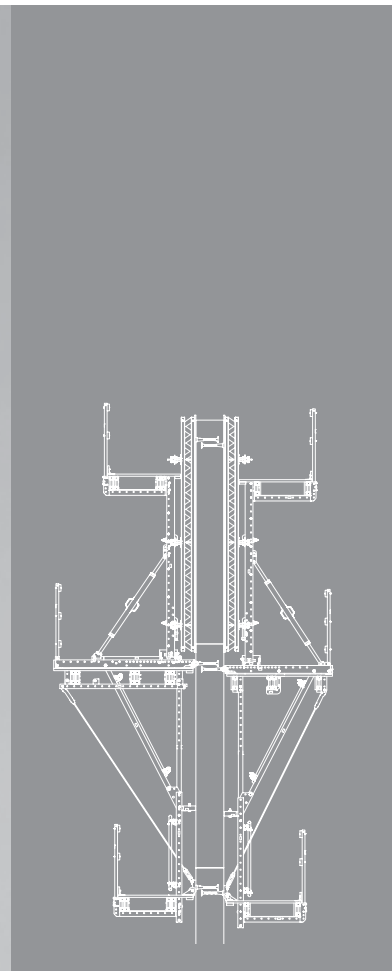
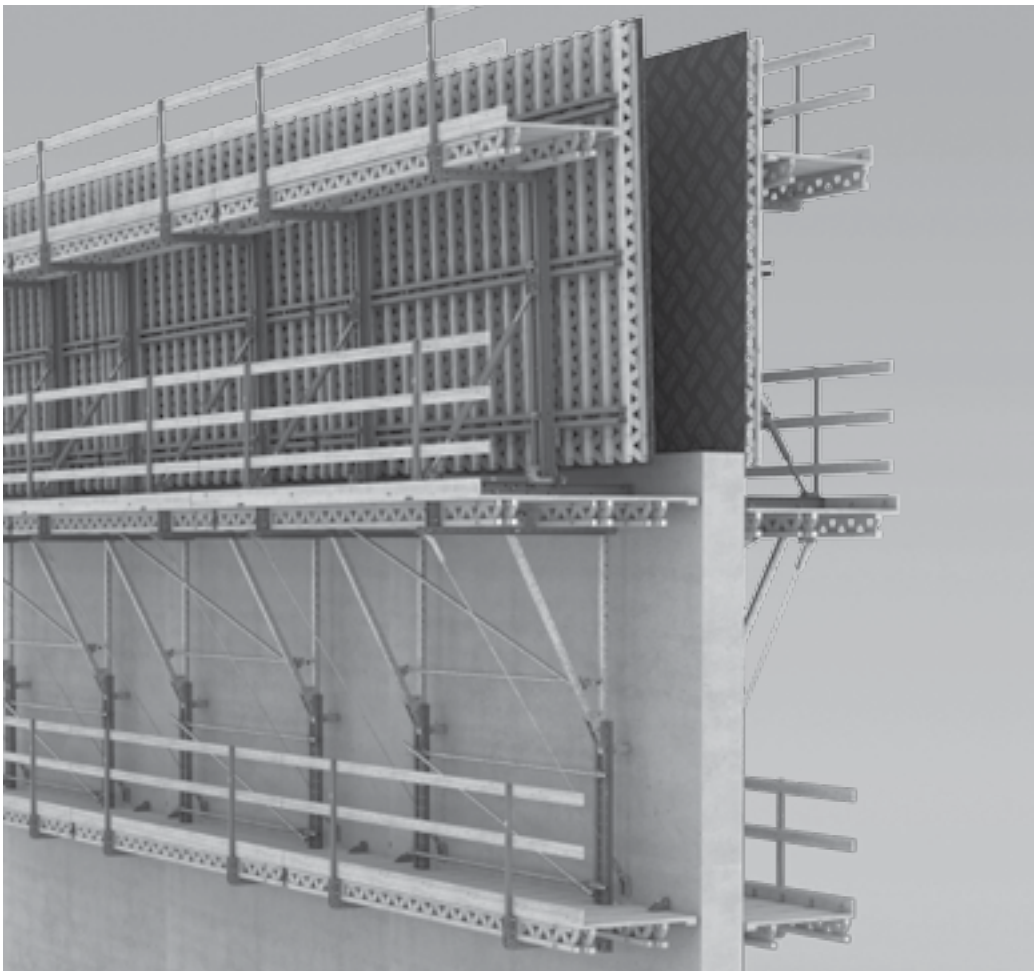


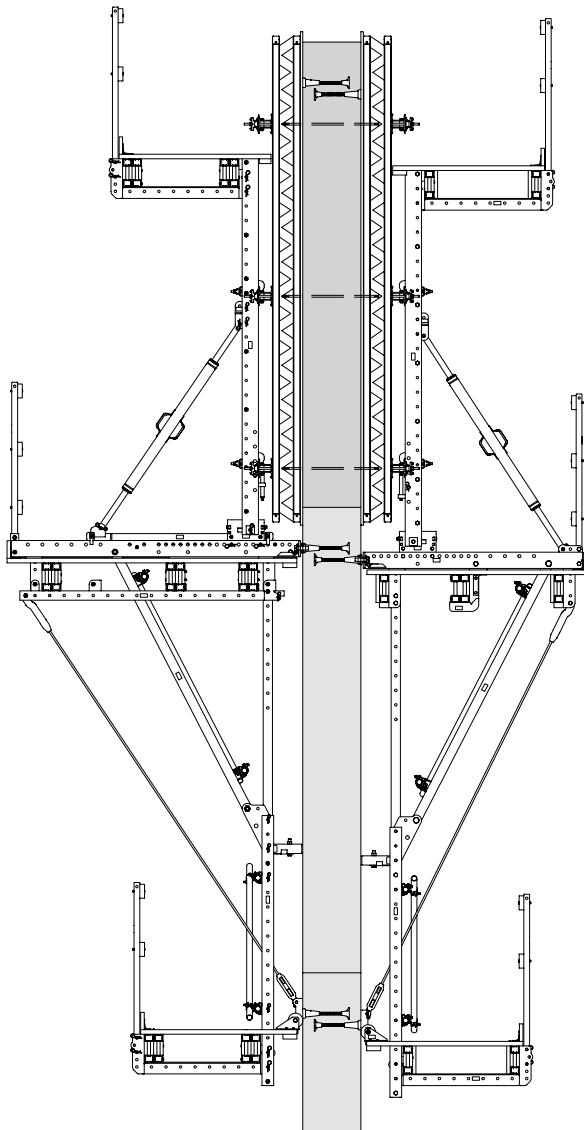
SCS 190 and SCS 250 Double-Sided Climbing Formwork

Instructions for Assembly and Use – Standard Configuration – Issue 10 | 2018

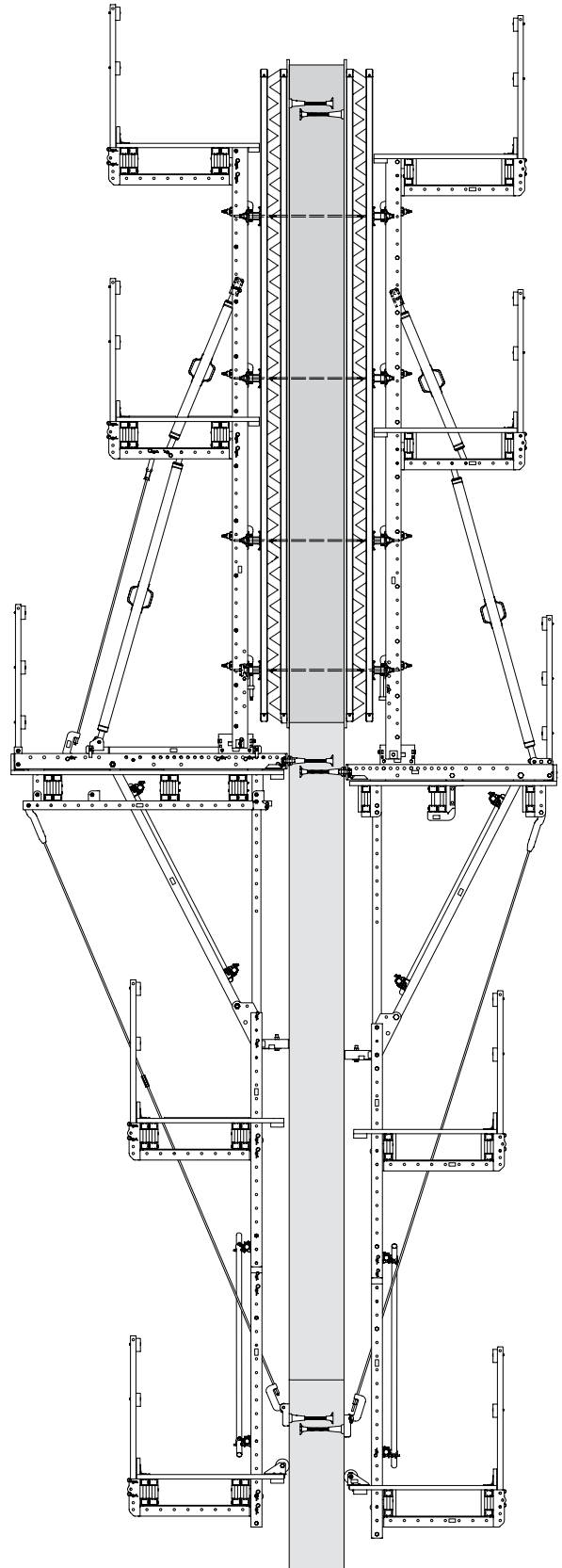


Main Components

Concreting height: 4.00 m



Concreting height: 6.00 m



Overview

Main Components	3
Component Overview	4
Tool List	5
Tightening Torque	5
Standard Configuration and Variants	6
Key	7
Anchoring	8
Operating Status	10
Overview of the Live Loads	10
Load Models	11

Standard Operating Procedure

Preparation	12
Initial Use	12
Striking	12
Moving	13
Standard Cycle	13
Dismantling	13

Introduction

Target Groups	14
Additional Technical Documentation	14
Intended Use	15
Instructions on Use	15
Cleaning and Maintenance Instructions	16
Storage and Transportation	16

Safety Instructions

Cross-System	17
System-Specific	18
Assembly Work	18
Maintenance and Repairs	18
Access	19
Protection against Falling Components	19
Climbing Procedure	19

Planning

A1 Planning Specifications	20
A1.1 Platform Design	20
A1.2 Identification Markings	20
A1.3 Anchor Positioning Plate	21
A2 Dimensioning	22
A2.1 System Dimensions	22
A2.2 Permissible Width of Influence and Bearing Capacity	23
A2.3 Anchor Dimensioning	23
A2.4 Platform Weights	24

Standard Configuration

B1 Platform Assembly	26
B1.1 Working Platform SCS 190	26
B1.2 Working Platform SCS 250	29
B1.3 Hatch Installation	33
B1.4 Mounting the Console Brackets	35
B1.5 Guardrails	37
Mounting the Handrail Boards	38
Mounting the Scaffold Tubes	38
B1.6 Finishing Platforms, Concreting Platforms and Intermediate Platforms	39
B1.7 Finishing Platform Unit	41
B1.8 End Guardrails	43

B2 Assembly on the Construction Site	44
B2.1 Initial Use	44
B2.2 Mounting the Finishing Platform – Starting Height 3 – 5 m	46
B2.3 Mounting Two Finishing Platforms – Starting Height 3 – 6 m	48
B2.4 Mounting the Finishing Platform Unit – Large Starting Heights	50
B2.5 Wind Bracing	52
B2.6 Mounting the Leading Anchor	56
B2.7 Releasing the Leading Anchor	58
B2.8 Mounting Ring	59
B2.9 Dismantling the Climbing Cones	59
B3 Formwork	60
B3.1 Formwork Assembly	60
B3.2 Compression Brace	61
B2.3 Installing the Concreting Platform	62
B3.4 Fixing the Formwork on the Console Brackets	63
B3.5 Exchanging the Formwork	64
B3.6 Spacer	66
B4 Aligning the Formwork	67
B4.1 Vertical Alignment	67
B4.2 Adjusting the Formwork Inclination	67
B4.3 Horizontal Alignment	68
B4.4 Operating the Adjusting Unit	69
B4.5 Operating the Carriage	70
B5 Ladder Access	72
B5.1 Platforms	72
B5.2 Mounting the Concreting Platform Hatch	74
B5.3 Ladder Platform for the Finishing Platform	76
B5.4 Ladders	78
B6 Climbing	80
B6.1 Climbing Procedure	80
B6.2 Securing Pins	84
B7 Dismantling	86
B7.1 Formwork	86
B7.2 Guardrails and Start Roller	87
B7.3 From the Building	88
B7.4 Platform Unit	89

Supplements

C1 Circular Structures	90
C1.1 General	90
C1.2 Angle Adapter SCS	91
C1.3 Swivel-Mounted Pressure Point	92
C1.4 Climbing Procedure	94
C2 Corner Platforms	95
C3 Climbing Rail RCS as Strongback	97
C4 Use with Panel Formwork	98
C4.1 TRIO/MAXIMO Element with Formwork Waler 150 CB	98

Components

SCS 190 and SCS 250	
Double-Sided Climbing Formwork	100

Component Overview

Pos.no.	Component name	Item no.
Working Platform		
1	Crossbeam Unit SCS 190	118730
2	Crossbeam Unit SCS 250	118737
3	Platform Beam Support SCS	131701
4	Bolt ISO 4014 M20 x 130-8.8, galv.	711078
5	Nut ISO 7042 M20-8, galv.	781053
6	Girder Support RCS	116477
7	Vertical Strut SCS 237	118710
8	Diagonal Strut SCS 257	118714
9	Strongback SCS 325	118584
10	Strongback SCS 550	129674
11	Heavy-Duty Spindle SLS	
12	Waler Fixation U100 - U120	110059
13	Waler Fixation-2 U100 - U120	129720
14	Heavy Duty Spindle SCS 198-250	118585
Finishing Platform		
15	Start Roller ACS	057417
16	Limit Stop Platform Post SCS	129778
17	Platform Beam SCS 120	129772
18	Platform Post Double SCS 232	129708
19	Platform Post Connector SCS	129707
20	Scaffold Tube Coupling SCS 48	129699
Wind bracing		
21	Tension Anchor Connector CB/SCS	129693
22	Tie Rod DW 15, Special Length	030030
23	Hex. Nut DW 15 SW 30/50, galv.	030070
24	Hex. Nut DW 15 SW 30/108, galv.	030090
25	Articulated Spanner RCS DW15	115375
26	Eye Nut RCS DW 15	115378
27	Tie Yoke VARIOKIT 15 Ø 22 / DW 15	116532
28	Turnbuckle CB M20/DW 15	116807
29	Belt Connector CB	051260
30	Tension Belt L = 5.70 m, 2.5 t	051250
31	Tension Anchor Connector Wall	107008
32	Belt Connector Wall M24	051270
33	Bolt ISO 4014 M24 x 70-10.9	026430
34	Bracing Shoe SCS M30/M24	129831
35	Bolt ISO 4017 M30 x 080-10.9	123843
Concreting Platform		
36	Girder VT 20, GT 24 or timbers	
37	Plywood or 3-ply sheeting	
38	Girder Fixation M20	110330
39	Cross Connector GT 24 / VT 20	129722
40	Cross Connector GT 24 / GT 24	129724
41	Cross Connector VT 20 / VT 20	129817

Pos.no.	Component name	Item no.
42	Hex. Wood Screw DIN 571 8 x 60, galv.	024270
43	Hex. Wood Screw DIN 571 8 x 80, galv.	024260
44	TSS-Torx 6 x 80, galv.	024690
45	TSS-Torx 6 x 40, galv.	024540
46	F. H. Bolt DIN 603 M8 x 45 MU, galv.	710295
47	F. H. Bolt DIN 603 M8 x 125 MU, galv.	024360
48	F. H. Bolt DIN 603 M8 x 180 MU, galv.	108834
49	Washer ISO 7094 200 HV, A 8, galv.	780354
50	Washer ISO 7094 100 HV, A 8, galv.	113347
51	Bolt ISO 4014 M16 x 100-8.8, galv.	710219
52	Nut ISO 7040 M16-8, galv.	070890
53	Washer ISO 7094 100 HV, A 16, galv.	113349
54	Toe Board Angle 90° reinforced	123478
55	Planking 40 mm	
56	Toeboard L x 30 x 150 mm	
Guardrails		
57	Guardrail Post SCS 150	118579
58	Guardrail Post RCS/SRU 184	114328
59	Guardrail Post Holder Multi	126088
60	Bolt ISO 4014 M8 x 100-8.8, galv.	710285
61	Nut ISO 7040 M8-8, galv.	711071
62	Plank L x 40 x 120 mm	
63	Guardrail Connector CB	051160
64	F. H. Bolt DIN 603 M8 x 70, galv.	126228
65	Guardrail Connection Plate ACS/SCS	113762
66	Clamp A64 DIN 3570 M12, galv.	110296
67	Nut ISO 4032 M12-8, galv.	710330
68	Screw-On Coupling-2 D48-M20, galv.	131404
69	L-Angle RCS 120 x 120 x 200	110289
Anchoring		
70	Climbing Cone-2 M30/DW 20, galv.	030920
71	Tie Rod DW 20, Special Length	030700
72	Tie Rod B 20 Special Length	030745
73	Threaded Anchor Plate DW 20	030860
74	Advancing Screw M30, galv.	029450
75	Anchor Positioning Plate M30, galv.	029380
76	Hex. Wood Screw DIN 571 6 x 20, galv.	029440
77	Anchor Positioning Stud M30, galv.	026450
78	Wire Nail 3 x 80	710312
79	KK Concreting Cone M30-80/52	031653
80	Sealing Compound-3, Set of 6 Tins	131709
81	Mounting Ring SCS M30	118582
Ladder Access		
82	Hatch 55 x 60-2, foldable	126431
83	Bolt ISO 4017 M12 x 40-8.8, galv.	710224

Tool List

Pos.no.	Component name	Item no.
84	Nut ISO 7040 M12-8, galv.	710381
85	Ladder 180/6, galv.	051410
86	Ladder 220/6	051420
87	Access Ladder 180/2, galv.	103724
88	Ladder Base 30 adjustable, galv.	109105
89	Ladder Base, galv.	051460
90	Ladder Hook, galv.	103718
91	Ladder Safety Cage 75, galv.	104132
92	Ladder Safety Cage 150, galv.	051450
93	Ladder Connector VARIO/SCS	129805
94	Safety Netting: mesh size 20 mm	
Accessories		
95	Crane Eye CB 240-2 0.7 t	127821
96	F.H. Bolt DIN 603 M8 x 100 MU, galv.	710240
97	Scaffold Tube Steel Ø 48.3 x 3.2, Special Length	026415
98	Swivel Coupling DK 48/48, galv.	017010
99	Fitting Pin Ø 21 x 120, galv.	104031
100	Cotter Pin 4/1, galv.	018060
101	TSS-Torx 6 x 60, galv.	024470
102	Height Adjustment Unit-2 CB/SCS/RCS	129689
103	Reducing Bushing Ø 26 - 21, galv.	129695
104	Spindle Adapter SLS/RCS	110477
105	Adapter for Adjusting Unit SCS/RCS	127099
106	Plank 120 x 12 x 4 cm	
107	Hex. Wood Screw DIN 571 8 x 160, galv.	024520
Angle Adapter SCS		
108	Angle Adapter SCS	131279
109	Swivel-mounted pressure point	129747
Formwork Connector TRIO / MAXIMO		
110	Formwork Waler 150 CB	127633
111	Brace Connector CB	127650
112	Clamp Adapter MX / TR-SRU	127659
Kletterschiene RCS als Kippträger		
113	Anchor Plate RCS DW 20	114082
114	Wingnut DW 15, galv.	030100
115	Wingnut Counterplate DW 15, galv.	030110
116	Climbing Rail RCS	
117	Tie Rod DW 15, Special Length	

Name of tool
Hexagon Socket SW 27-1"
Hex. Allen Key SW 14, long
Extension for the Ratchet Wrench
Allen Key SW 6 / SW 8 / SW 10
Spirit level
Cordless screwdriver
Screw Bits TORX 25, 30
Ring / Open-end Wrench SW 13 / SW 16 / SW 18 / SW 24 / SW 30 / SW 36
4-sling lifting gear
Circular saw
Torque wrench
Hammer
Round slings
Ratchet Wrench 1"
Ratchet Wrench 1/2"
Wrench Socket SW 19-1/2" L
Wrench Socket SW 30-1/2"
Wrench Socket SW 46-1"
Wrench Socket SW 55-1"
Forstner drill Ø 42 mm
Wood drill Ø 13 mm

Tightening Torque

For the screw connections, PERI recommends the following "hand-tightened" tightening torque $M_{A, \text{hand-tightened}}$ according to Eurocode 3 and DIN EN 1090-2:

Bolt	M20	M24	M30	M36
$M_{A, \text{hand-tightened}}$ [Nm]	60	110	220	350

Tightening torque has been determined for the following components:

Clamping Screw for Screen Adapter	80 Nm
Nut for Screen Adapter	80 Nm
Climbing Bolt for Spacer	60 Nm
Turnbuckle, oiled	Hand-tightened
Turnbuckle, dry	Hand-tightened + one complete turn (360°)

Standard Configuration and Variants








Assembly unit	Standard configuration	Variant 1	Variant 2
Crossbeam Unit	SCS 190	–	–
	SCS 250	–	–
Girder	GT 24 – GT 24	GT 24 – VT 20*	VT 20 – VT 20*
Guardrail Posts	Guardrail Post SCS	–	–
Guardrails	Guardrail Boards	Scaffold Tubes	–
Static bracket height h0	2.40 m	2.58 m	–
Anchoring in the wall**	M30	M24	M36
Bracket Anchor	M30	M24	M36
Fixing of the Leading Anchor on the formwork	M30	M24	M36

* not described in these Instructions for Assembly and Use




** according to static specifications

Key

Pictogram | Definition

-  Danger / warning / caution
-  Information
-  To be complied with
-  Load-bearing point
-  Visual check
-  Tip
-  Misapplication

Arrows

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

* if not identical to the action arrow.

