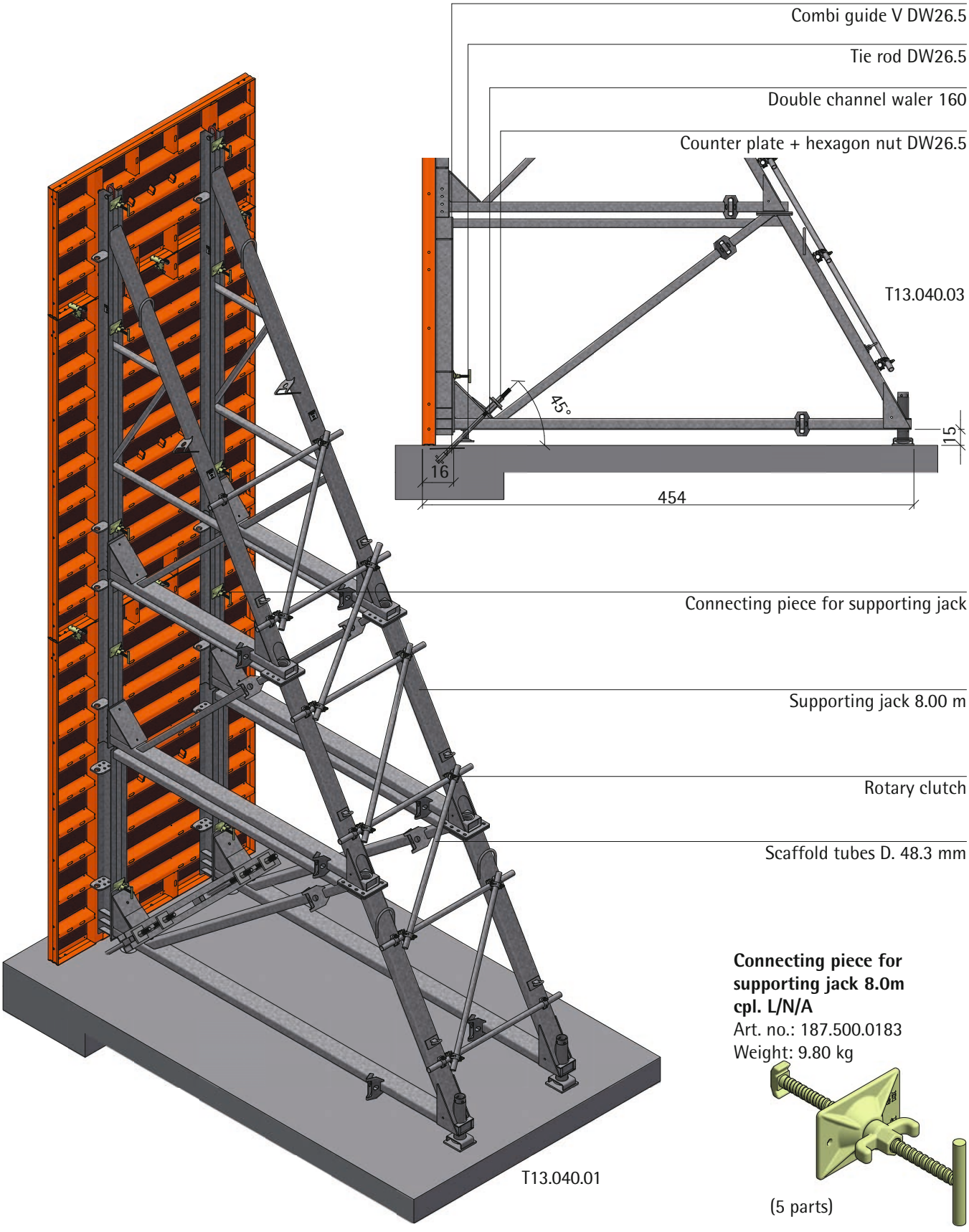
Pressure spindle:
Perm. D = 220 kN/supporting jack

Belting:
Double channel 160



Supporting jack 8.00 m, assembled

LOGO.3

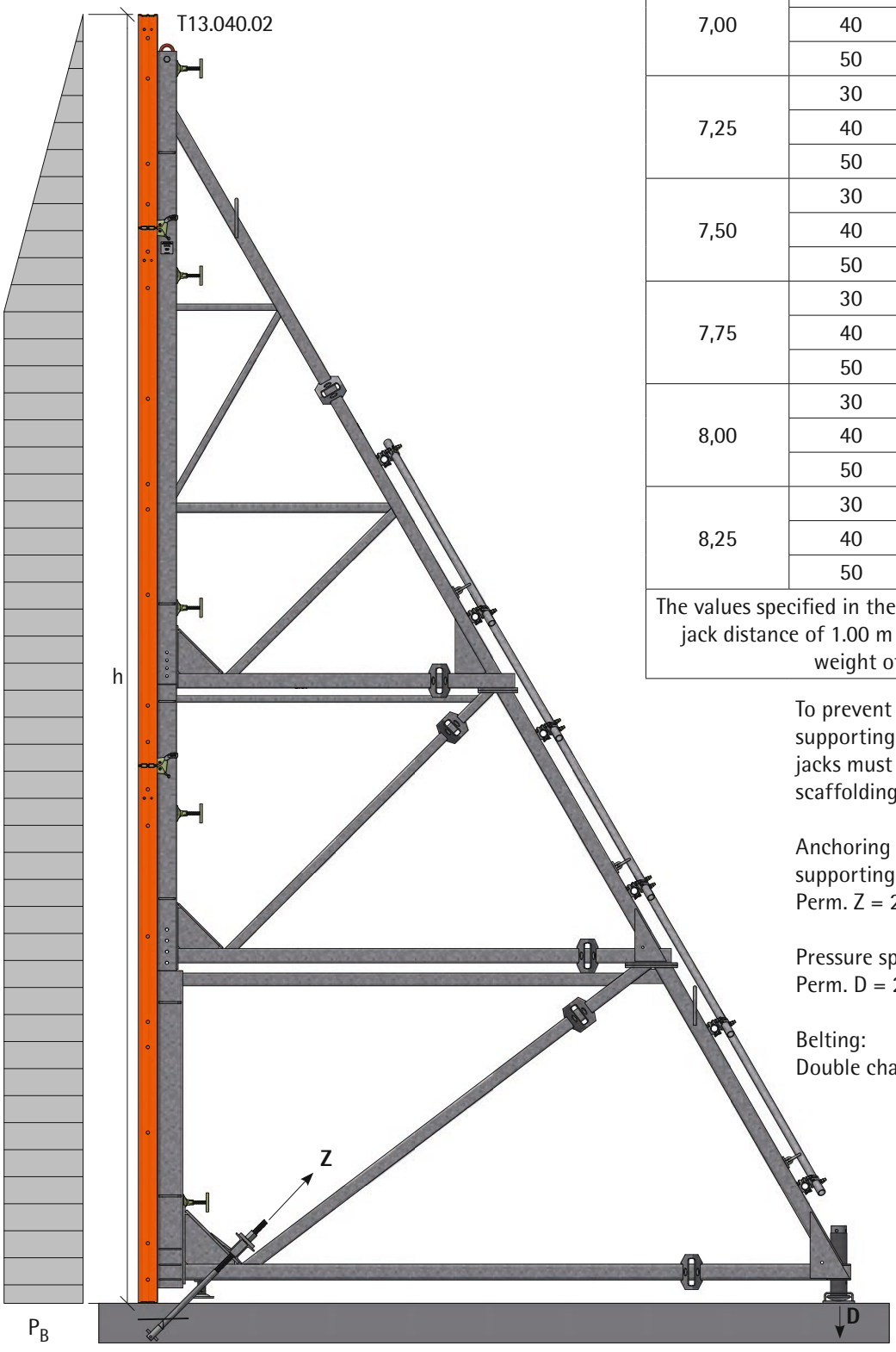


Connecting piece for supporting jack 8.0m cpl. L/N/A
Art. no.: 187.500.0183
Weight: 9.80 kg

(5 parts)

LOGO.3

Supporting jack 8.00 m, dimensions



Concrete height	Pressure	Anchor force	Spindle force
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]
7,00	30	272	139
	40	351	174
	50	425	205
7,25	30	283	151
	40	365	189
	50	442	222
7,50	30	293	162
	40	380	204
	50	460	241
7,75	30	304	174
	40	394	220
	50	478	260
8,00	30	314	187
	40	408	236
	50	495	279
8,25	30	325	200
	40	422	253
	50	513	300
The values specified in the table apply to a supporting jack distance of 1.00 m and a fresh concrete raw weight of 25 kN/m³			

To prevent buckling from the supporting jack level, all supporting jacks must be connected in pairs with scaffolding tubes.

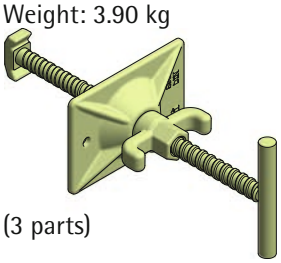
Anchoring with 2 DW26.5 anchors per supporting jack:
Perm. Z = 230 kN/anchor

Pressure spindle:
Perm. D = 290 kN/supporting jack

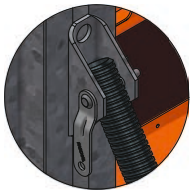
Belting:
Double channel 160

Supporting jack 3.00 m extended to 4.00 m LOGO.3

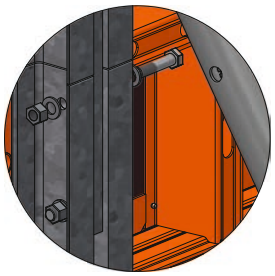
Connecting piece for supporting jack 4.0 m cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg



(3 parts)



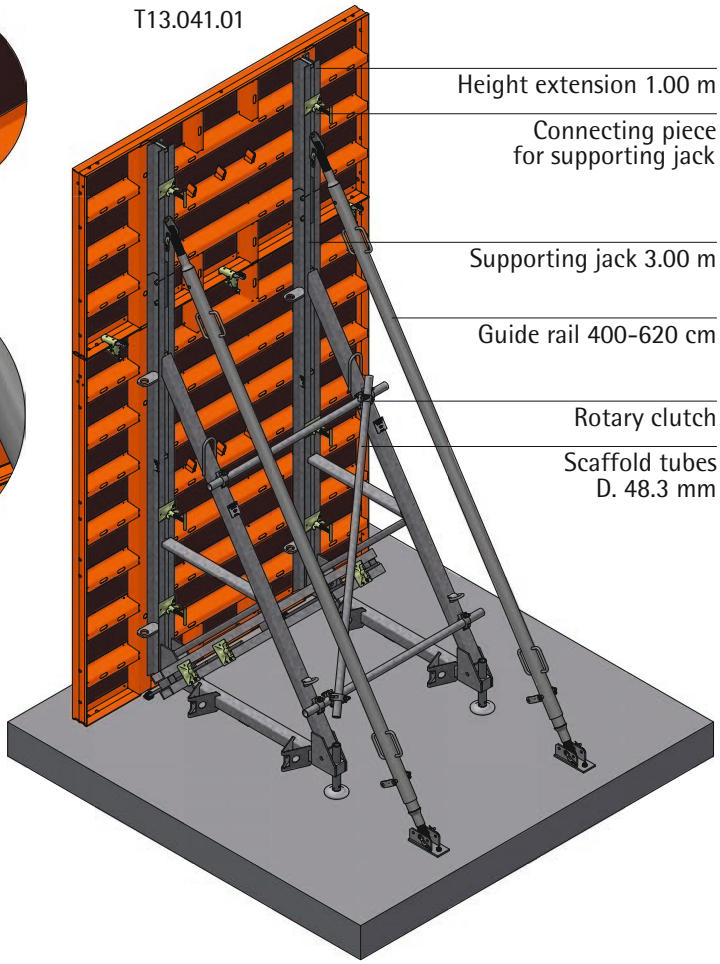
T13.041.06



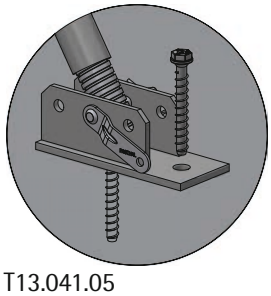
T13.041.04

With the 1.00 m height extension and an adjustable prop, the support height of the supporting jack can be extended from 3.00 m to 4.00 m.
This is an alternative to the 4.00 m supporting jack or when using different support heights, in order to avoid using multiple supporting jack sizes.
Height extension and supporting jack are screwed together.

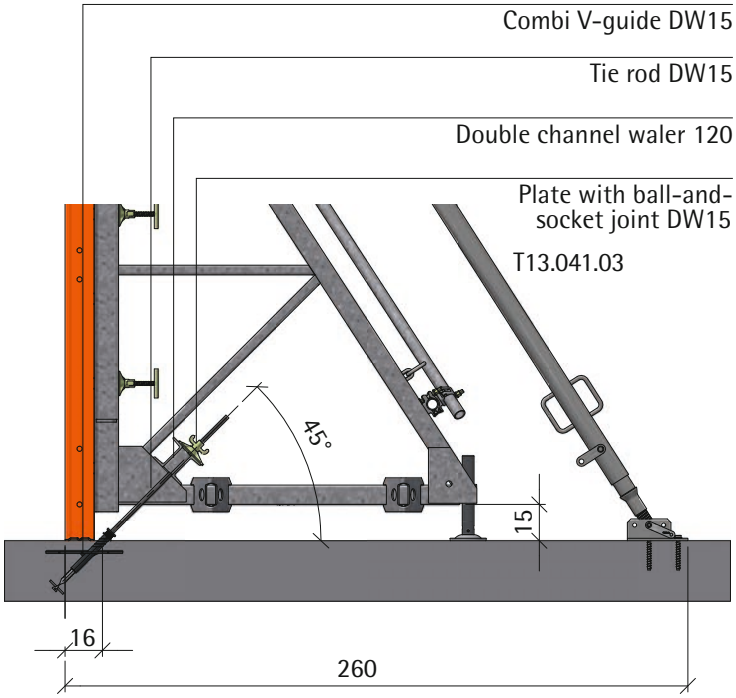
T13.041.01



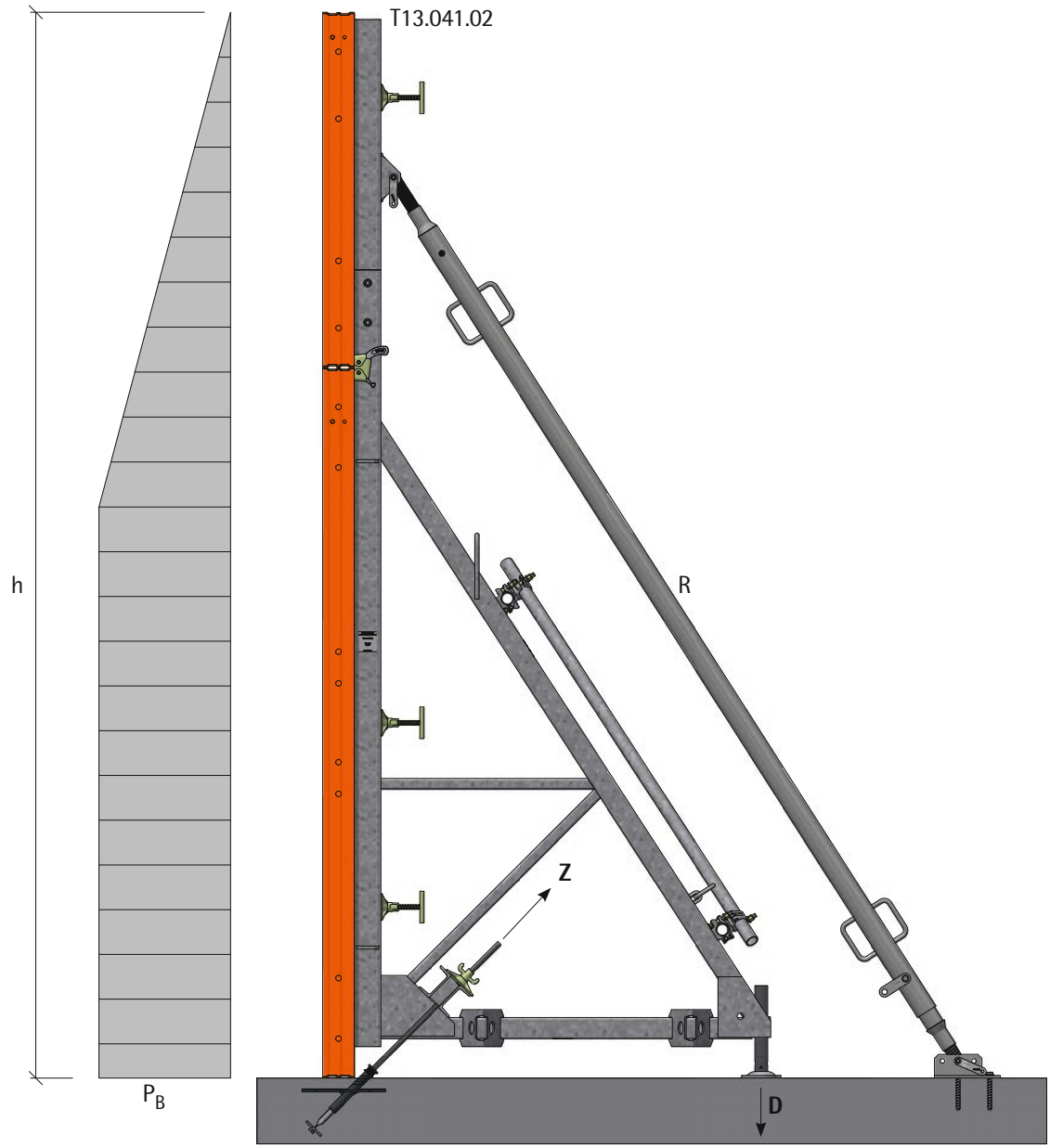
2 concrete screws



T13.041.05



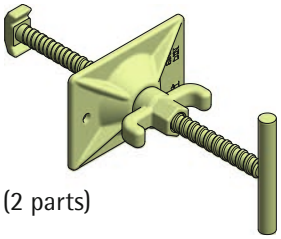
LOGO.3 Supporting jack 3.00 m extended to 4.00 m, dimensions



Concrete height	Pressure	Anchor force	Spindle force	Adjustable prop force	Permissible influence width
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]	R [kN/m]	[m]
3,50	30	116	75	8	1,55
	40	141	89	8	1,28
	50	159	97	8	1,13
3,75	30	180	83	16	1,40
	40	158	100	16	1,14
	50	129	112	16	1,00
4,00	30	140	87	27	1,29
	40	173	109	27	1,04
	50	200	124	27	0,90

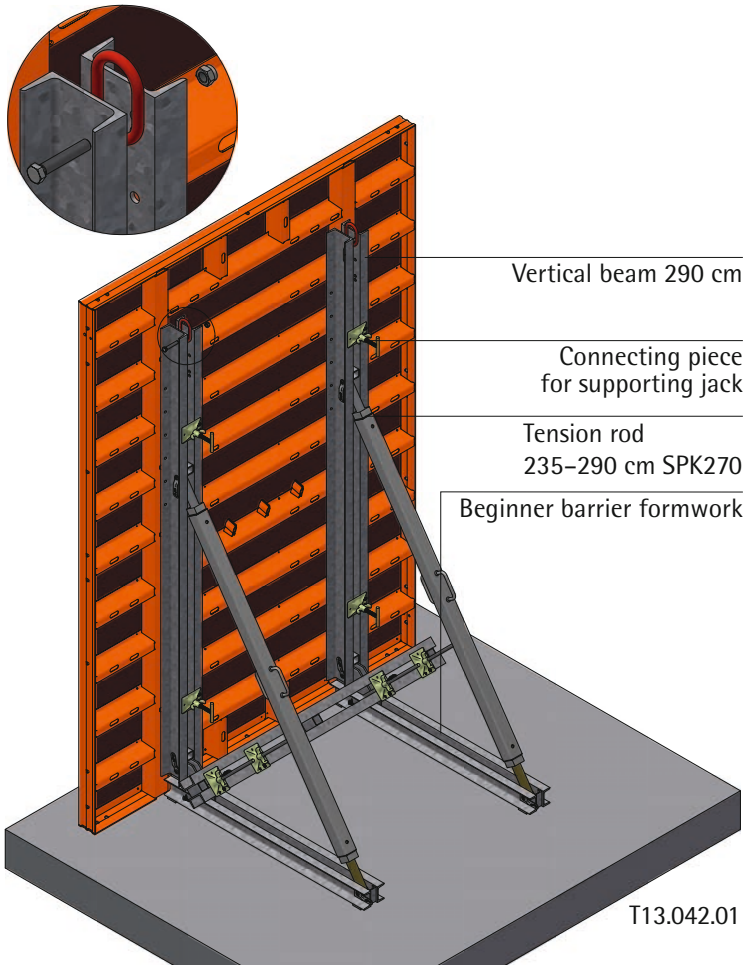
Supporting jack STB300, 10° adjustable, assembled LOGO.3

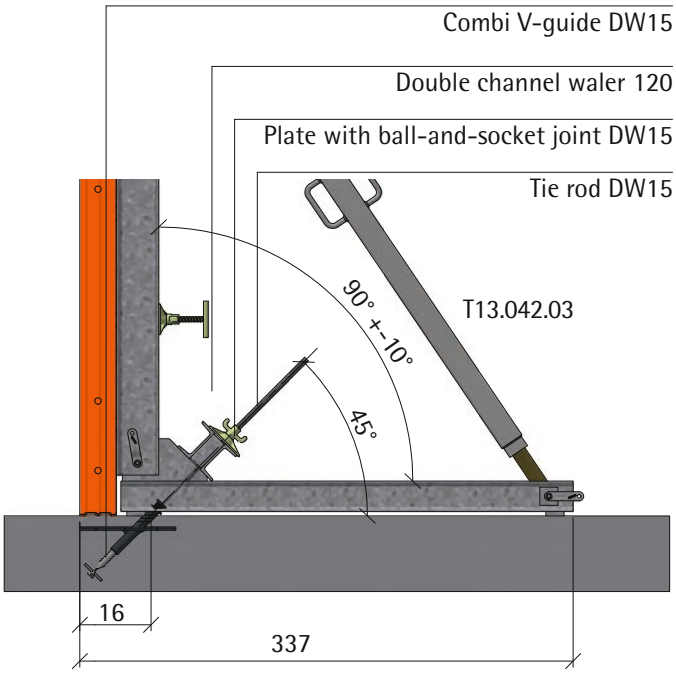
Connecting piece for supporting jack 3.0m cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg



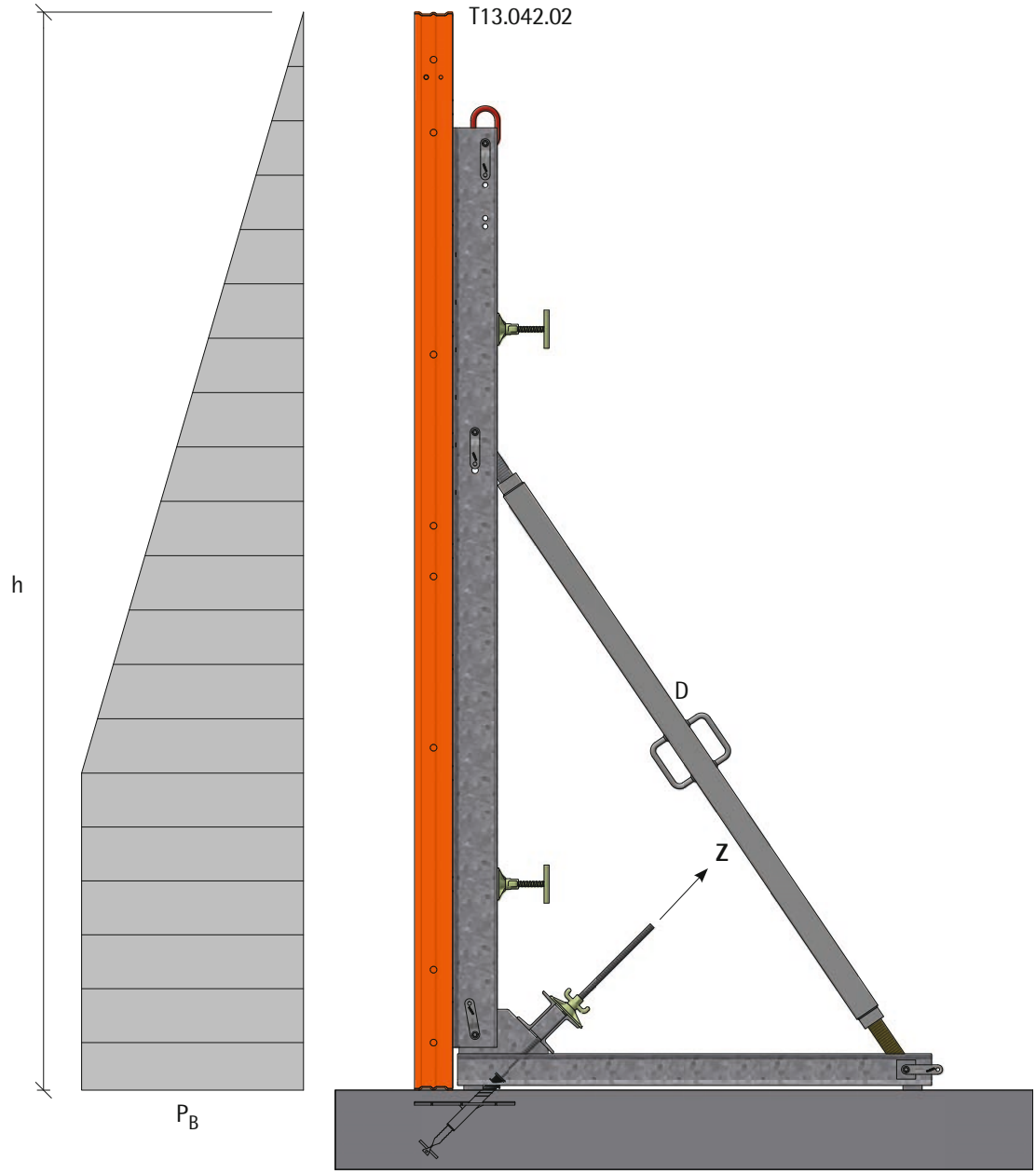
(2 parts)

A supporting jack can be assembled using individual components of the PASCHAL barrier bracket. This can be used for concreting heights of up to 3.40 m.
The articulated connections between all parts allow the supporting jack to be tilted up to °10.





LOGO.3 Supporting jack STB300 10° adjustable, dimensions

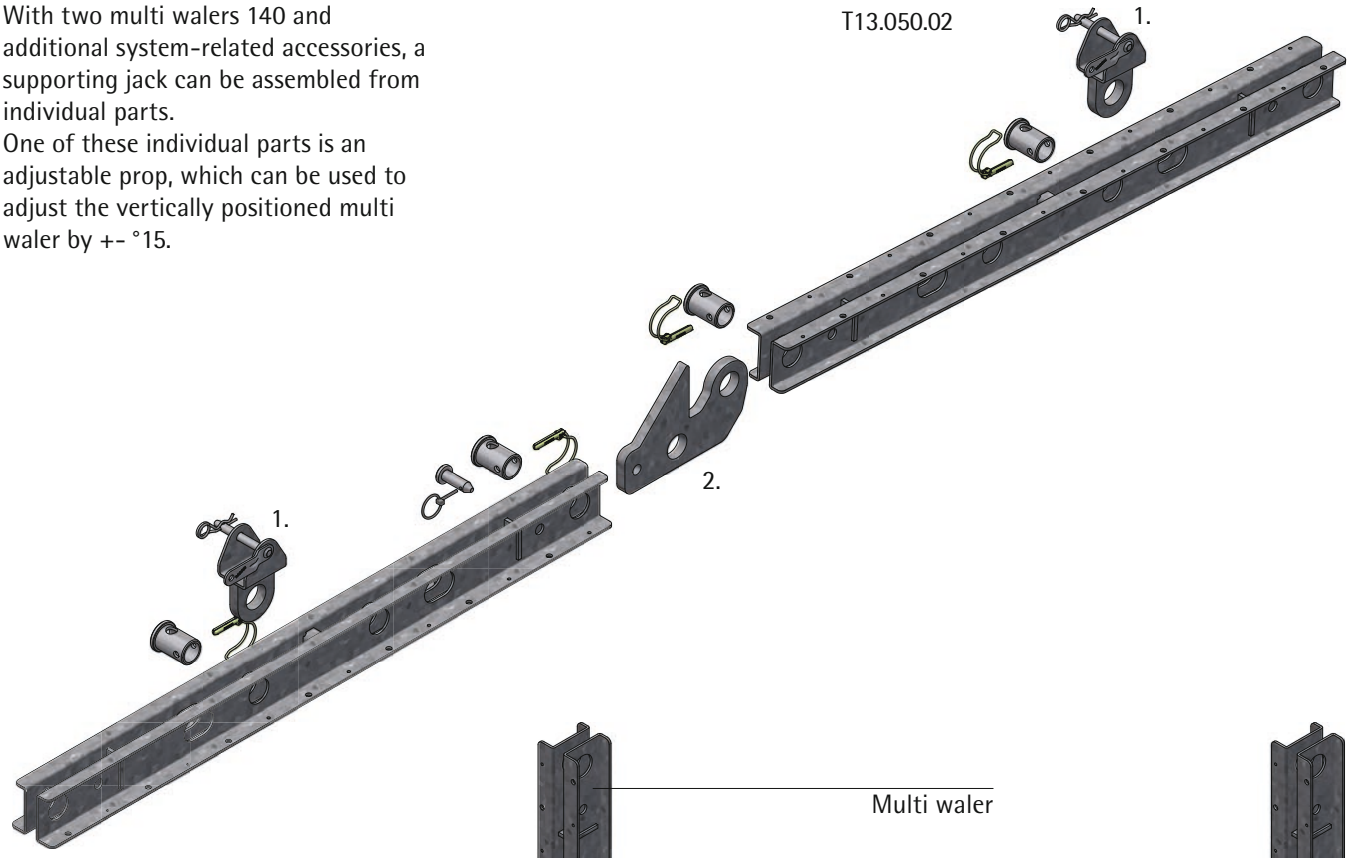


Concrete height	Pressure	Anchor force	Spindle force	Permissible influence width
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]	[m]
2,70	30	78	46	2,22
	40	92	51	1,80
	50	100	53	1,65
	60	104	53	1,63
3,40	30	120	85	1,20
	40	144	99	1,03
	50	161	107	0,95
	60	172	111	0,92

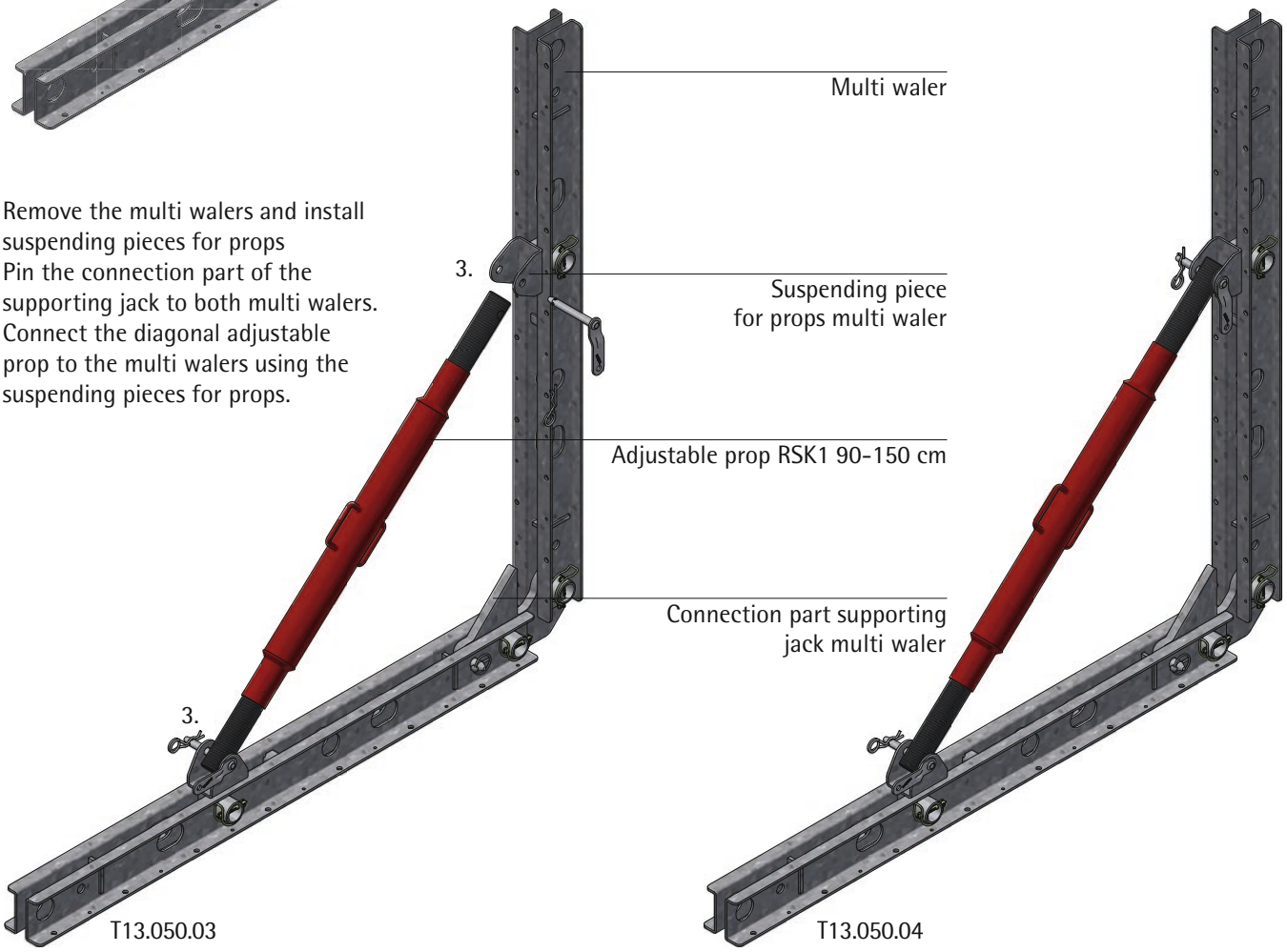
Supporting jack multi waler

LOGO.3

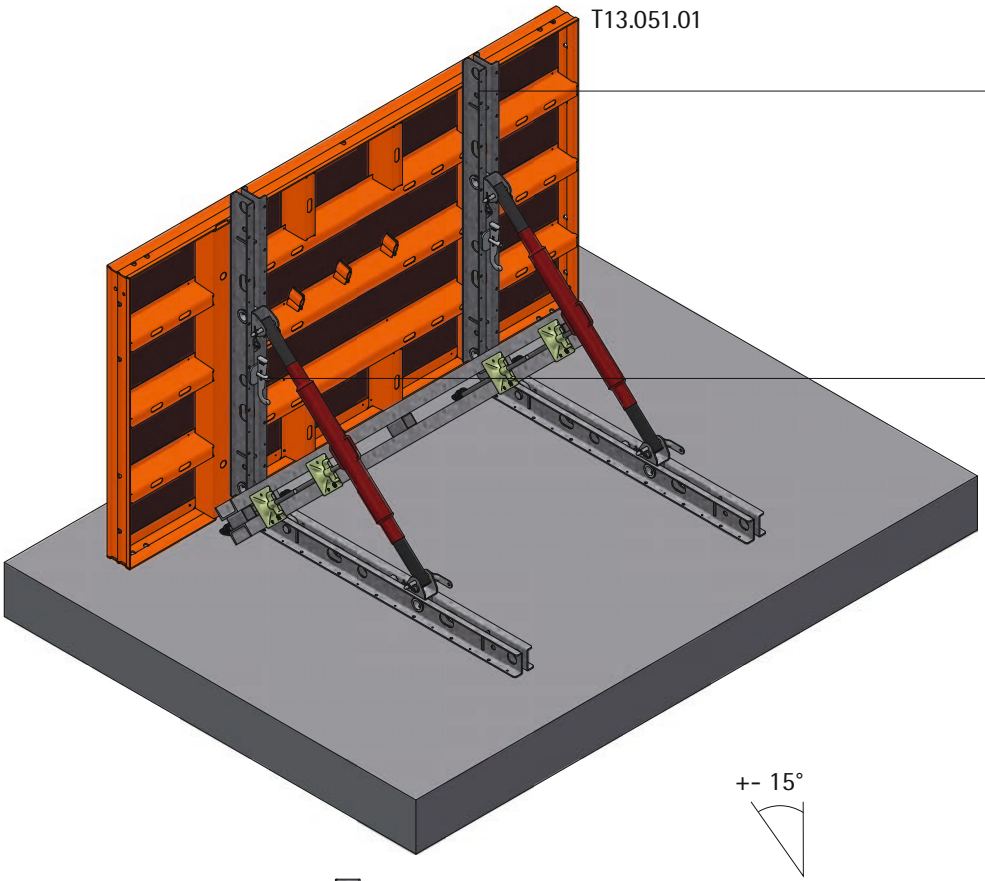
With two multi walers 140 and additional system-related accessories, a supporting jack can be assembled from individual parts.
One of these individual parts is an adjustable prop, which can be used to adjust the vertically positioned multi waler by +- °15.