Safety instruction categories

The safety instructions alert site personnel to the risks involved and provide information on how to avoid these risks. Safety instructions are featured at the beginning of the section or ahead of the instructions, and are highlighted as follows:

Danger

This sign indicates an extremely hazardous situation which, if not avoided, will result in death or serious injury.

Warning

This sign indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Caution

This sign indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Information

This sign indicates situations in which failure to observe the information can result in material damage.

Set-up of the safety instructions

Signal word

Type and source of the danger!
Consequences of non-compliance.
⇒ Avoidance measures.

Dimension specifications

Dimensions are usually given in mm. Other measurement units, e.g. m, are shown in the illustrations.

Conventions

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

Presentational reference

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

For a better understanding, detailed illustrations are partly incomplete. Safety installations may not have been included in these detailed drawings, but must be available nevertheless.

Anchoring

Climbing Anchor and Bracket Anchor

The Climbing Anchor consists of:

- Climbing Cone,
- Tie Rod and
- Threaded Anchor Plate.

(Fig. 02)

The Bracket Anchor is the Mounting Ring SCS M30.

(Fig. 03)

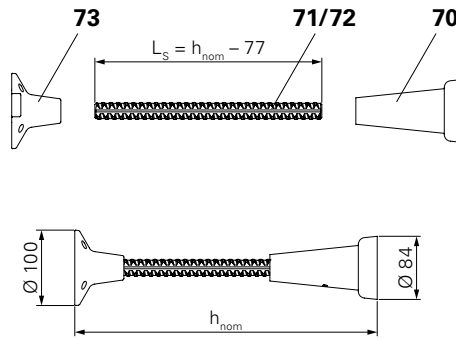


Fig. 02

There are three sizes of Mounting Ring:

- M24
- M30
- M36

The size to be used depends on the load according to the static calculations.



- $c_2 = 350$ mm - standard distance to the concreting joint if not specified in the plan. (Fig. 03)
- The load-bearing capacity is reduced when using Tie Rod B 20 with a continuous thread, see separate SCS dimensioning information.
- The standard configuration shown in these Instructions for Assembly and Use is M30 anchoring.

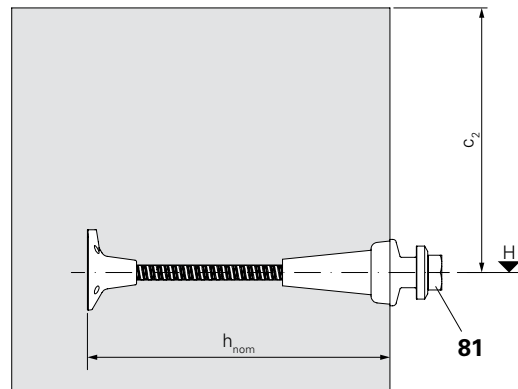


Fig. 03

- H = height measurement
- L_s = length of tie rod
- h_{nom} = anchoring depth
- c_2 = distance of anchor to concreting joint

Components for M30 anchoring

- 70** Climbing Cone-2 M30/DW20
- 71** Tie Rod DW 20*
- 72** Tie Rod B 20*
- 73** Threaded Anchor Plate DW 20*
- 81** Mounting Ring SCS M30

* non-reusable components

Tool

Ratchet Wrench 1"
with Wrench Socket SW 46-1*.



- Every Bracket SCS must have its own anchoring.
- The anchoring can only be released and removed from the load transfer side.



Check anchor point

All individual components

- Anchor type
- Completeness
- Integrity

Position

- Height
- Alignment
- Distance to edge
- Anchor spacings

Assembly

- Anchoring depth h_{nom}
- Screw-in depths

Concrete

- Sufficient concrete strength
- Cavity-free anchor base

We recommend compiling an acceptance report of the anchor point inspection.



Spray the climbing cone with a release agent before installation.
→ Facilitates removal.

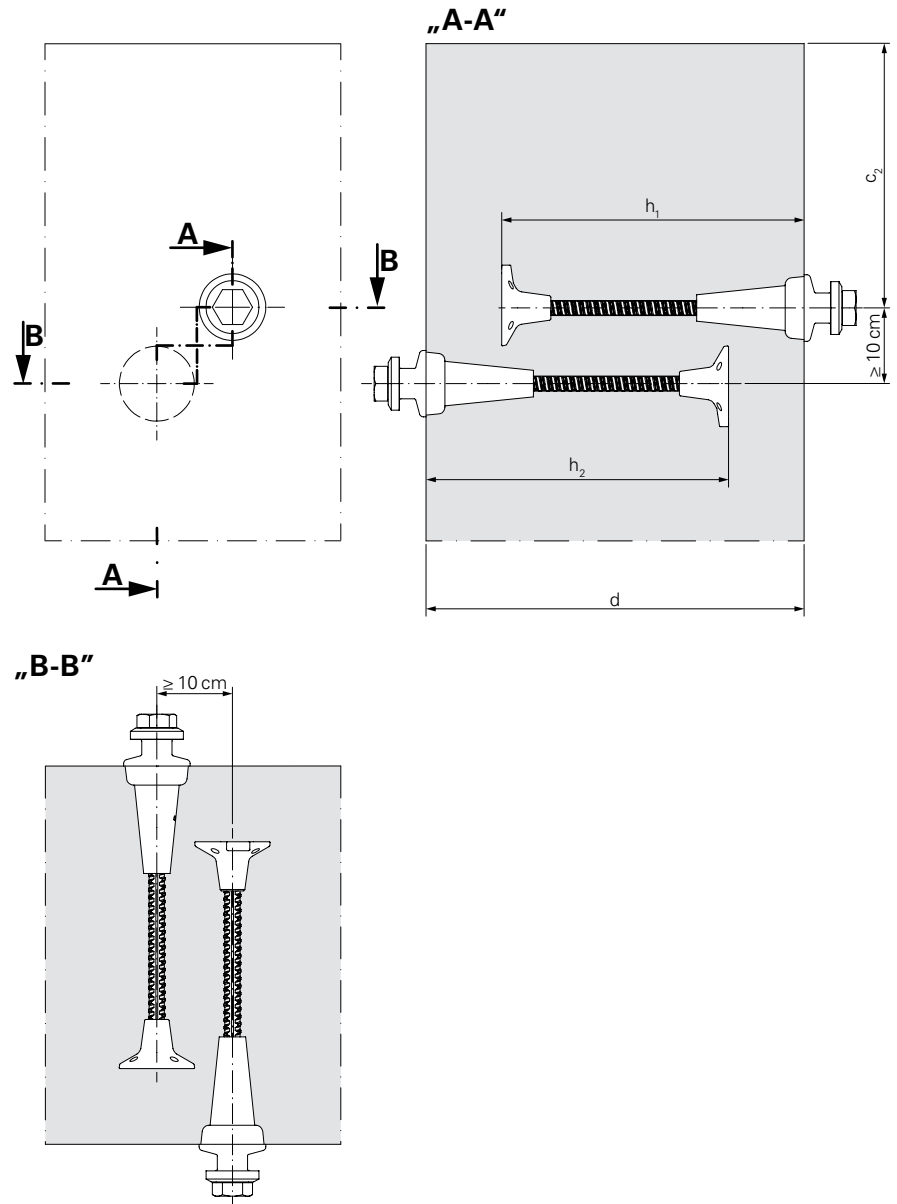


Fig. 04



Climbing cones must be installed using an offset arrangement. The positioning of two Climbing Cones against each other is not allowed! (Fig. 05)

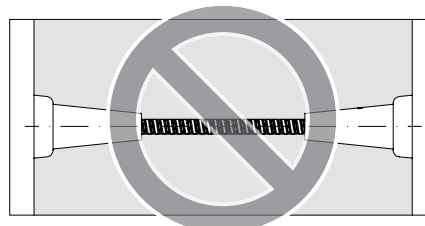


Fig. 05

Operating Status

Operational status

- Cleaning of formwork, wall reinforcement, closing and striking of formwork, anchor installation and dismantling, inspection and maintenance.
- Platforms are freely accessible for the work to be carried out.
- Formwork is in the concreting position or retracted on the formwork carriage.
- Loads are evenly distributed. Single-sided loads on cantilevered platform areas are only allowed if an appropriate fixation against lift-off is fitted to the bracket positioned opposite.

Climbing status

During the climbing procedure, site personnel are not allowed to remain on the platform.

- Moving the climbing unit with the crane.
- Formwork is:
 - retracted (SCS 250).
 - inclined to the rear (SCS 190).
- Non-intended loads on the platform must be removed.

Concreting status

- Concreting the casting segment.
- Concreting platform is freely accessible for the work to be carried out. Working platform: only access – no additional loads. Finishing platform: no access.

Non-operational

- During longer work breaks or storm warnings with wind speeds over 72 km/h.
- Bring formwork in concreting position.
- Accessing the platform during storm conditions is forbidden.
- Materials or equipment can be left on the working platform if appropriately secured.
- Max. resulting wind speed (wind flow pressure) for storms depends on the utilisation height, wind zone and terrain category in accordance with EC 1.
- For storm warnings with higher wind speeds than assumed, an authorised person is to be informed and, if necessary, all enclosure netting and tarpaulin removed. The climbing unit can be climbed back to the previous concreting section if instructed to do so. Remove materials and equipment from the platforms.

Overview of the Live Loads

Component/Condition		Perm. live load [kg/m ²]	Operational status and concreting status Working	Storm Non-operational
Concreting platform		150	75 kg/m ²	–
Intermediate platform		150	–	–
Working platform	Wall side	300	300 kg/m ²	–
	Guardrail side	200	200 kg/m ²	133 kg/m ²
Intermediate platform		75	–	–
Finishing platform		75	37.5 kg/m ²	–
Max. wind speed		–	72 km/h	According to specifications
Max. wind flow pressure		–	≤ 0.25 kN/m ²	According to specifications
Concrete pressure [kN/m ²]		–	–	–
Position of the formwork		–	Retracted or in concreting position	In concreting position

The stability for the loads and conditions must be checked by means of a static calculation in accordance with separate Double-Sided Climbing Formwork SCS dimensioning information!

Load Models

Max. perm live loads are differentiated as follows:

- Operational status. (Fig. 06)
- Concreting status. (Fig. 07)

Shown is the working platform with the Crossbeam Unit SCS 250. The live loads are also valid for the working platform with the Crossbeam Unit SCS 190.



- The area-related live loads correspond to EN 12811.
- Loads are evenly distributed. One-sided loading of cantilevered platform areas is not permitted.
- Working: if more platforms are loaded, only one level can be fully loaded; other platform levels directly above and below only 50 %.
- Storm: reduced load on the working platform for material left behind.

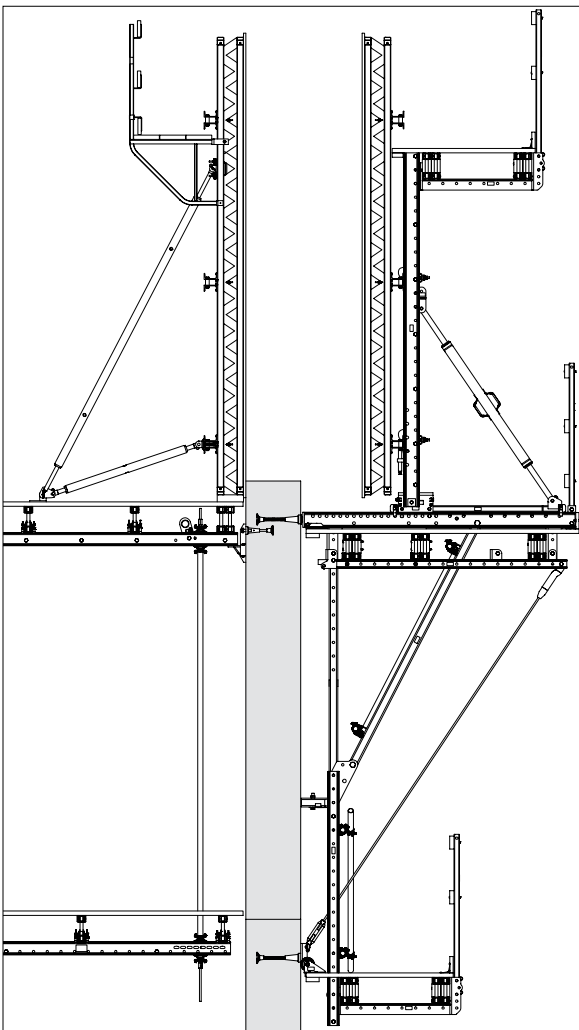


Fig. 06

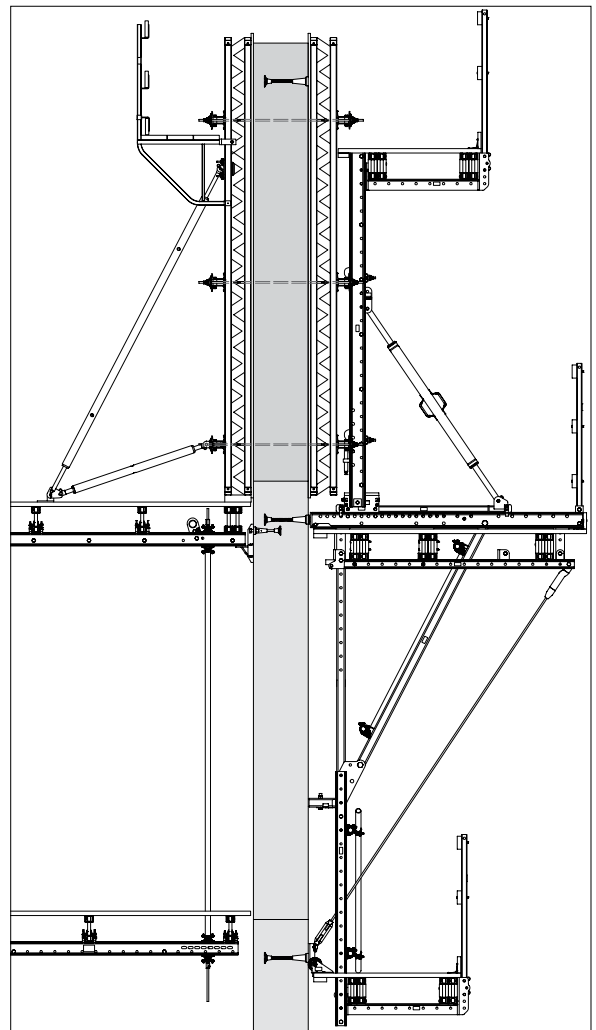


Fig. 07

Preparation

Assembly work

1. Assemble wall formwork.
2. Mount required platforms, see Section B1.

Concreting the starter

1. Position wall formwork for the first concreting section.
2. Fix Leading Anchor, see Section B2.7.
3. Carry out reinforcement work.
4. Concrete the first section. (Fig. 08)

Preparation for the initial use

1. Release Leading Anchor, see Section B2.8.
2. Strike starter formwork.
3. Install Mounting Ring or Mounting Bolt, see Section B2.9. (not shown)

Initial Use

1. Suspend working platform unit, see Section B2.1.
2. Insert securing pins, see Section B6.2.
3. If necessary: install wind bracing, see Section B2.5.
4. If necessary: clean and align the formwork, see Section B3.
5. Fix Strongback to the formwork, see Section B3.1.
6. If required, install Compression Brace, see Section B3.2.
7. Fix concreting platform to the Strongbacks, see Section B3.3.
8. Connect formwork to the platform unit, see Section B3.4.
9. Carry out reinforcement work.
10. Fix Leading Anchor, see Section B2.7.
11. Close and align the formwork, see Section B4.
12. Concrete second section. (Fig. 09)

Striking

1. Release fixation of the Leading Anchor, see Section B2.8.
2. Strike formwork,
 - SCS 190: see Section B4.4.
 - SCS 250: see Section B4.5.
3. Dismantle Mounting Ring, see B2.9.
4. Availability of mounted finishing platform, see Section B1.5.
5. If necessary: release wind bracing, see Section B2.5.
6. Connect the finishing platform, see Section B2. (Fig. 10)

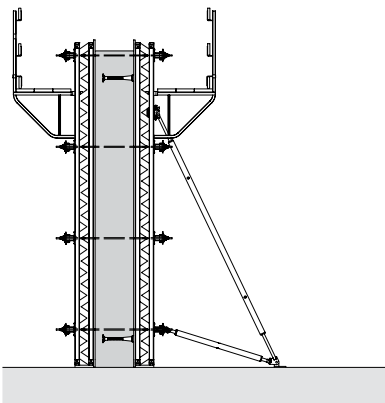


Fig. 08

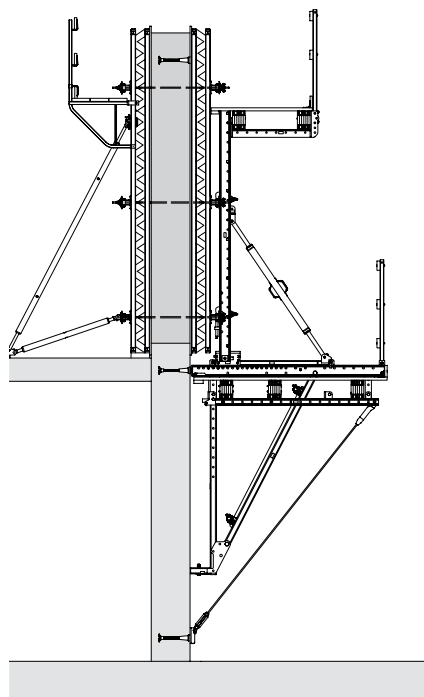


Fig. 09

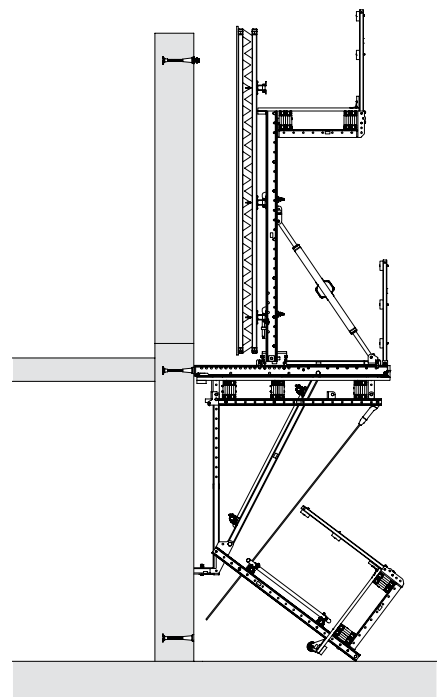


Fig. 10

Moving



- **Persons are not to be transported!**
- **No loose components or other loads are to be transported!**
- **Persons are to keep away from the area of risk!**

1. Attach crane lifting gear.
2. Release securing pins, see Section B6.2.
3. If necessary, install Compression Brace, see Section B3.2.
4. Move climbing unit to the next section, see Section A5.
5. If necessary: mount Access Ladder to the finishing platform, see Section B5.