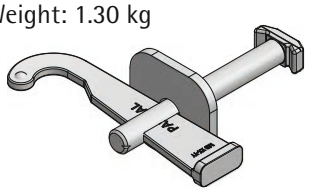
Remove the multi walers and install suspending pieces for props
Pin the connection part of the supporting jack to both multi walers.
Connect the diagonal adjustable prop to the multi walers using the suspending pieces for props.

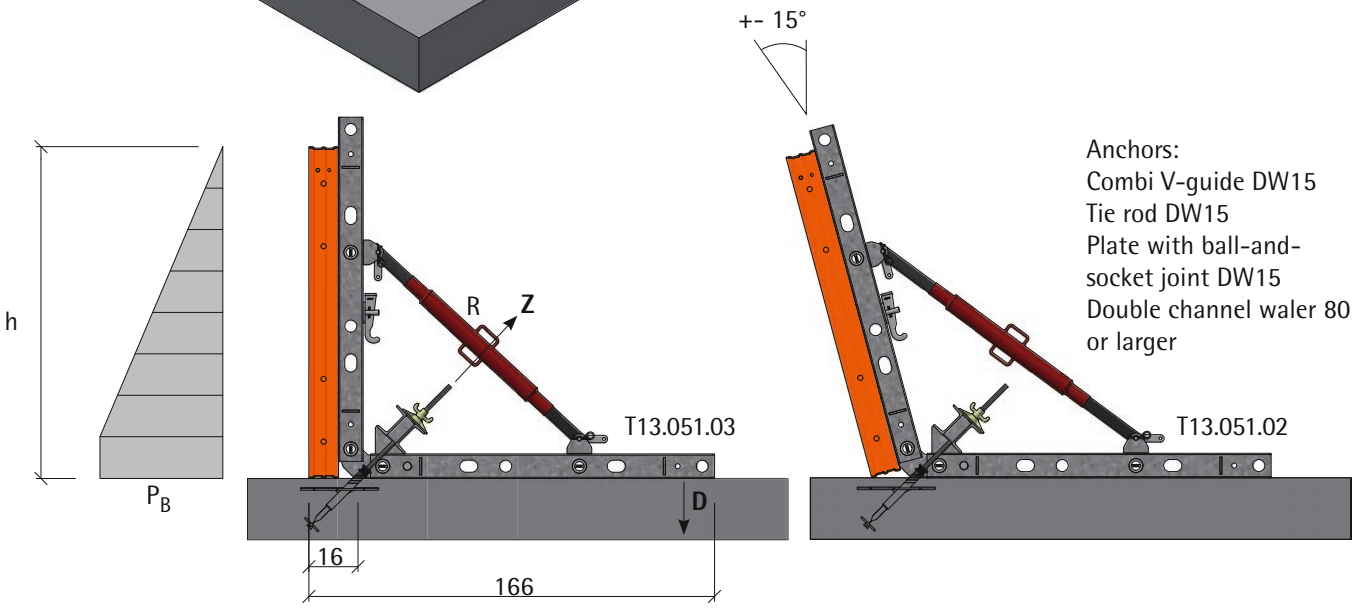


LOGO.3 Supporting jack multi waler, dimensions



Clamping piece 10 cm L/N/A
Art. no.: 187.500.0165
Weight: 1.30 kg





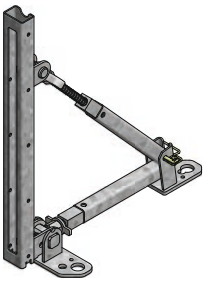
Anchors:
Combi V-guide DW15
Tie rod DW15
Plate with ball-and-socket joint DW15
Double channel waler 80 or larger

Concrete height	Pressure	Anchor force	Compressive force under load	Adjustable prop force	Support force	Permissible influence width
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]	R [kN/m]	[kN]	[m]
0,90	22,50	14	8	4	3	5,00
1,35	33,75	32	13	13	10	2,10
1,75	43,75	54	15	29	23	1,05

Flixstop

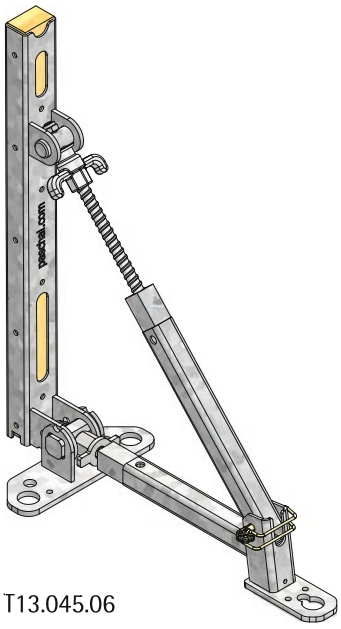
LOGO.3

Flixstop
Art. no.: 189.005.0265
Weight: 7.80 kg



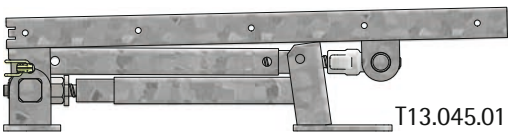
The Flixstop is used for single-sided formwork with a low formwork height, such as floor slab formwork.
It can be folded up for transport and storage. It can also be adjusted to different angles.

As a system-independent device, the Flixstop can be used with system panels, whereby the panel and Flixstop are connected with system-specific accessories.

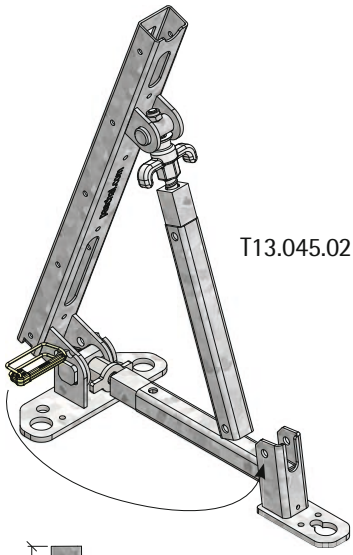


T13.045.06

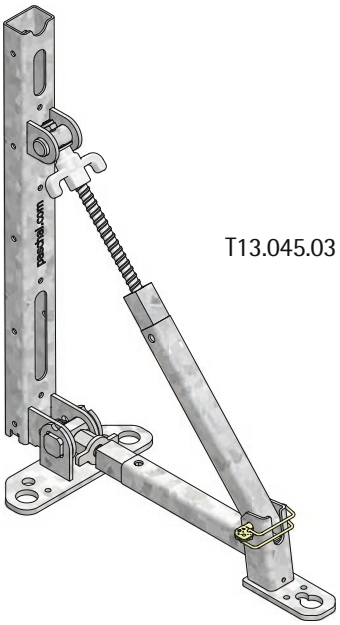
When using wooden formwork components such as square timber, planks or formwork panels, a 3 x 5 cm batten is inserted into the vertical profile for nailing.



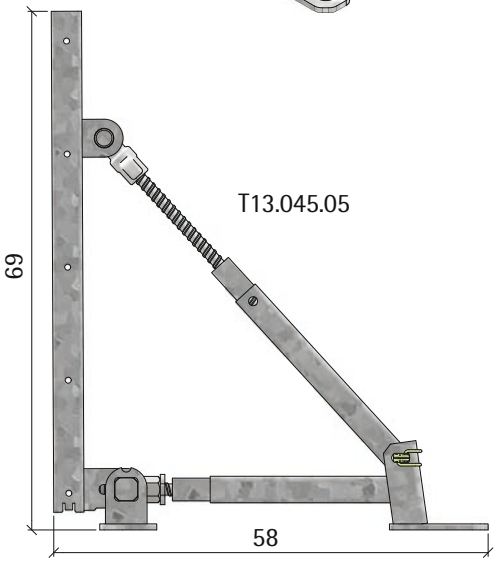
T13.045.01



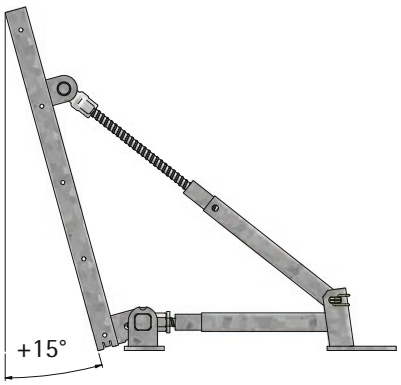
T13.045.02

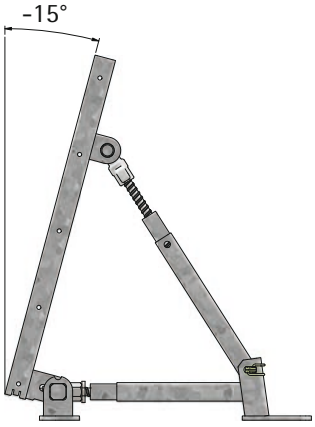


T13.045.03



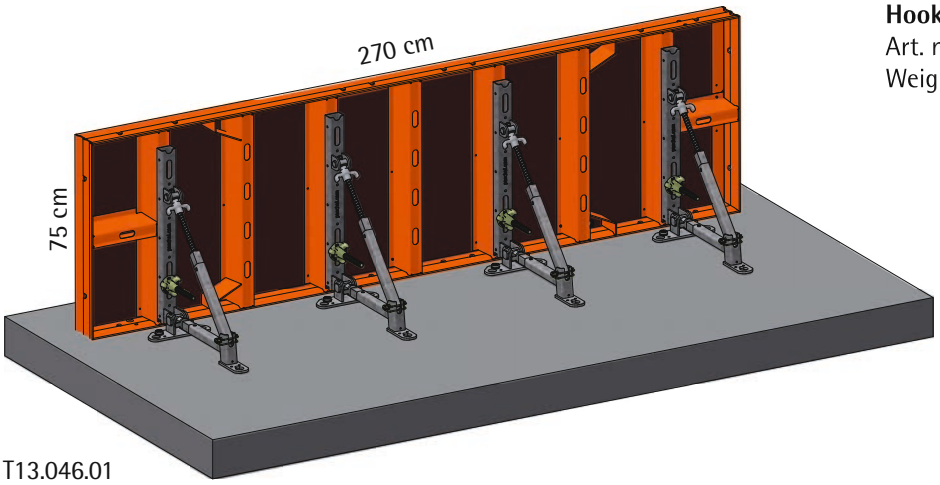
T13.045.05





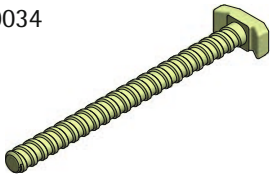
LOGO.3

Flixstop, dimensioning



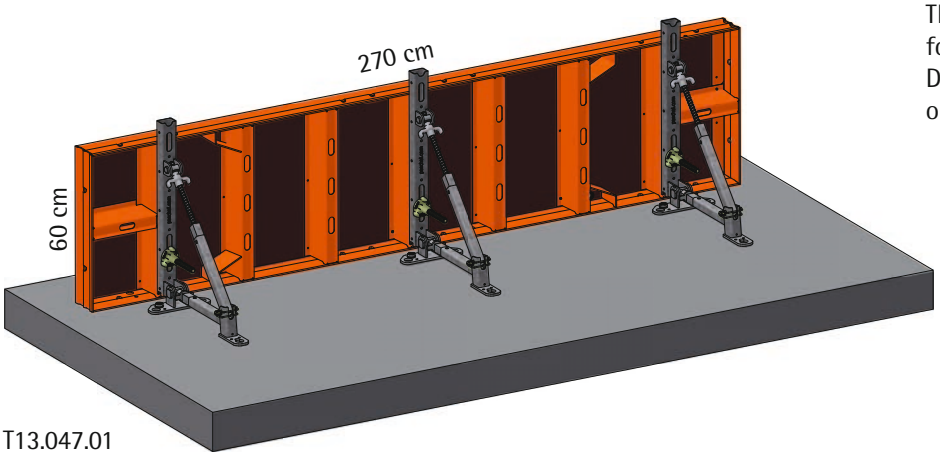
T13.046.01

Hook-headed bolt DW15x220/160 L/N/A
Art. no.: 183.500.0034
Weight: 0.42 kg



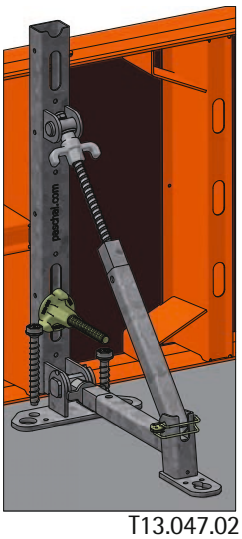
Wing nut DW15
Art. no.: 189.001.0001
Weight: 0.56 kg

The Flixstop is anchored to the ground using concrete screws or ground nails. The Flixstop is attached to the LOGO formwork using the hook headed bolt DW15 and a wing nut DW15 in the oblong hole of the cross profile.

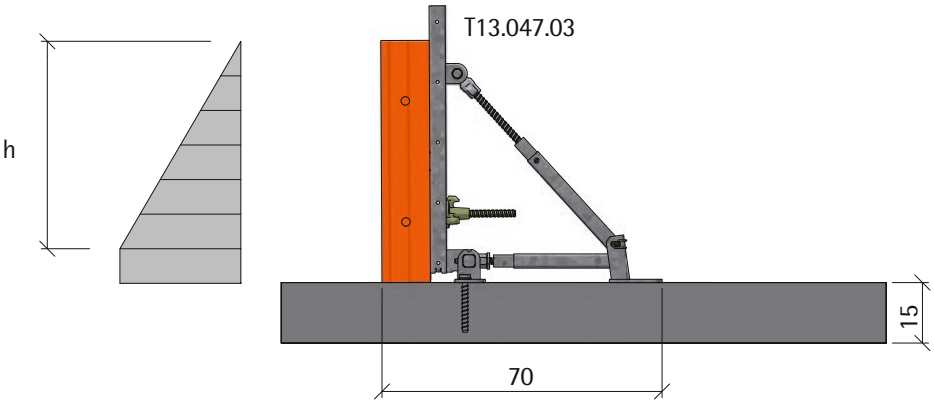


T13.047.01

Concrete screw 16x130
Art. no.: 935.000.0016
Weight: 0.21 kg



T13.047.02



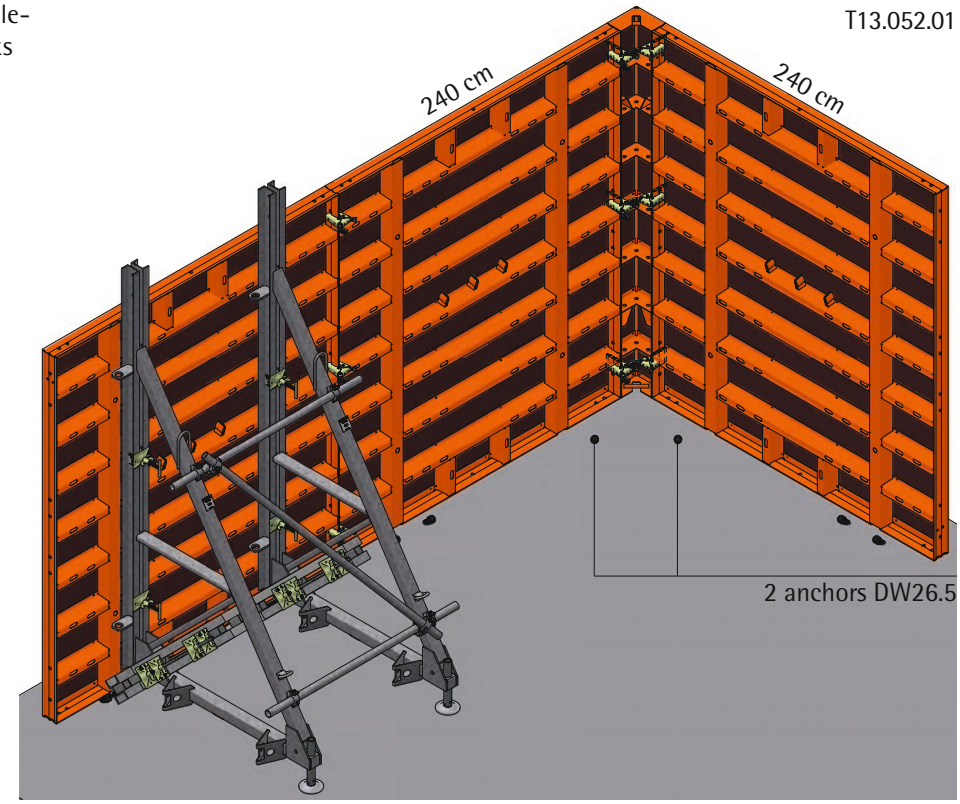
The table values for the maximum distances between the Flixstops in relation to the concreting height apply to the use of two 16x130 concrete screws in 15 cm thick concrete.

Concrete height [cm]:	90	75	60	45	30
Max. distance Flixstop [cm]:	50	75	120	220	400

Corner solution for supporting jack 3.00 m LOGO.3

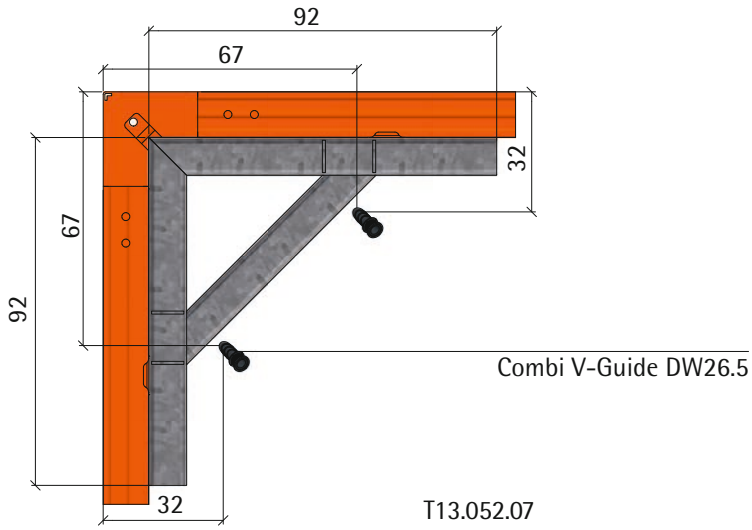
When forming right angles with single-sided formwork, two supporting jacks with corner braces are mounted on the inside at an angle of °45 to the formwork (page 61).

T13.052.01



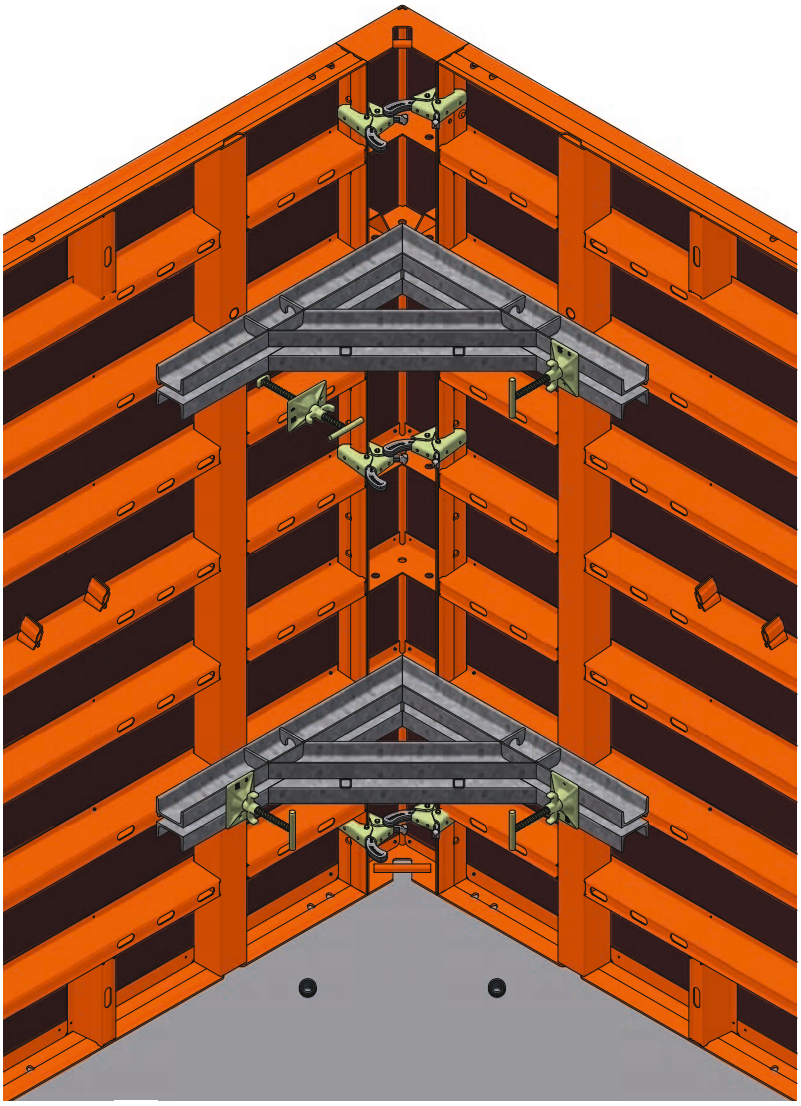
Note:
A 20 cm wide fitting panel must be planned between the inside corner post and the large-size panel that follows it in order to provide sufficient space for all four supporting jacks in the corner area or for their installation on the panels.
The second supporting jack after the corner must also be moved in comparison to the standard application (page 53), as must its anchor. The solution shown is only one of several possible variants.
However, with large-size panels used horizontally, for example, the solution remains the same in principle.

Due to the limited space available, two tie rods DW26.5 including anchors are installed in the corner to dissipate the fresh concrete pressure forces. The installation dimensions can be found in the adjacent illustration.



T13.052.07

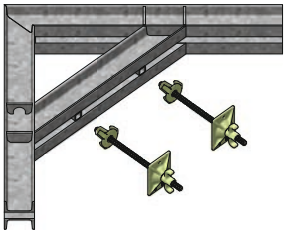
LOGO.3 Corner solution for supporting jack 3.00 m



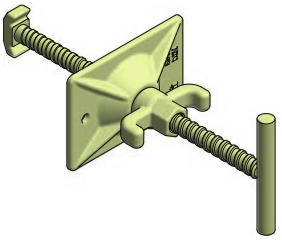
T13.052.06

Three corner walers are mounted on the cross profiles of the formwork.

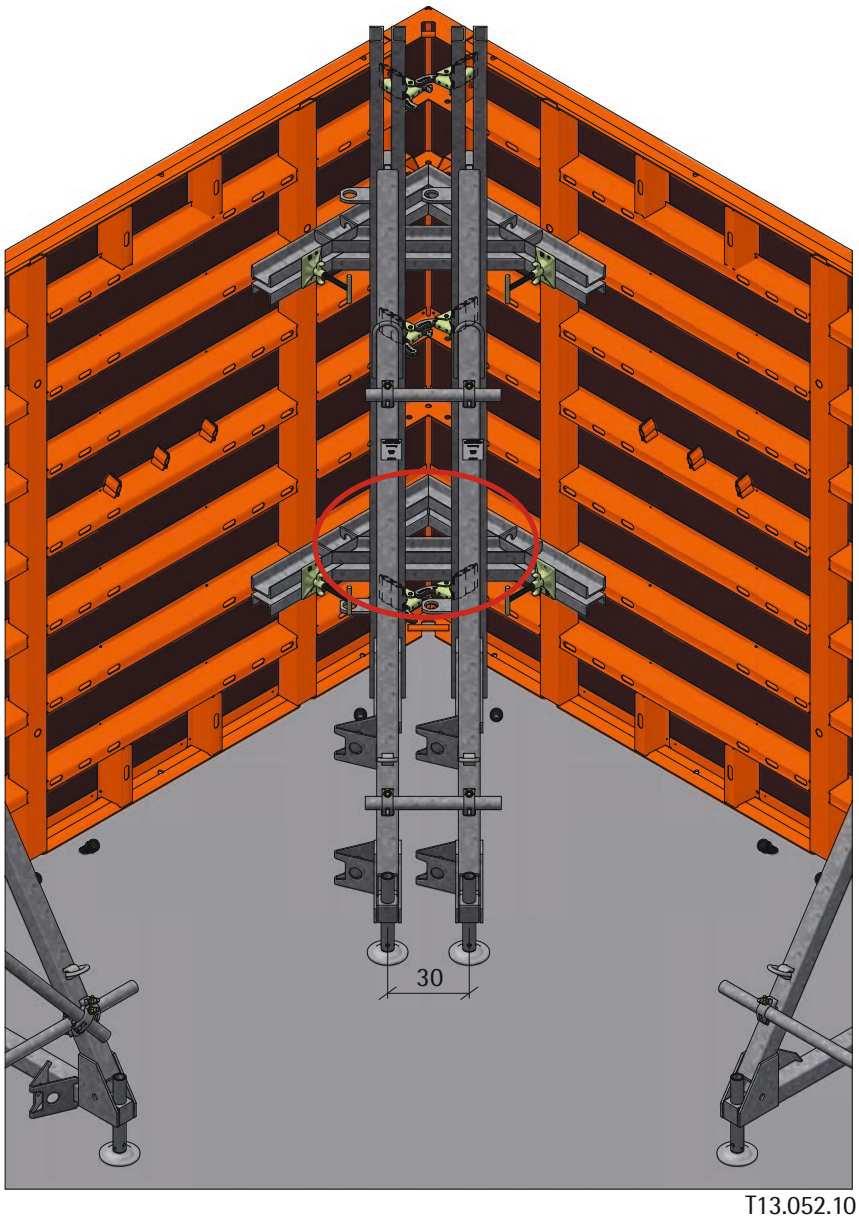
Corner waler for supporting jack 3.00/4.00 m, cpl.
Art. no.: 189.005.0057
Weight: 56.84 kg



Support for walers DW15, clamping length 6–20 cm L/N/A
Art. no.: 187.500.0021
Weight: 1.95 kg

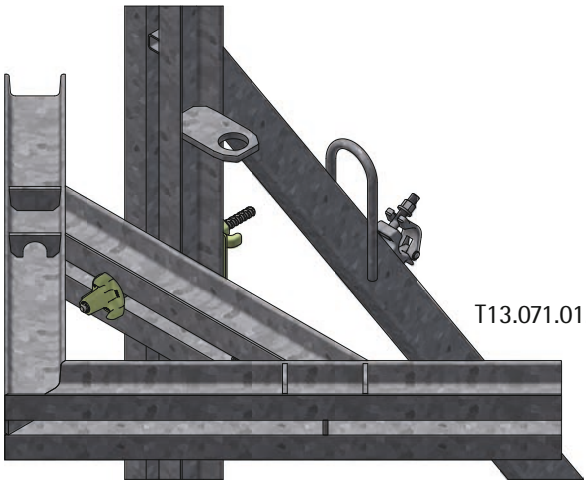


Corner solution for supporting jack 3.00 m LOGO.3



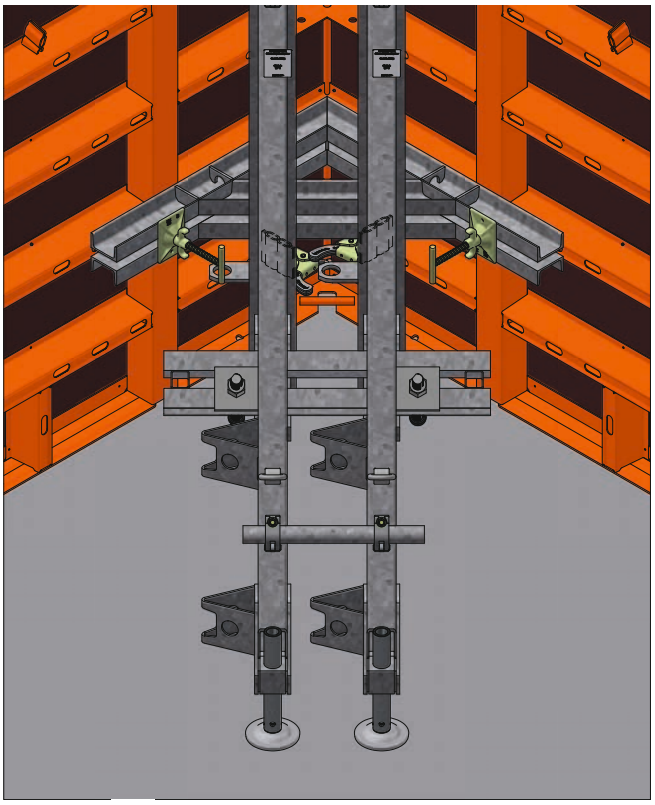
T13.052.10

The supporting jacks are attached to the corner walers and screwed in place using short tie rods and wing nuts (formwork side) and ball-and-socket joint plates (supporting jack side).



T13.071.01

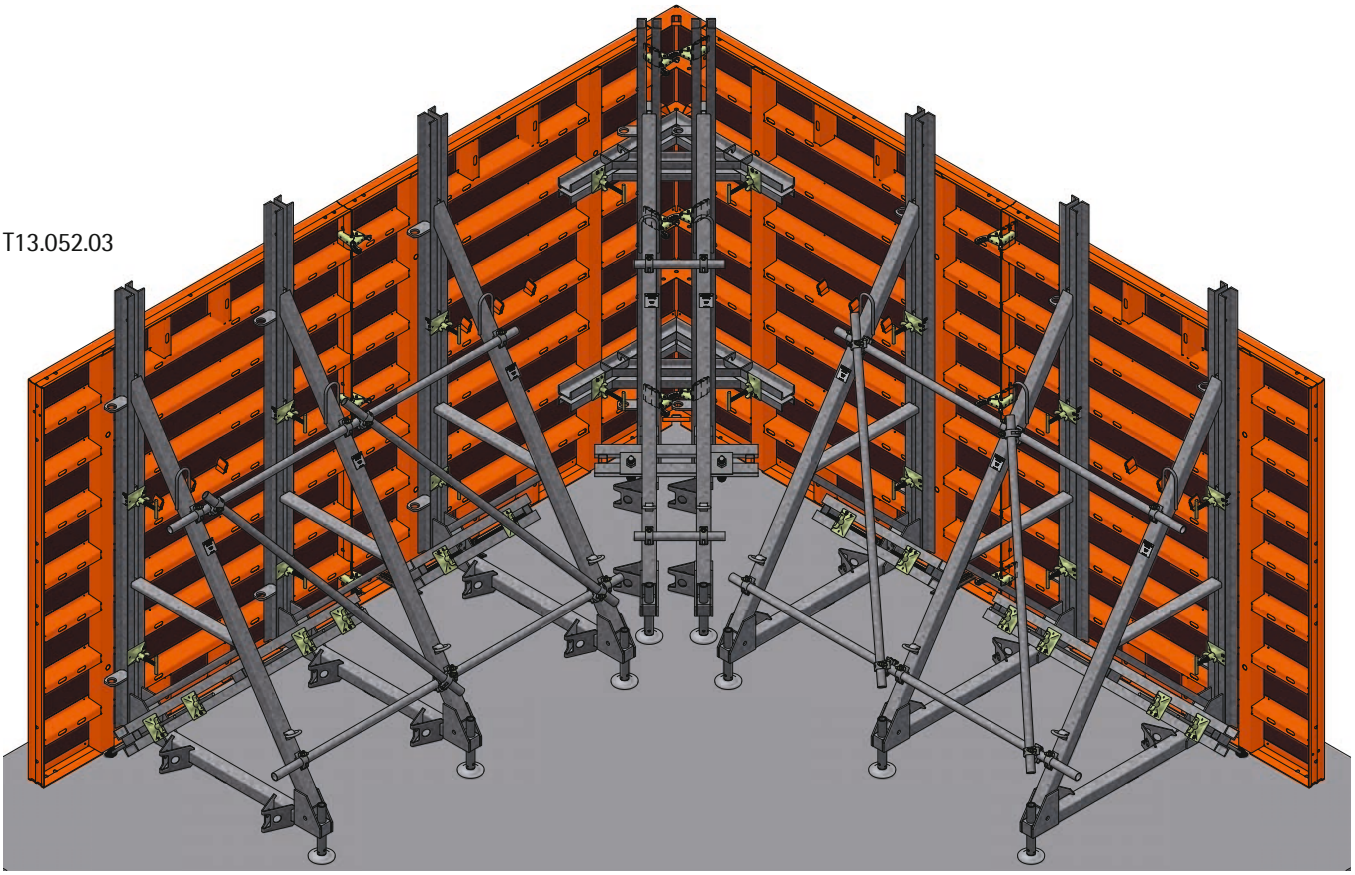
LOGO.3 Corner solution for supporting jack 3.00 m



T13.052.12

Finally, the previously concreted anchors are tensioned using belting and tie rods in accordance with the procedure described on page 39.

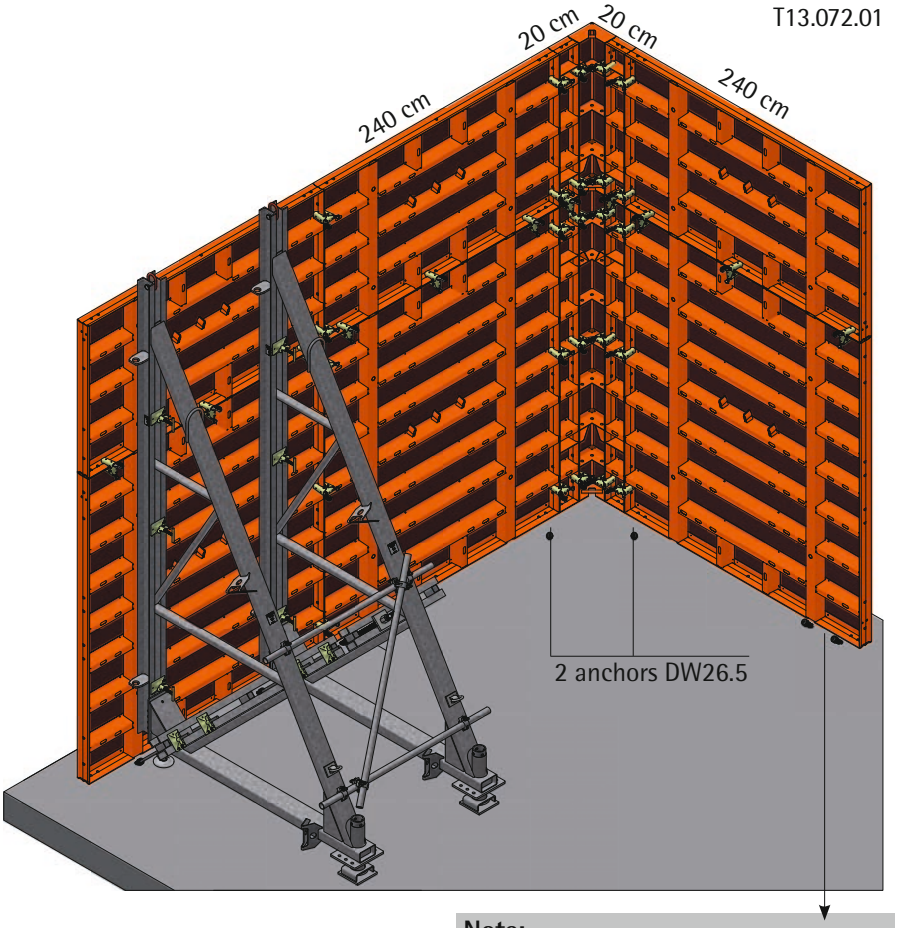
T13.052.03



Corner solution for supporting jack 4.00 m LOGO.3

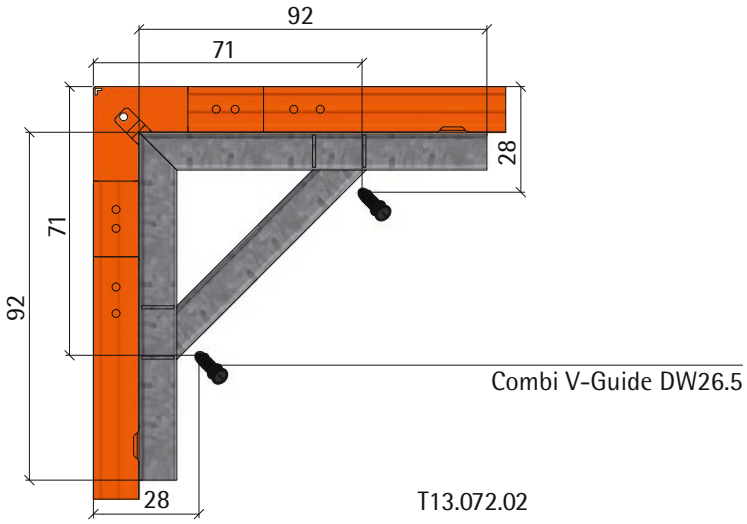
When forming right angles with single-sided formwork, two supporting jacks with corner braces are mounted on the inside at an angle of °45 to the formwork (page 65).

T13.072.01



Note:
A 20 cm wide fitting element must be planned between the inside corner post and the large-size panel that follows it in order to provide sufficient space for all four supporting jacks in the corner area or for their installation on the panels.
The second supporting jack after the corner must also be moved in comparison to the standard application (page 53), as must its anchor.
The solution shown is only one of several possible variants.
However, with large-size panels used horizontally, for example, the solution remains the same in principle.

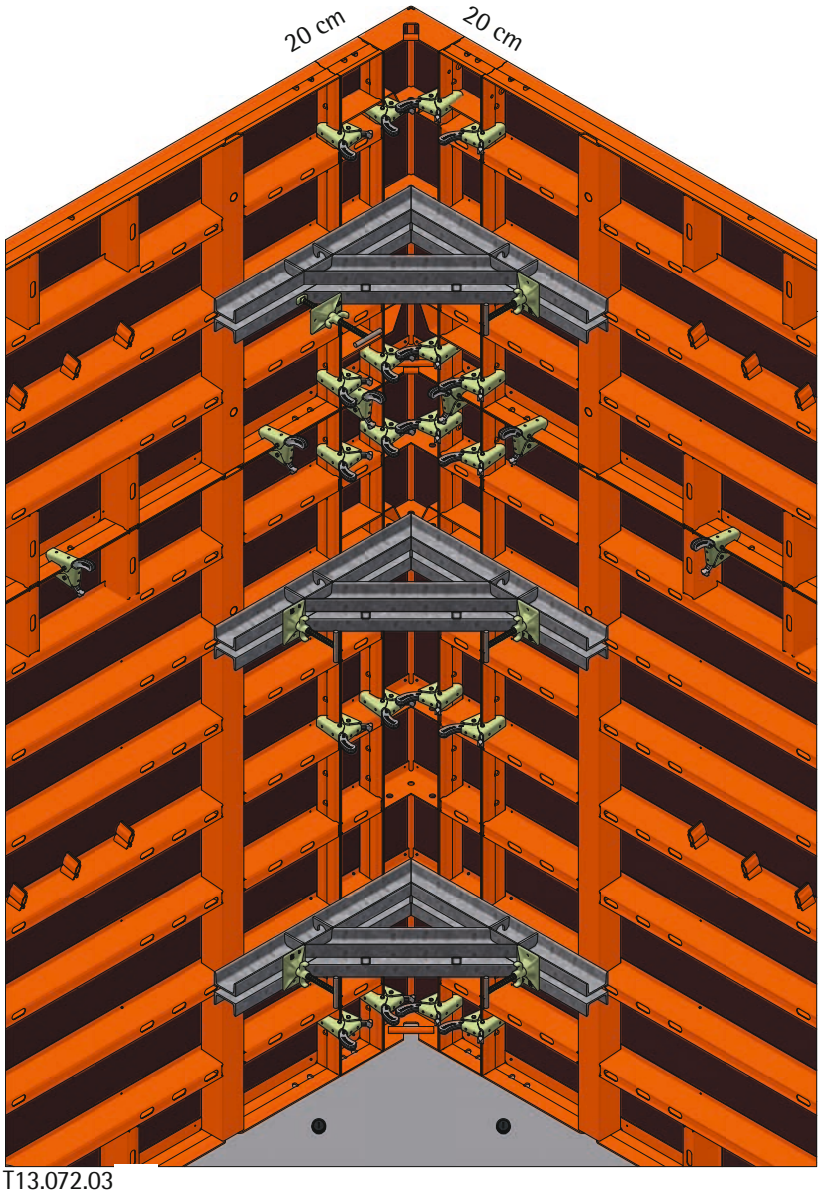
Note:
Both anchors are offset by 30 cm compared to the standard application.



T13.072.02

Due to the limited space available, two tie rods DW26.5 including anchors are installed in the corner to dissipate the fresh concrete pressure forces. The installation dimensions can be found in the adjacent illustration.

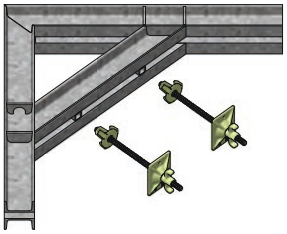
LOGO.3 Corner solution for supporting jack 4.00 m



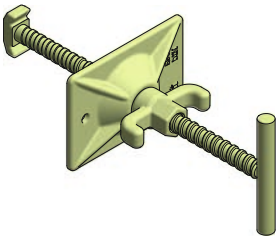
T13.072.03

Three corner walers are mounted on the cross profiles of the formwork.

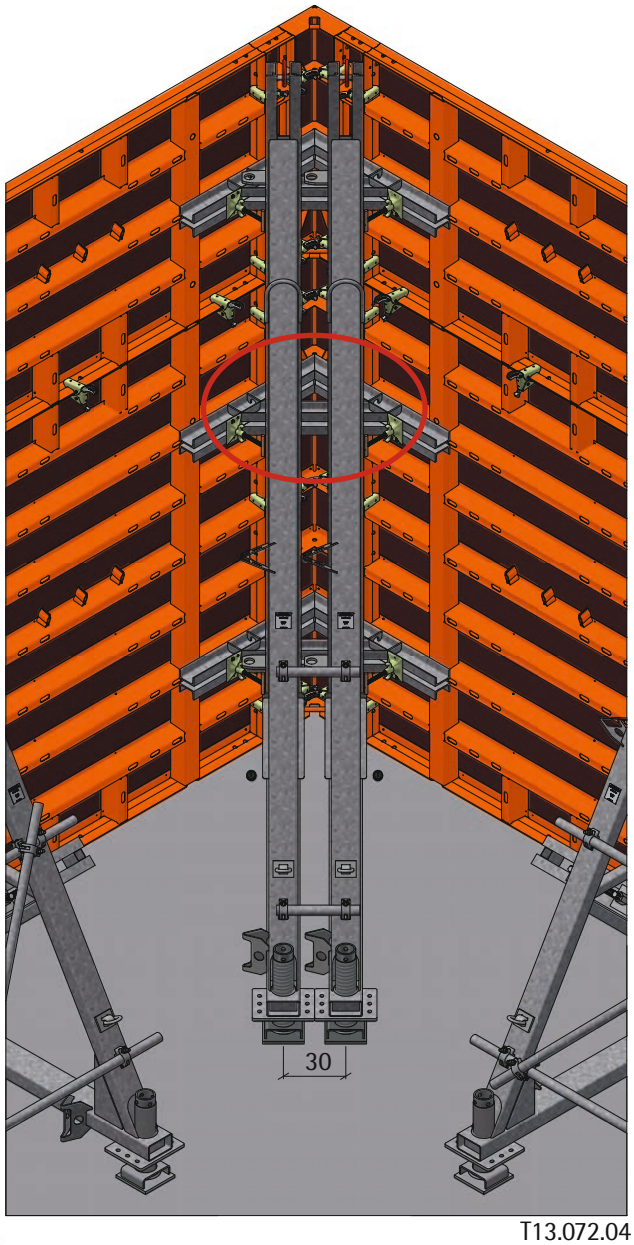
Corner waler for supporting jack 3.00/4.00 m, cpl.
Art. no.: 189.005.0057
Weight: 56.84 kg



Support for walers DW15, clamping length 6–20 cm L/N/A
Art. no.: 187.500.0021
Weight: 1.95 kg

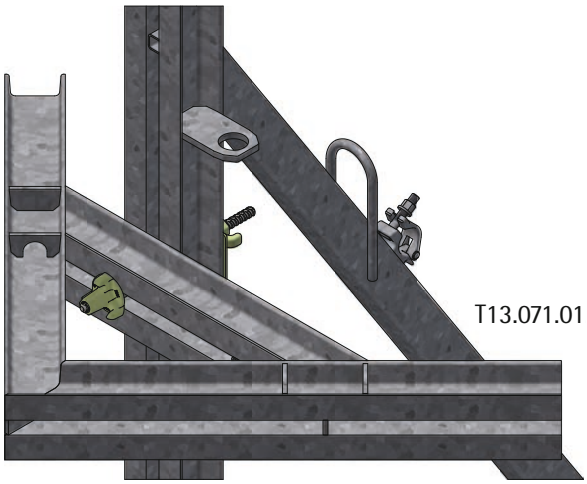


Corner solution for supporting jack 4.00 m LOGO.3



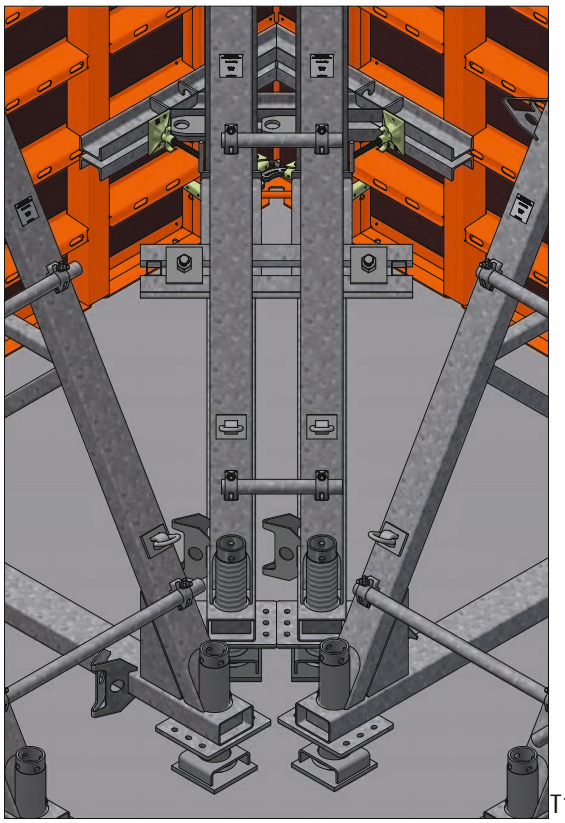
T13.072.04

The supporting jacks are attached to the corner walers and screwed in place using short tie rods and wing nuts (formwork side) and ball-and-socket joint plates (supporting jack side).



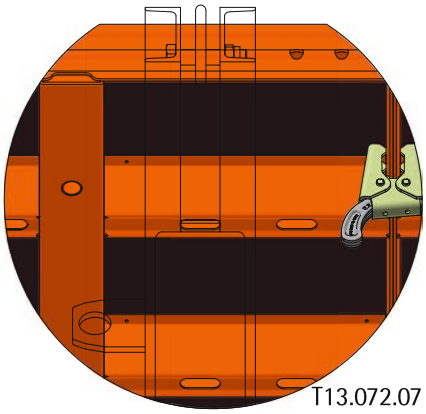
T13.071.01

LOGO.3 Corner solution for supporting jack 4.00 m



T13.072.05

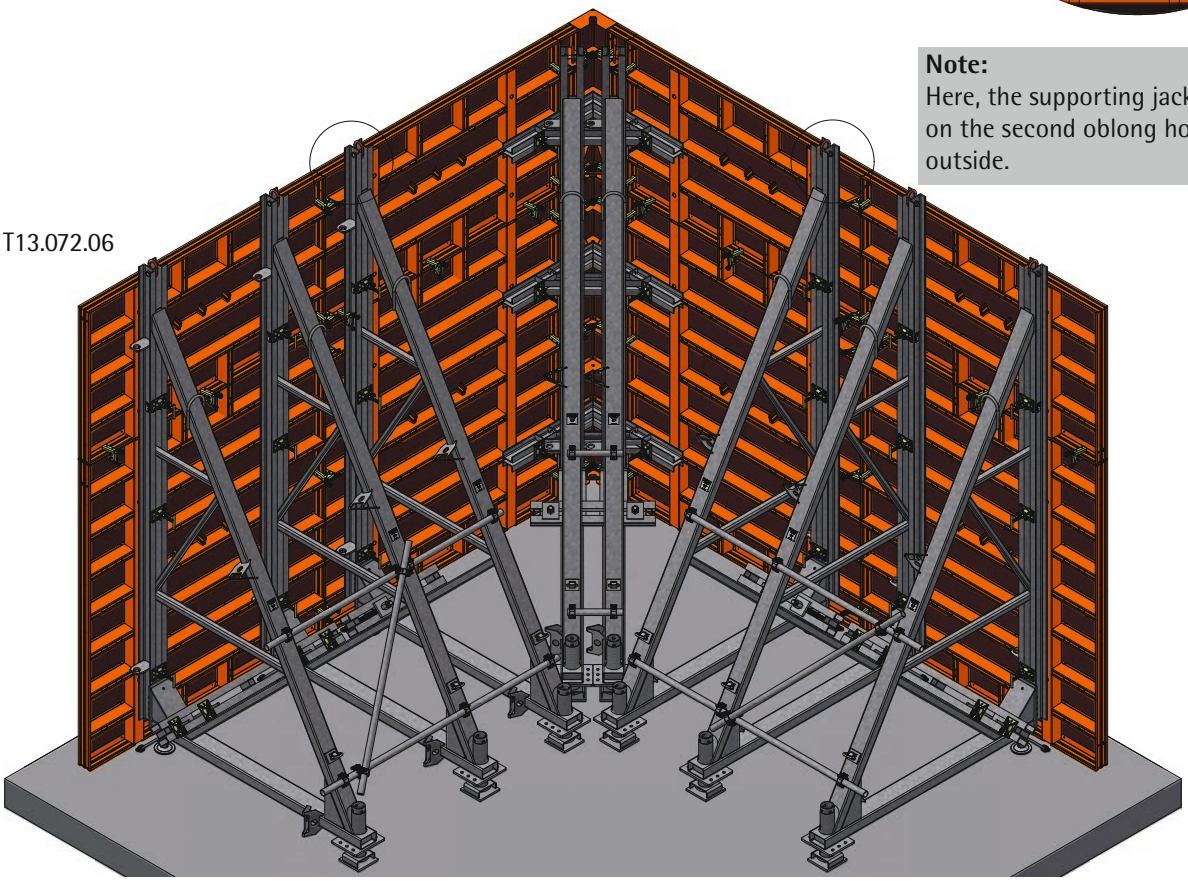
Finally, the previously concreted anchors are tensioned using belting and tie rods in accordance with the procedure described on page 39.



T13.072.07

Note:
Here, the supporting jack is mounted on the second oblong hole from the outside.

T13.072.06



Work safety for supporting jack 3.00 m LOGO.3

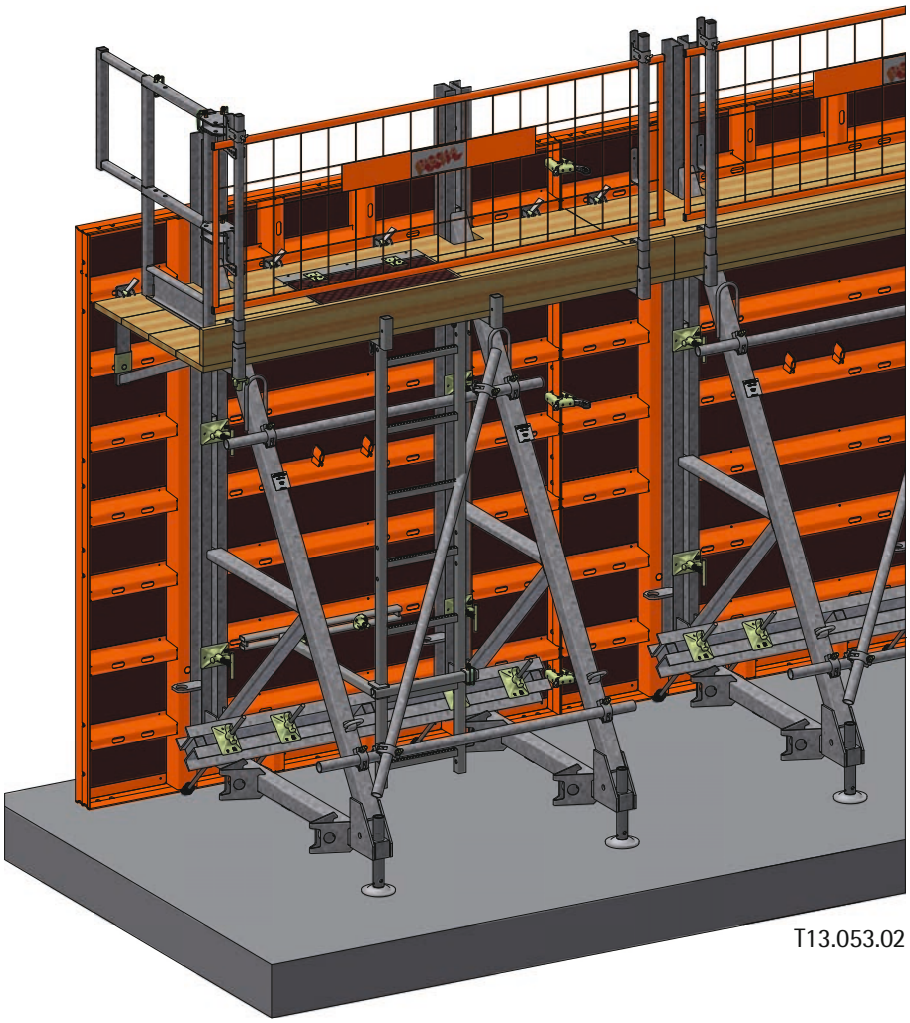
There are numerous regulations and guidelines issued by legislators, associations and professional associations governing work safety requirements when working with formwork systems.
The latest versions of these provisions must always be complied with.

Important points here are:

- Workstations at the formwork
- Fall protection
- Absorption and deflection of wind loads

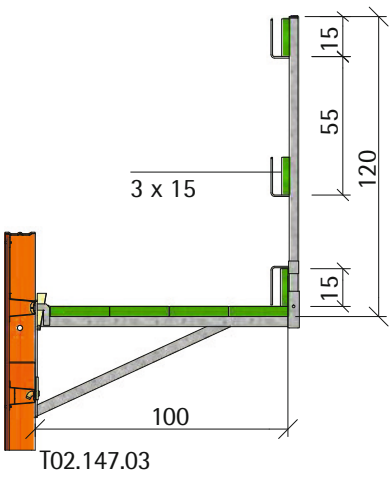
To set up workstations on and around the formwork, the Secuset bracket is attached to the panels with the lateral protection post and toe board holder, which are then completed with a site-provided board and a guardrail (lateral protection).

Germany:
- The provisions of DIN EN 1-12811 apply.
- The area-related working weight is 2.0 kN/m² (scaffolding group 3).
- The distance between the brackets must not exceed 2.00 m.



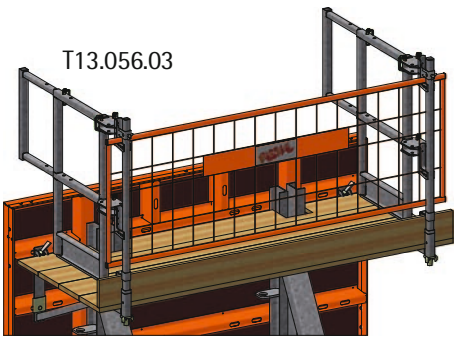
T13.053.02

Attention:
The front sides of the workstations must also be fitted with fall protection devices. This is the case on the left and right edges of the formwork as well as at joints where the formwork is separated for relocation.



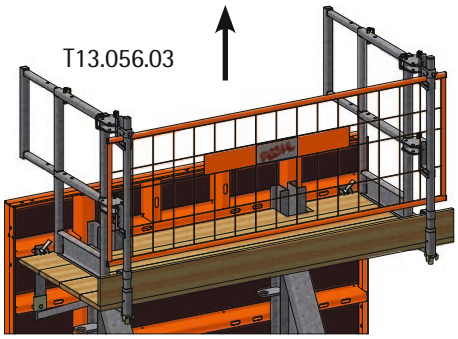
T02.147.03

Like the part that remains standing.



T13.056.03

The unit to be moved must also be closed.



T13.056.03

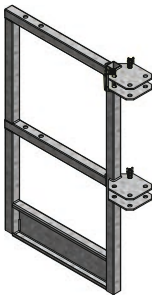
LOGO.3

Work safety for supporting jack 4.00 m

T13.054.02

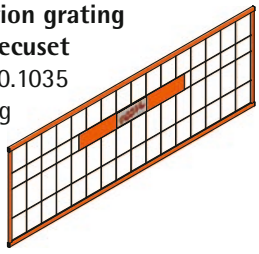
Mounting post 60/105cm L/N/R Secuset
Art. no.: 189.000.0051
Weight: 9.70 kg

Door 60/105 cm complete for Multip L/T/A
Art. no.: 187.500.0065
Weight: 11.50 kg

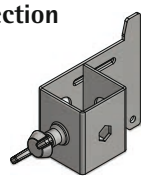


Door extension complete for Multip L/T/A
Art. no.: 187.500.0066
Weight: 4.00 kg

Lateral protection grating 230 x 80 cm Secuset
Art. no.: 189.000.1035
Weight: 10.10 kg



Support for lateral protection grating Secuset
Art. no.: 189.000.1011
Weight: 0.21 kg



Toe board support for lateral protection Secuset
Art. no.: 189.000.1010
Weight: 0.46 kg

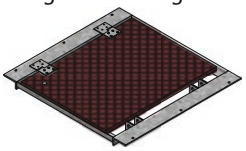
Work safety for supporting jack 6.00 m

LOGO.3

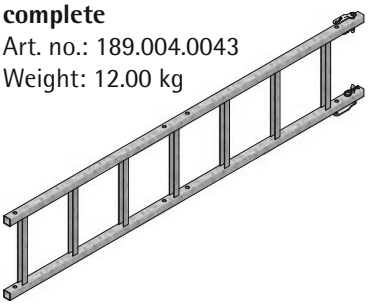
More platforms can be installed for all formwork heights, in addition to the upper platform used for pouring and compacting concrete. This ensures the safe operation of all accessories during formwork erection and dismantling.
It is also possible to install a continuous ladder for ascending and descending, with traps provided in the boards.

Note:
An additional bracket is required on the left and right of the trap to support the board.

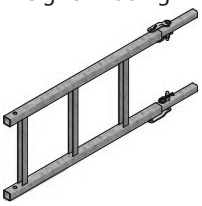
Trap 60 x 62 cm
Art. no.: 286.000.0012
Weight: 19.00 kg



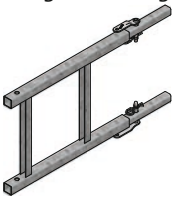
Steel conductor 40/220 cm, complete
Art. no.: 189.004.0043
Weight: 12.00 kg



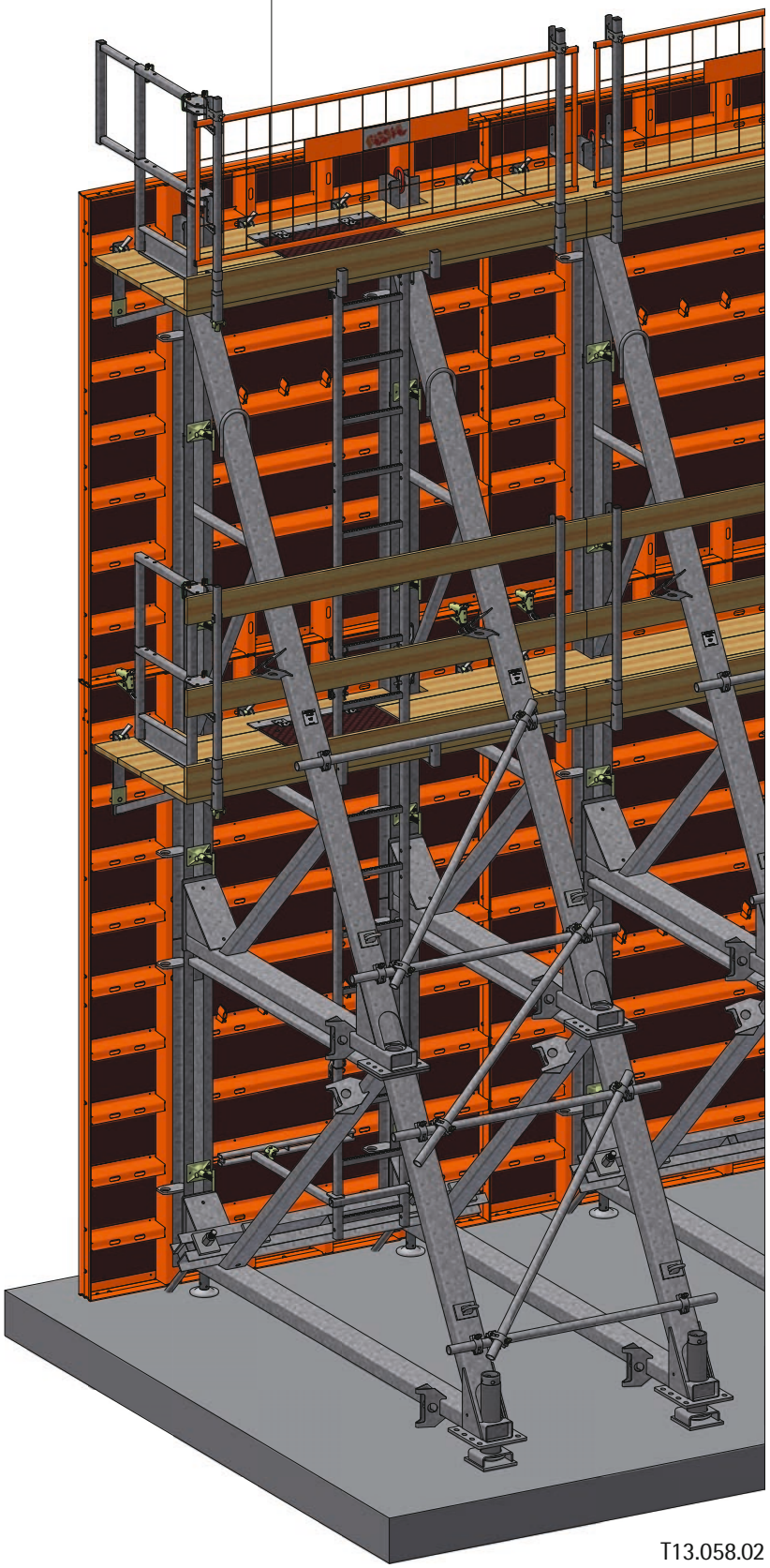
Bottom ladder 40/95 cm, complete
Art. no.: 189.004.0044
Weight: 7.00 kg



Bottom ladder 40/63cm, complete
Art. no.: 189.004.0045
Weight: 5.00 kg



Trap, ladders, ladder bracket



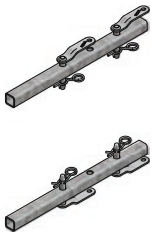
T13.058.02

LOGO.3 Work safety for supporting jack 8.00 m

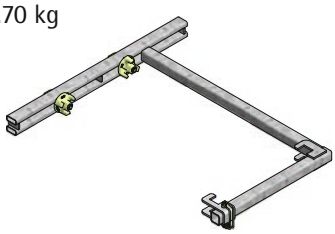
T13.059.02

The solutions shown are only examples. The number and position of the platforms may vary depending on the layout of the panels, the height or country-specific regulations.