(Fig. 11)

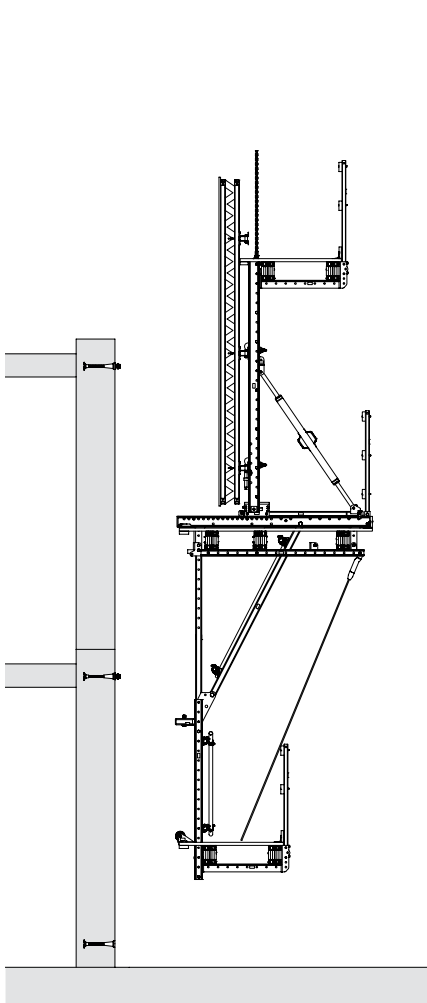


Fig. 11

Standard Cycle

1. If necessary: fix wind bracing, see Section B2.5.
 2. If necessary: clean and align the formwork, see Section B3.
 3. Carry out reinforcement work.
 4. Fix Leading Anchor, see Section B2.7.
 5. Close and align the formwork, see Section B4.
- (Fig. 12)

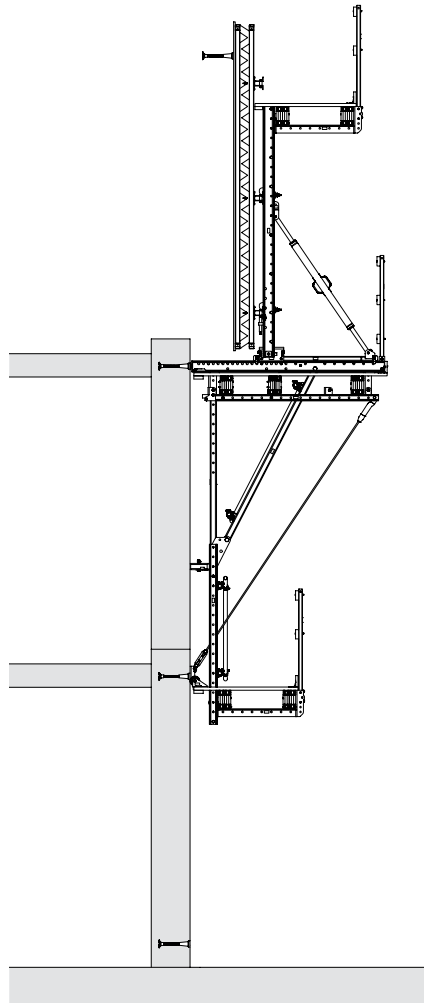


Fig. 12

6. Concrete standard section.
7. Release fixation of the Leading Anchor, see Section B2.8.
8. Strike formwork, SCS 190: see Section B4.4. SCS 250: see Section B4.5.
9. Dismantle Mounting Ring, see Section B2.9.
10. If necessary, release wind bracing, see Section B2.5.
11. Close anchor hole, see Section B2.10.
12. Move climbing unit to the next section, see Section B6.1.
13. Insert locking pins, see Section B6.2.

(Fig. 13)

Dismantling

Dismantling the climbing formwork, see Section B7.

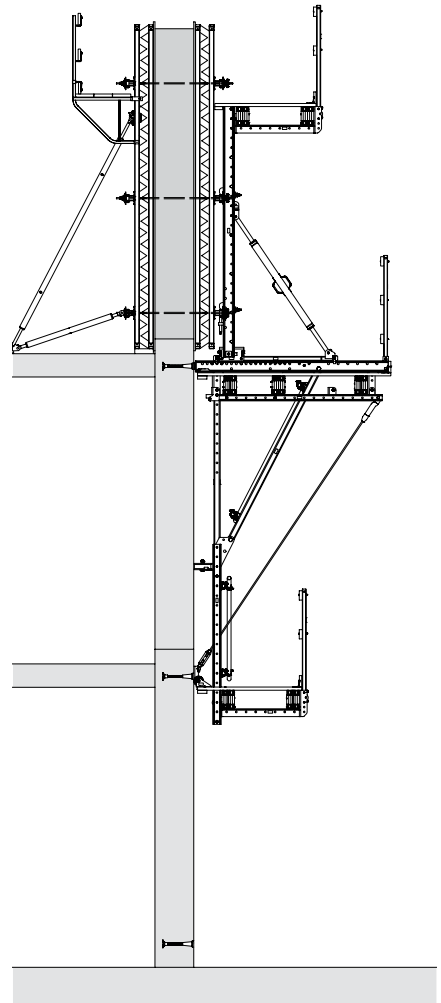


Fig. 13

Target Groups

Contractors

These Instructions for Assembly and Use are designed for contractors who either

- use them for assembling, modifying and dismantling purposes, or
- have them used for, e.g. concreting, or
- allow them to be used for other operations, e.g. carpentry or electrical work.

Competent person

(Construction Site Coordinator)

The Safety and Health Protection Coordinator*

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

Competent person qualified to carry out inspections

Due to the specialist knowledge gained from professional training, work experience and recent professional activity, the competent person qualified to carry out inspections has a reliable understanding of safety-related issues and can correctly carry out inspections. Depending on the complexity of the inspection to be undertaken, e.g. scope of testing, type of testing or the use of certain measuring devices, a range of specialist knowledge is necessary.

Qualified personnel

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

- Explanation of the plan for the assembly, modification or dismantling of the formwork in an understandable form and language.
- Description of the measures for assembling, modifying or dismantling the formwork.

- The preventive measures to be taken to avoid the risk of persons and objects falling.
- Designation of the safety precautions in the event of changing weather conditions which could adversely affect the safety of the formwork system as well as the persons concerned.
- Details regarding permissible loads.
- Any other risks that are associated with the assembly, modification or dismantling procedures.



- **In other countries, ensure that the relevant national guidelines and regulations in the respective current version are complied with!**
- **If no country-specific regulations are available, it is recommended to proceed according to German guidelines and regulations.**
- **A competent person must be present on site during formwork operations.**

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

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

Additional Technical Documentation

- Dimensioning information
 - SCS 190 and SCS 250 – double-sided application
- Instructions for Assembly and Use
 - VARIO GT 24 Girder Wall Formwork
 - MAXIMO MX 15 Panel Formwork 270 | 330
 - MAXIMO MX 18 Panel Formwork 270 | 330
 - MAXIMO MX 18 Panel Formwork 300 | 360
 - TRIO Panel Formwork
- Instructions for Use
 - Crane Splice 24
 - Lifting Beam RCS 9 t
 - Crane Eye CB 240-2 0.7 t
- User information
 - Concrete Cones with Sealing Compound-3
- PERI Design Tables – Formwork and Shoring

Intended Use

Product description

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

The SCS Climbing System is used as a support scaffolding for wall formwork in accordance with DIN EN 12811 or DIN EN 12812.

A distinction is made between:

- single-sided, anchorless wall formwork.
- double-sided, anchored wall formwork.



This set of Instructions for Assembly and Use deals with the double-sided, anchored application.

One climbing unit consists of:

- two Climbing Brackets with accessories,
- Platform Beams with planking,
- Strongbacks with formwork and spindles.

One Climbing Bracket consists of:

- crossbeam,
- vertical strut and
- diagonal strut.

For assembly purposes, there are two alternatives for the crossbeam:

- Adjusting Unit (SCS 190).
- Adjusting Unit with Carriage (SCS 250).

The Climbing Brackets are connected to each other by scaffold tubes and the working platform. The forces arising from the dead load, live loads and wind load are transferred from the Brackets via the Climbing Anchors and pressure point into the structure. Additional wind bracing prevent the system from tipping when empty or in a forward-inclined position.

In the standard configuration, VARIO GT 24 Girder Wall Formwork is connected to the platform unit and together this forms the climbing unit. The climbing unit is moved with the crane. The load-bearing point is above on the Strongback.

Several finishing platforms can be suspended on the Bracket in order to dismantle the previously used Climbing Cone as well as to carry out reworking on the building.

One concreting platform as well as intermediate platforms can be attached to the Strongback.

Access via ladders with hatches are possible with PERI standard components.

All-round side protection can be attached to all platforms.

Technical data

SCS 250:

- reach: approx. 2.50 m
 - static height $h_0 = 2.58$ m or 2.40 m (See Section A2.1)
 - Maximum height of formwork: 6.00 m.
- Depending on the formwork type, the formwork can be retracted up to 78 cm in order to work in front of the formwork.

SCS 190:

- reach: approx. 1.90 m.
 - static height $h_0 = 2.58$ m or 2.40 m (see Section A2.1)
 - Maximum height of formwork: 6.00 m.
- The formwork can be inclined by turning the Heavy-Duty Spindle.

Instructions on Use

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

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

Changes to PERI components are not permitted.

Cleaning and Maintenance Instructions

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Do not clean components suspended on crane lifting gear.

Storage and transportation

Store and transport components ensuring that no unintentional change in their position is possible.

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

Do not drop the components.

Use PERI lifting accessories and slings and only those load-bearing points provided on the component.

During the moving procedure

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

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

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

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

Cross-System

General

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

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

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

For the application and inspection of PERI products, the current safety regulations and guidelines valid in the respective countries must be observed.

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

- signs of damage,
- stability and
- functionality.

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

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

Components provided by the contractor must conform to the characteristics required in these Instructions for Assembly and Use, as well as all valid construction guidelines and standards. Unless otherwise indicated, this applies in particular to:

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

Deviations from the standard configuration are only permitted after a further risk assessment has been carried out by the contractor.

Appropriate measures for working and operational safety, as well as stability, are defined on the basis of this risk assessment.

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

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

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

Exceptional occurrences can include:

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

Assembly, modification and dismantling work

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

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

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

- safety helmet,
- safety shoes,
- safety gloves,
- safety glasses,

is available and used as intended.

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

The contractor stipulates the PPE to be used to prevent falling.

The contractor must

- provide safe working areas for site personnel, which are to be reached through the provision of safe access ways. Areas of risk must be cordoned off and clearly marked.
- ensure stability during all stages of construction, in particular during assembly, modification and dismantling operations.
- ensure and prove that all loads can be safely transferred.

Utilisation

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

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

System-specific

The contractor must ensure that assembly, modifications and dismantling, moving as well as the use and handling of the product is managed and supervised by professionally qualified and authorised personnel.

All persons working with the product must be familiar with the operating instructions and safety information.

The contractor must ensure that the Instructions for Assembly and Use, other instructions required for operations or assembly, relevant planning documents, parts lists and other data are available to users

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

Anchoring is to take place only if the anchorage has sufficient concrete strength.

Close hatch cover immediately after climbing through the hatch.

Use non-slip covering for the platforms.
Ensure that the coverings remain slip-resistant.

Do not stand under suspended loads.

The distance between ladder rungs and side protection must not be less than 15 cm.

Assembly work

The contractor must ensure that the user has the appropriate and sufficient number of tools, lifting equipment and slings, suitable and sufficient space for assembly and storage, as well as adequate crane capacity at his disposal.

There is always the possibility of unforeseen risks arising during assembly work. Assess the degree of risk in each individual case and, if necessary, take measures to prevent or at least minimise the risk.

If anti-fall protection cannot be used or has to be removed due to operational reasons, safety equipment must be installed in its place in order to prevent or arrest falls from any height. If the use of fall arrest equipment is deemed to be inappropriate, personal protection equipment (PPE) can be used if suitable fixing points are available.

Use a guide rope to ensure that assembly units suspended from the crane are fully under control when being moved.

Avoid entering the area between suspended loads and the building.

Site personnel are forbidden to remain in areas below where assembly work is being carried out unless the area of risk has been provided with sufficient protection against falling, overturned, sliding or rolling objects and masses.

Cordon off areas of risk.

Maintenance and repairs

The components of the climbing formwork are to be inspected before each use to ensure that they are in perfect condition and function correctly. Only materials in perfect condition are to be used.

The platforms are to be inspected for signs of damage at regular intervals by authorised personnel.
Remove loose concrete residue.
Dirt which affects functionality is to be removed immediately. Damaged components are to be inspected, removed and replaced.

In case of overload or damage, stop work on and under the platforms, determine the cause, set down and replace damaged components.

If the maximum permissible wind speed has been exceeded, temperatures are outside the scope of application or after any extraordinary event has taken place such as a fire or earthquake, the functionality and load-bearing capacity of all safety components, as well as the supporting structure are to be checked.

Safety components:

- Regular visual inspections are to be carried out by qualified personnel.
- Before any climbing or assembly, a functionality check is carried out by qualified personnel.
- Only PERI original components are used when replacing parts.
- Repairs are carried out by PERI qualified personnel only.

Supporting structure:

- A visual inspection is to be carried out by authorised personnel before initial use.
- Only PERI original components are to be used for repairs or replacement.

Other components:

- Inform authorised persons.
- Repairs are carried out by authorised personnel.

Access

Safe access to all working areas must be guaranteed at all times.

Preferred options are walkways, stairs, stair towers or site lifts. Ladders are only suitable for use as access means in exceptional cases.

Ladders must not be connected to each other for more than two levels and should be offset against one another. They must be secured on the outer side by means of appropriate anti-fall equipment such as rear safety protection or safety nets.

Suitable equipment must be available on hatches and openings on accessible areas to prevent accidents. After the ladder access is used each time, ensure that the hatch cover is closed.

In the case of danger, it must be ensured that working areas can be vacated via emergency escape routes or rescue equipment. It must also be ensured that at least one emergency escape route or piece of rescue equipment can still be used if the power supply fails.

Protection against falling components

Work activities may not be carried out simultaneously on areas positioned on top of each other unless the lower working areas and access routes are provided with protection against falling objects such as tools or materials.

Avoid positioning working areas and access points in areas of risk. If this is not possible due to work procedures, suitable protection equipment must be available. This also applies to work requiring only a short period of time.

Operational working areas at great heights are to be secured against falling objects by means of appropriate constructional measures. Safety nets (mesh size ≤ 2 cm) and planking are considered to be suitable here, and are to be installed very close (distance ≤ 5 cm) to the building.

Working areas positioned below must be protected using suitable protective roofs along the entire area at risk.

Secure all pins with cotter pins and all bolts with nuts.

Check connecting parts for signs of damage and ensure that they have been correctly installed.

Climbing procedure

Retract components only when the concrete has sufficiently hardened and the person in charge has given the go-ahead for striking to take place. Suspend climbing units on the next concreting section only after the required concrete strength has been reached.

As a result of the moving procedure, falling edges are formed between the platforms. These areas are to be cordoned off!

Do not transport persons, building materials or tools when moving with the crane. Exceptions to this can be determined through the operational working and assembly instructions on the basis of a corresponding risk assessment.

In case of a malfunction, lower the platform to the next possible position, leave the climbing unit in a safe and secure manner and notify an authorised person immediately!

A1.1 Platform Design

- Assemble decking in accordance with the respective country-specific safety regulations.
 - Avoid – or at least cover – tripping hazards, unnecessary recesses and openings in the decking.
 - Distance between the decking and building must not exceed 50 mm.
 - Gaps in the decking must not exceed 20 mm.
 - Planks are to be fitted tightly together.
 - During working operations, we recommend a maximum distance of 20 mm between neighbouring platforms. Cover larger gaps with suitable and securely fitted materials. Alternative: use safety netting (94) with mesh size ≤ 20 .
 - The dimensions given for the platforms are valid for vertical applications. For circular structures, adjust the decking accordingly.
 - For circular structures, take additional measures in accordance with the given radius (see Section C1).
 - Plan the corner platforms so that accessing one platform from another can be done safely.
 - Access routes and climbing procedures must also ensure that safe escape routes are available at all times.
- (Fig. A1.01)

A1.2 Identification Markings

We recommend marking each platform distinctly, as well as creating a document with the following data:

- Company name
- Construction site
- Name of the planner
- Marking in accordance with the plans
- Dimensions
- Weight of the unit with formwork
- Weight of the unit without formwork
- Maximum formwork height
- Permissible loads

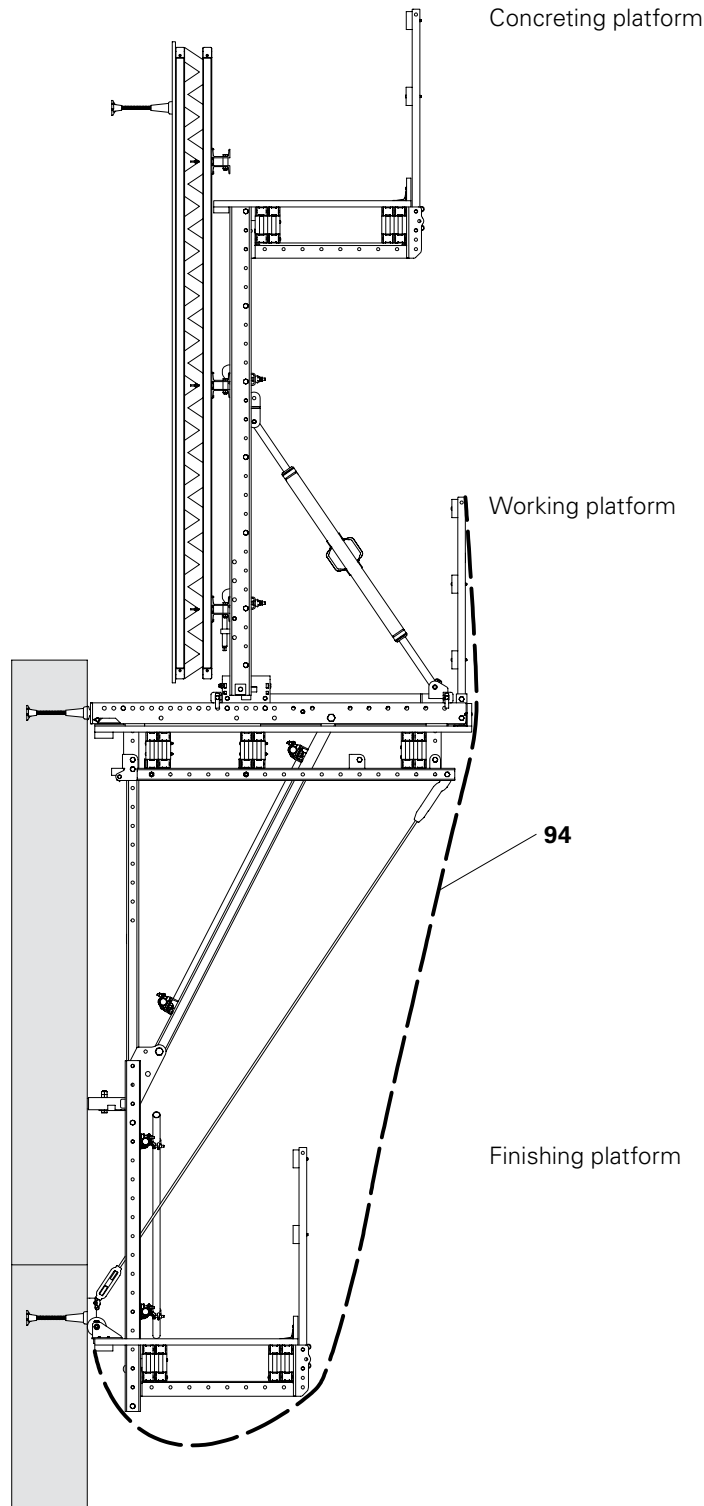


Fig. A1.01

A1.3 Anchor Positioning Plate

Components

75 Anchor Positioning Plate M30

75a Anchor Positioning Plate M24

75b Anchor Positioning Plate M36

In order to ensure sufficient stability, we recommend fixing the Leading Anchor with the Anchor Positioning Plate (75/75a/75b). During planning, make sure there is adequate space (dimension x_{min}) so that the Advancing Bolt can be mounted.