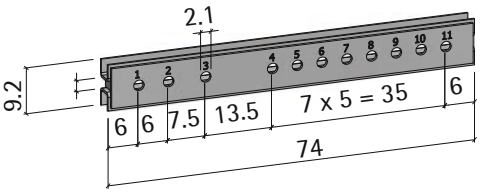
Connection for conductor 40/220 cm, complete
Art. no.: 189.004.0046
Weight: 2.50 kg



Ladder fastening steel ladder
Art. no.: 187.500.0111
Weight: 9.70 kg

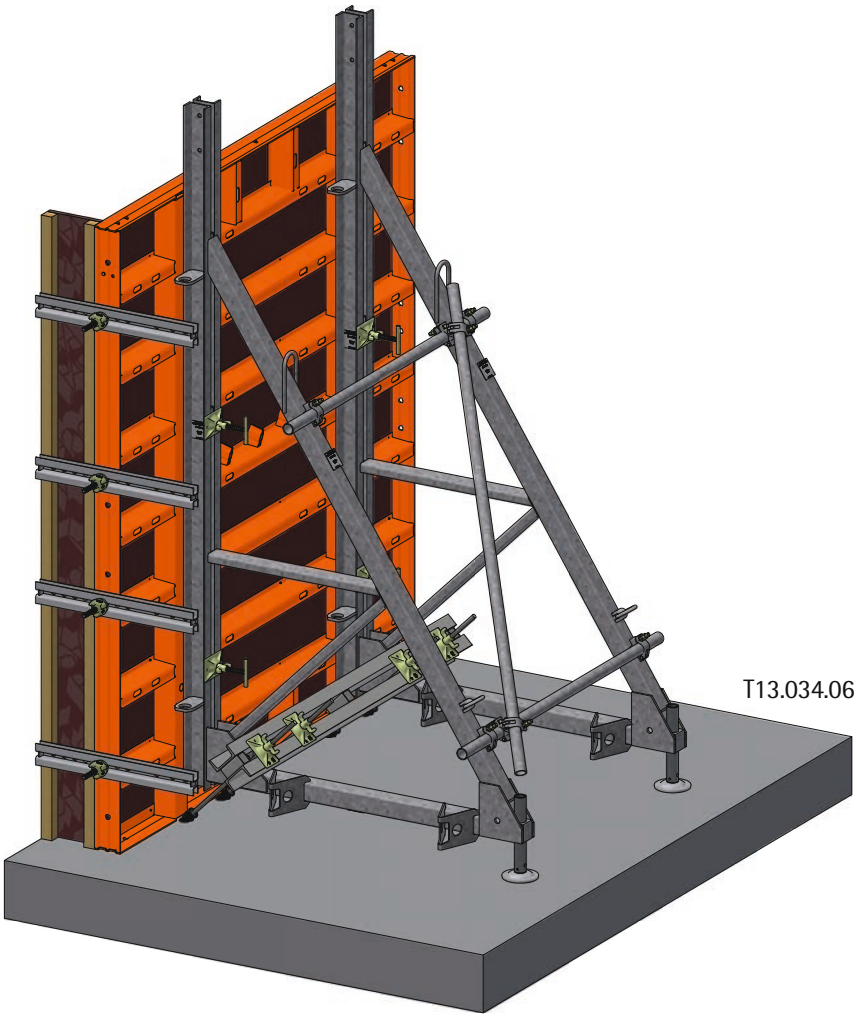


Stop-end formwork



LOGO spacer channel 15 – 50 cm
Art. no.: 187.500.0006
Weight: 7.10 kg

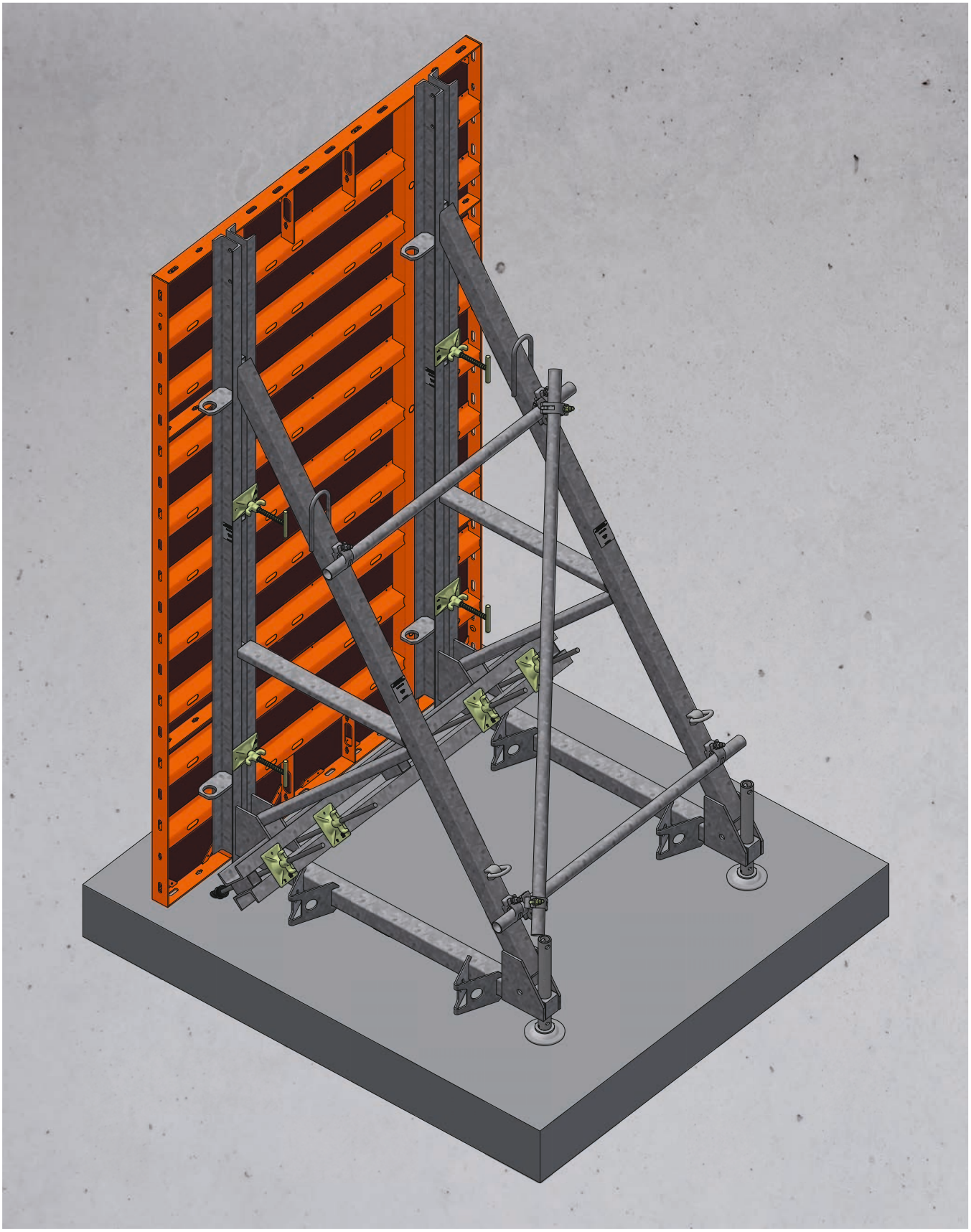
For the stop-end or front formwork, spacer channels are screwed to the panel frame.
The re-anchoring is carried out on site depending on the conditions at the construction site.



T13.034.06

Notes

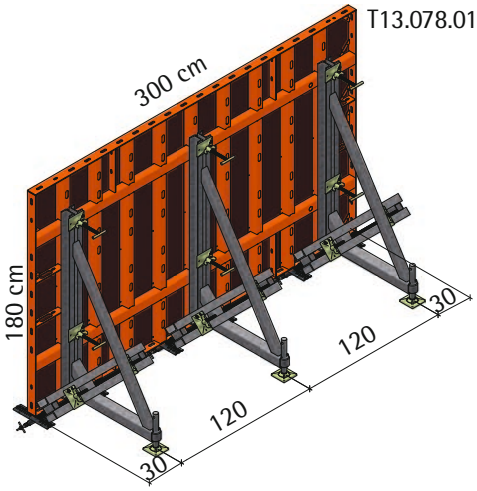
NeoR wall formwork

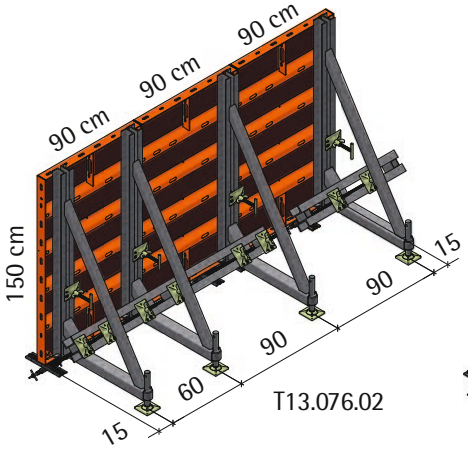


Spacing between supporting jacks

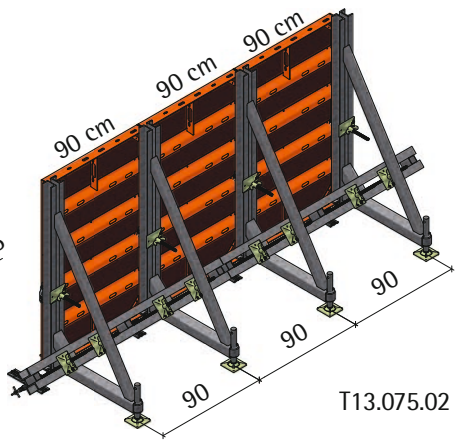
NeoR

The spacing between the supporting jacks depends on the size of the formwork panels and whether they are used upright or horizontally.
The standard use case are shown in the adjacent illustrations.
For height extensions, larger supporting jacks are used, but the distances remain the same.





With support for walers DW15 (see page 67)

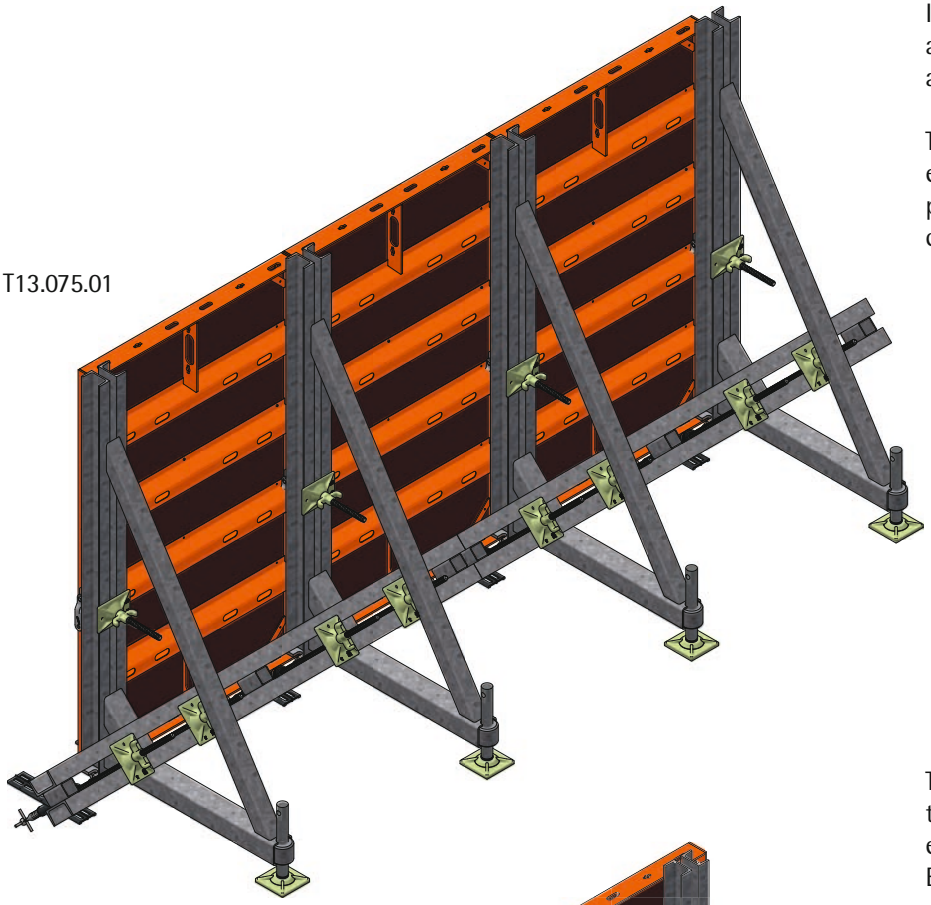


With modular formwork connecting piece (see page 67)

NeoR

Spacing between supporting jacks

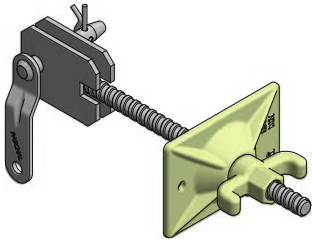
T13.075.01



If panel heights of 150 cm or 90 cm are used, there are two solutions for arranging the supporting jacks:

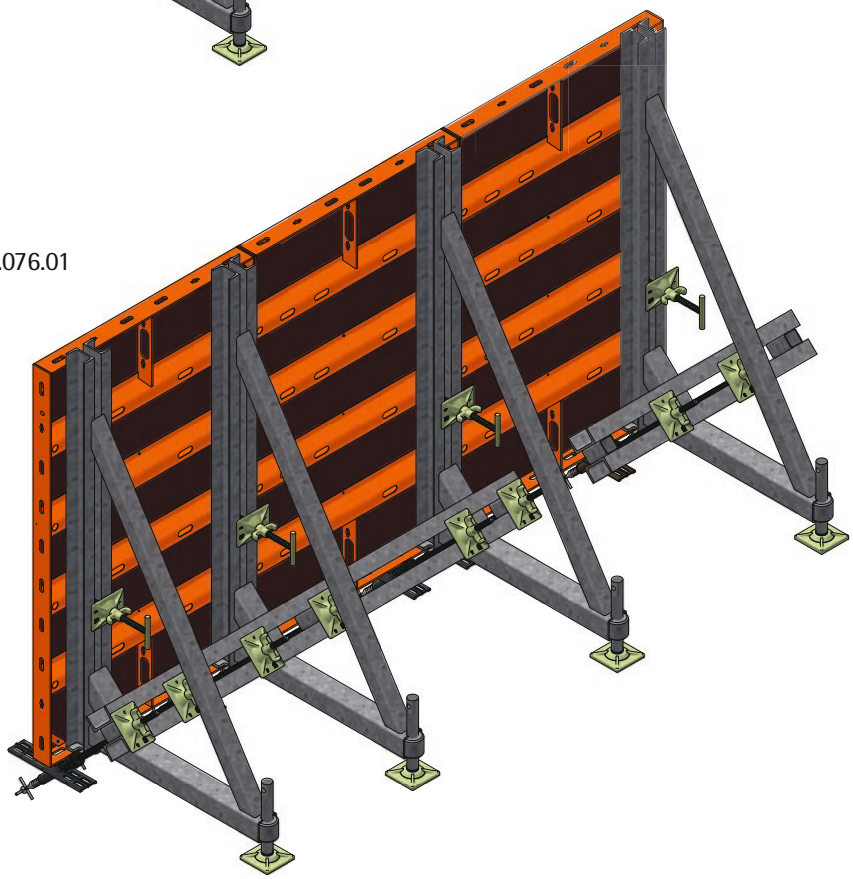
The supporting jacks are planned at each panel joint and connected to the panels using the modular formwork connecting piece.

Modular formwork connecting piece cpl.
Art. no.: 180.000.0007
Weight: 2.34 kg

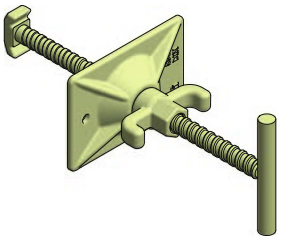


The first panel is held in place from the outside with two supporting jacks, each inserted into the first oblong hole. Each additional panel is given a supporting jack.
The connection to the panels is made with the DW15 support for walers, which is also used for the 180x300 cm large-size panel.

T13.076.01

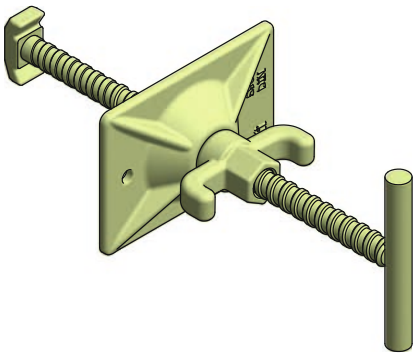


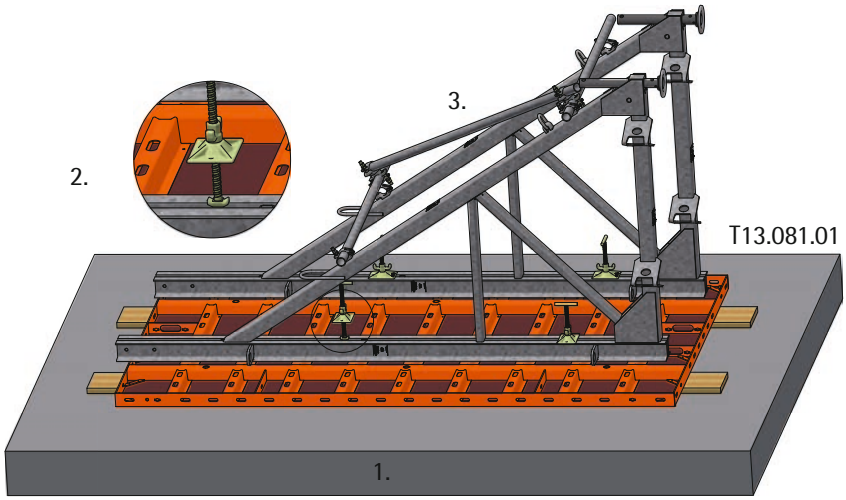
Support for walers DW15
Art. no.: 187.500.0021
Weight: 1.95 kg



Horizontal pre-assembly

Support for walers DW15
Art. no.: 187.500.0021
Weight: 1.95 kg





T13.081.01

1. Place the formwork panel on solid ground.

2. Place supporting jacks at the required distances and connect them to the panel using the support for walers DW15 (modular formwork connecting piece).

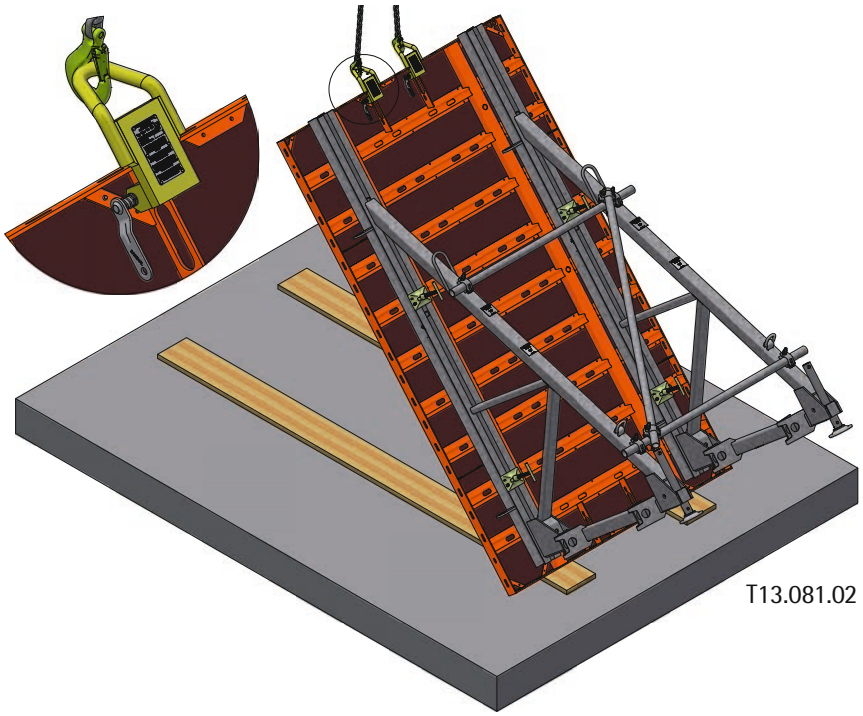
T13.073.02

Note:
The supporting jacks must be secured against tipping during pre-assembly.

Note:
The supporting jacks must also be mounted at a specific distance a from the lower panel frame.
See pages (78 ff.) for the different supporting jack sizes.

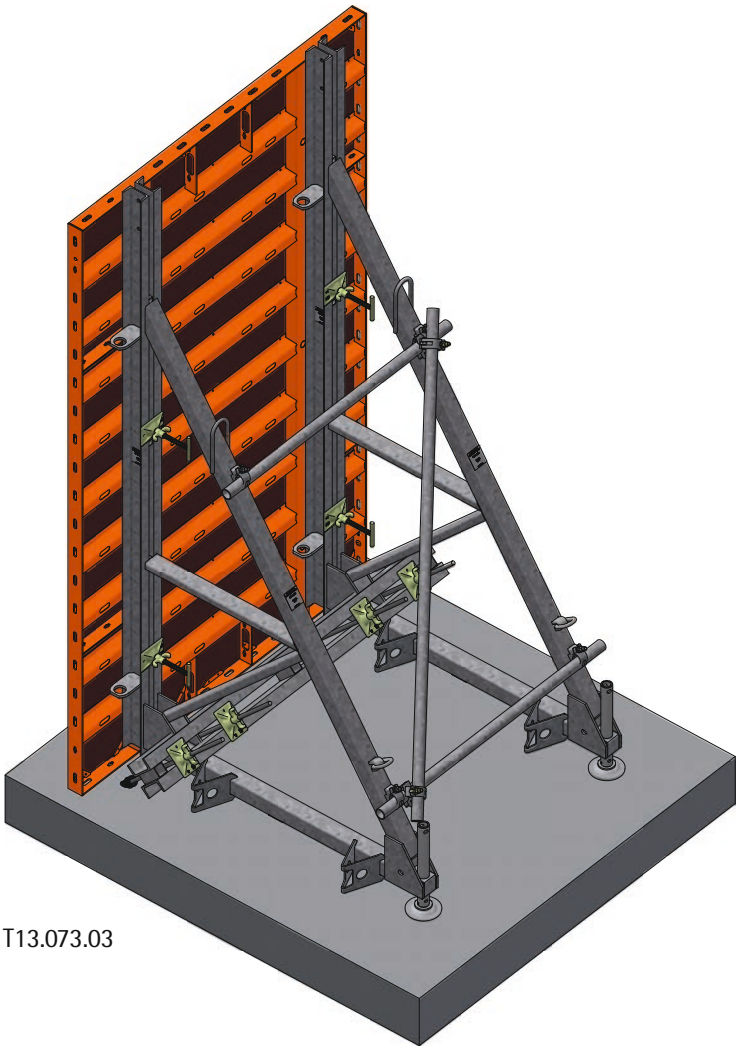
3. Attach scaffold tubes D.48.3 mm to the integrated couplings of the supporting jacks.

4. Attach the pre-assembled unit to the specified attachment points and transport it to the place of use with a crane.
See also pages 28 ff. for the different supporting jack sizes.



T13.081.02

Tension in the anchor



T13.073.03

After positioning the formwork panel with the supporting jacks, anchoring is carried out as follows:

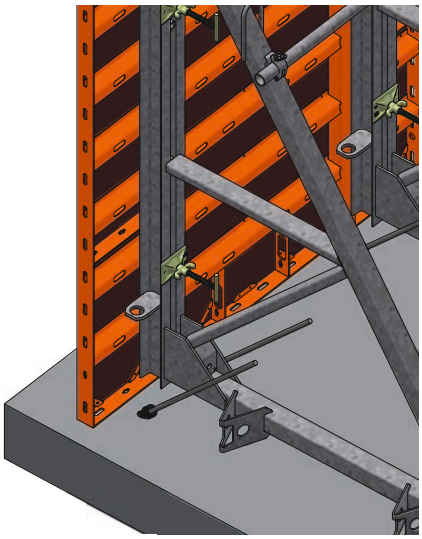
1. Screw the tie rods into the previously concreted anchors. (see also p. 33)

2. Put the double channel waler over the tie rods and set it on the supporting jacks.

3. Screw the ball-and-socket joint plates onto the tie rods and tighten them firmly to the belting. (For the 6.00 m supporting jack and the corner solutions, use the counter plate with the DW26.5 hexagon nut).

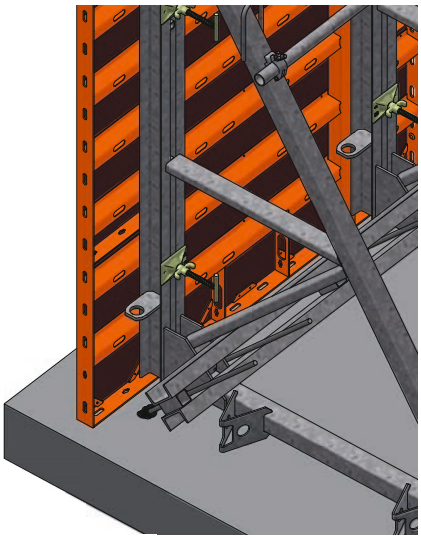
Note:
Counterplates and DW26.5 hexagon nuts are used for anchoring the 6.00 m and 8.00 m supporting jacks and corner solutions.
To make it easier to loosen the hexagon nut, the impact ring spanner can be placed on the nut and turned with a hammer. (see page 33)

1.



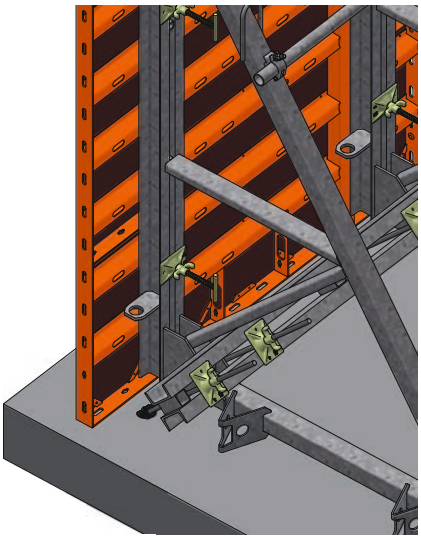
T13.073.04

2.



T13.073.05

3.

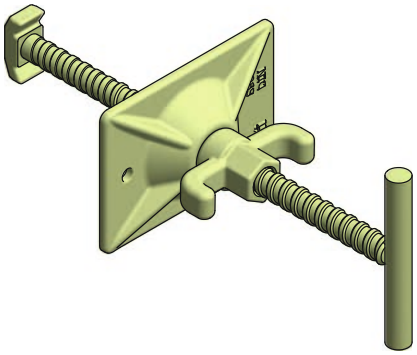


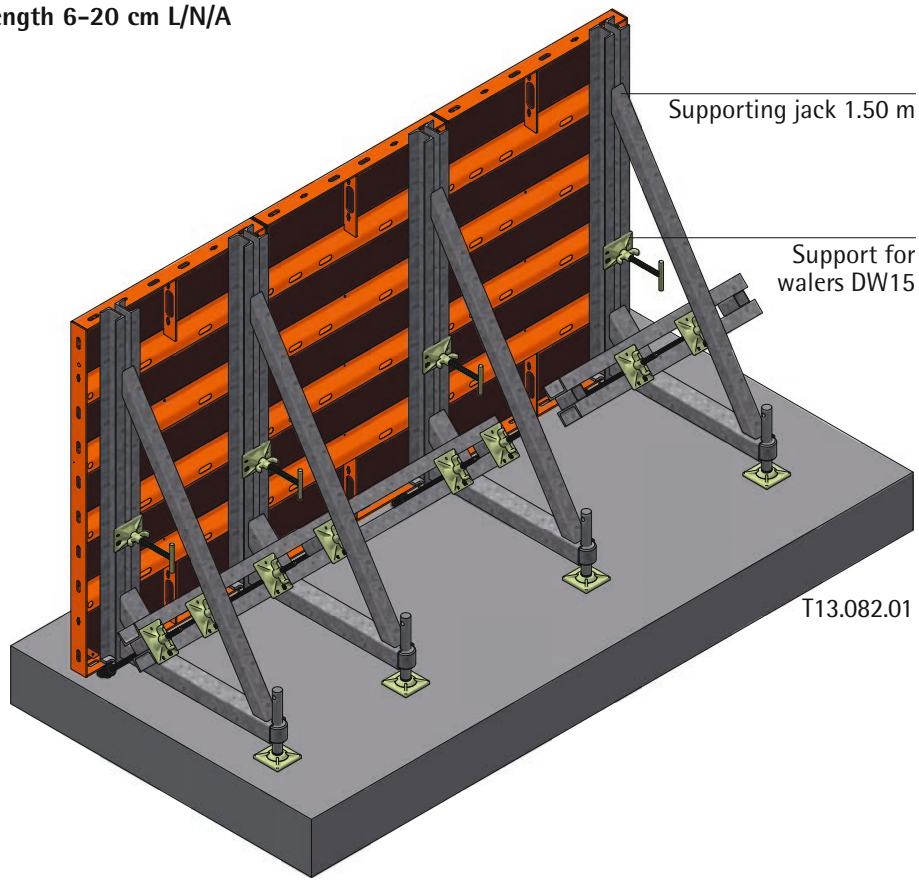
T13.073.06

Supporting jack 1.50 m, assembled

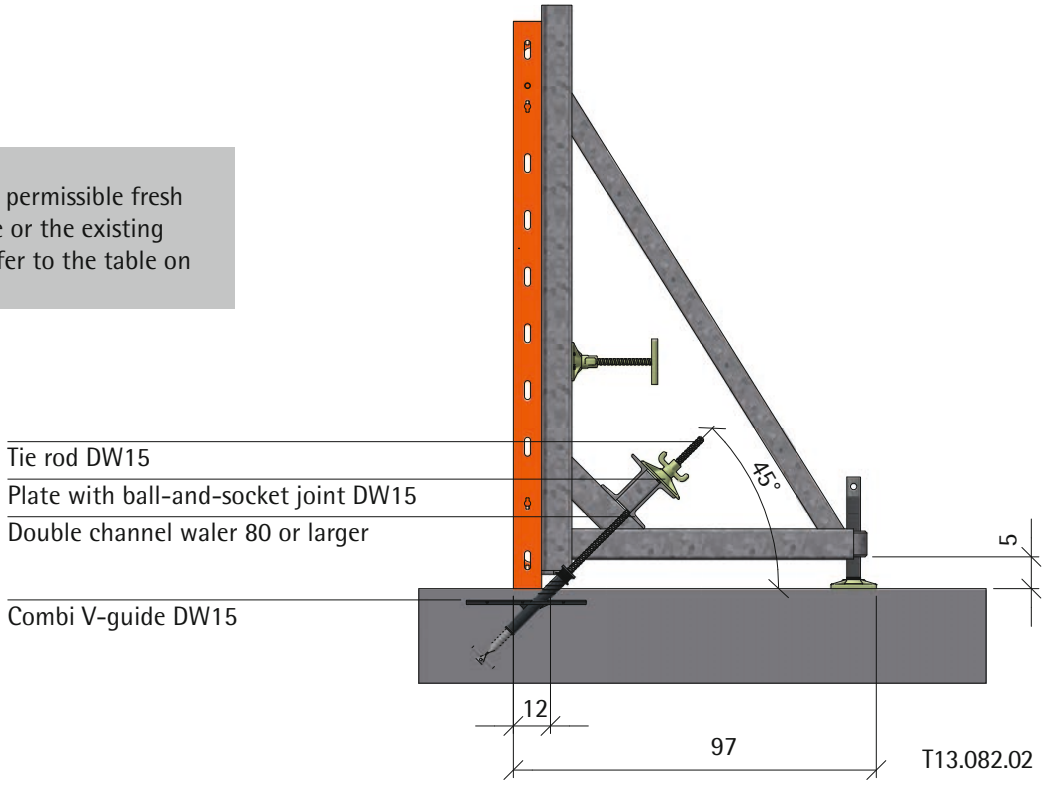
NeoR

Support for walers DW15, clamping length 6–20 cm L/N/A
Art. no.: 187.500.0021
Weight: 1.95 kg





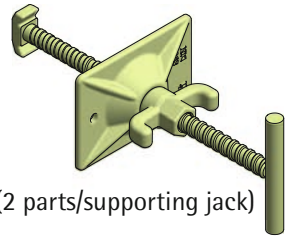
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 41.