Climbing Anchor M30: $x_{min} = 30$ mm.

Climbing Anchor M24: $x_{min} = 30$ mm.

Climbing Anchor M36: $x_{min} = 40$ mm.

H = height measurement.

Position of the Anchor Positioning Plate.

(Fig. A1.02)

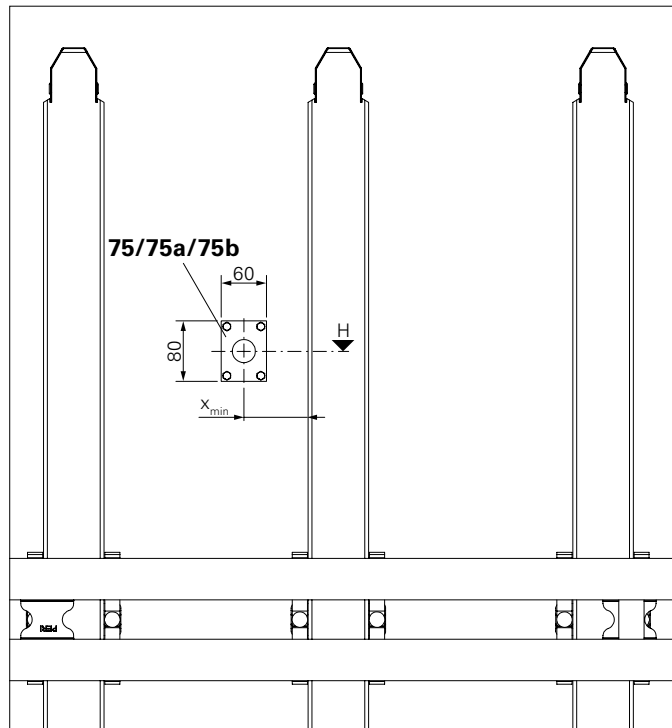


Fig. A1.02

A2.1 System Dimensions

Position of Spindle Connector

The position of the Spindle Connector (9.1) h_{Sp} and the position of the steel waler of the formwork must be included in the static calculations.

These dimensions are decisive for the bending load of the Strongback (9). (Fig. A2.01)



- The Spindle Connector must be positioned below the middle steel waler.
- Design dimensions must be considered for the project-specific static calculations as these influence the load-bearing capacity.

Regular vertical application:

- h_B concreting height = 4.00 m or 6.00 m
- h_0 static bracket height = 2.58 m / 2.40 m
- c_2 anchor spacing for concrete joints = 35 cm
- h_{nom} anchoring depth of the Climbing Anchor
- a position of bottom formwork waler = 46 cm
- b, c waler spacing or anchor position
- k distance of top waler to concreting joint
- h_F top side of Height Adjusting Unit = 661 mm
- h_{Sp} position of Spindle Connector SCS = $2/3 \times h_s$; ($h_F - h_{Sp} \leq 2.00$ m)
- h_{CP} position of concreting platform
- x_F formwork depth
- L_{TB} length of tie rod
- S spindle length

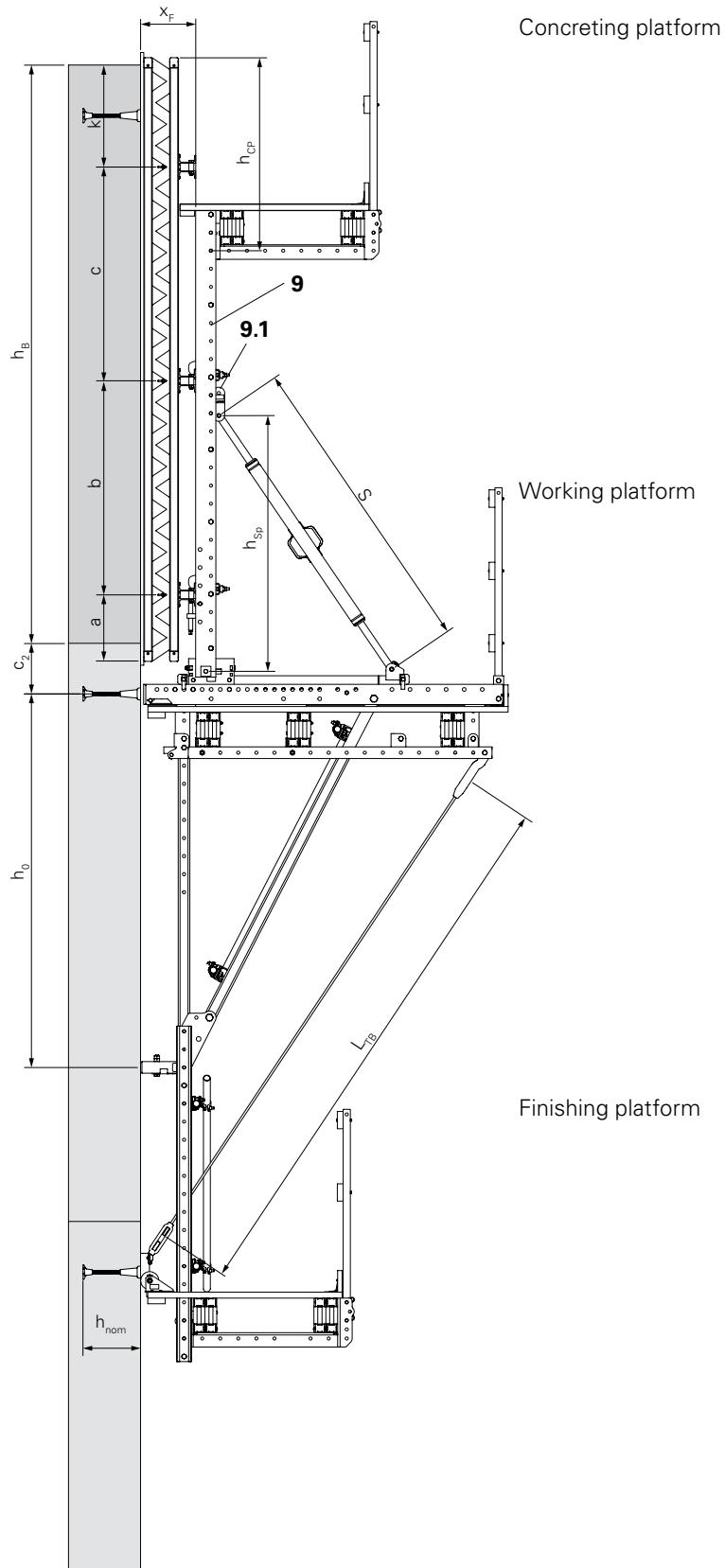


Fig. A2.01

A2.2 Permissible Width of Influence and Bearing Capacity

Standard application (double-sided)

- The permissible width of influence and related bearing reactions are available in the separate "SCS 190 and 250 – Double-Sided Application" dimensioning information.
- Convert the related bearing reactions while taking into account the dead load of the platforms.

Special cases

Determine the static proof for the actual/required width of influence and the related bearing reactions by means of a separate static calculation.

A2.3 Anchor Dimensioning

Climbing Anchor



- In Germany, Building Authority Approval No. Z-21.6-1767 and Z-21.6-1766 are to be taken into consideration for the verification of the load transfer into the concrete.
- For determining the required anchoring depth h_{nom} and concrete strength with specified minimum edge distances, take into consideration the separate "SCS 190 and 250 – Double-Sided Application" dimensioning information.
- If the minimum requirements regarding edge distances, reinforcement or concrete strength are not met, additional investigations for these conditions are required.

The following are to be verified by the project's structural engineer:

- The safe transfer of the anchoring forces into the concrete.
- The safe transfer of all bearing forces into the structure.
- The required concrete strength at which point the platforms can be moved.
- Verification and planning of possible additional reinforcement.

Transfer of forces:

- The bearing force from shear force V is transferred via the pressure on the periphery of the Climbing Cone V_T and Cone V_K into the concrete.
- The horizontal tensile force H is transferred via the pressure on the Threaded Anchor Plate N_A into the concrete. Shear stresses occur in the concrete along a considered breakout cone.
- The permissible tensile and shear forces are limited through the load-bearing capacity of the tie rod, the concrete strength when the load is imposed, edge distances c_2 of the anchoring as well as the anchoring depth h_{nom} . (Fig. A2.02)

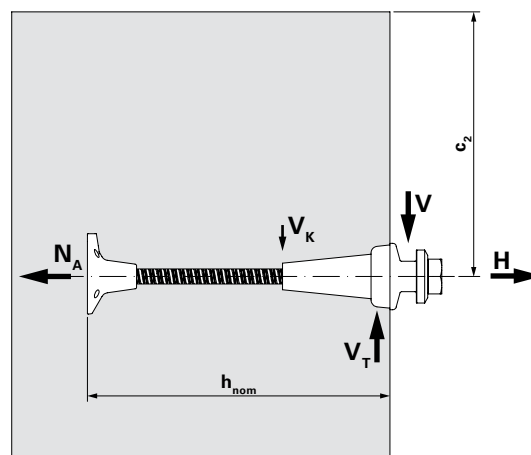


Fig. A2.02

A2.4 Platform Weights

Assembly unit		Formwork height ≤ 4.00 m		Formwork height 4.00 m to 6.00 m	
		SCS 190	SCS 250	SCS 190	SCS 250
		Fig. A2.03	Fig. A2.04	not shown	Fig. A2.05
Bracket Unit weight [kg] ± 200 kg		440	510	580	660
Concreting platform	Platform Beam [kg]	32	32	32	32
	Decking* [kg/m]	60	60	60	60
Intermediate platform	Platform Beam [kg]	–	–	32	32
	Decking* [kg/m]	–	–	60	60
Working platform decking* [kg/m]		90	120	90	120
Intermediate finishing platform	Platform Beam [kg]	–	–	32	32
	Decking* [kg/m]	–	–	60	60
Finishing platform	Platform Beam [kg]	32	32	32	32
	Decking* [kg/m]	60	60	60	60
Formwork [kg/m²]		60	60	60	60

* The values can deviate depending on the decking. Take into account the project-specific planning.

Example: SCS 250

VARIO GT 24 Girder Wall Formwork, formwork height $h_s = 4.20$ m

Platform length $L = 5.00$ m

Concreting platform available

Finishing platform available

(Fig. A2.04)

Formwork area = $4.00 \text{ m} \times 5.00 \text{ m} = 20 \text{ m}^2$

Weight of the platform =

$$(2 \times 510 \text{ kg} + 5 \text{ m} \times 120 \text{ kg/m}) + (2 \times (60 \text{ kg/m} \times 5 \text{ m} + 2 \times 32 \text{ kg})) + (20 \text{ m}^2 \times 60 \text{ kg/m}^2) = 1620 \text{ kg} + 728 \text{ kg} + 1200 \text{ kg} = 3548 \text{ kg} \pm 200 \text{ kg}$$

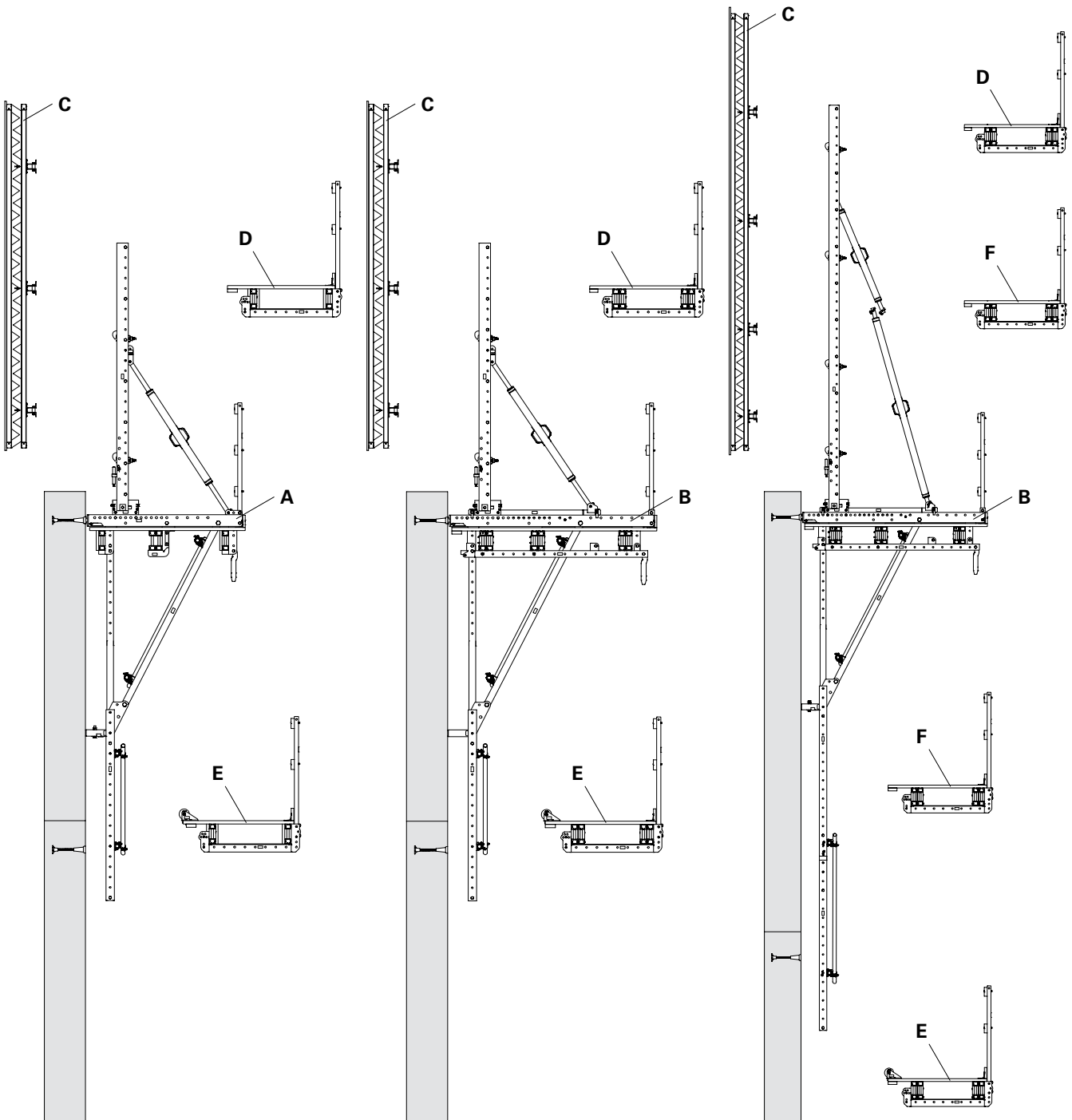


Fig. A2.03

Fig. A2.04

Fig. A2.05

Key

- A** Bracket Unit SCS 190
- B** Bracket Unit SCS 250
- C** Formwork
- D** Concreting platform
- E** Finishing platform
- F** Intermediate platform

B1.1 Working Platform SCS 190



- Provide and prepare an appropriate area for the assembly.
- Minimum width: standard planks = 240 mm. Cut planking ≥ 100 mm (compensation).
- Minimum thickness of planking: 40 mm.
- The bracket spacing c and cantilevers d_1 and d_2 as well as the complete length L are provided in the planning details.

(Fig. B1.01)

SCS 190 components

1	Crossbeam Unit SCS 190	2x
4	Bolt ISO 4014 M20 x 130-8.8	2x
5	Nut ISO 7042 M20-8	2x
6	Girder Support RCS	2x
21	Tension Anchor Connector CB/SCS	2x
36	Lattice Girder GT 24 as platform beam	4x
42	Hex. Wood Screw DIN 571 8 x 60	8x
44	TSS-Torx 6 x 80 (per plank)	8x
45	TSS-Torx 6 x 40 (per Toe Board Angle)	8x
46	F.H. Bolt DIN 603 M8 x 45 MU	2x
48	F.H. Bolt DIN 603 M8 x 180 MU	4x
49	Washer ISO 7094 200 HV A 8	4x
54	Toe Board Angle 90° reinforced	4x
55	Planking 40 x 240 mm	-
56	Toeboard 30 x 150 mm Covering – 4 mm Plywood formlining	2x

Item no. – see Component Overview and Tool List

Preparation

Cut planking (55) to a length of 1890 mm.

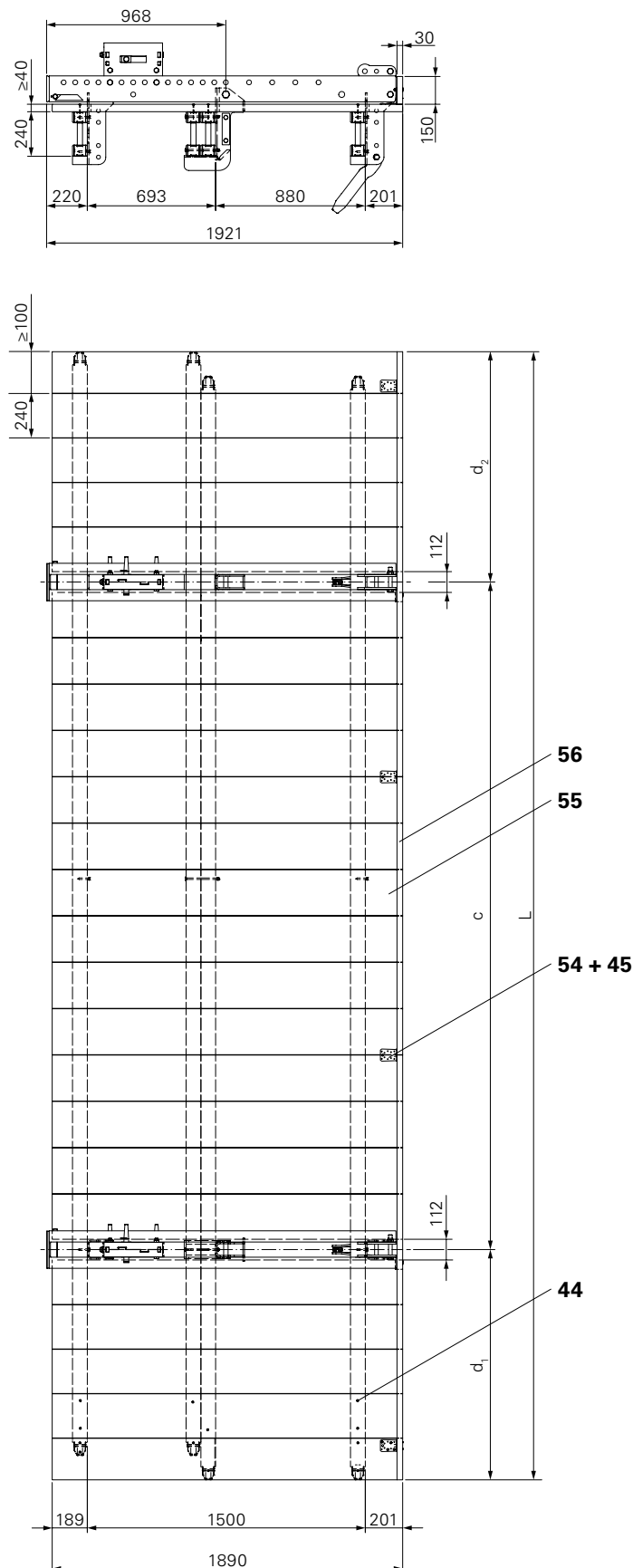


Fig. B1.01



Warning

When assembling without any fixation, the Crossbeam Unit can tip over!
Risk of injury.
⇒ Secure the Crossbeam Unit.
⇒ Use assembly aids.