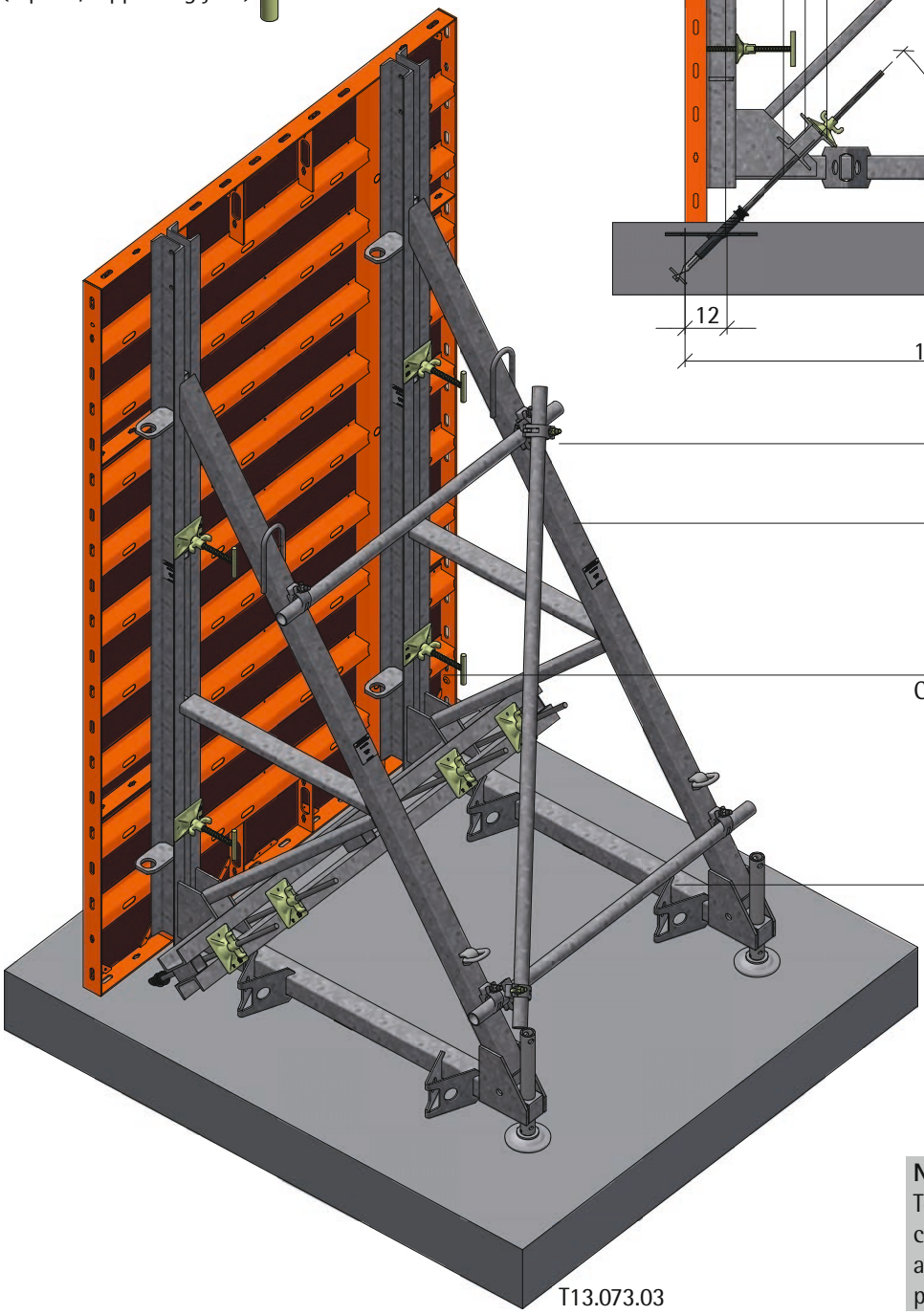
NeoR

Supporting jack 3.00 m, assembled

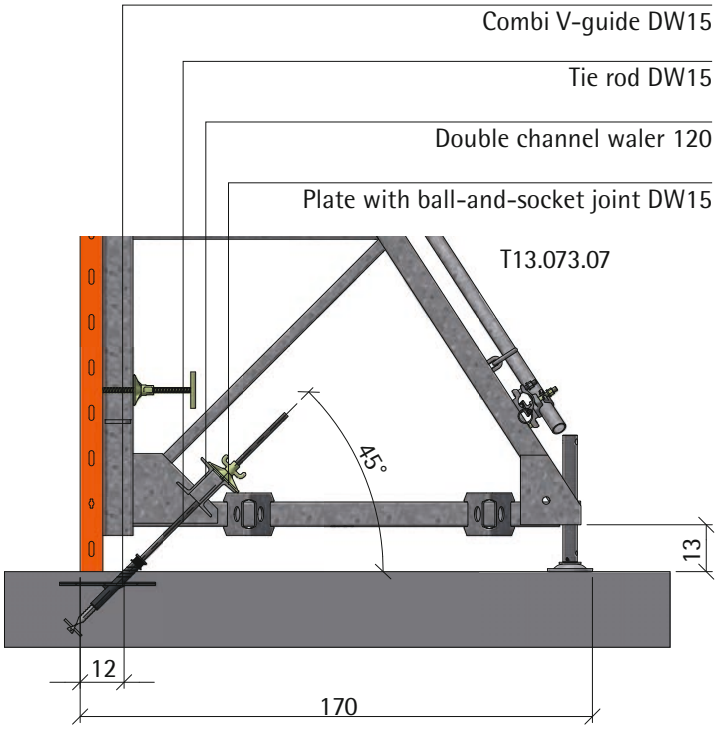
Connecting piece for supporting jack 3.0m cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg



(2 parts/supporting jack)



T13.073.03



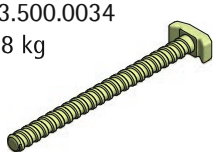
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 43.

Supporting jack 4.00 m, assembled

NeoR

Double channel waler 60x800 mm
Art. no.: 189.001.0118
Weight: 8.20 kg

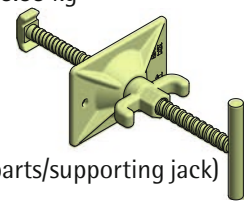
Hook headed bolt DW15x160
Art. no.: 183.500.0034
Weight: 0.28 kg



Ball-and-socket joint plate DW15 10x14 cm
Art. no.: 189.001.0159
Weight: 1.29 kg

T13.083.01

Connecting piece for supporting jack 4.0 m cpl. L/N/A
Art. no.: 187.500.0036
Weight: 5.85 kg



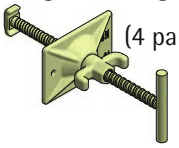
(3 parts/supporting jack)

Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 45.

NeoR

Supporting jack 6.00 m, assembled

Connecting piece for supporting jack 6.0m cpl. L/N/A
Art. no.: 187.500.0037
Weight: 7.80 kg

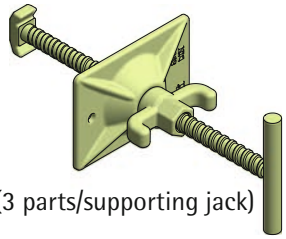


(4 parts/supporting jack)

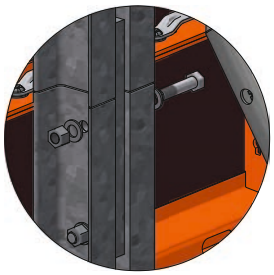
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 47.

Supporting jack 3.00 m, extended to 4.00 m NeoR

Connecting piece for supporting jack 4.0 m cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg



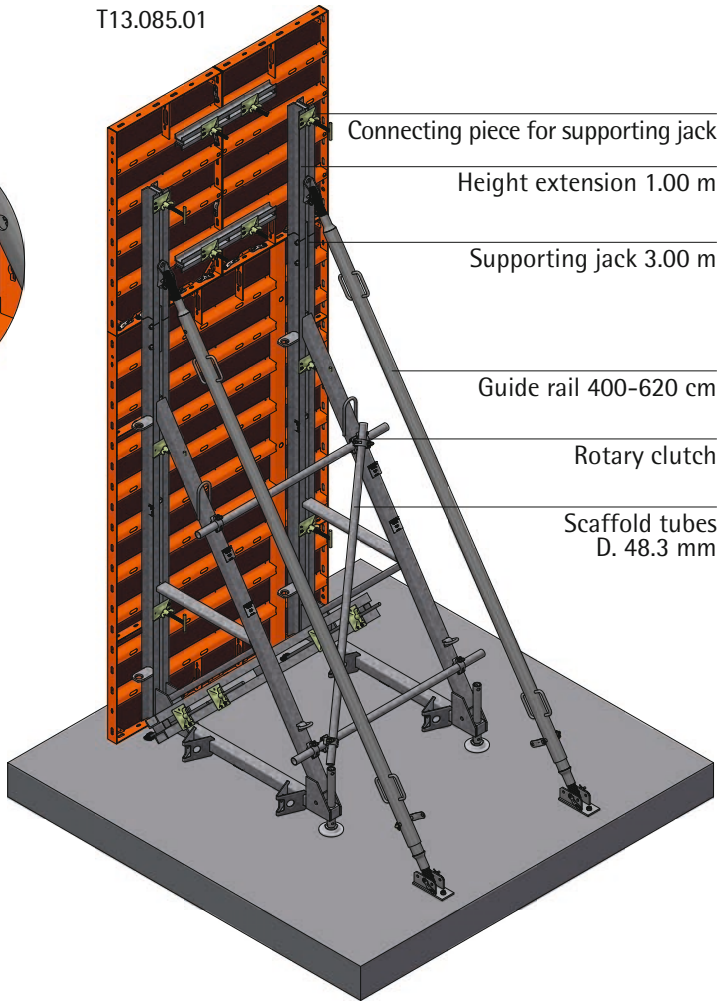
(3 parts/supporting jack)



T13.085.04

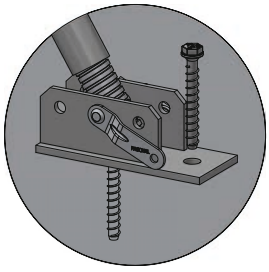
With the 1.00 m height extension and an adjustable prop, the support height of the supporting jack can be extended from 3.00 m to 4.00 m.
This is an alternative to the 4.00 m supporting jack or when using different support heights, in order to avoid using multiple supporting jack sizes.
Height extension and supporting jack are screwed together.

T13.085.01

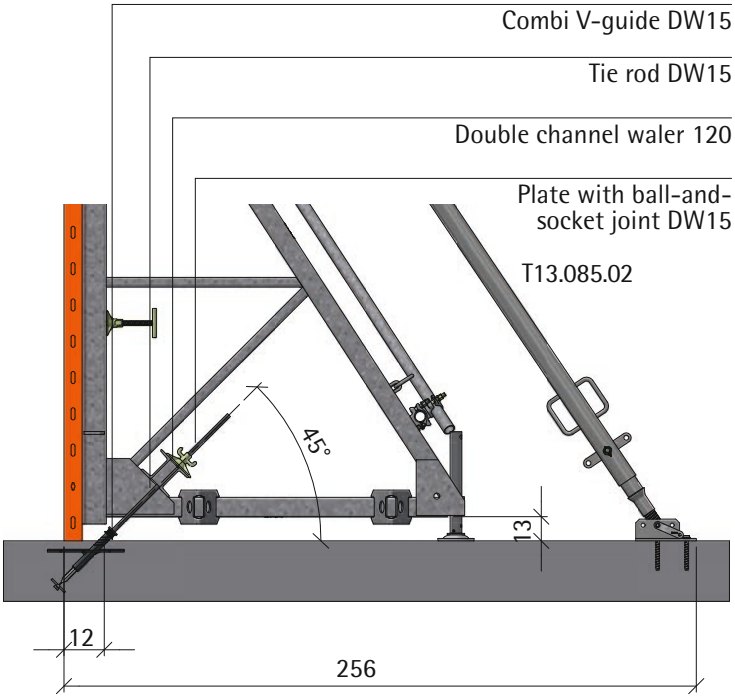


Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 51.

2 concrete screws

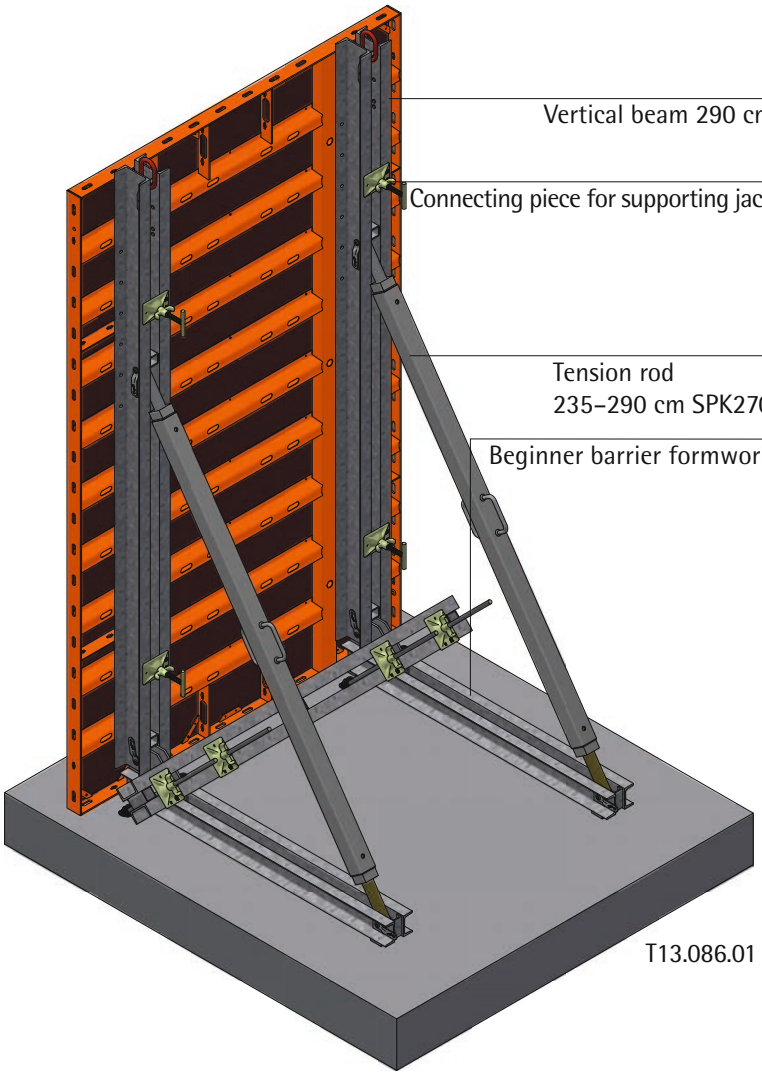


T13.085.03

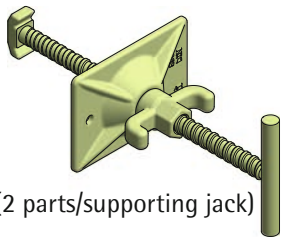


T13.085.02

NeoR Supporting jack STB300, 10° adjustable, assembled

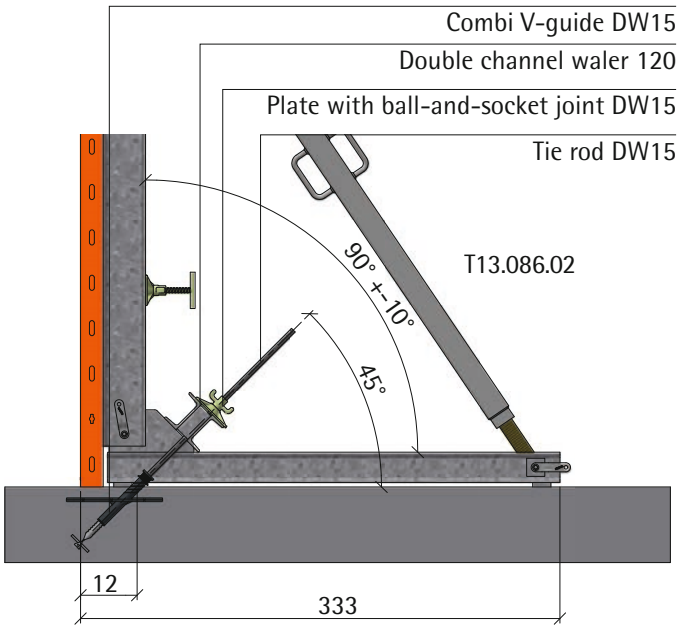


Connecting piece for supporting jack 3.0m
cpl. L/N/A
Art. no.: 187.500.0035
Weight: 3.90 kg



(2 parts/supporting jack)

A supporting jack can be assembled using individual components of the PASCHAL barrier bracket. This can be used for concreting heights of up to 3.40 m.
The articulated connections between all parts allow the supporting jack to be tilted up to °10.

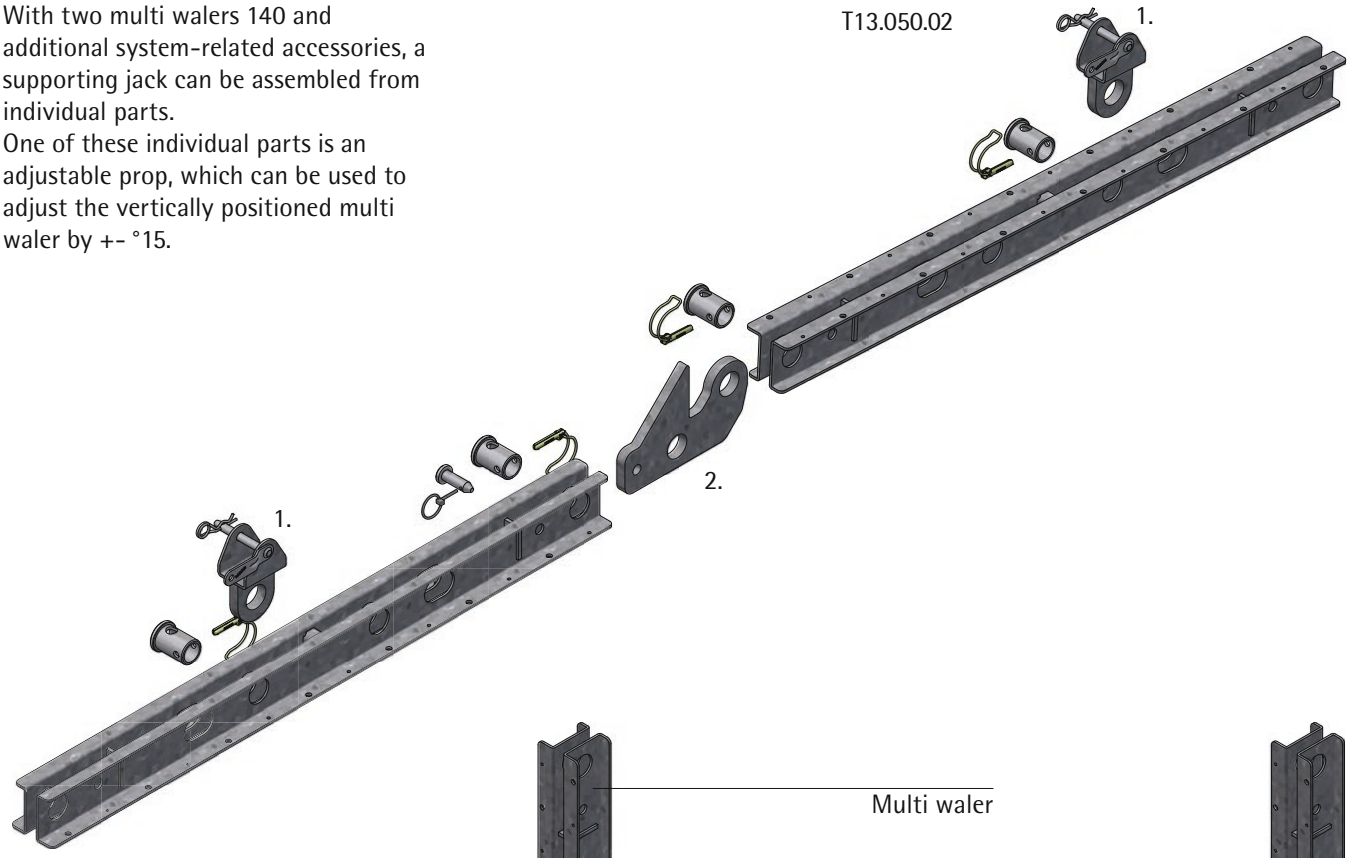


Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 53.

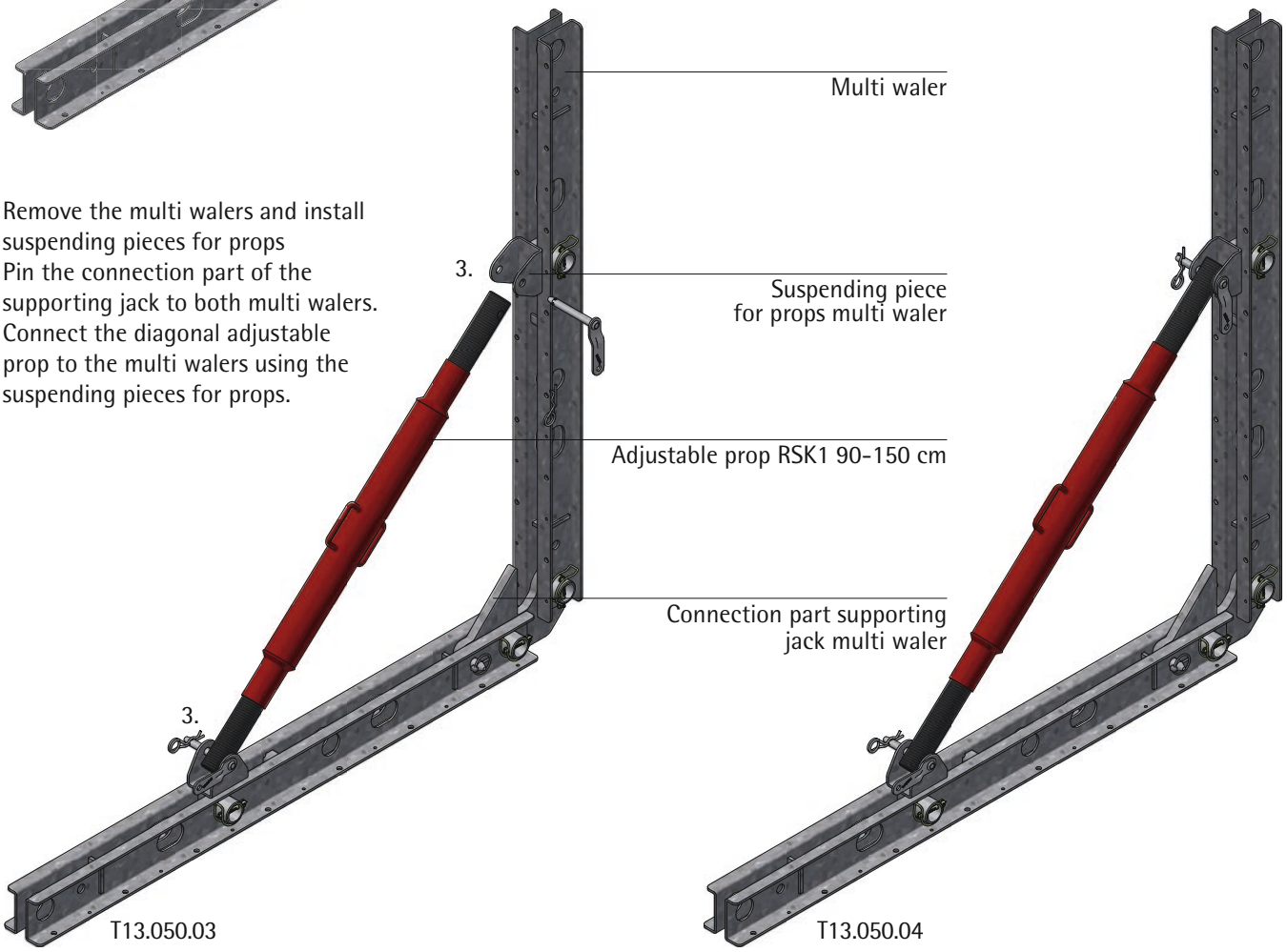
Supporting jack multi waler

NeoR

With two multi walers 140 and additional system-related accessories, a supporting jack can be assembled from individual parts.
One of these individual parts is an adjustable prop, which can be used to adjust the vertically positioned multi waler by +- °15.

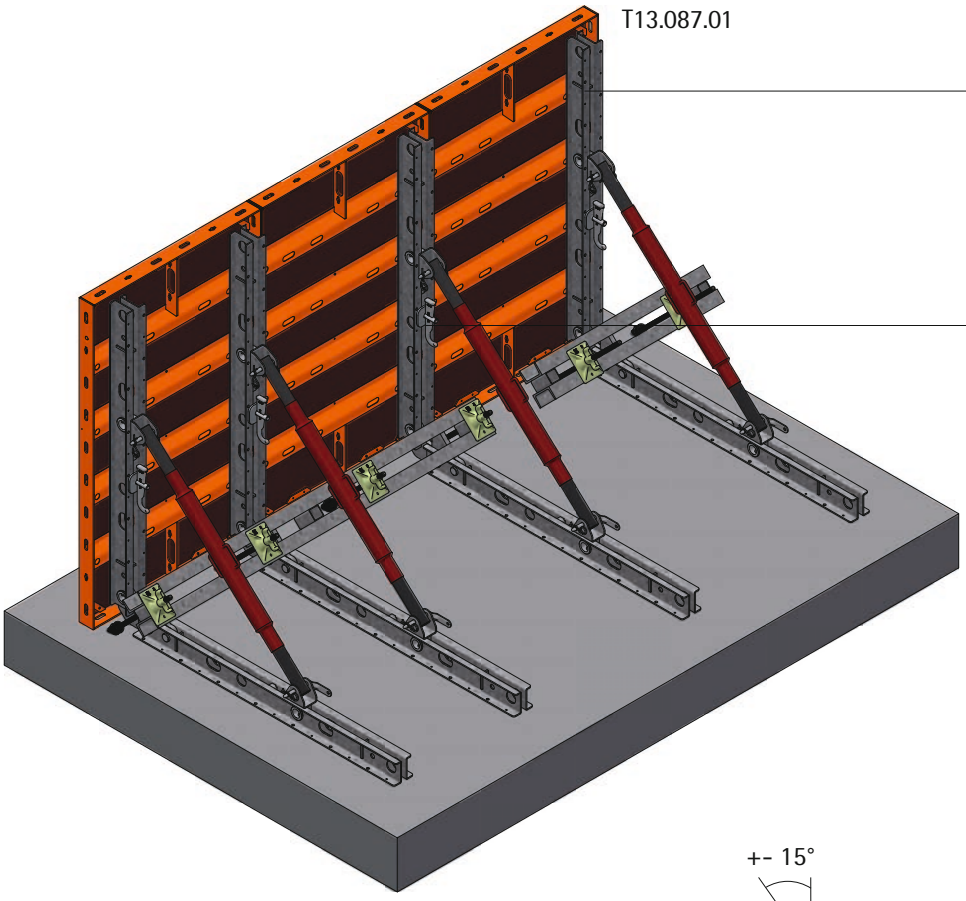


Remove the multi walers and install suspending pieces for props
Pin the connection part of the supporting jack to both multi walers.
Connect the diagonal adjustable prop to the multi walers using the suspending pieces for props.



NeoR

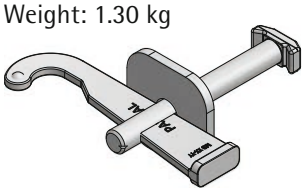
Supporting jack multi waler, dimensions

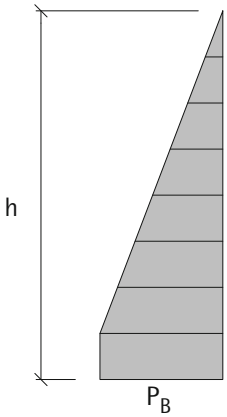


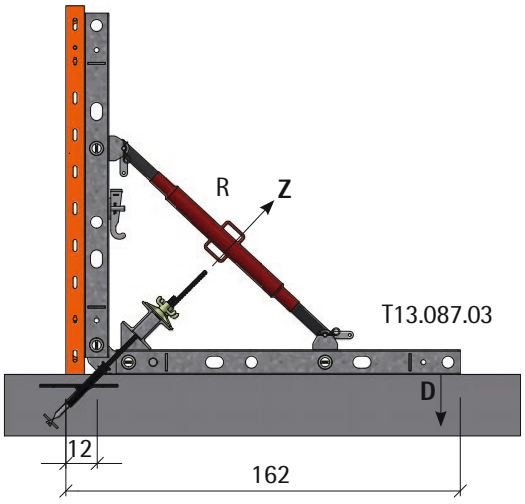
T13.087.01

Supporting jack multi waler

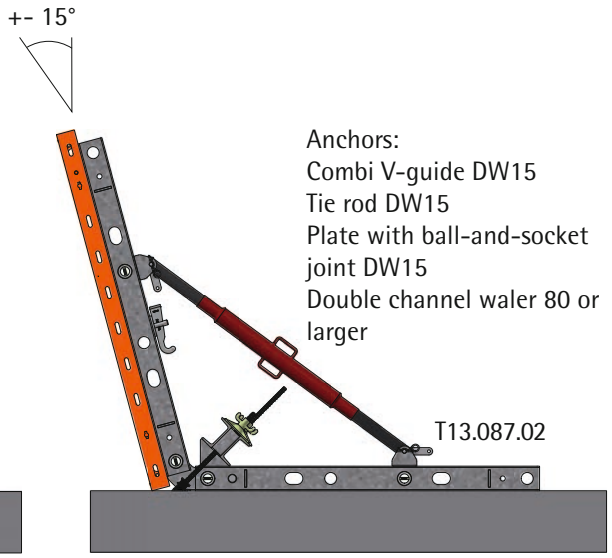
Clamping piece 10 cm L/N/A
Art. no.: 187.500.0165
Weight: 1.30 kg







T13.087.03



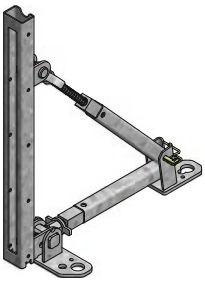
T13.087.02

Anchors:
Combi V-guide DW15
Tie rod DW15
Plate with ball-and-socket joint DW15
Double channel waler 80 or larger

Concrete height	Pressure	Anchor force	Compressive force under load	Adjustable prop force	Support force	Permissible influence width
h [m]	PB [kN/m²]	Z [kN/m]	D [kN/m]	R [kN/m]	[kN]	[m]
0,90	22,50	14	8	4	3	5,00
1,35	33,75	32	13	13	10	2,10
1,75	43,75	54	15	29	23	1,05

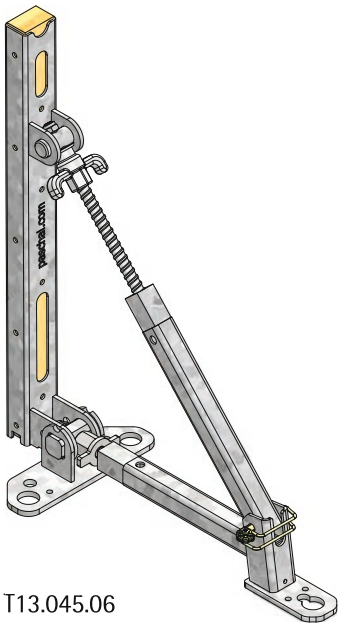
Flixstop

Flixstop
Art. no.: 189.005.0265
Weight: 7.80 kg



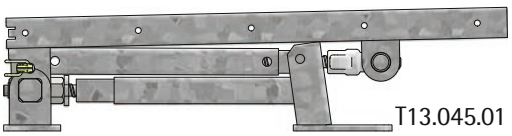
The Flixstop is used for single-sided formwork with a low formwork height, such as floor slab formwork.
It can be folded up for transport and storage. It can also be adjusted to different angles.

As a system-independent device, the Flixstop can be used with system panels, whereby the panel and Flixstop are connected with system-specific accessories.

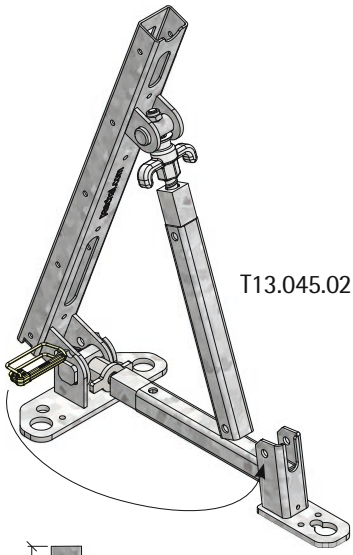


T13.045.06

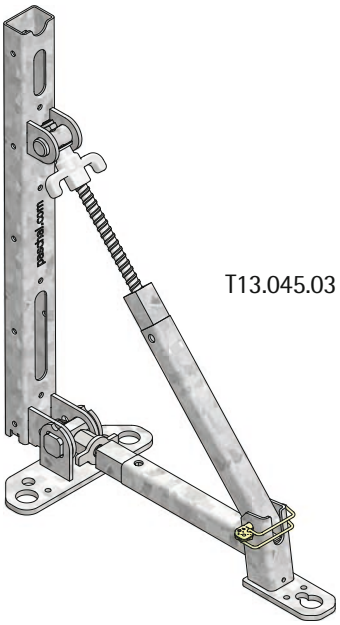
When using wooden formwork components such as square timber, planks or formwork panels, a 3 x 5 cm batten is inserted into the vertical profile for nailing.