Connecting the Crossbeam Unit and Girder Support

1. Position the Crossbeam Unit SCS 190 (1) on support timbers and then align.
2. Attach Girder Support RCS (6) to the Crossbeam Unit SCS 190 (1) using bolts M24 x 130 (6.1) and nuts M24 (6.2).
3. Secure Tension Anchor Connector (21) using bolts M24 x 130 (4) and nuts M24 (5).

(Fig. B1.02a + B1.02b)

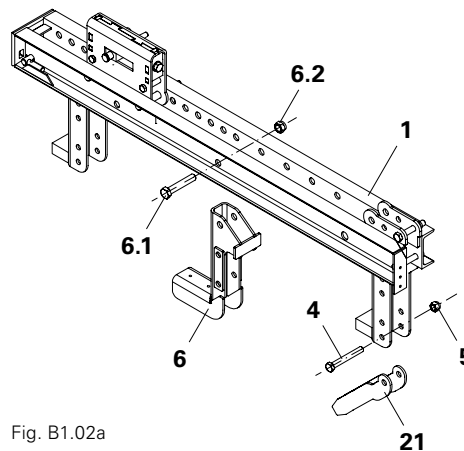


Fig. B1.02a

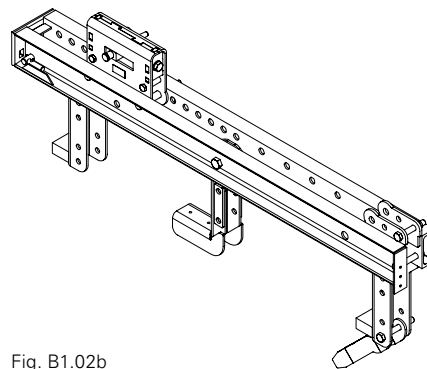


Fig. B1.02b



Alternative wind bracing with Tension Belt (Item no. 051250):
Fix bolts M24 x 130 (4) and nuts M24 (5) directly on Crossbeam Unit (1).
(not shown)
Create a separate static calculation.



During prefabrication with subsequent transportation, PERI recommends drilling through the beams and using carriage bolts.

Mounting the Platform Beams

1. Fix the Platform Beam (36) to both Tension Belts using 2x hex. wood screws DIN 571 8 x 60 (42) on the outside of the Crossbeam Unit SCS 190 (1) – 2x respectively.
2. Drill through both Platform Beams (36) of the middle Girder Support (6) using $\varnothing 8$ mm laterally spaced at distance c and below with spacings of 30 and 180 mm.
Secure Platform Beam (36) on both Tension Belts using F.H. bolts DIN 603 M8 x 180 (48) and washers ISO 7094 200 HV A 8 (49) to the Girder Support (6).

(Fig. B1.03)

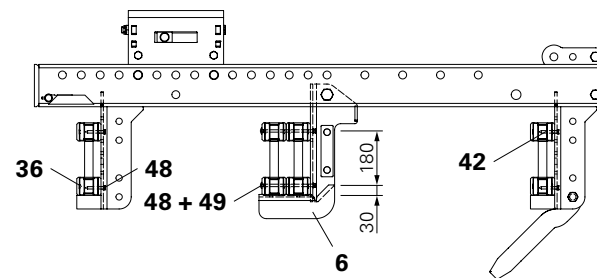


Fig. B1.03



If country-specific standards require a different decking, chipboard panels can be used instead of planking.

Mounting the planking

1. Place planking at right angles on the Platform Beam (36) starting with the planks (55) next to the Crossbeam Unit SCS 190 - width may have to be cut to required size.
2. Fix each plank (55) to the Platform Beam (36) using 4x TSS Torx 6 x 80 (44) respectively – 2x when crossing the lattice girder.
3. Place Toeboard (56) on the planking.
4. Fix Toeboard on the Crossbeam:
 - Pre-drill (Ø 8 mm) Toeboard.
 - Fix Toeboard with F.H. bolt DIN 603 M8 x 45 (46) to the Crossbeam.
 - Fix Toeboard to cantilevers and between the Crossbeams using Timber Angle Connectors 90° reinforced, and Torx 6 x 40 (45) to the platform.
5. Close gaps in the decking below the Crossbeam with 4 mm thick formlining strips or boards. Leave open gaps for anchor positions and diagonal struts.

(Fig. B1.04)

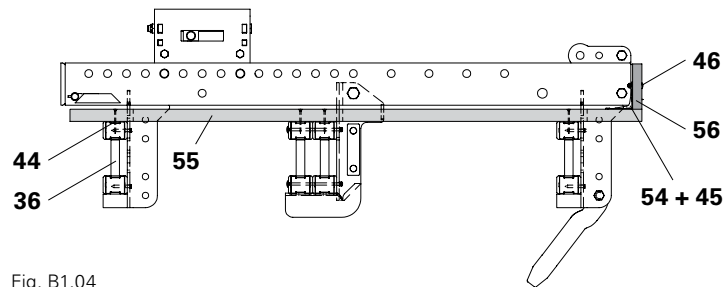


Fig. B1.04

B1.2 Working Platform SCS 250



- Provide and prepare an appropriate area for the assembly.
- Minimum width: standard planks = 240 mm.
Cut planking ≥ 100 mm (compensation).
- The bracket spacing c and cantilevers d_1 and d_2 as well as the complete length L are provided in the planning details.

SCS 250 components

2	Crossbeam Unit SCS 250	2x
3	Platform Beam Support SCS	2x
4	Bolt ISO 4014 M20 x 130-8.8	2x
5	Nut ISO 7042 M20-8	2x
21	Tension Anchor Connector CB/SCS	2x
36	Lattice Girder GT 24 as platform beam	6x
38	Girder Fixation M20	4x
44	TSS-Torx 6 x 80 (per plank)	12x
45	TSS-Torx 6 x 40 (per Toeboard Angle)	8x
	(per Beam Fixation M20)	16x
46	F.H. Bolt DIN 603 M8 x 45 MU	2x
48	F. H. Bolt DIN 603 M6 x 180 MU	12x
49	Washer ISO 7094 200 HV A 8	4x
54	Toeboard Angle 90° reinforced	10x
55	Planking 40 x 240 mm	-
56	Toeboard 30 x 150 mm	1x
62	Plank L x 40 x 120 mm	1x
	Covering – 4 mm	
	Plywood formlining	2x

Item no. - see Component Overview and Tool List

Preparation

- Cut planking (55) to a length of 2491 mm.
- Cut formlining strips (44) to size.
Dimensions:
 $d \times w \times h = 27 \times 120 \times 130$ mm.
- Remove cotter pins (3.2) with bolts (3.1) and screws (2x 3.3 + 1x 3.5) from the Platform Beam Support (3).

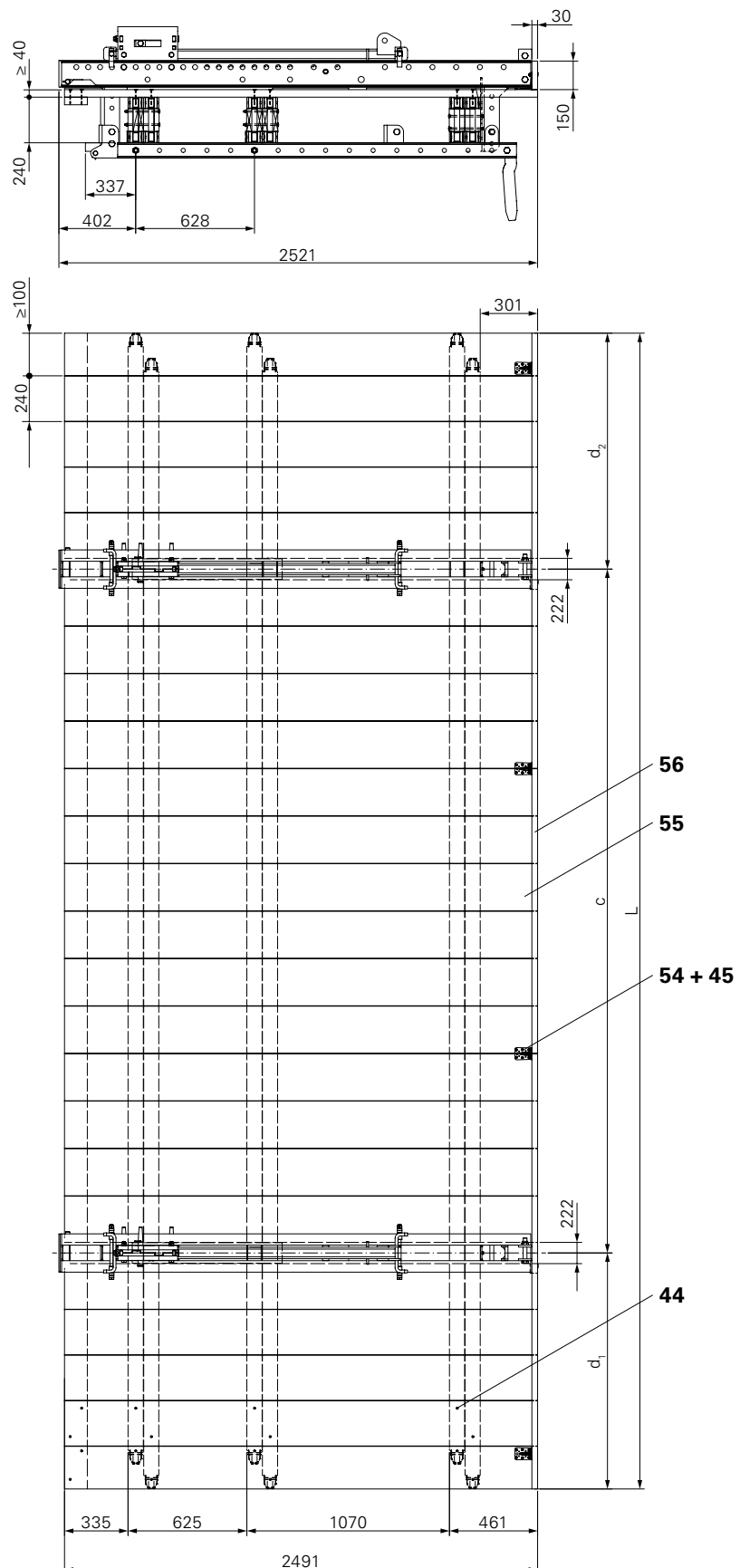


Fig. B1.05

Connecting the Cross Beam and Platform Beam Support

1. Position Platform Beam Support SCS (3) on an assembly platform.
 2. Lift the Crossbeam Unit SCS 250 (2) with the U-profile (2.12) firstly into the connection lug (3.9) and then with the U-profile (2.12) into the connection plates (3.8) of the Platform Beam Support SCS (3).
 3. Secure the Platform Beam Support SCS (3):
 - on the side of the carriage (2.11) using bolts 12 x 146 (3.1) and cotter pins 4/1 (3.2).
 - on the opposite side using bolts ISO 4014 M20 x 170 (3.5) and nuts ISO 7040 M20-8 (3.4).
 4. Secure Tension Anchor Connector (21) using bolts M24 x 130 (4) and nuts M24 (5).
- (Fig. B1.06 + B1.07)



Alternative wind bracing with Tension Belt (Item no. 051250):
 Fix bolts M24 x 130 (4) and nuts M24 (5) directly on Crossbeam Unit (1).
 (not shown)
 Create a separate static calculation.

Mounting the Platform Beams

1. Secure Girder Fixation M20 (38) to the Platform Beam Support SCS (3) using bolts ISO 4014 M24 x 130-8.8 (38.1) and nuts ISO 7040 M24-8 (38.2) – 2x. (Fig. B1.08)
2. Place Platform Beam (36) in the Girder Fixation M20 (38) – 2x.
3. Secure Platform Beams (36) using TSS Torx 6 x 40 (45) – 4x per Girder Fixation M20 (38) respectively.
4. Align components at right angles to each other. (Fig. B1.09)

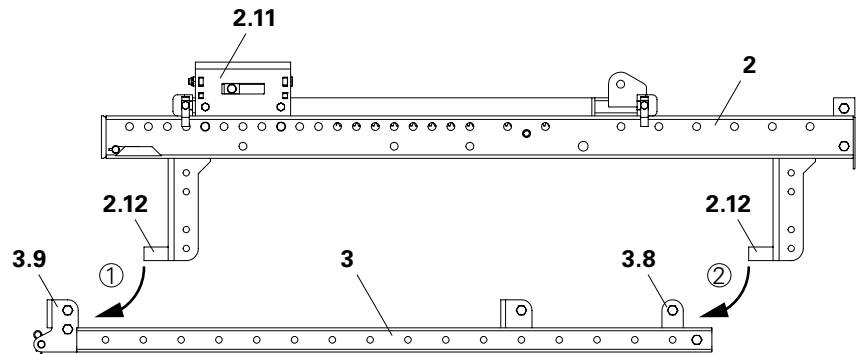


Fig. B1.06

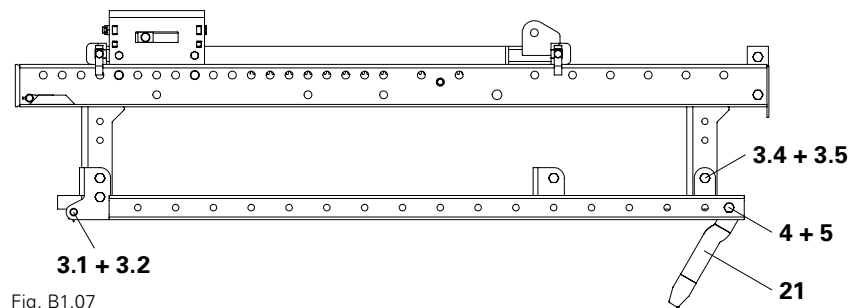


Fig. B1.07

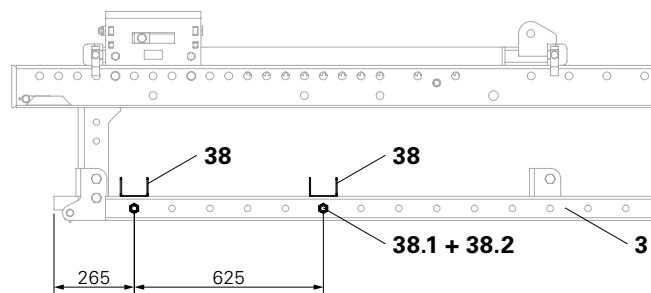


Fig. B1.08

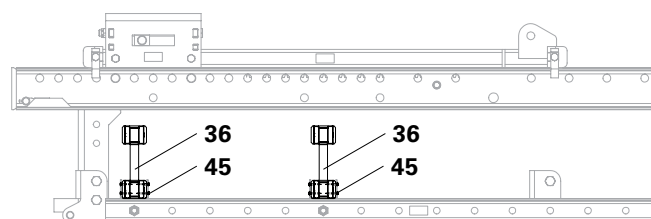
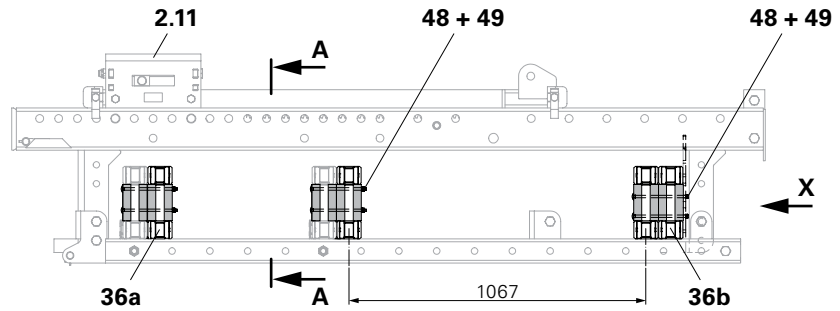
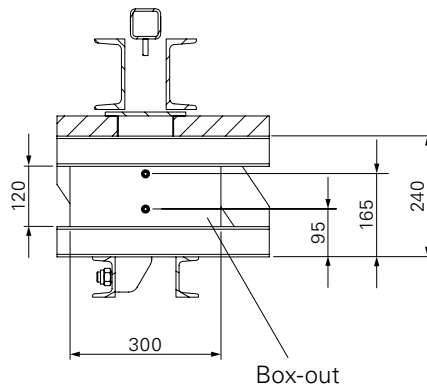


Fig. B1.09

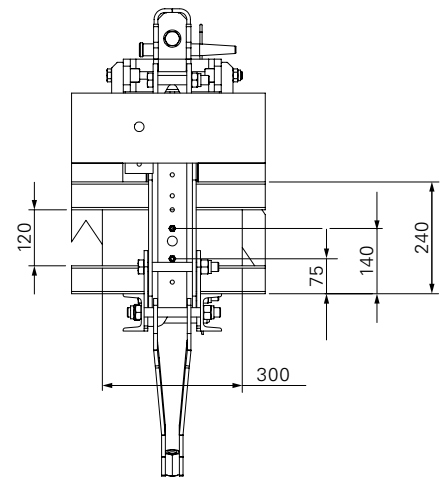
5. Position box-out (300 x 120 x 26) on Platform Beam.
6. Place additional Platform Beams (36a) on the existing one and pre-drill with $\varnothing 8$ mm, laterally spaced at distance c and below with spacings of 95 and 165 mm. (Fig. B1.10a)
6. Secure Platform Beams using F.H. bolt DIN 603 M8 x 180 (48) and washers ISO 7094 200 HV A 8 (49).
8. Position two lattice girders on the opposite side of the carriage (2.11) and pre-drill with $\varnothing 8$ mm, laterally spaced at distance c and below with 65 and 140 mm spacings. (Fig. B1.10b)
9. Secure Platform Beams (36b) on both Tension Belts using F.H. bolt DIN 603 M8 x 180 (48) and washers ISO 7094 200 HV A 8 (49). (Fig. B1.10)



Section A - A

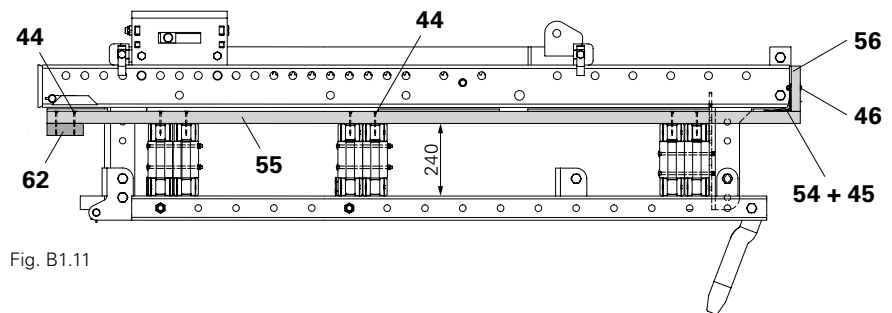


View X



Mounting the planking

1. Place planking at right angles on the Platform Beam (36) starting with the planks (55) next to the Crossbeam Unit SCS 190 - width may have to be cut to required size.
 2. Fix each plank (55) to the Platform Beam (36) using 4x TSS Torx 6 x 80 (44) respectively – 2x when crossing the lattice girder.
 3. Place Toeboard (56) on the planking.
 4. Fix Toeboard to the Crossbeam:
 - Pre-drill (\varnothing 8 mm) Toeboard.
 - Fix Toeboard with F.H. bolt DIN 603 M8 x 45 (46) to the Crossbeam.
 - Fix Toeboard to cantilevers and between the Crossbeams using Angle Connectors 90° reinforced, and Torx 6 x 40 (45) to the platform.
 5. Close gaps in the decking below the Crossbeam with 4 mm thick form-lining strips or boards. Leave open gaps for anchor positions and diagonal struts.
 6. Attach additional planks L x 40 x 120 mm (62) to the planking (55) on the wall side using Torx 6 x 80 (44).
- (Fig. B1.11)



B1.3 Hatch Installation



- Minimum plank width 120 mm.
- Install hatch directly next to the bracket. As a result, the ladder descent is between the horizontal and diagonal scaffold tube bracing of the bracket unit and then keeping to the spindle when climbing upwards.