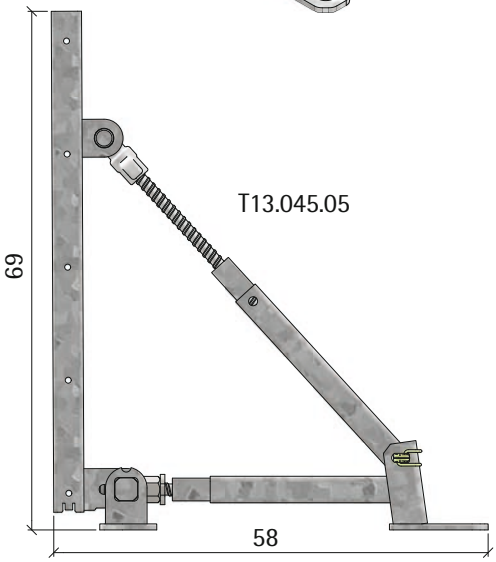
T13.045.01



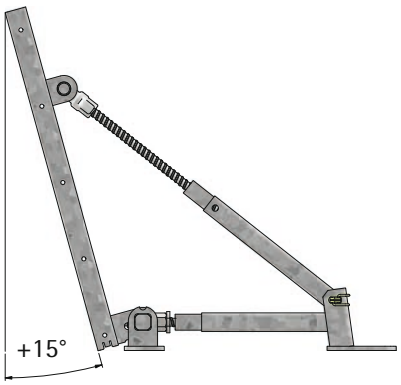
T13.045.02

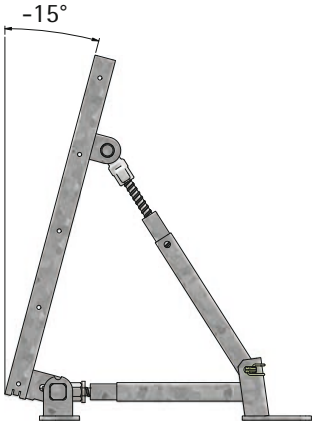


T13.045.03



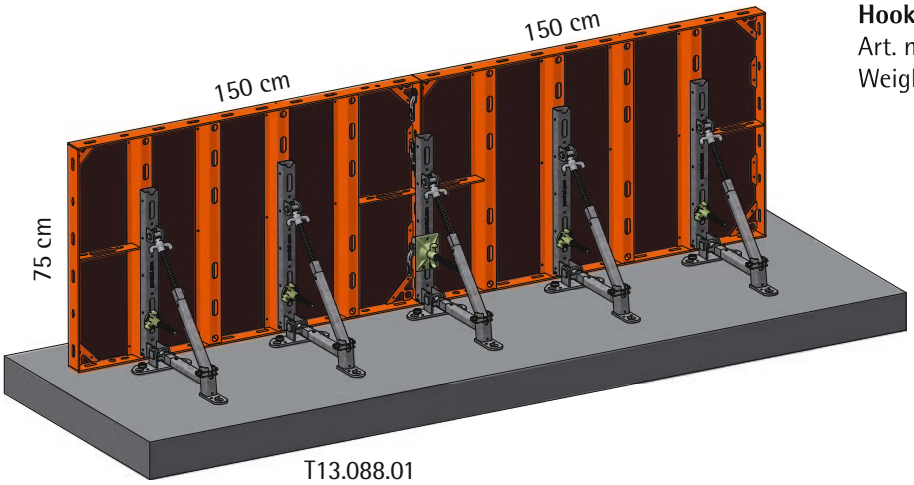
T13.045.05





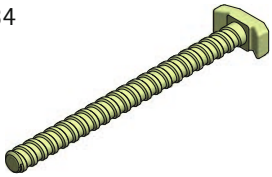
NeoR

Flixstop, dimensioning

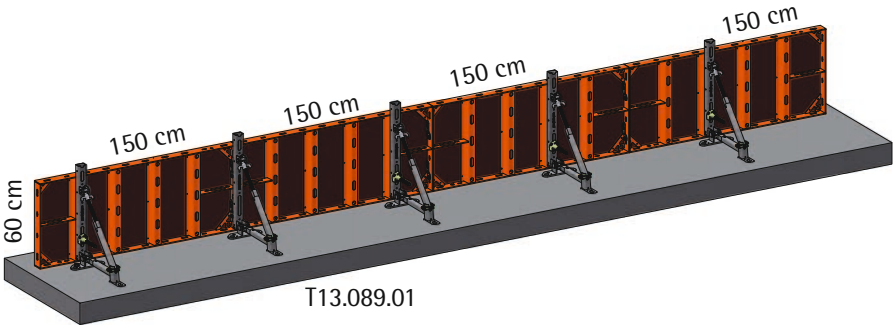


T13.088.01

Hook-headed bolt DW15x220/160 L/N/A
Art. no.: 183.500.0034
Weight: 0.42 kg



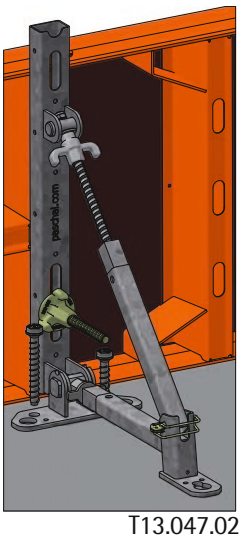
Wing nut DW15
Art. no.: 189.001.0001
Weight: 0.56 kg



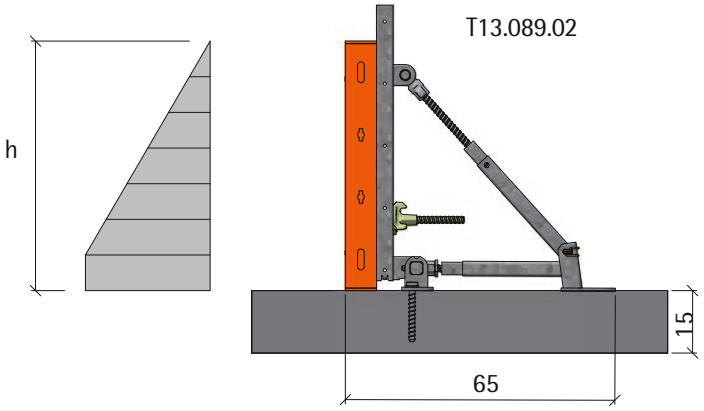
T13.089.01

The Flixstop is anchored to the ground using concrete screws or ground nails. The Flixstop is attached to the LOGO formwork using the hook headed bolt DW15 and a wing nut DW15 in the oblong hole of the cross profile.

Concrete screw 16x130
Art. no.: 935.000.0016
Weight: 0.21 kg



T13.047.02



Concrete height [cm]:	90	75	60	45	30
Max. distance Flixstop [cm]:	50	75	120	220	400

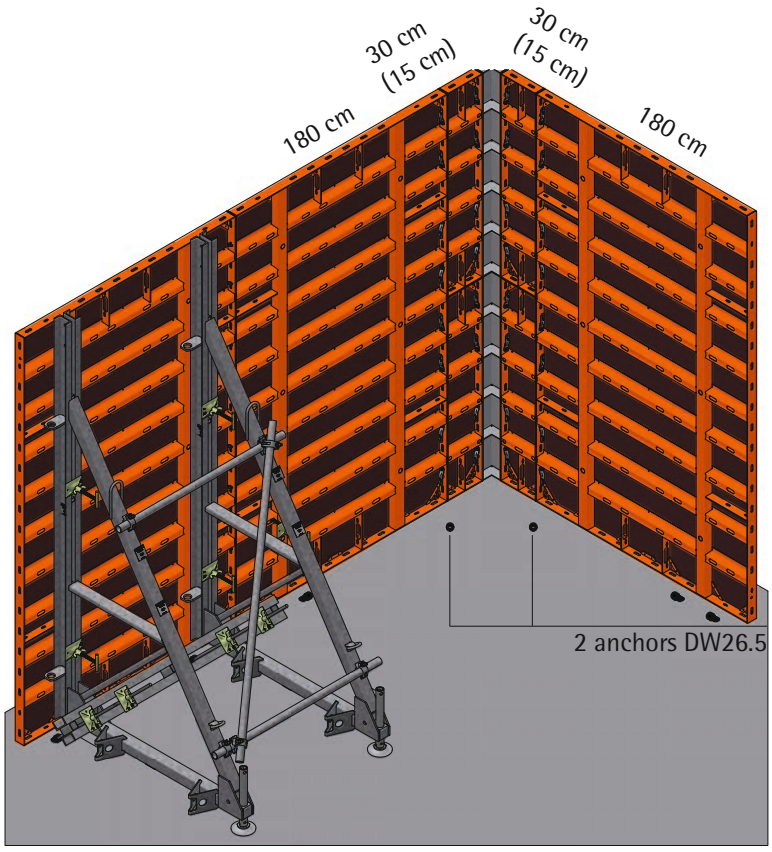
The table values for the maximum distances between the Flixstops in relation to the concreting height apply to the use of two 16x130 concrete screws in 15 cm thick concrete.

Corner solution for supporting jack 3.00 m

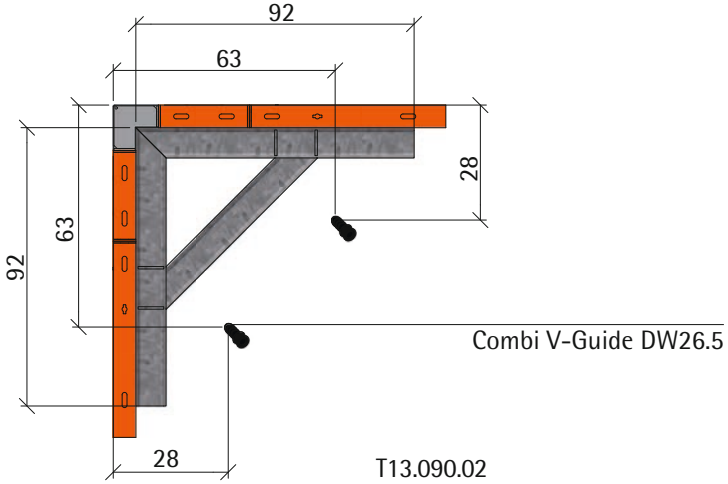
NeoR

When forming right angles with single-sided formwork, two supporting jacks with corner braces are mounted on the inside at an angle of °45 to the formwork (page 91).

Note:
A 15 cm or 30 cm wide fitting panel must be planned between the inside corner post and the large-size panel that follows it in order to provide sufficient space for all four supporting jacks in the corner area or for their installation on the panels.



T13.090.01

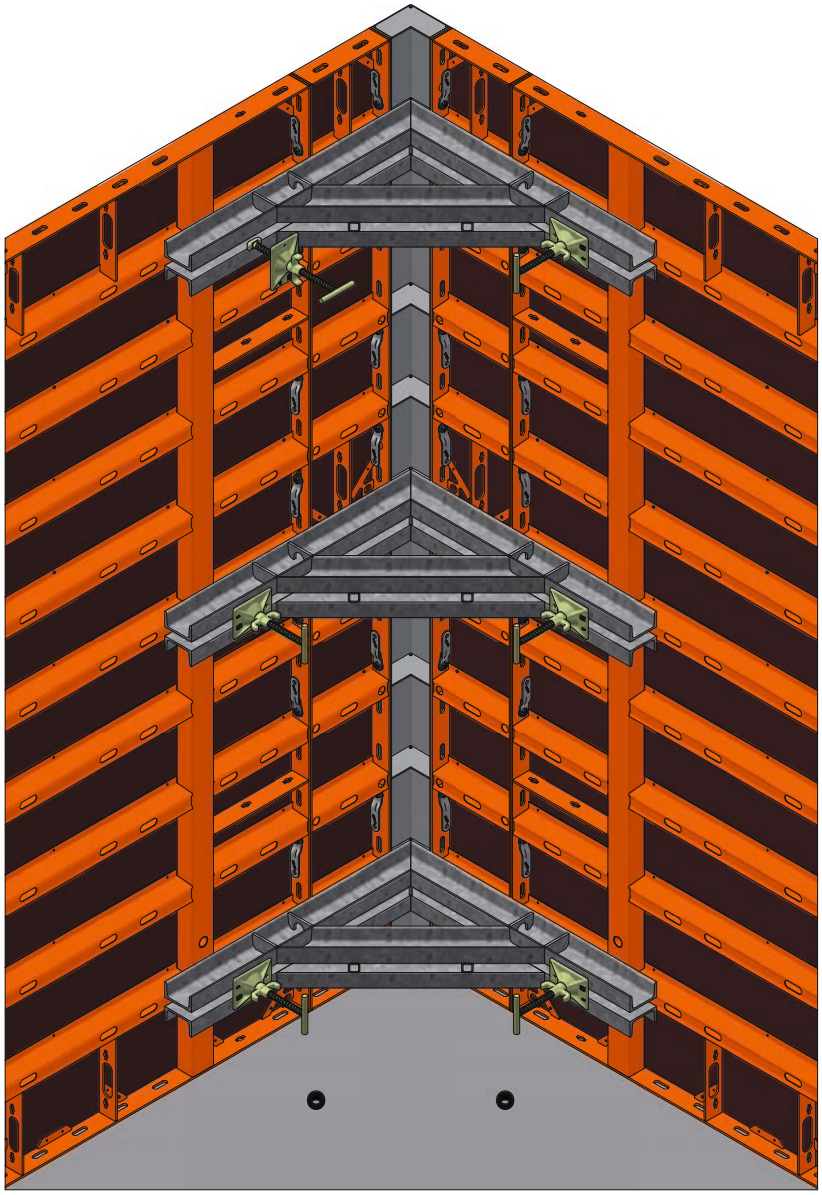


T13.090.02

Due to the limited space available, two tie rods DW26.5 including anchors are installed in the corner to dissipate the fresh concrete pressure forces. The installation dimensions can be found in the adjacent illustration.

NeoR

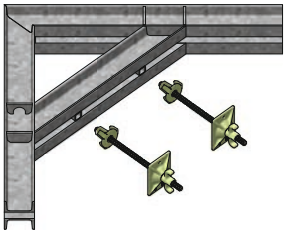
Corner solution for supporting jack 3.00 m



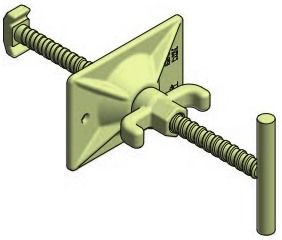
T13.090.03

Three corner walers are mounted on the cross profiles of the formwork.

Corner waler for supporting jack 3.00/4.00 m, cpl.
Art. no.: 189.005.0057
Weight: 56.84 kg

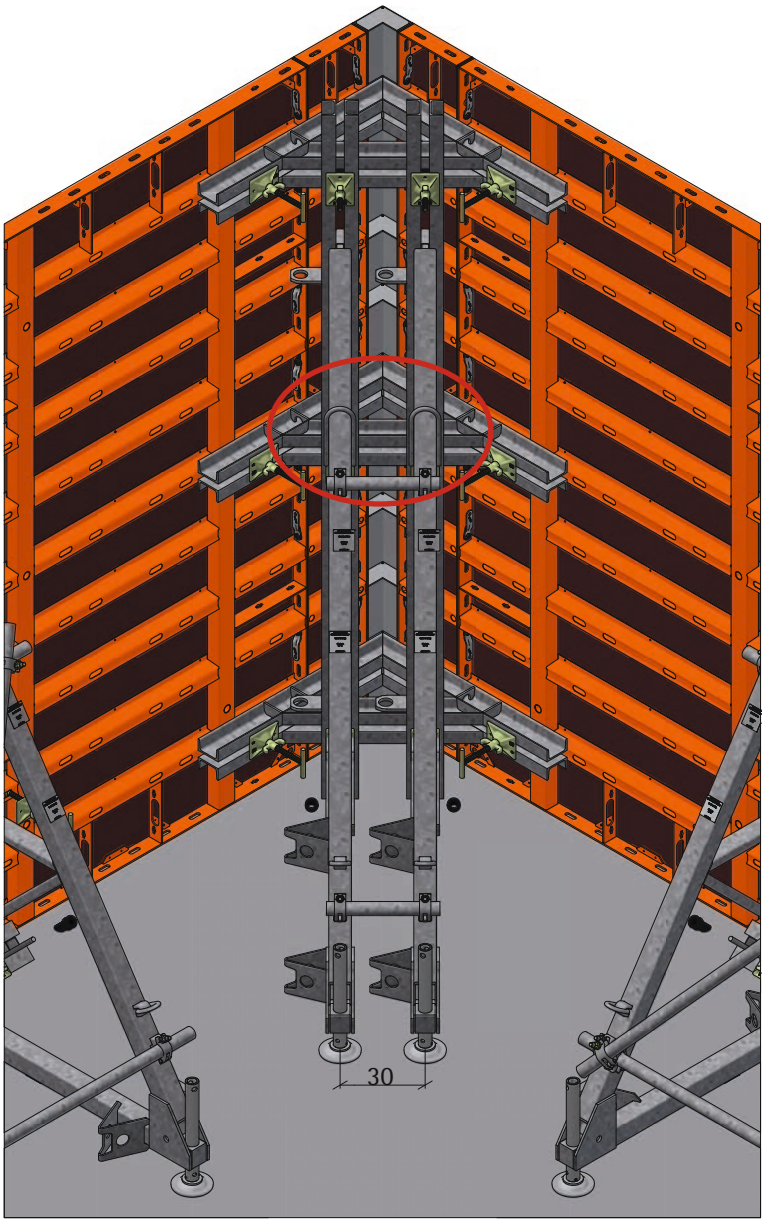


Support for walers DW15, clamping length 6–20 cm L/N/A
Art. no.: 187.500.0021
Weight: 1.95 kg



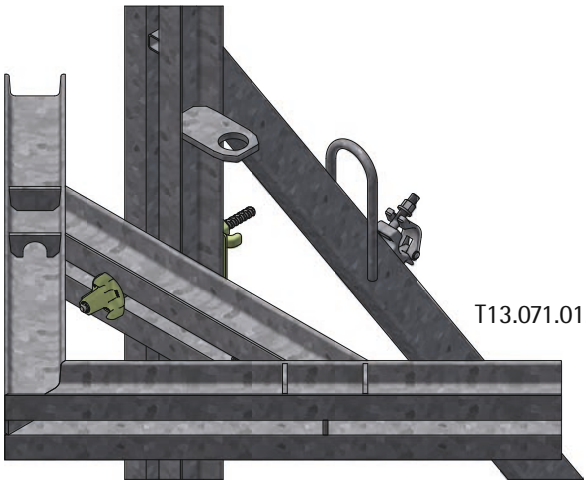
Corner solution for supporting jack 3.00 m

NeoR



T13.090.04

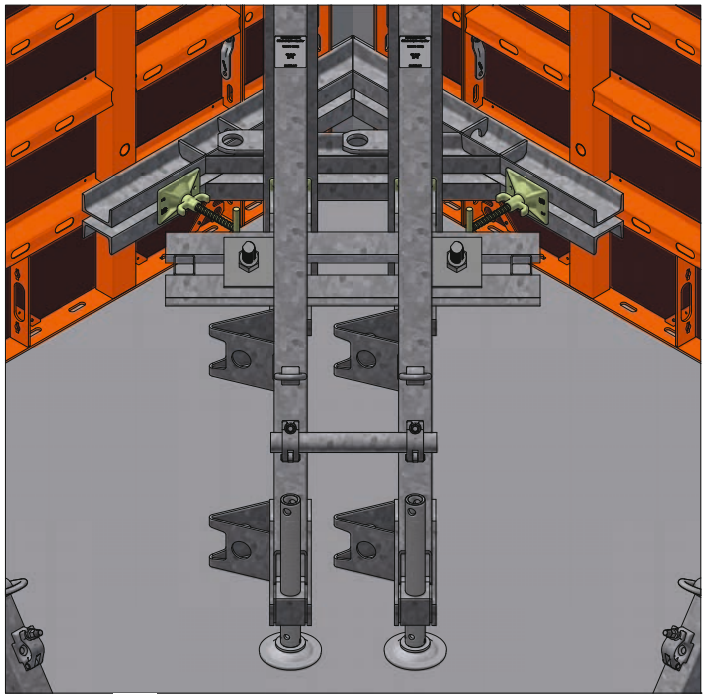
The supporting jacks are attached to the corner walers and screwed in place using short tie rods and wing nuts (formwork side) and ball-and-socket joint plates (supporting jack side).



T13.071.01

NeoR

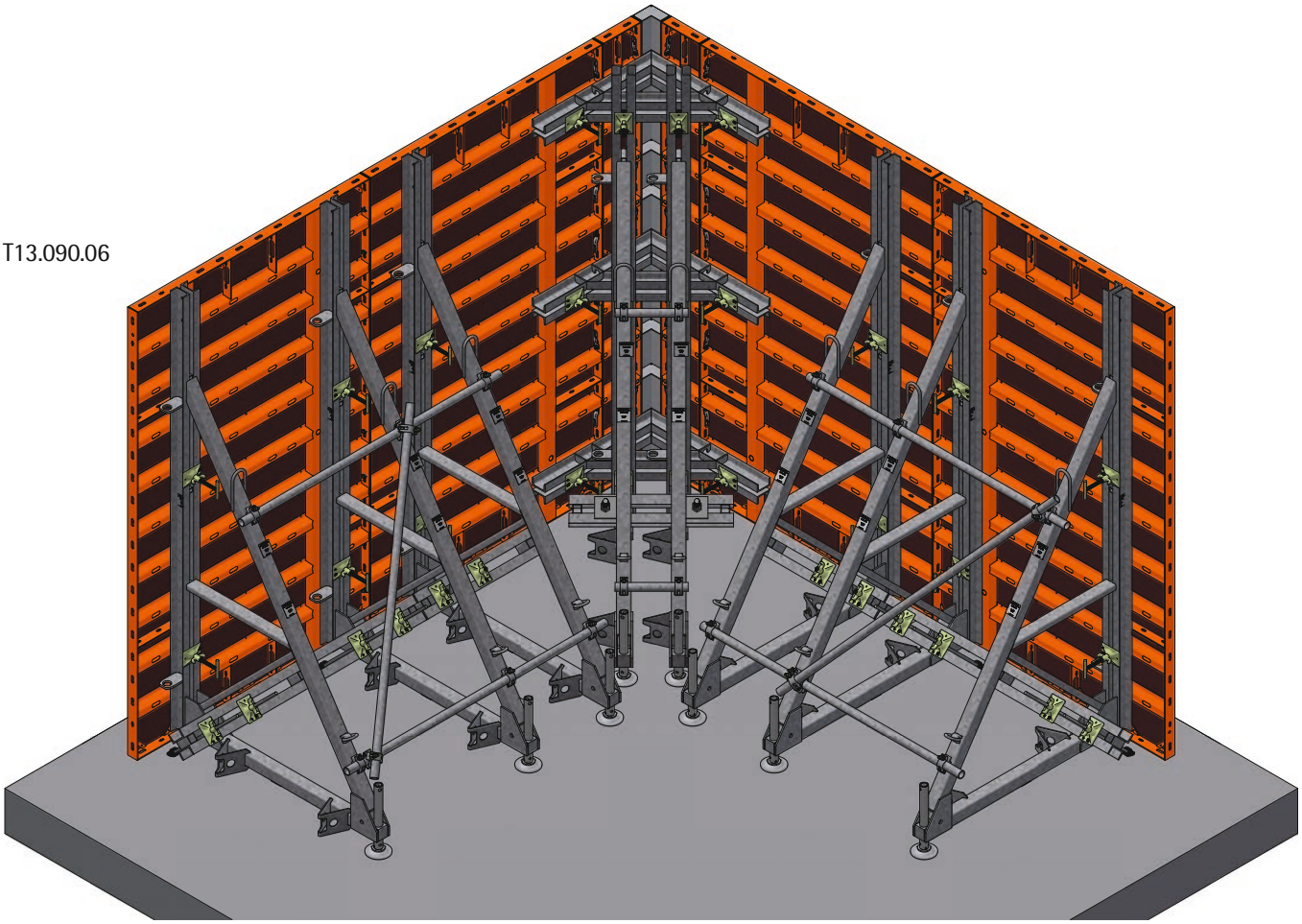
Corner solution for supporting jack 3.00 m



T13.090.05

Finally, the previously concreted anchors are tensioned using belting and tie rods in accordance with the procedure described on page 39.

T13.090.06



Work safety for supporting jack 3.00 m

NeoR

There are numerous regulations and guidelines issued by legislators, associations and professional associations governing work safety requirements when working with formwork systems.
The latest versions of these provisions must always be complied with.

Important points here are:

- Workstations at the formwork
- Fall protection
- Absorption and deflection of wind loads

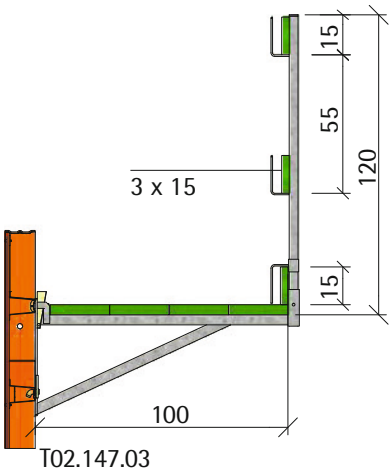
To set up workstations on and around the formwork, the Secuset bracket is attached to the panels with the lateral protection post and toe board holder, which are then completed with a site-provided board and a guardrail (lateral protection).

Germany:
- The provisions of DIN EN 1-12811 apply.
- The area-related working weight is 2.0 kN/m² (scaffolding group 3).
- The distance between the brackets must not exceed 2.00 m.

T13.091.01

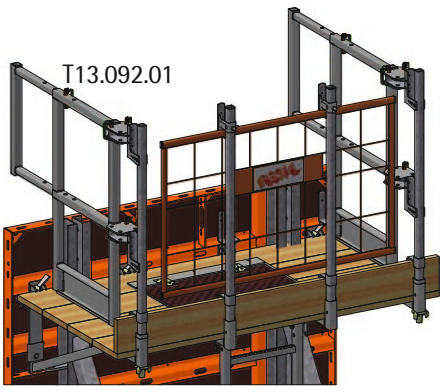
The solutions shown are only examples. The number and position of the platforms may vary depending on the layout of the panels, the height or country-specific regulations.

Attention:
The front sides of the workstations must also be fitted with fall protection devices. This is the case on the left and right edges of the formwork as well as at joints where the formwork is separated for relocation.



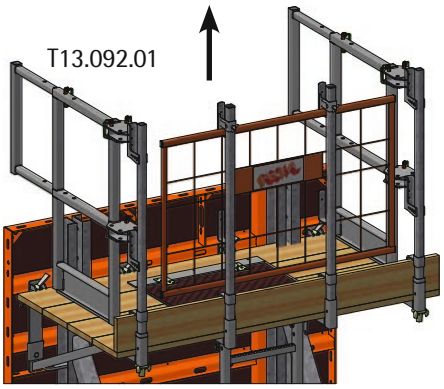
T02.147.03

Like the part that remains standing.



T13.092.01

The unit to be moved must also be closed.



T13.092.01

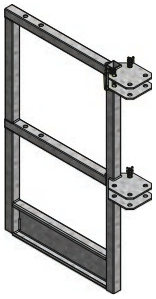
NeoR

Work safety for supporting jack 4.00 m

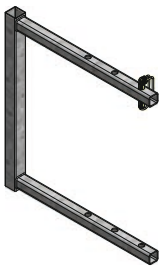
T13.093.01

Mounting post 60/105cm L/N/R Secuset
Art. no.: 189.000.0051
Weight: 9.70 kg

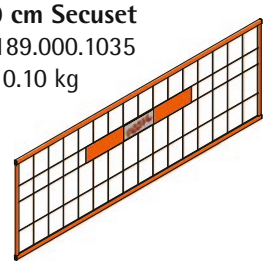
Door 60/105 cm cpl. for Multip L/T/A
Art. no.: 187.500.0065
Weight: 11.50 kg



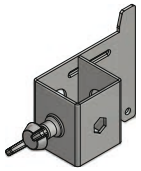
Door extension cpl. for Multip L/T/A
Art. no.: 187.500.0066
Weight: 4.00 kg



Lateral protection grating 230 x 80 cm Secuset
Art. no.: 189.000.1035
Weight: 10.10 kg



Support for lateral protection grating Secuset
Art. no.: 189.000.1011
Weight: 0.21 kg



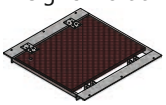
Work safety for supporting jack 6.00 m

NeoR

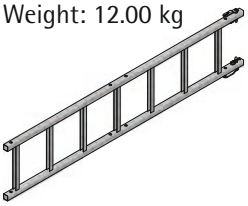
More platforms can be installed for all formwork heights, in addition to the upper platform used for pouring and compacting concrete. This ensures the safe operation of all accessories during formwork erection and dismantling. It is also possible to install a continuous ladder for ascending and descending, with traps provided in the boards.

Note:
An additional bracket is required on the left and right of the trap to support the board.