For the transition between the platforms, hatches must be mounted.

Components

45	TSS-Torx 6 x 40	20x
50	Washer ISO 7094 100 HV, A 8	8x
82	Hatch RCS 55 x 60-2, foldable	1x
alternatively:		
	Hatch 55 x 60, foldable	1x
	Sliding hatch*	1x
96	F.H. Bolt DIN 603 M8 x 100 MU	8x
101	TSS-Torx 6 x 60	8x
107	Planking L ~ 125 cm, min. 120 x 140 mm	2x

*Important! The recess of the sliding hatch in the decking has a different size. Details are available on request.

Preparation

- Cut recess 72 x 57 cm between the Crossbeams in the planking.
Remaining planking width on Crossbeam: 10 cm.
- Place planking (107) laterally on both sides under the pieces of planking.
→ Support
- Pre-drill end-to-end planking (min. 24 cm wide) and planks (107) with \varnothing 8 mm: 4x in each case.
- Secure planks (107) and continuous planking (55a) from above using 4x F.H. bolt DIN 603 M8 x 100 MU (96) and washers ISO 7094 100 HV, A 8 (50).
- Secure planking (55b) and planks (107) from above using 2x Torx 6 x 60 (101) respectively.

(Fig. B1.12 + B1.12a)

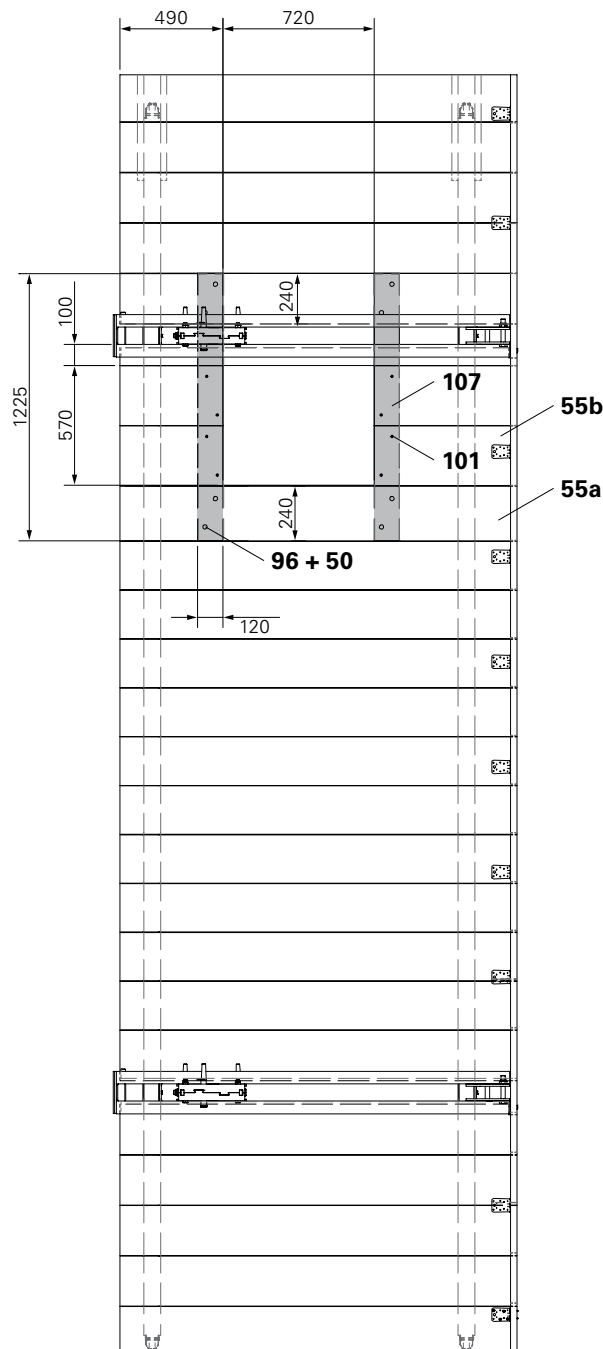
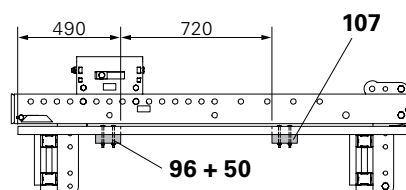


Fig. B1.12



→ Fig. B1.12a

Assembly

1. Place Hatch RCS 55 x 60-2, foldable (82) in the prepared recess. The opened hatch cover (82.1) points towards the wall side. (Fig. B1.13a)
2. Secure frame of the hatch and decking using approx. 16x TSS Torx 6 x 40 (45) (2 per plank). (Fig. B1.13b)



Mount hatches and access ladders on the corner platforms.
→ Free access to the hatch is possible.

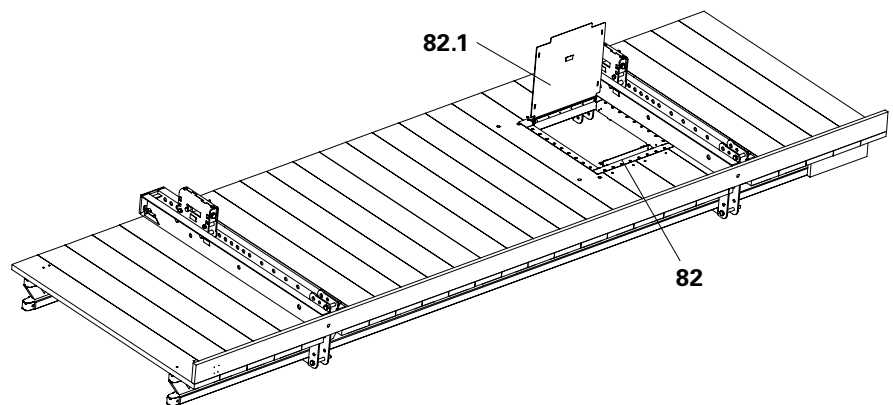


Fig. B1.13a

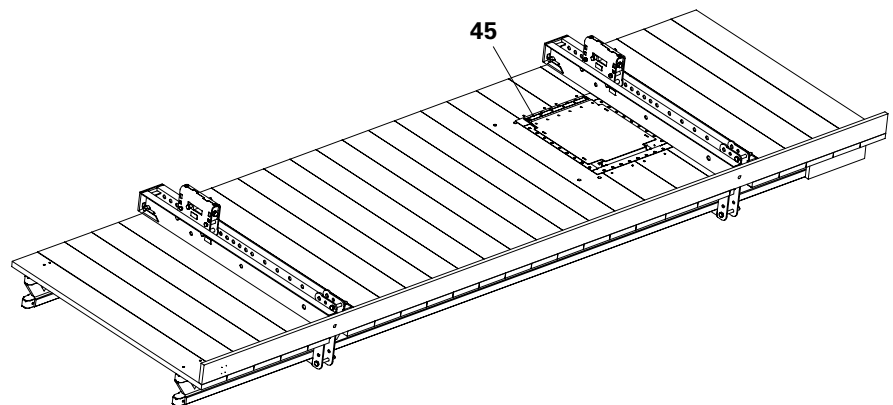


Fig. B1.13b

B1.4 Mounting the Brackets

Mount the bracket components on the working platform.
(Fig. B1.14a + B1.14b)



- Depending on the planned static height h_0 , take into consideration the different M30 bolt positions for connecting the Crossbeam Unit SCS and Diagonal Strut SCS 257 to the Vertical Strut SCS 237.
- Crossbeam Unit SCS 250 is shown here for the assembly of the brackets.
- Provide and prepare an appropriate area for the assembly.

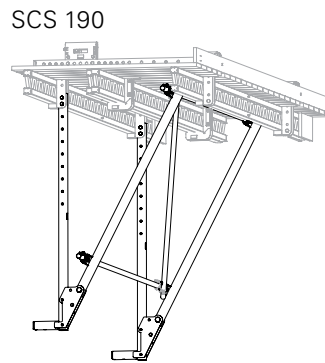


Fig. B1.14a

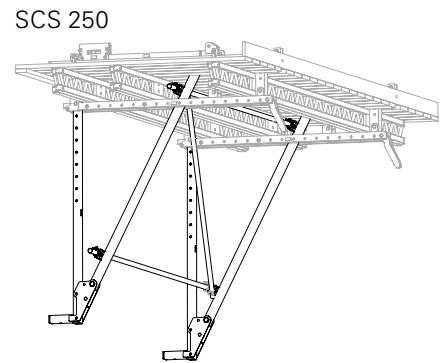


Fig. B1.14b

Bracket components

7	Vertical Strut SCS 237	2x
8	Diagonal Strut SCS 257	2x
97	Scaffold Tube Steel Ø 48.3 x 3.2, Special Length	3x
98	Swivel Coupling DK 48/48	2x

Preparation

Loosen bolts and nuts and place to one side:

- 4x M20 on the Vertical Strut (7)
- 2x M30 on the Diagonal Strut (8)
- for the SCS 250, 2x M20 on Platform Beam Support (3)



For working platform with hatch, secure the diagonal scaffolding tube at the top next to the hatch. This will prevent a collision with the ladder (see Section B5).

Assembly

1. Place Vertical Struts SCS 237 (7) at the assembly level (support height = 260).
2. Attach crane lifting crane to the spindle connection of Carriage SCS 250 (2.1) or Crossbeam Unit SCS 190.
 - Insert fitting pins $\varnothing 26 \times 120$ in the holes of the spindle connection and secure with cotter pins 5/1.
 - Attach crane lifting gear to the fitting pins.
3. Lift the working platform and place the Crossbeam Unit at the top end of the Vertical Strut SCS 237 (7). Support crossbeam head against tipping the unit with a 2-cm board.
4. Fix Vertical Struts SCS 237 (7) on the Platform Beam Support SCS (3) using bolts ISO 4014 M20 x 160 (3.3) and nuts ISO 7040 M20-8 (3.4). (Fig. B1.15a + B1.16a)
5. Fix Diagonal Struts (8) to the Crossbeam Unit (2) and on the Vertical Strut SCS 237 (7) using bolts M30 x 140-8.8 (8.1) and hex. nuts MU ISO 7040 M30-8 (8.2). (Fig. B1.15b + B1.16b)
6. Release crane lifting gear.
7. Fix two Scaffold Tubes Steel $\varnothing 48.3 \times 3.2$ (97a) parallel to the Screw-On Couplings AK 48 (8.3).
8. Diagonally fix Scaffold Tubes Steel $\varnothing 48.3 \times 3.2$ (97b) to the horizontal scaffold tubes using Swivel Couplings DK 48/48 (98). (Fig. B1.15 or B1.16)

Bracket $h_0 = 2.58 \text{ m}$

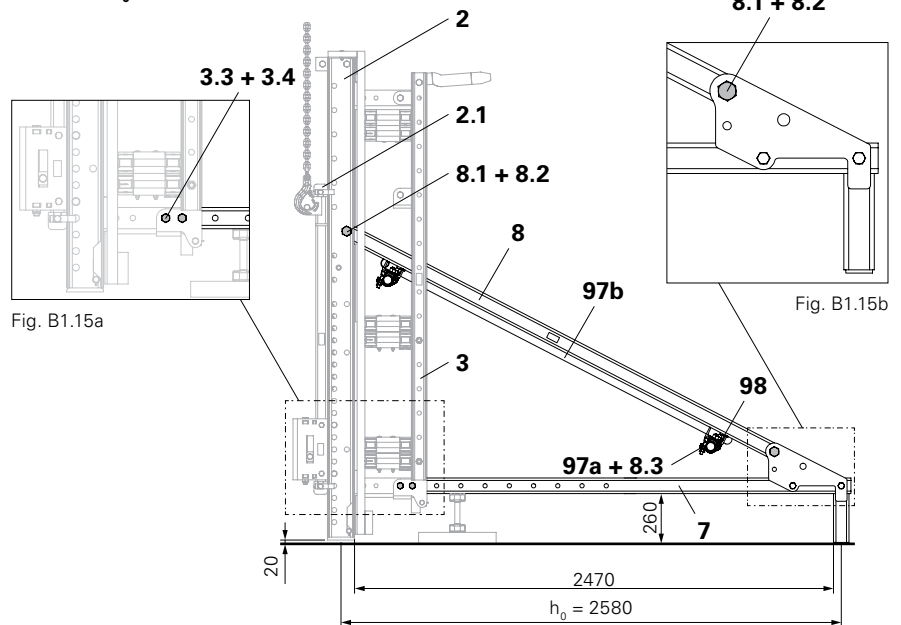


Fig. B1.15

Bracket $h_0 = 2.40 \text{ m}$

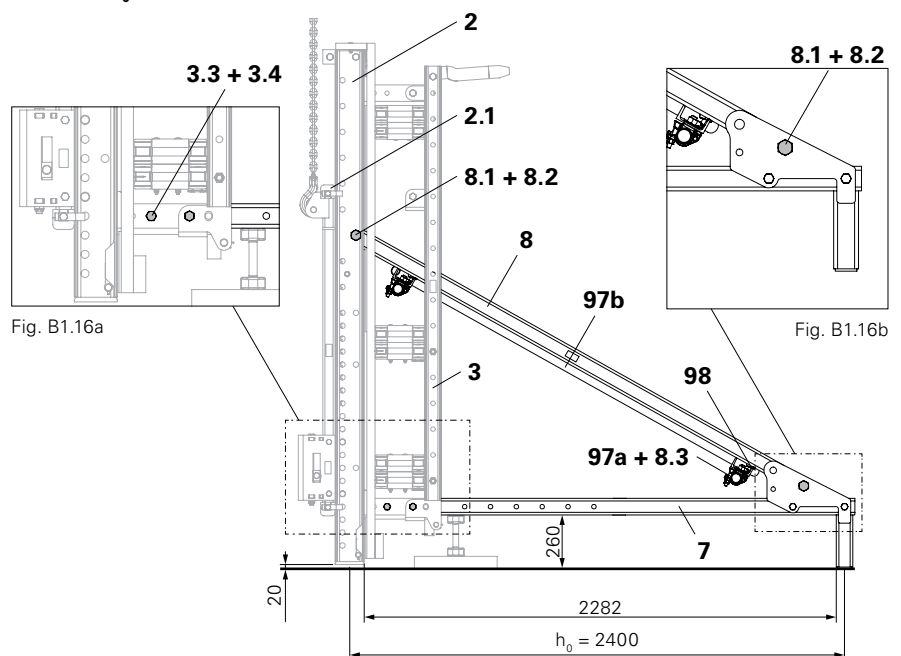


Fig. B1.16

B1.5 Guardrails



There are two options for anti-fall protection:

- Standard handrail boards: 40 x 120 mm.
- Fix standard scaffold tubes: \varnothing 48 x 3.2 mm to: Guardrail Connector CB.
- The Crossbeam Unit SCS 250 is shown here for assembly. (Fig. B1.17a + B1.17b)

Preparation

1. Remove 2x fitting pins \varnothing 26 (2.8) and cotter pins 5/1 (2.9) from the marked positions on the Adjusting Unit SCS (2.11). (Fig. B1.18a)
2. Insert fitting pins \varnothing 26 (2.8) into the holes on the Crossbeam and secure with cotter pins 5/1 (2.9). (Fig. B1.18a + B1.18b)
3. Attach crane lifting gear to the fitting pins. (Fig. B1.18)

SCS 190

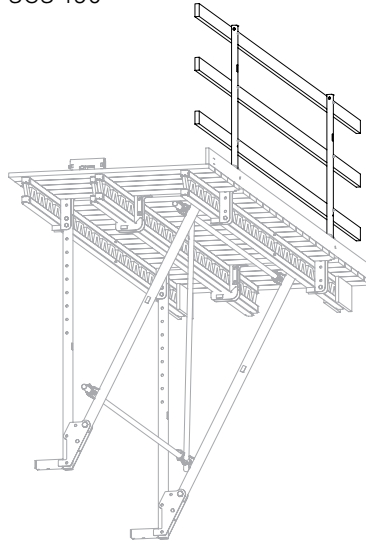


Fig. B1.17a

SCS 250

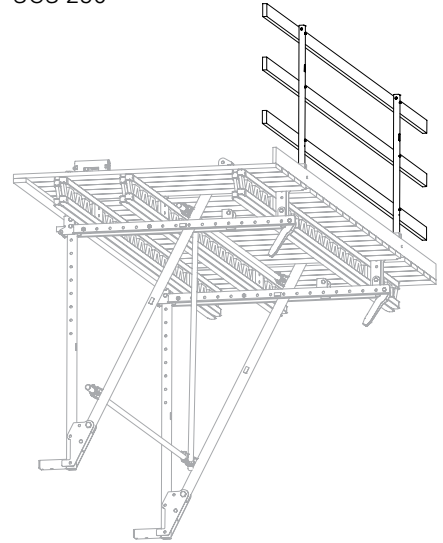


Fig. B1.17b

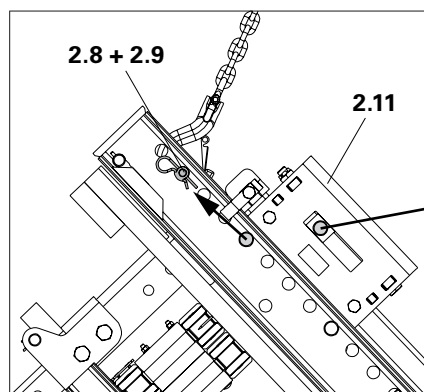


Fig. B1.18a

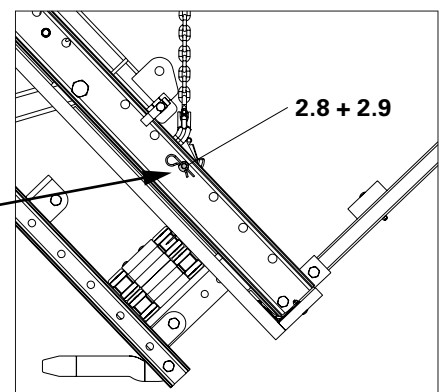


Fig. B1.18b

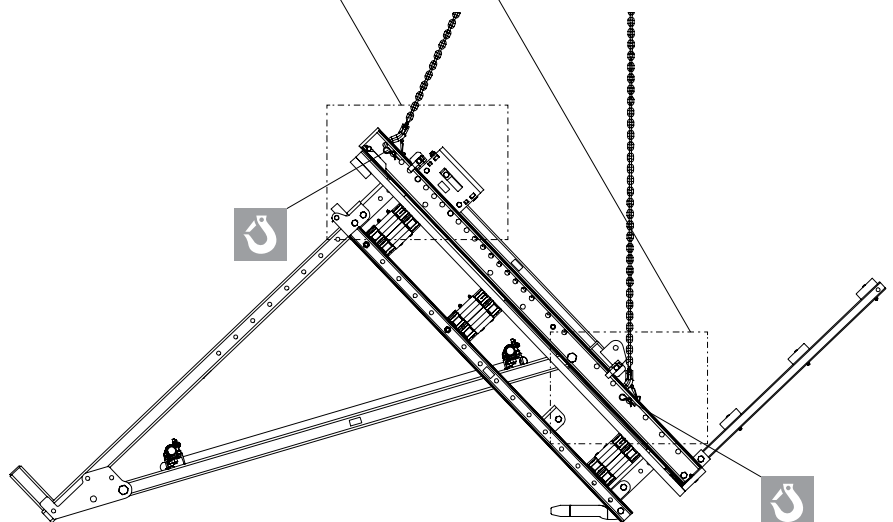


Fig. B1.18

Mounting the Handrail Boards

Components per platform

57	Guardrail Post SCS 150	2x
96	F.H. Bolt DIN 603 M8 x 100 MU	6x
107	Planks L x 12 x 4 cm	3x

Assembly

1. Fix Guardrail Post SCS 150 (57) to Crossbeam Unit SCS 250 (2) using bolts ISO M20 x 120-8.8 (2.6) and nuts ISO 7040 M20-8 (2.7).
2. Position plank L x 12 x 4 cm (107) on Guardrail Post SCS 150 (57).
3. Pre-drill board (Ø 8 mm).
4. Connect Guardrail Post SCS 150 (57) and planks L x 12 x 4 cm (107) using F.H. bolt DIN 603 M8 x 100 MU (96). (Fig. B1.19a)