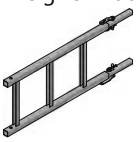
Trap 60 x 62 cm
Art. no.: 286.000.0012
Weight: 19.00 kg



Steel ladder 40/220cm cpl.
Art. no.: 189.004.0043
Weight: 12.00 kg



Bottom ladder extension 40/95 cm cpl.
Art. no.: 189.004.0044
Weight: 7.00 kg

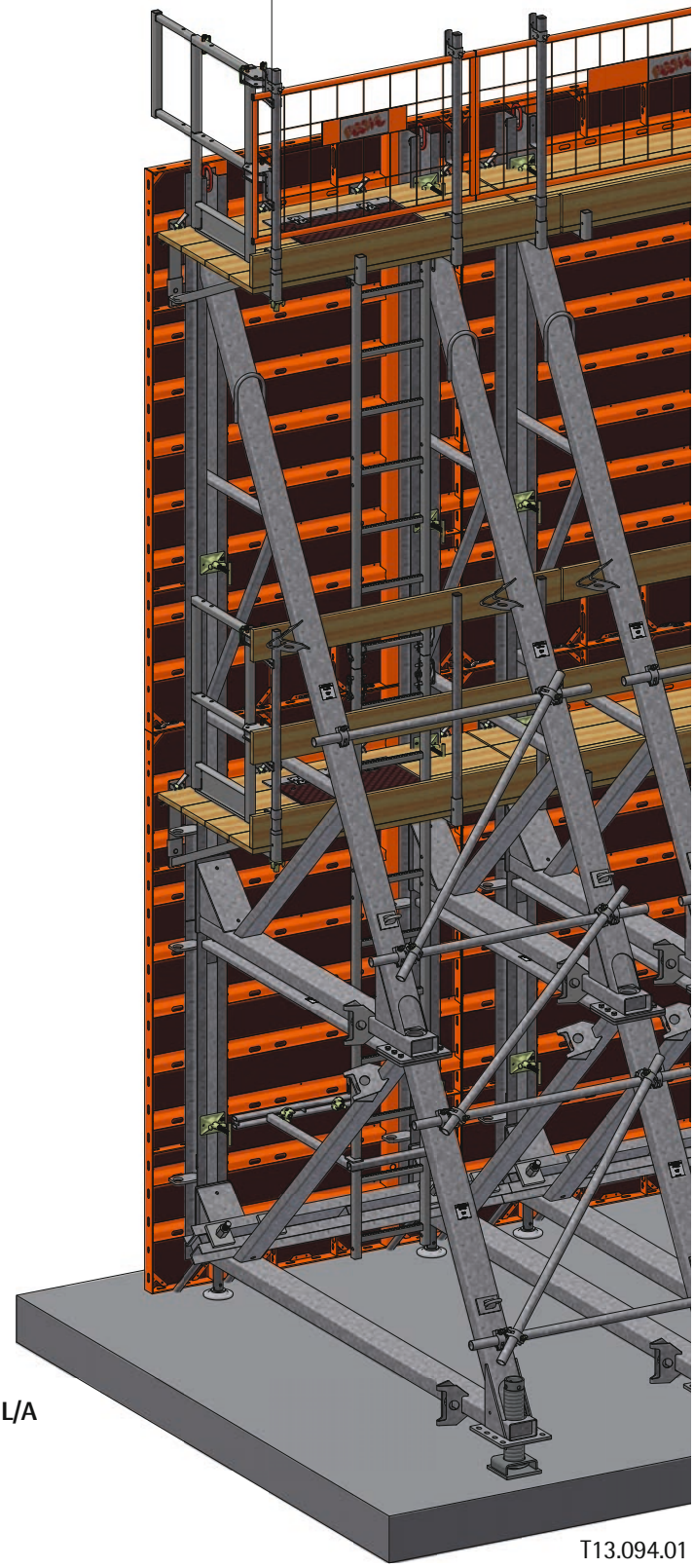


Bottom ladder extension 40/63cm cpl.
Art. no.: 189.004.0045
Weight: 5.00 kg

Ladder connection 40/220 cm cpl.
Art. no.: 189.004.0046
Weight: 2.50 kg

Ladder fastening steel ladder climb mounted for Multip L/A
Art. no.: 187.500.0111
Weight: 9.70 kg

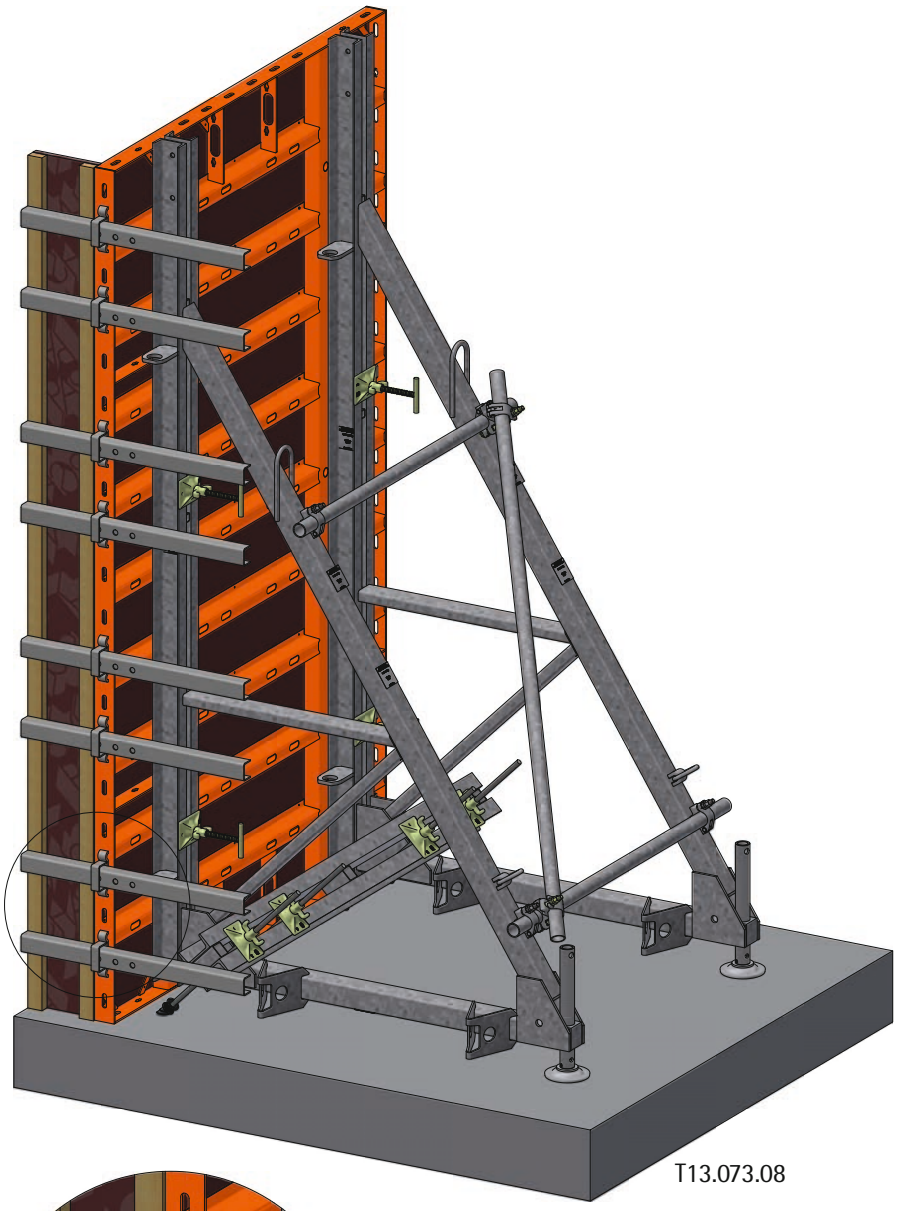
Trap, ladders, ladder bracket



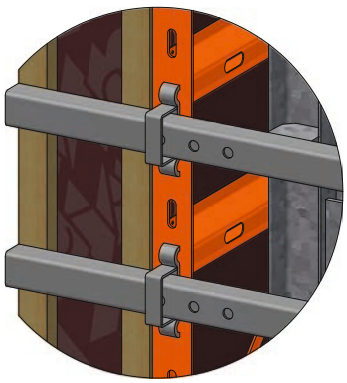
T13.094.01

NeoR

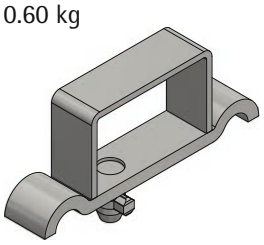
Stop-end formwork



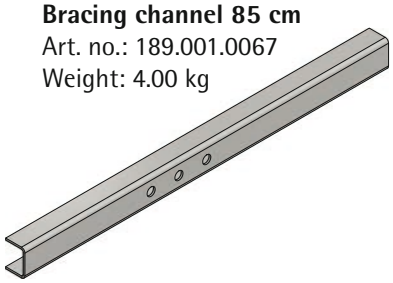
T13.073.08



Bracing channel support
Art. no.: 189.001.0071
Weight: 0.60 kg



Bracing channel 85 cm
Art. no.: 189.001.0067
Weight: 4.00 kg

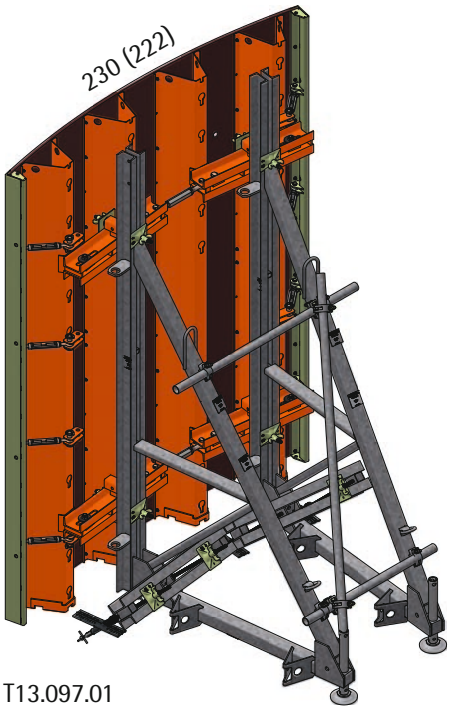


For the stop-end or front formwork, bracing channel support brackets and 85 cm bracing channels are installed. The re-anchoring is carried out on site depending on the conditions at the construction site.

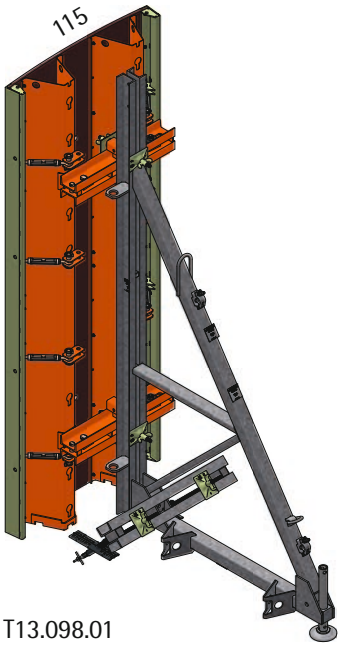
TTK / TTR trapezoidal girder circular formwork

Spacing between supporting jacks

The spacing between the supporting jacks depends on the size of the segments. The standard applications are shown in the adjacent illustrations, whereby the supporting jacks are always mounted on the existing belting in the segments.
For extensions or lower formwork heights, different supporting jack sizes are used, but the spacing remains the same.

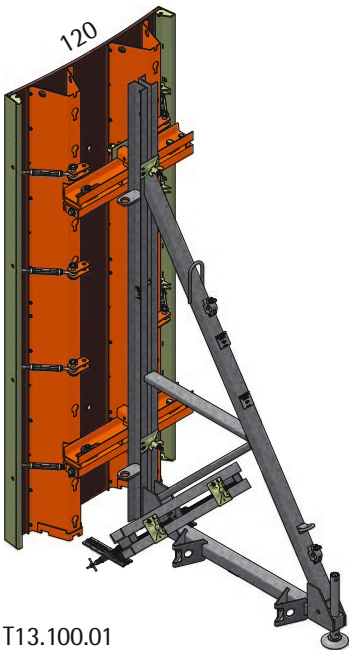


T13.097.01



T13.098.01

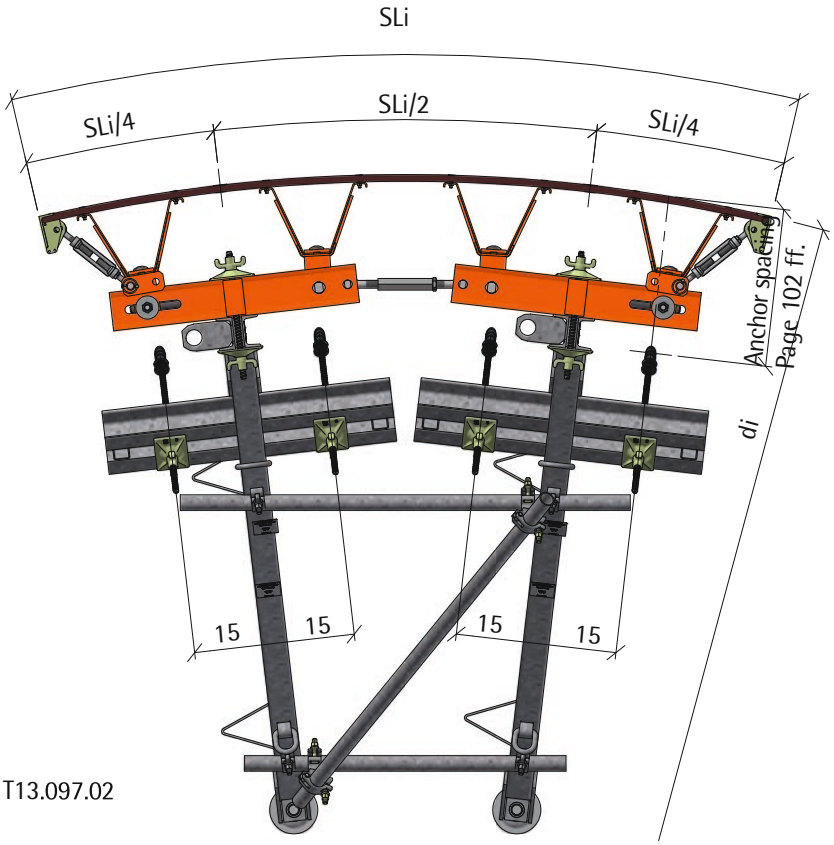
T13.099.01



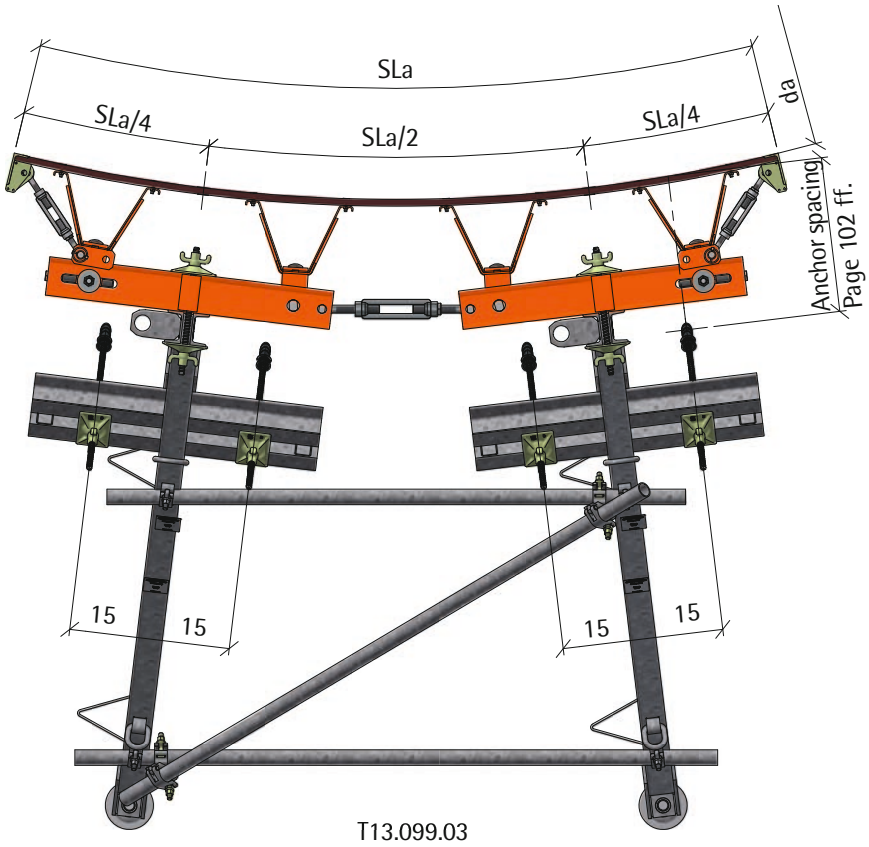
T13.100.01

TTK / TTR

Spacing between supporting jacks



T13.097.02



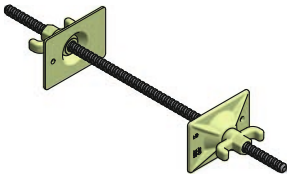
T13.099.03

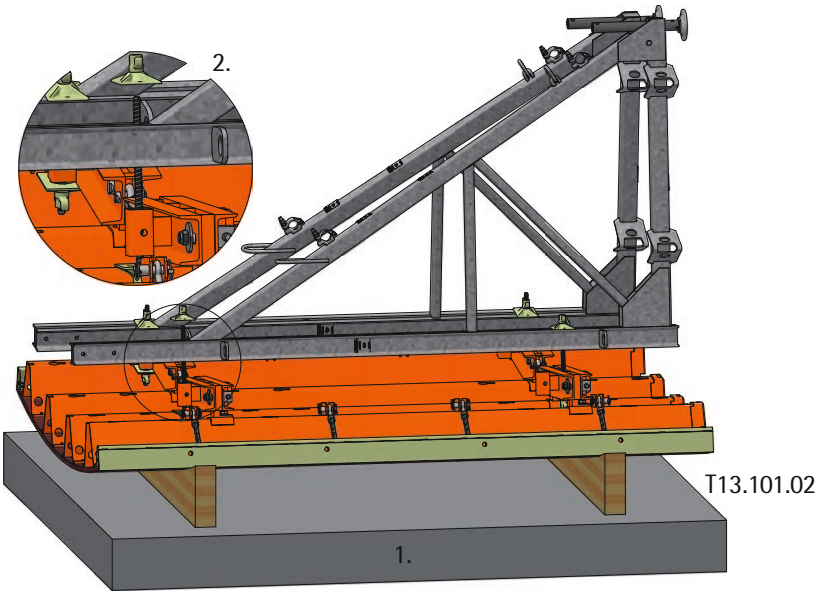
The spacing between the supporting jacks or their anchors depends on the diameter of the circular formwork to be formed.
Similarly, outer segments become shorter when rounded in the millimetre range, while inner segments become longer by the same amount. (see table)
The supporting jacks are generally mounted on the transverse belting.

di [m]	GLa 2.40 m SLa [cm]	GLi 2.30 m SLi [cm]	GLi 2.22 m SLi [cm]
5	239.00	231.00	223.00
6	239.00	231.00	223.00
7	239.05	230.95	222.95
8	239.10	230.90	222.90
9	239.15	230.85	222.85
10	239.20	230.80	222.80
11	239.25	230.75	222.75
12	239.30	230.70	222.70
13	239.35	230.65	222.65
14	239.40	230.60	222.60
15	239.45	230.55	222.55
16	239.50	230.50	222.50
17	239.55	230.45	222.45
18	239.60	230.40	222.40
19	239.65	230.35	222.35
20	239.70	230.30	222.30
21	239.75	230.25	222.25
22	239.80	230.20	222.20
23	239.85	230.15	222.15
24	239.90	230.10	222.10
25	239.95	230.05	222.05
26	240.00	230.00	222.00

Horizontal pre-assembly

Trapezoidal girder connecting piece cpl.
Art. no.: 182.000.0091
Weight: 6.96 kg

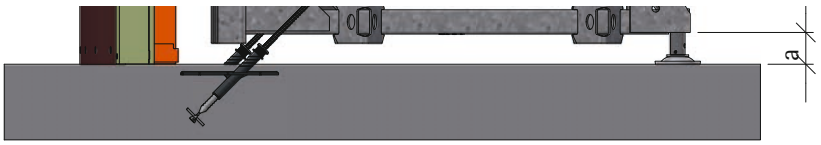




T13.101.02

1. Place the formwork segment on solid ground.

2. Place supporting jacks at the required distances and connect them to the panel using the trapezoidal bracket connecting piece.



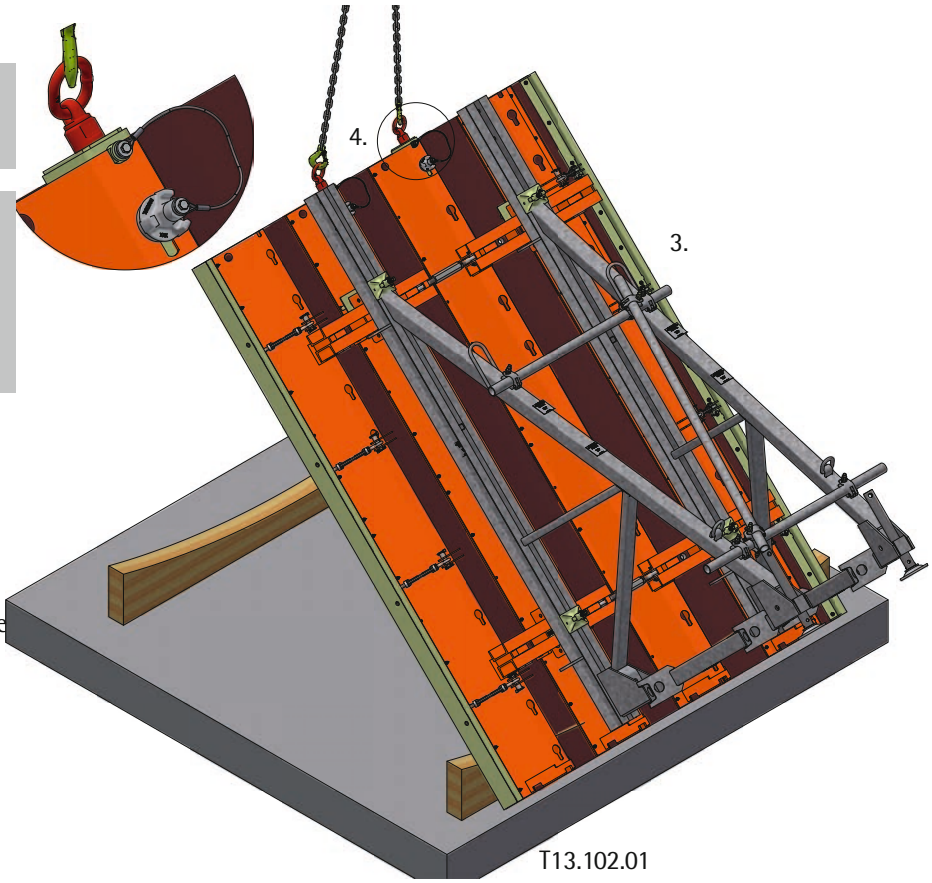
T13.097.04

Note:
The supporting jacks must be secured against tipping during pre-assembly.

Note:
The supporting jacks must also be mounted at a specific distance a from the lower panel frame.
See pages (102 ff.) for the different supporting jack sizes.

3. Attach scaffold tubes D.48.3 mm to the integrated couplings of the supporting jacks.

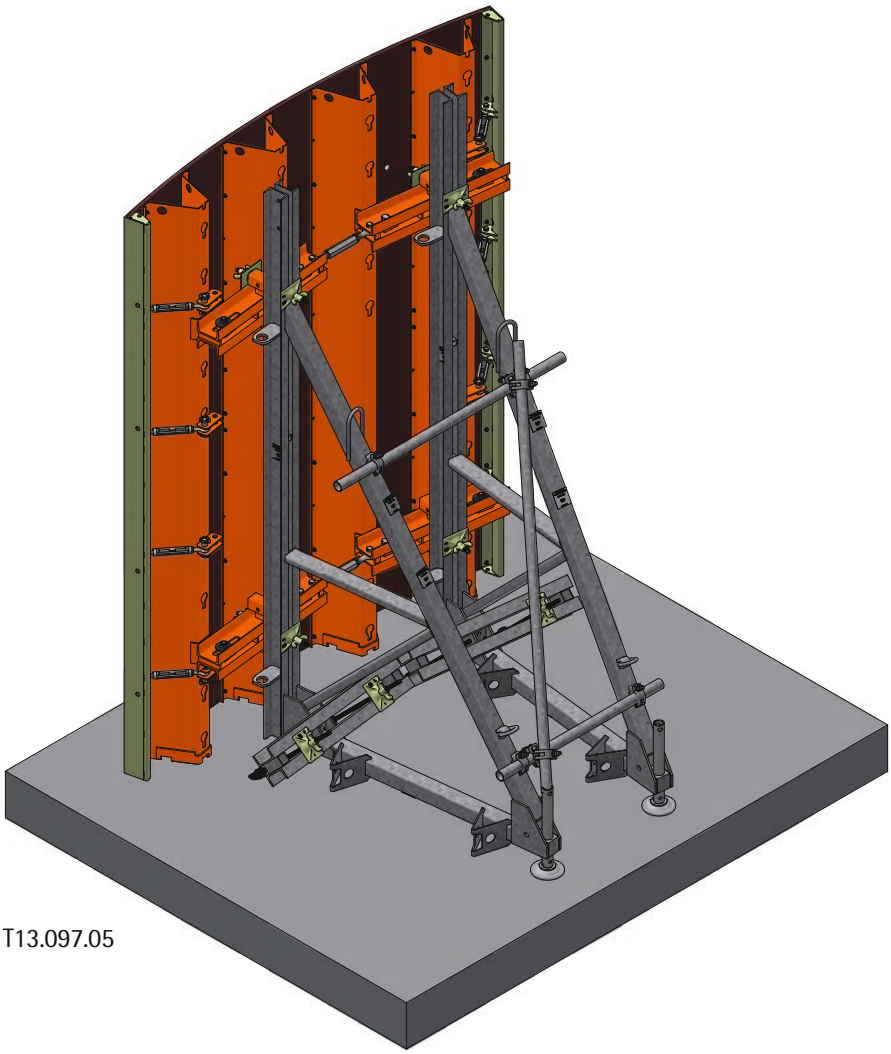
4. Attach the pre-assembled unit to the specified attachment points and transport it to the place of use with a crane.
See also pages 28 ff. for the different supporting jack sizes.



T13.102.01

TTK / TTR

Tension in the anchor



T13.097.05

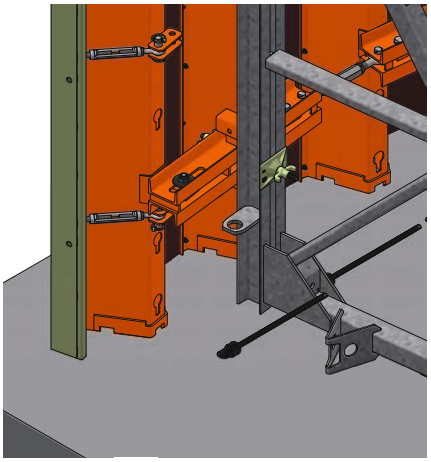
After positioning the formwork panel with the supporting jacks, anchoring is carried out as follows:

1. Screw the tie rods into the previously concreted anchors.

2. Put the double channel waler over the tie rods and set it on the supporting jacks.

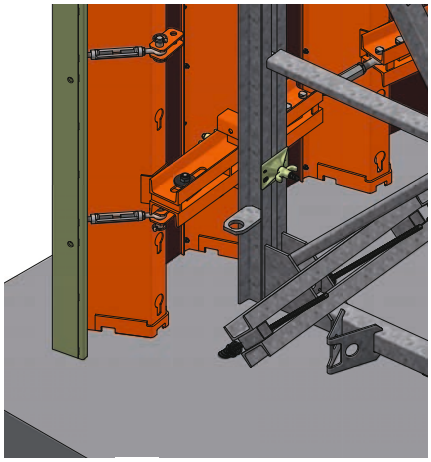
3. Screw the ball-and-socket joint plates onto the tie rods and tighten them firmly to the belting. (For the 6.00 m and 8.00 m supporting jacks as well as the corner solutions, use the counter plate with the DW26.5 hexagon nut).

1.



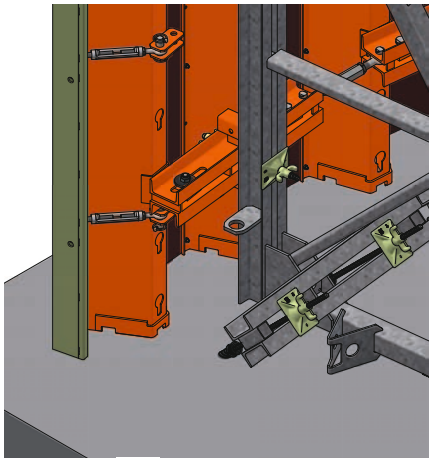
T13.097.06

2.



T13.097.07

3.

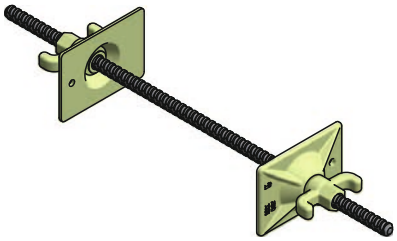


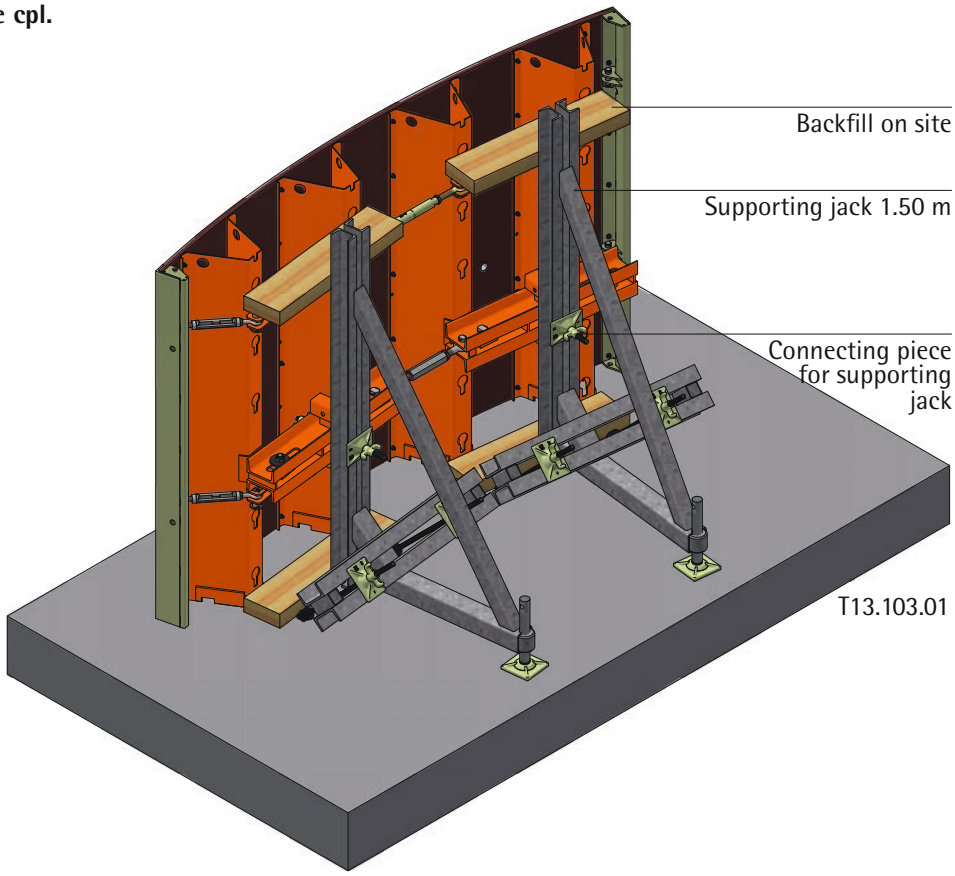
T13.097.05

Supporting jack 1.50 m, assembled

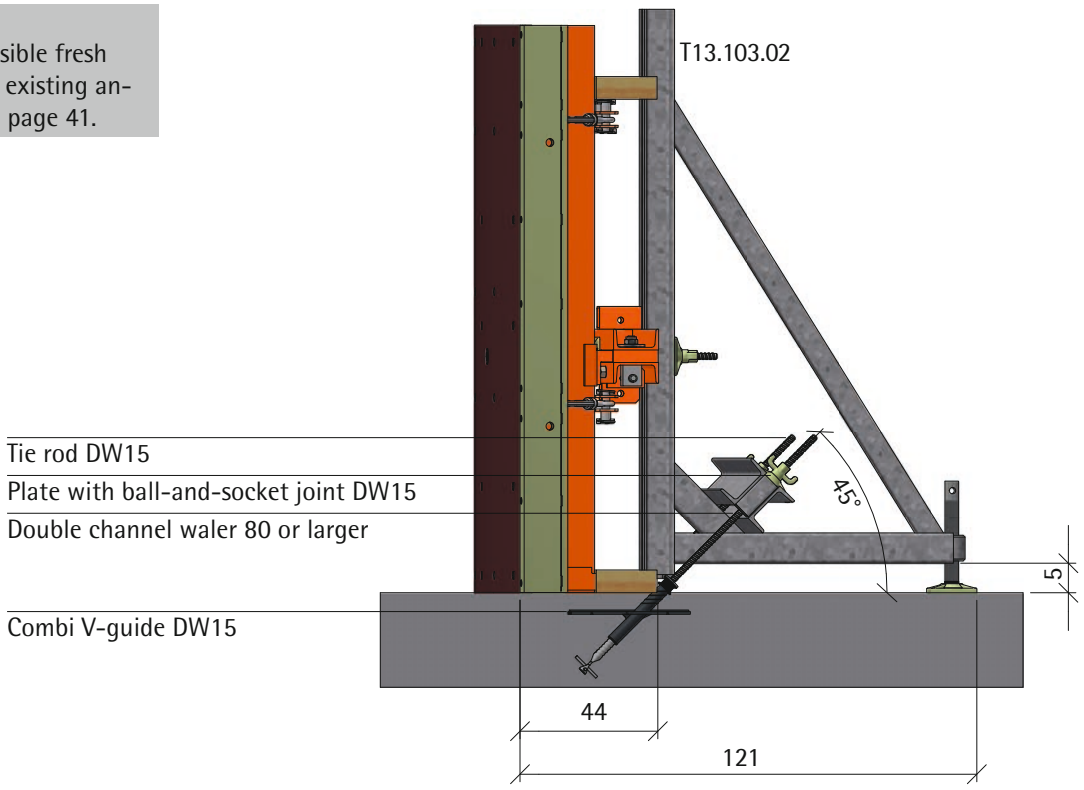
TTK / TTR

Trapezoidal girder connecting piece cpl. for supporting jack 1.50m
Art. no.: 182.000.0303
Weight: 3.48 kg





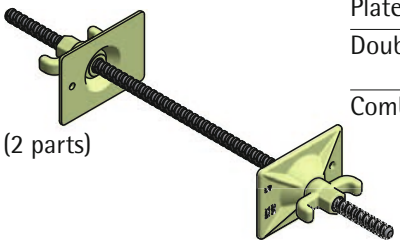
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, see table on page 41.