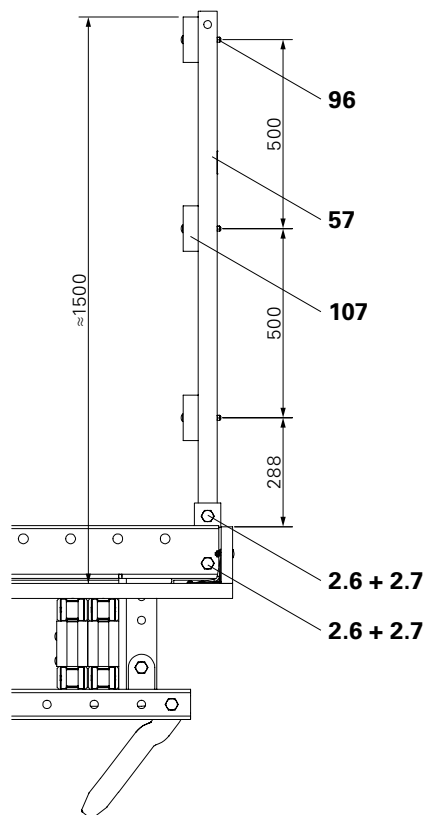


Fig. B1.19a

Mounting the Scaffold Tubes

Components per platform

49	Washer ISO 7094 200 HV A8	6x
57	Guardrail Post SCS 150	2x
63	Guardrail Connector CB	6x
96	F.H. Bolt DIN 603 M8 x 100 MU	6x
97	Scaffold Tube Steel Ø 48.3 x 3.2, Special Length	3x

Assembly

1. Fix Guardrail Post SCS 150 (57) to Crossbeam Unit SCS 250 (2) using bolts ISO M20 x 120-8.8 (2.6) and nuts ISO 7040 M20-8 (2.7).
2. Mount Guardrail Connector CB (63) to Guardrail Post SCS 150 (57) using F.H. bolt DIN 603 M8 x 100 MU (96) and washer ISO 7094 200 HV A8 (49).
3. Position Scaffold Tube Steel (97) and secure. (Fig. B1.19b)

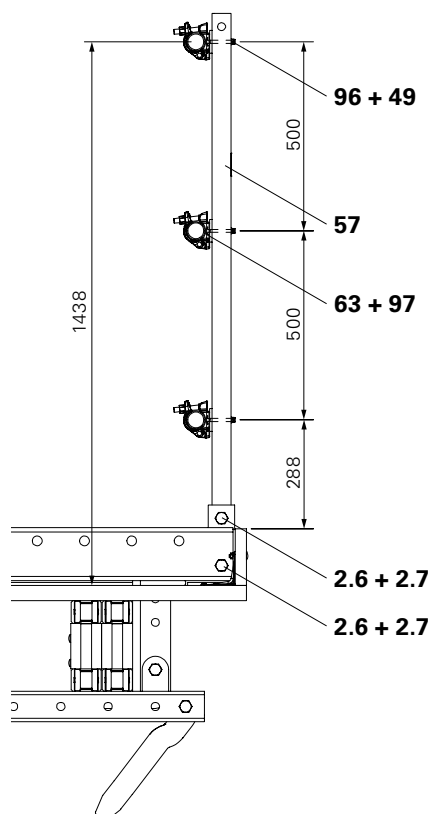


Fig. B1.19b

B1.6 Finishing Platforms, Concreting Platforms and Intermediate Platforms



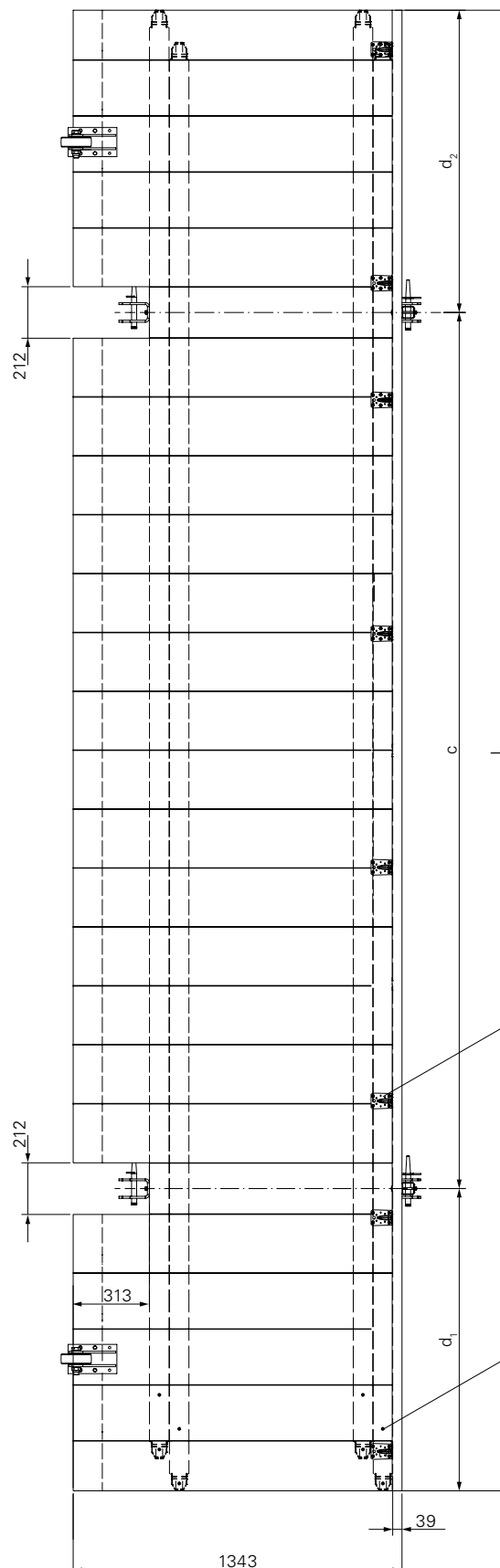
- The number of platforms is given in the project-specific planning.
- Provide and prepare an appropriate area for the assembly.
- Minimum width: standard planks = 240 mm. Cut planking ≥ 100 mm (compensation).
- Minimum thickness of planking: 40 mm.
- The bracket spacing c and cantilevers d_1 and d_2 and the complete length L are provided in the planning details.

Components per platform

15	Start Roller ACS (only finishing platform)	2x
17	Platform Beam SCS 120	2x
36	Lattice Girder GT 24 as platform beam	4x
44	TSS-Torx 6 x 80 (per plank)	4x
45	TSS-Torx 6 x 40 (each Toe Board Angle 90° reinforced)	8x
48	F. H. Bolt DIN 603 M6 x 180 MU	8x
54	Toe Board Angle 90° reinforced	13x
55	Planking 40 mm	–
56	Toeboard 30 x 150 mm	1x
57	Guardrail Post SCS 150	2x
99	Fitting Pin $\varnothing 21$ x 120	4x
100	Cotter Pin 4/1	4x

Preparation

Cut planking (55) to a length of 1343 mm.



Detail B

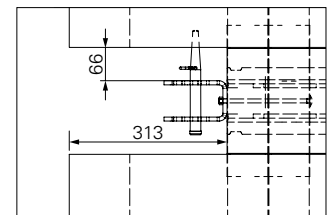


Fig. B1.20a

Fig. B1.20

Assembly

1. Position box-out (300 x 120 x 26) on Platform Beam.
2. Drill through Platform Beam (36) with \varnothing 8 mm.
3. Secure Platform Beam (36) on Platform Beam SCS 120 (17) using F.H. bolts DIN 603 M8 x 180 (48) and washers ISO 7094 200 HV A 8 (49).
4. Rectangularly align Platform Beam SCS 120 (17) (check diagonal dimensions).
5. Place planking at right angles on the Platform Beam (36) starting with the planks (55) next to the Platform Beam SCS 120.
6. Fix each plank (55) to the Platform Beam (36) using 4x TSS Torx 6 x 80 (44) respectively - 2x when crossing the lattice girder.
7. Place Toeboard (56) on the planking.
8. Fix Toeboard with Angle Connectors 90° reinforced (54) and Torx 6 x 40 (45) to the platform.
9. Leave open gaps for platform posts.
10. Attach additional planks L x 12 x 4 mm (107) to the planking (55) on the wall side using Torx 6 x 80 (44).
11. Install Guardrail Post SCS 150 using 2x fitting pins \varnothing 21 x 120 (99) respectively and secure with cotter pins 4/1 (100).
12. Fix Guardrails, see Section B1.5.
13. On the finishing platform, fix 2x Start Rollers (21) on the planking (55) using 4x wood screws DIN 571 8 x 80 (43).

(Fig. B1.21 + B1.21a – c)

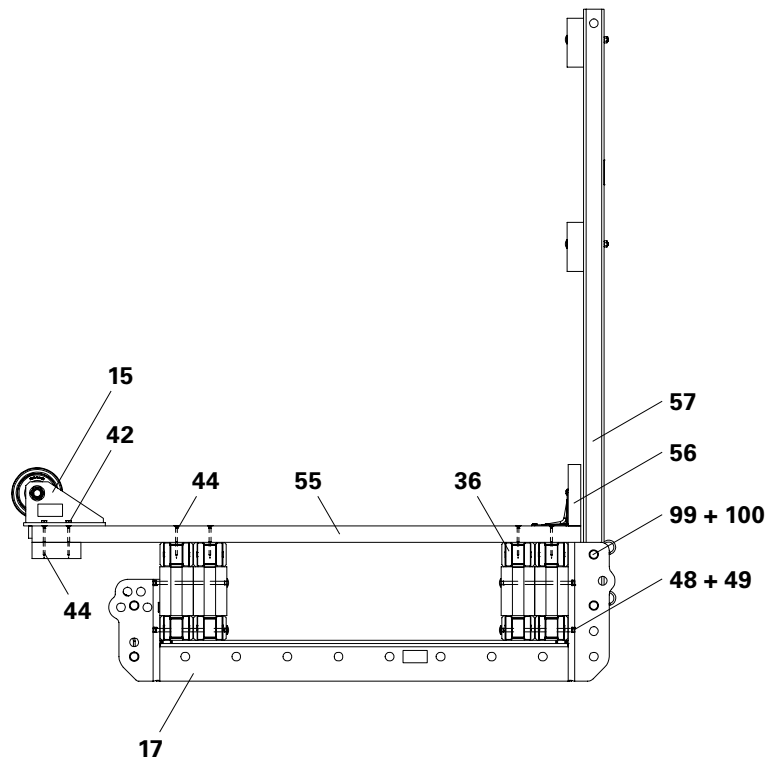


Fig. B1.21b

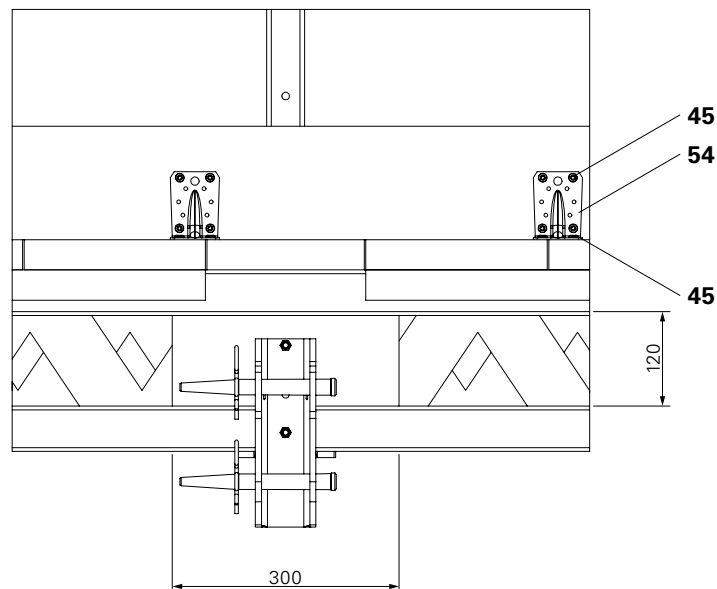


Fig. B1.21c

B1.7 Finishing Platform Unit



- Secure finishing platform unit against tipping.
- Assembly of finishing platform units without intermediate finishing platform or with a Platform Post Double SCS 232 in the same way.
- Place Platform Post Double SCS 232 (18) on suitable timbers (e.g. 30 x 40 cm) and position.

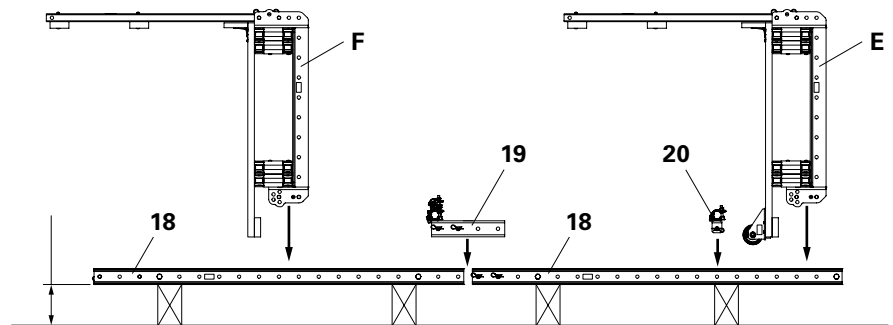


Fig. B1.22

Components

E Finishing platform	1x
optional:	
F Intermediate platform	1x
18 Platform Post Double SCS 232	2x
19 Platform Post Connector SCS	1x
20 Scaffold Tube Coupling SCS 48	2x
97 Scaffold Tube Steel Ø 48.3 x 3.2, Special Length	3x
98 Swivel Coupling DK 48/48	2x

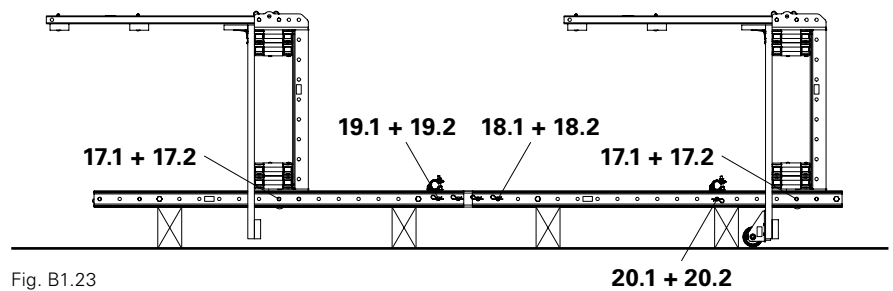


Fig. B1.23

Assembly

1. Connect the Platform Post Double SCS 232 (18) and Platform Post Connector (19) using pre-mounted fitting pins Ø 21 x 120 (18.1 + 19.1) and cotter pins 4/1 (18.2 + 19.2).
2. Mount the Scaffold Tube Coupling SCS 48 (20) on the Platform Post using fitting pins Ø 21 x 120 (20.1) and cotter pins 4/1 (20.2).
3. Mount finishing platform (E) on the Platform Post Double SCS 232 (18) using fitting pins Ø 21 x 120 (17.1) and cotter pins 4/1 (17.2).

optional:

4. Mount finishing platform (F) on the Platform Post Double SCS 232 (18) using fitting pins Ø 21 x 120 (17.1) and cotter pins 4/1 (17.2).

(Fig. B1.22 + B1.23)

Mounting the bracing

1. Fold down Guardrail Post SCS 150 to the rear and re-insert fitting pins $\text{Ø} 21 \times 120$ and secure with cotter pins 4/1.
2. Fix 1x Scaffold Tube Steel $\text{Ø} 48.3 \times 3.2$ (97a) respectively to the Scaffold Tube Connectors SCS 48 (20).
3. Diagonally fix Scaffold Tubes Steel $\text{Ø} 48.3 \times 3.2$ (97b) to the horizontal scaffold tubes using Swivel Couplings DK 48/48 (98).
(Fig. B1.24a + B1.24b)

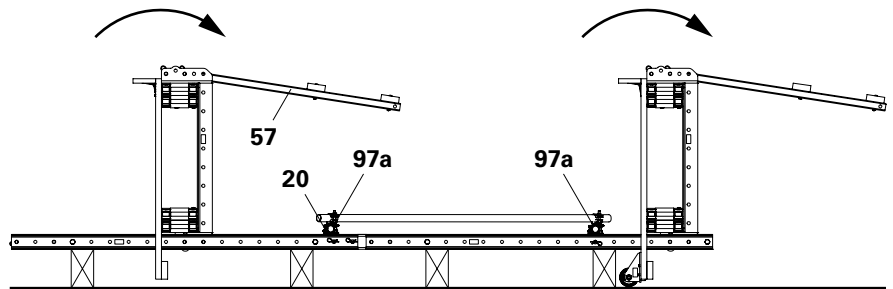


Fig. B1.24a

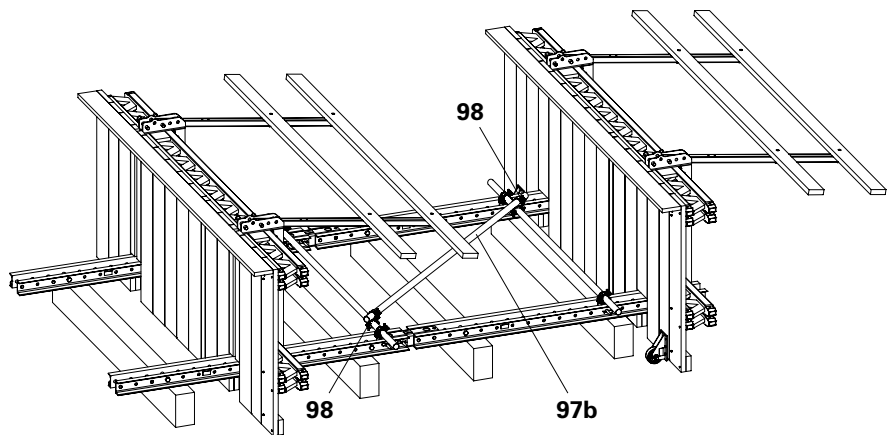


Fig. B2.24b

B1.8 End Guardrail



- Lateral side protection is required to be installed on all end platforms without adjacent platforms.
- For alternative fixing possibilities: see PI Sheet 375.
- The length of the guardrails and toeboards must correspond to the width of the platforms.
- If the offset of the Platform Beam is not sufficient, the Guardrail Post Holder Multi must be assembled in advance. (Fig. B1.25a)

Components

46	F.H. Bolt DIN 603 MB x 45 MU	2x
49	Washer ISO 7094 200 HV, A8	2x
56	Toeboard 30 x 150 mm	1x
57	Guardrail Post SCS 150	2x
59	Guardrail Post Holder Multi	2x
99	Fitting Pin Ø 21 x 120	4x
100	Cotter Pin 4/1	4x
101	TSS-Torx 6 x 60	24x

Assembly

1. Fix Guardrail Post Holder Multi (59) to the Platform Beam (36) using 12x TSS-Torx 6 x 60 (101).
2. Install Guardrail Post SCS 150 (57) using 2x fitting pins Ø 21 x 120 (99) respectively and secure with cotter pins 4/1 (100).
3. Fix Guardrails, see Section B1.5.
4. Fix Toeboard (56) to the Guardrail Post Holder Multi (59):
 - Pre-drill (Ø 8 mm) Toeboard.
 - Fix Toeboard using F.H. bolts DIN 603 M8 x 45 MU (46) and washers ISO 7094 200 HV, A8 (49).