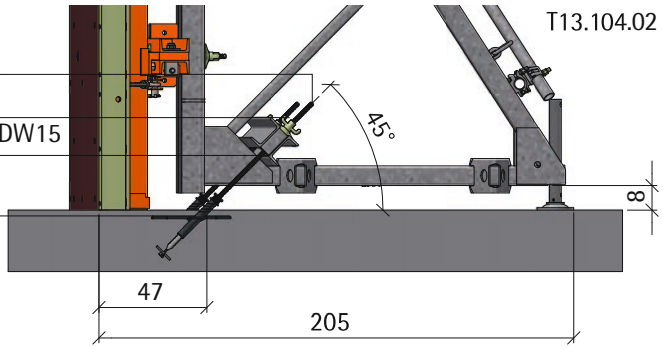
TTK / TTR

Supporting jack 3.00 m, assembled

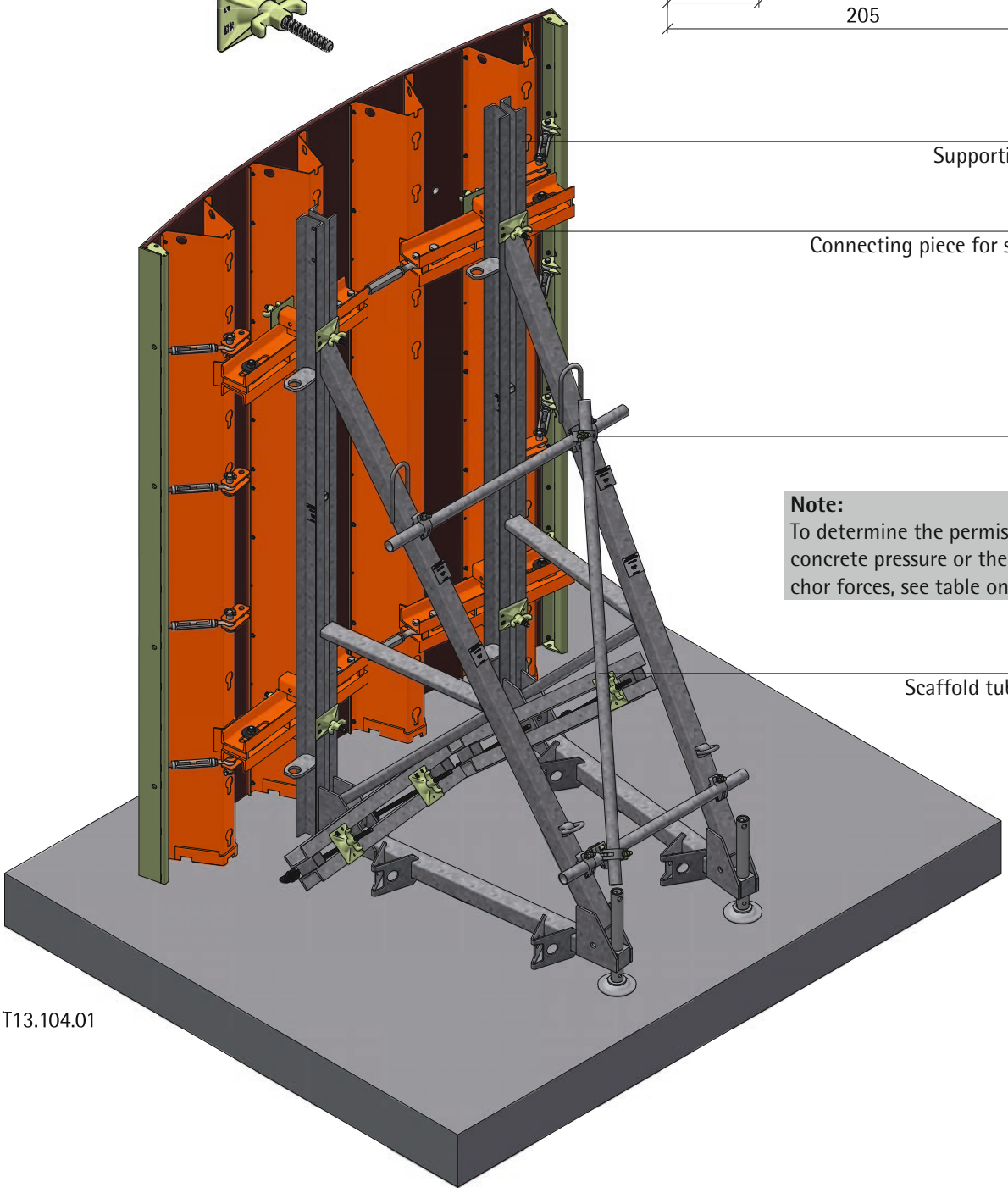
Trapezoidal girder connecting piece cpl. for supporting jack 3.00 m
Art. no.: 182.000.0091
Weight: 6.96 kg



(2 parts)



T13.104.02



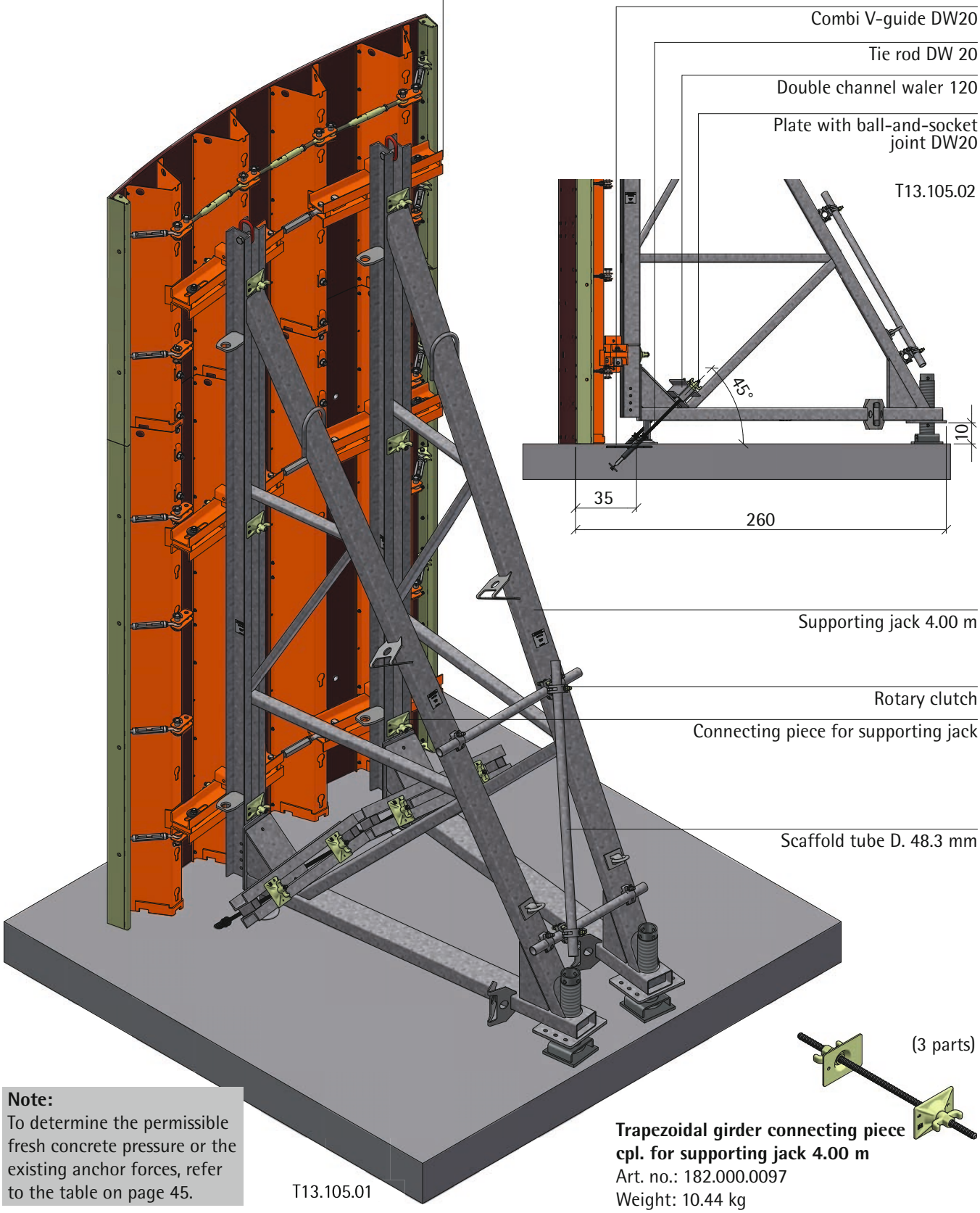
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, see table on page 43.

T13.104.01

Supporting jack 4.00 m, assembled

TTK / TTR

Move belting up one keyhole!



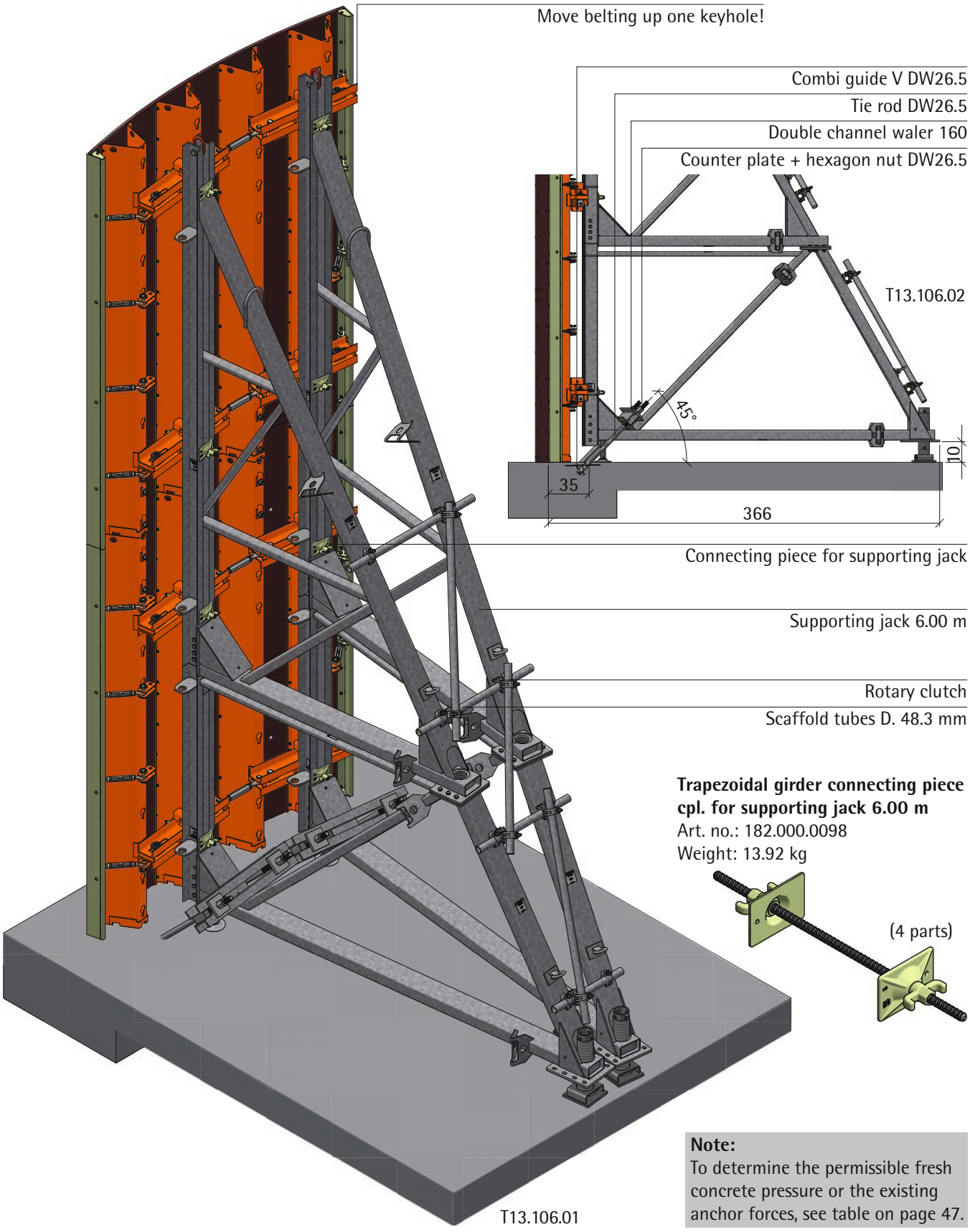
Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, refer to the table on page 45.

(3 parts)

Trapezoidal girder connecting piece cpl. for supporting jack 4.00 m
Art. no.: 182.000.0097
Weight: 10.44 kg

TTK / TTR

Supporting jack 6.00 m, assembled

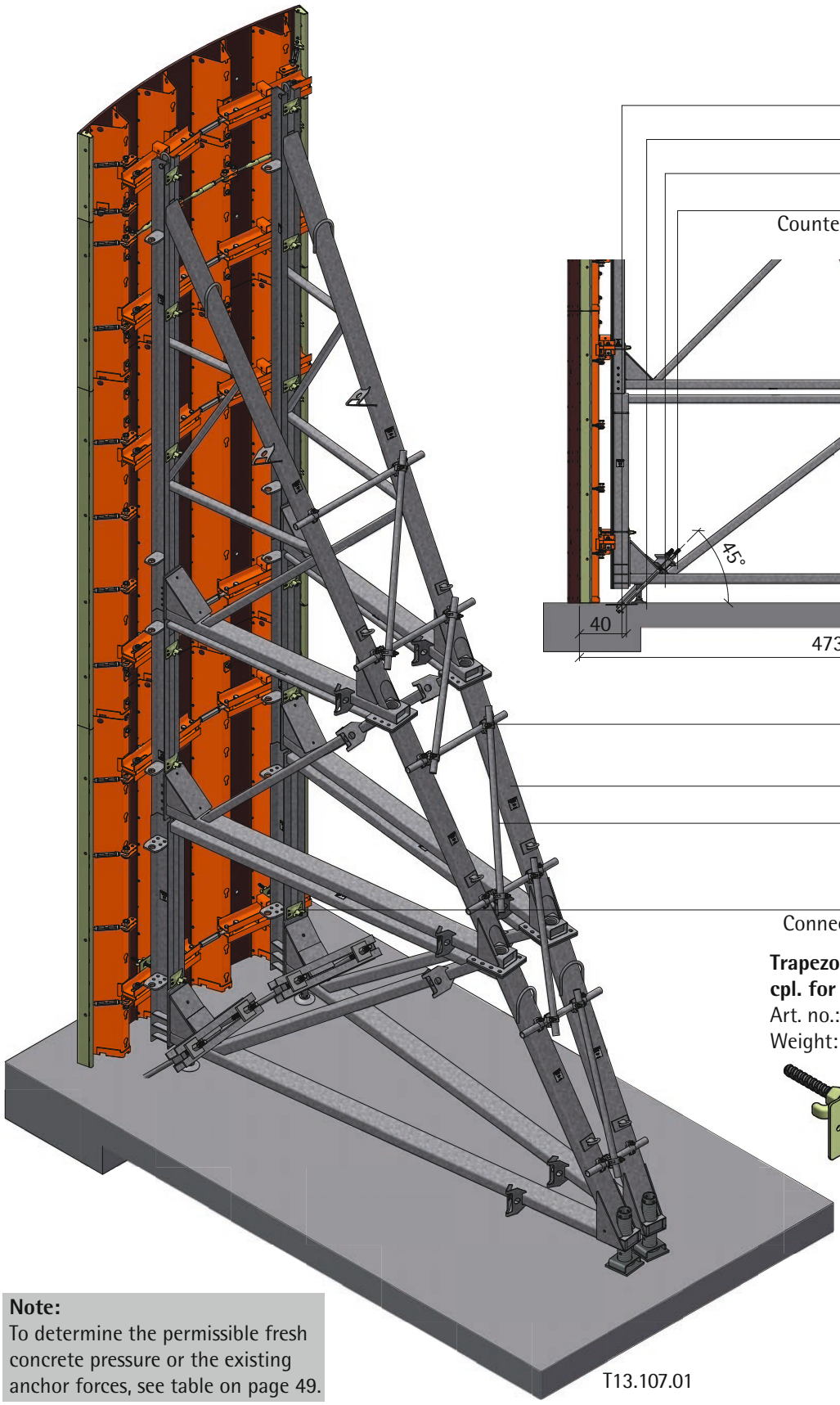


Trapezoidal girder connecting piece cpl. for supporting jack 6.00 m
Art. no.: 182.000.0098
Weight: 13.92 kg

Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, see table on page 47.

Supporting jack 8.00 m, assembled

TTK / TTR



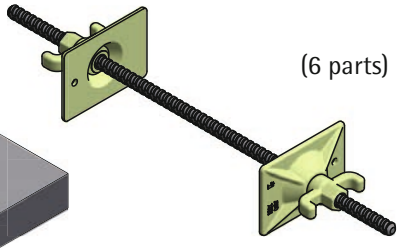
Rotary clutch

Supporting jack 8.00 m

Scaffold tube D. 48.3 mm

Connecting piece for supporting jack

Trapezoidal girder connecting piece cpl. for supporting jack 8.00 m
Art. no.: 182.000.0304
Weight: 16.96 kg

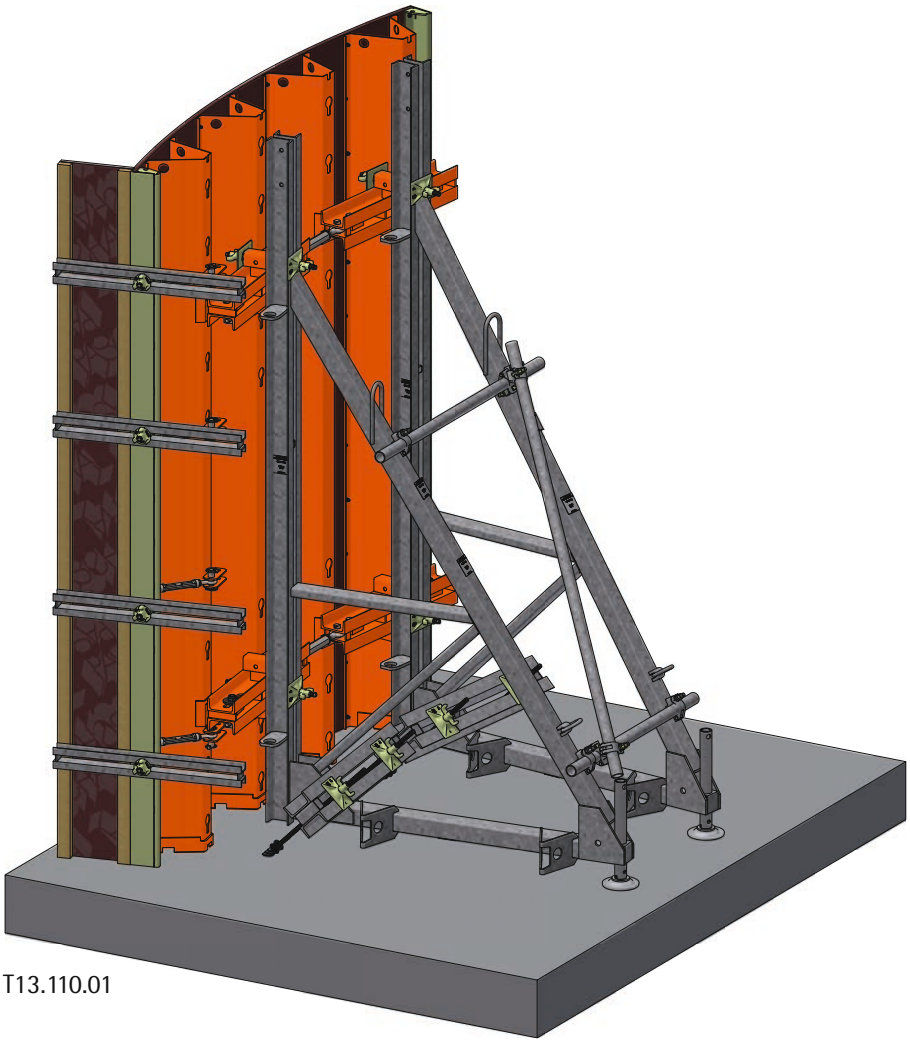


(6 parts)

Note:
To determine the permissible fresh concrete pressure or the existing anchor forces, see table on page 49.

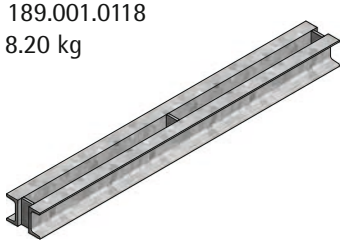
T13.107.01

TTK / TTR



T13.110.01

Double channel waler 60x800 mm:
Art. no.: 189.001.0118
Weight: 8.20 kg

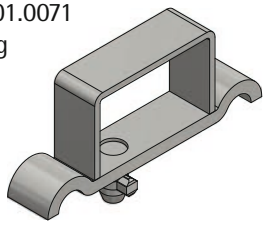


TTK screw for stop-end formwork cpl.
Art. no.: 182.008.0002
Weight: 0.83 kg

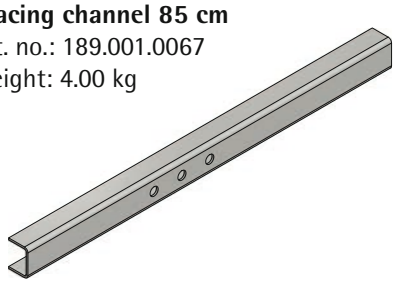
For the stop-end or front formwork, double channel walers are screwed to the segment frame on the TTK.
The re-anchoring is carried out on site depending on the conditions at the construction site.

Note:
For the TTR version, bracing channels and bracing channel supports are used for this application (see page 95).

Bracing channel support
Art. no.: 189.001.0071
Weight: 0.60 kg



Bracing channel 85 cm
Art. no.: 189.001.0067
Weight: 4.00 kg



Work safety for supporting jack 3.00 m

TTK / TTR

There are numerous regulations and guidelines issued by legislators, associations and professional associations governing work safety requirements when working with formwork systems.
The latest versions of these provisions must always be complied with.

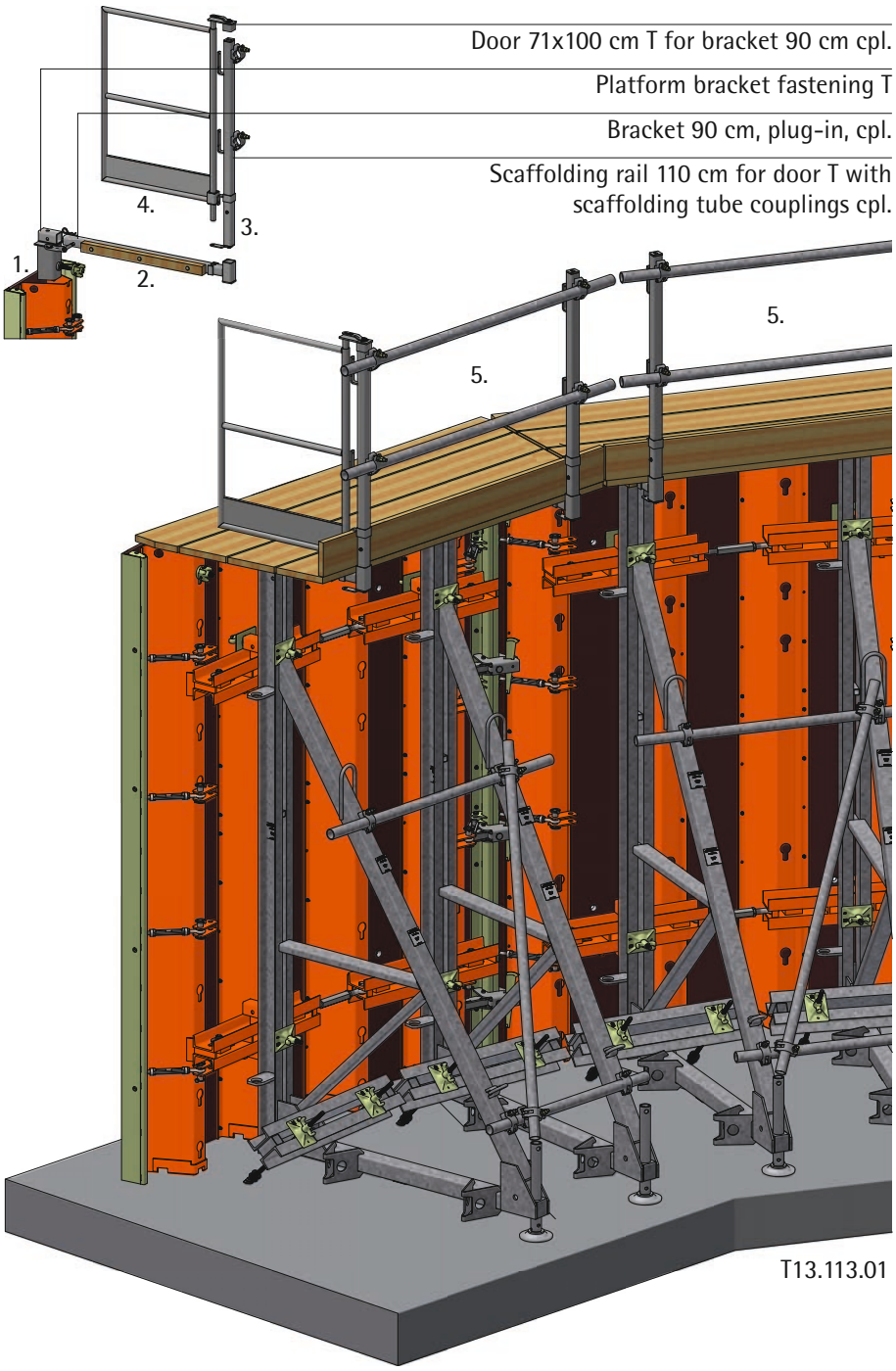
Important points here are:

- Workstations at the formwork
- Fall protection
- Absorption and deflection of wind loads

Germany:
- The provisions of DIN EN 1-12811 apply.
- The area-related working weight is 2.0 kN/m² (scaffolding group 3).

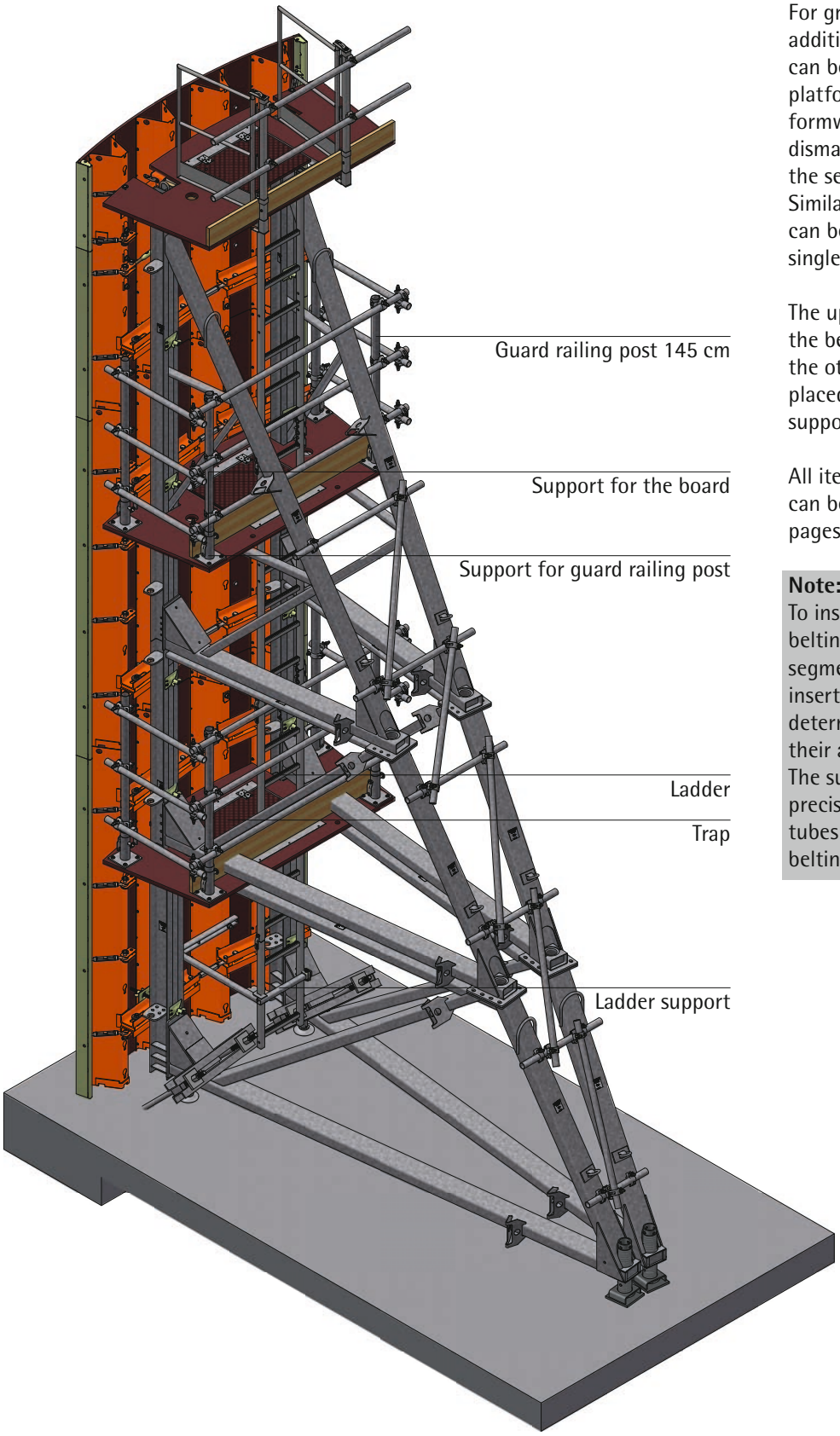
When using the 3.00 m supporting jack, a platform is attached to the top edge of the formwork for pouring and compacting the concrete.

1. Mount the platform bracket fastening to the outer trapezoidal girders
2. Insert bracket and secure
3. Install scaffolding rail in the bracket with keybolts
4. Mount door as front closure in the scaffolding rail
5. Insert scaffold tubes (alternatively 3x15 cm boards) and a board as lateral protection



Note:
If a door is not required, a single-piece platform bracket can be used as an alternative. No door can be mounted there, and only boards can be used as lateral protection.
For installing a ladder as a standard means of access, see page 109.
The front sides of the workstations must also be fitted with fall protection devices. This is the case on the left and right edges of the formwork as well as at joints where the formwork is separated for relocation.

TTK / TTR Work safety for supporting jack 4.00 m/6.00 m/8.00 m



T13.114.01

For greater formwork heights, additional intermediate platforms can be installed below the upper platform to enable access to the entire formwork, e.g. when installing or dismantling the connecting pieces at the segment joints.
Similarly, access to the individual levels can be integrated via traps in the single-piece boards and ladders.

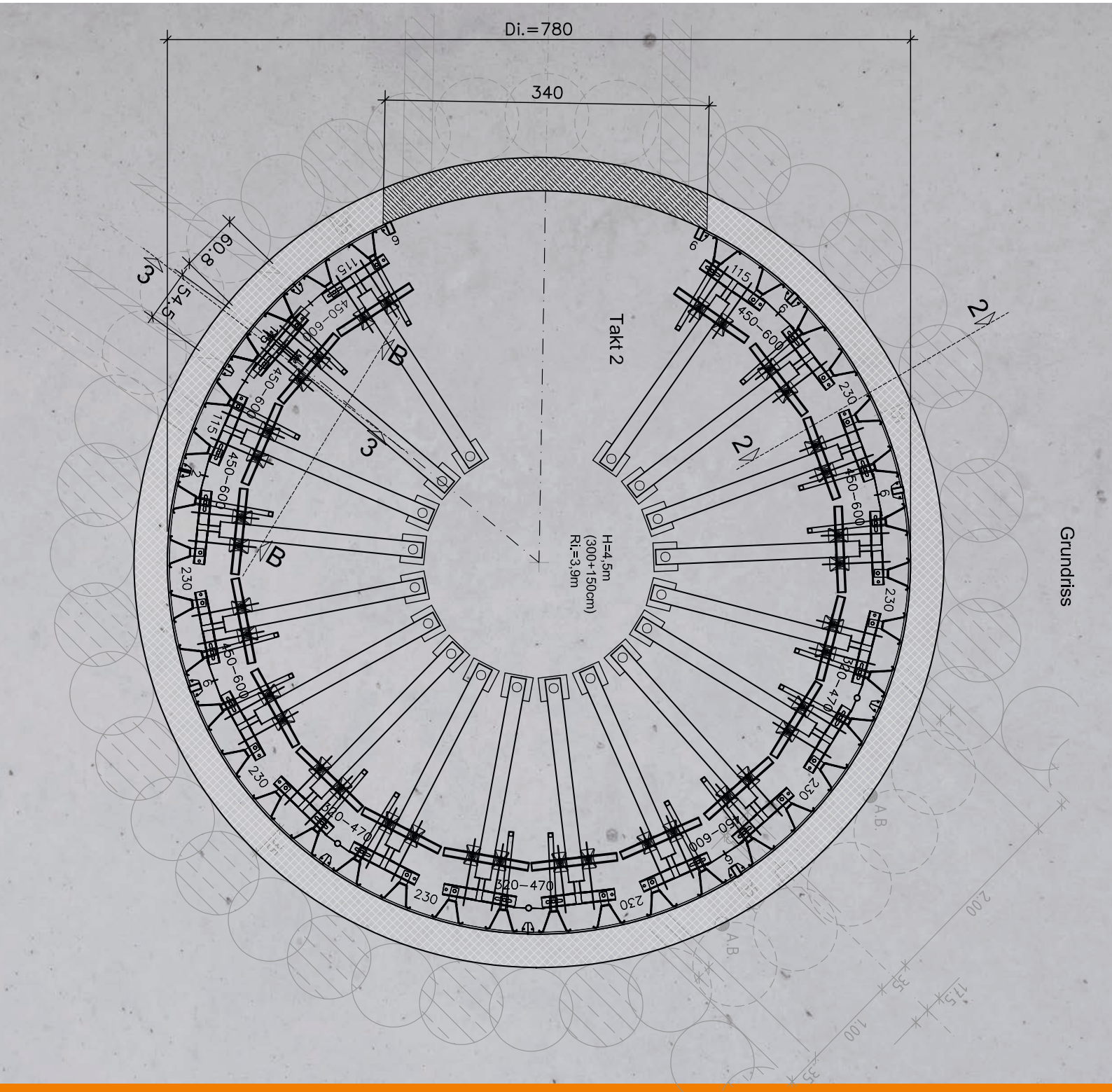
The upper platform is mounted on the belting in the segments, while the other platforms in between are placed on the horizontal profiles of the supporting jacks and secured.

All items required for work safety can be found in the parts list on pages 23-21.

Note:
To install the upper level, horizontal belting must be accessible in the segment so that the brackets can be inserted. This must be checked when determining the segment heights and their arrangement in height.
The supporting jacks must be fixed precisely in front of the mounting tubes for the brackets in the transverse belting.

Index

Index



Grundriss

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