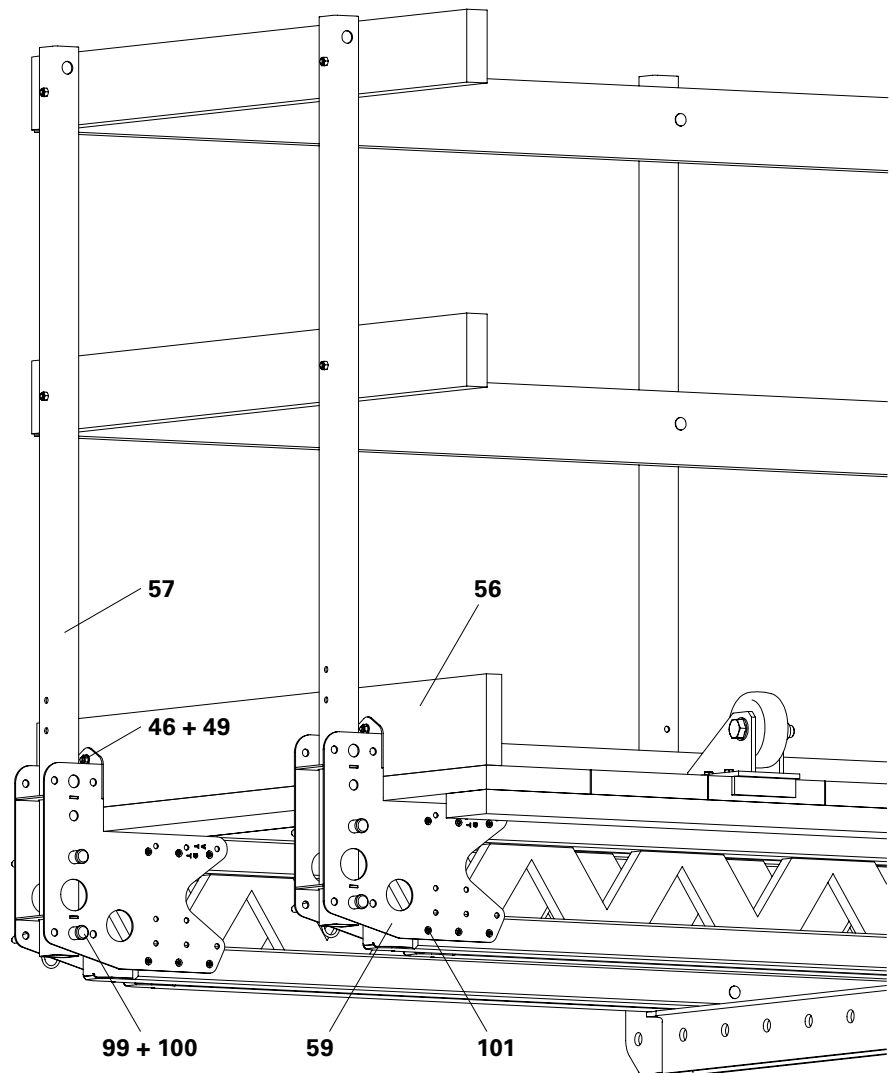


Fig. B1.25

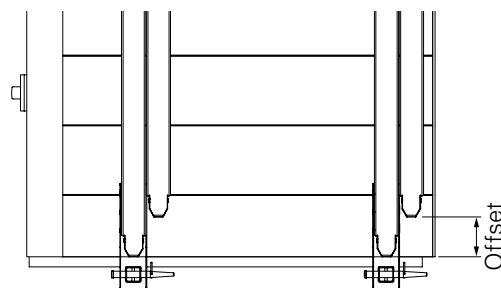


Fig. B1.25a

B2.1 Initial Use



- Not to be used for transporting site personnel.
- Do not transport any loose materials or other loads.
- Use a guide rope.

Mounting procedure

1. Strike starter formwork after releasing the mounting for the Leading Anchor (see Section B2.7).
2. Mount Mounting Ring SCS M30 (81) on the Climbing Cone-2 M30/DW20 (70) (see Section B2.8).
3. Pull securing pins (3.2) and insert in climbing position (see Section B6.2).
4. Attach crane lifting gear (see Section B1.5).
5. Lift the working platform unit using the crane and move to designated position.
6. Lower the working platform unit and hook into the Scaffold Mounting Ring SCS M30 (81) with the cross-beam heads.



Check whether both crossbeam heads are completely and securely in the correct position.

7. Insert securing pins (2.3) in the securing position (see Section B6.2).
8. Release crane lifting gear and re-attach fitting pins $\varnothing 26$ (2.8) to the Adjusting Unit and secure with cotter pins 5/1 (2.9).

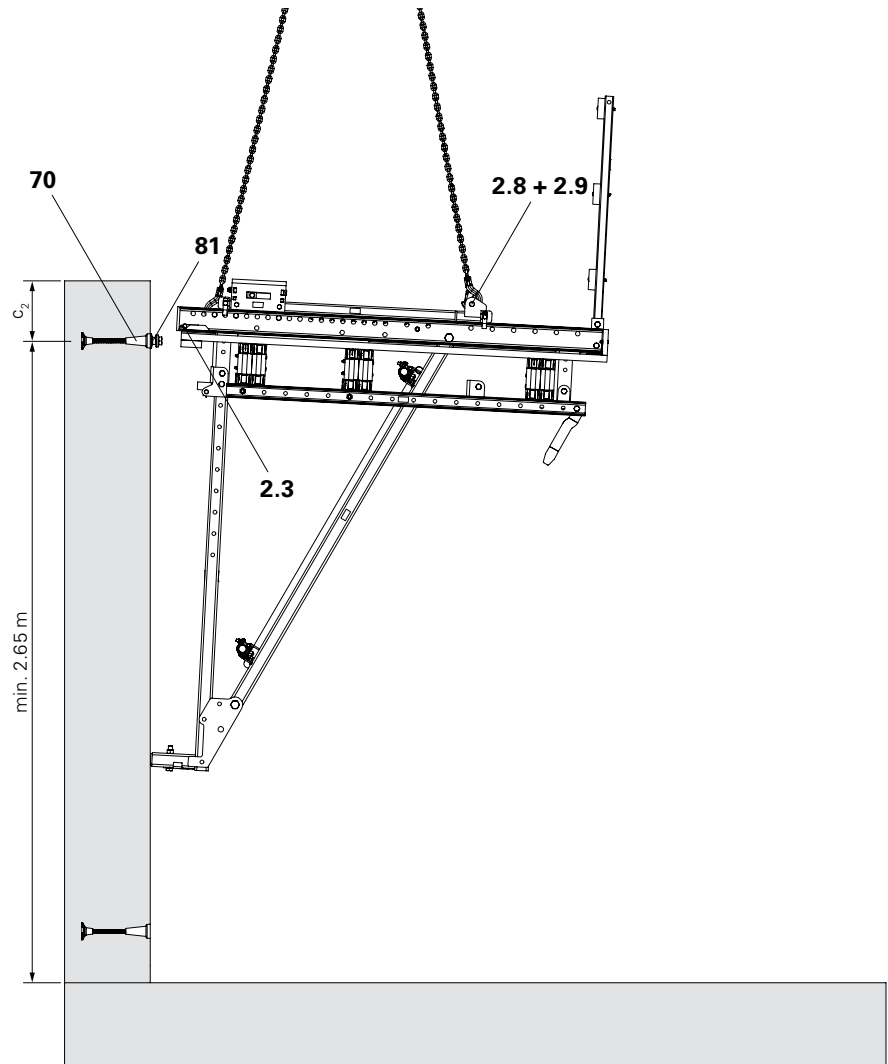


Fig. B2.01

Mounting the wind bracing and formwork

1. Mount wind bracing (if required) on the Tension Anchor Connector CB/SCS (21) and Tension Anchor Connector Wall (31).
2. Install Reducing Bushing $\text{Ø } 26-21$ (103) on the spindle connection point (2.2) of the crossbeam unit (1/2) from the inside in the connection plate using a hammer.
3. Mount Strongback SCS 325 (9) on the Adjusting Unit SCS (1.1) or Carriage SCS (2.1) using fitting pins $\text{Ø } 26$ (2.8) and secure with cotter pins 5/1 (2.9).
4. Install Heavy-Duty Spindle SLS (14) on Spindle Connector SCS $\text{Ø } 26-21$ (9.1) and spindle connection point (2.2) using 1 x fitting pin $\text{Ø } 21 \times 120$ (99) respectively, and secure with cotter pins 4/1 (100).
5. Mount the Leading Anchor on the formwork (see Section B2.6).



- If installation in the Mounting Ring is unsuccessful or the bracket jams, lift the platform and lower again.
 - If the bracket spacing does not match that of the Scaffold Mounting Rings, check the distance of the Leading Anchor to the formwork.
 - If the mounting procedure is not possible, the bracket spacing must be corrected through the re-assembly of the platform.
 - If the Heavy Duty Spindle SLS is used, then two Reducing Bushings $\text{Ø } 26-21$ (103) must then be mounted on the spindle connection. Knock in Reducing Bushings with a hammer from the inside.
- (Fig. B2.02a)

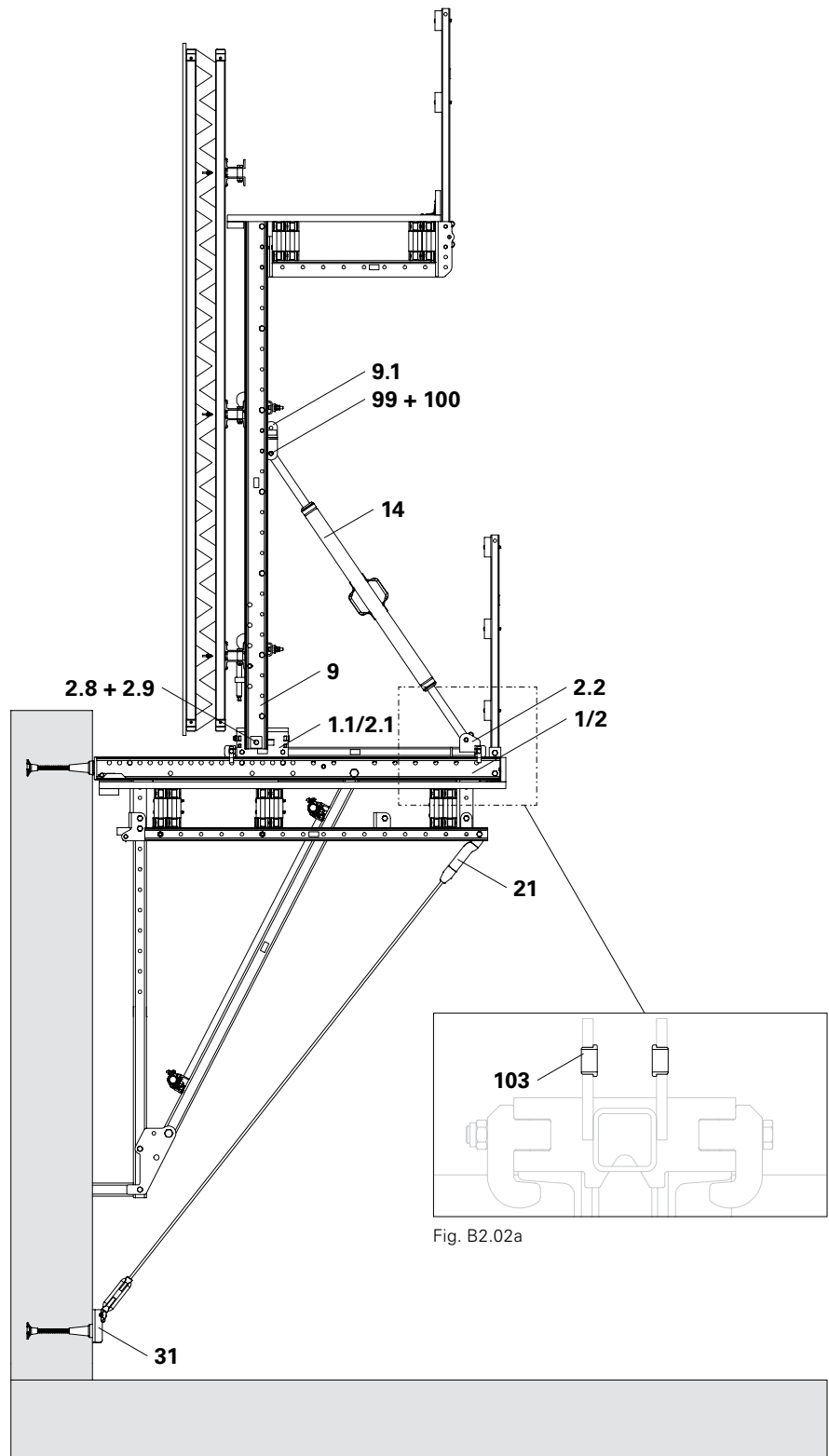


Fig. B2.02

Fig. B2.02a

B2.3 Mounting the Finishing Platform – Starting Height 3 – 5 m

Assembly

1. Remove 2x bolts ISO 4014 M20 x 130-8.8 (7.1) and nuts ISO 70404 M20-8 (7.2) from the connection plate and set aside or mount in the bottom row of holes.
2. Bring the load-bearing point over the centre of gravity by pulling back the carriage or tilting the formwork.
3. If necessary, release the wind bracing from the wall.
4. Mount Limit Stop Platform Post SCS (16) on the Vertical Strut SCS 237 (7) using bolts ISO 4014 M24 x 130-8.8 (16.1) and nuts ISO 7040 M24-8 (16.2). (Fig. B2.03a)
5. Fix the Platform Post Double SCS 232 (18) to the Vertical Strut SCS 237 (7) in the top hole using fitting pins $\varnothing 21 \times 120$ (18.1) and secure with cotter pins 4/1 (18.2). (Fig. B2.03a)
6. Fix 2x Scaffold Tube Steel $\varnothing 48.3 \times 3.2$ (97a) respectively to the Scaffold Tube Connectors SCS 48 (20).
7. Diagonally fix Scaffold Tubes Steel $\varnothing 48.3 \times 3.2$ (97b) to the horizontal scaffold tubes (97a) using Swivel Couplings DK 48/48 (98) – (see Section B1.7). (Fig. B2.03)
8. Position finishing platform (E) by means of the crane and mount using 4x fitting pins $\varnothing 21$ (17.1) and secure with cotter pins (17.2). (Fig. B2.04a)
9. Fold up guardrails and lock in place using fitting pins. (Fig. B2.04)



Spacers on the Platform Post Double SCS 232 (18.3) must always be positioned under the fixing of the vertical strut (7) and in the third-last hole. In case of any collision with the platform beam position, the spacer must be moved (see Section B3.6).

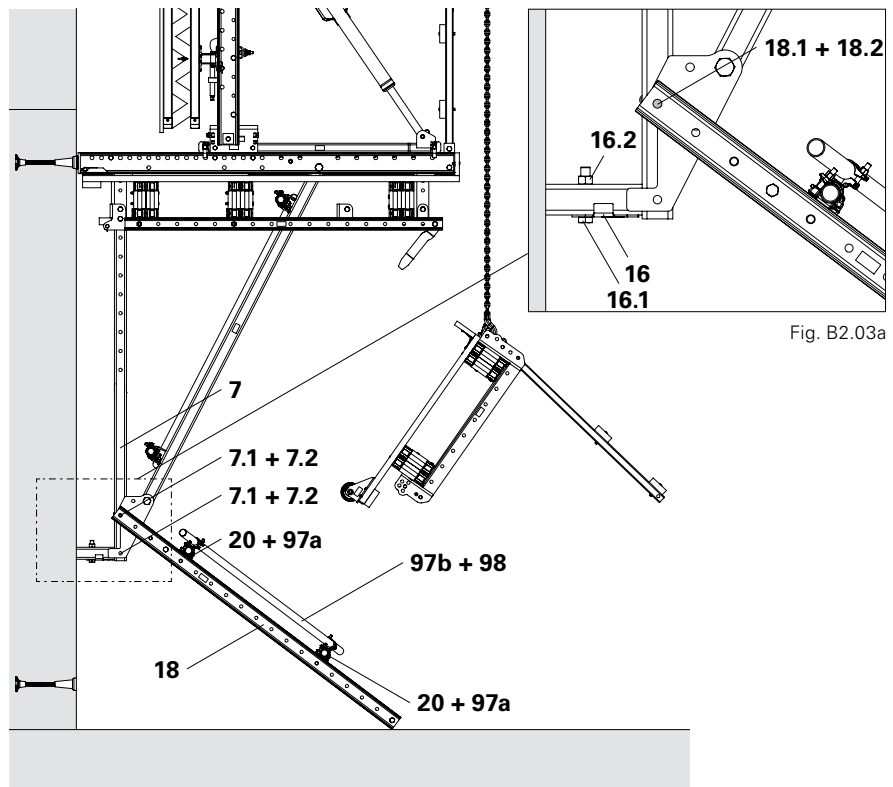


Fig. B2.03

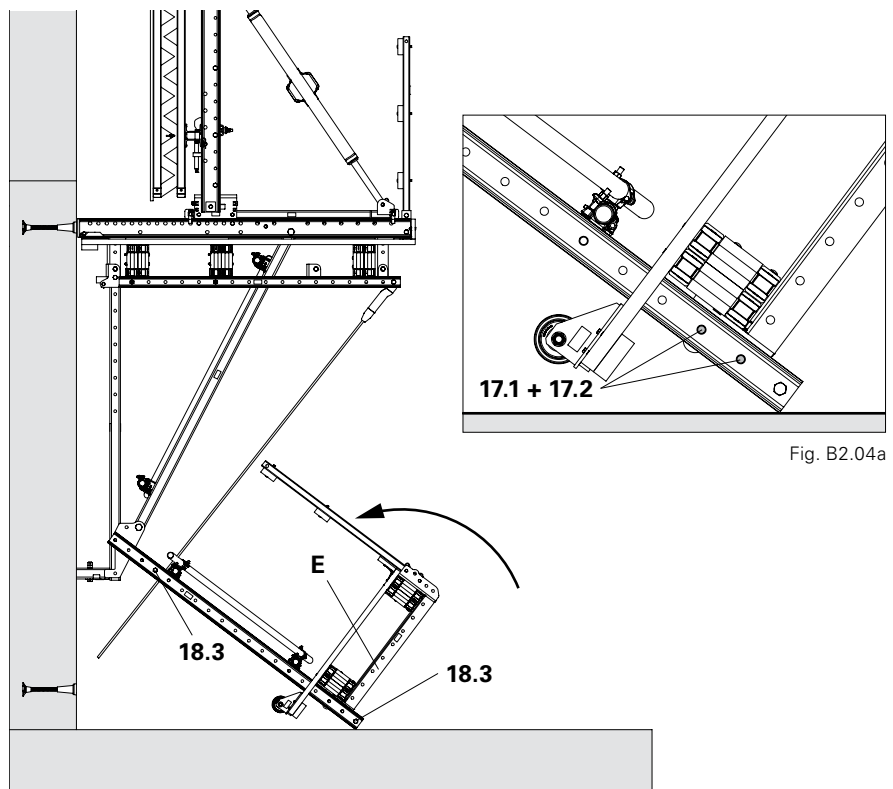


Fig. B2.04



Danger

Finishing platform unit swings while in a vertical position!

Risk of crushing.

⇒ Leave the area of risk.



- For moving the climbing unit (platform with formwork) using 2-sling lifting gear, a Compression Brace must be placed between the Strongbacks (see Section B3.2).

Moving

1. Attach the climbing unit to the crane lifting gear and move to the next casting segment.
2. Attach the climbing unit in the Scaffold Mounting Ring SCS M30 (81).
3. Insert securing pins (2.3) in the securing position (see Section B6.2).
4. Fix the Platform Post Double SCS 232 (18) using the second fitting pin $\varnothing 21 \times 120$ (18.1) and secure with cotter pin 4/1 (18.2).
5. Remove the Limit Stop Platform Post SCS (16).
6. Dismantle the Scaffold Mounting Ring M30 (81a).
7. If necessary, mount wind bracing.

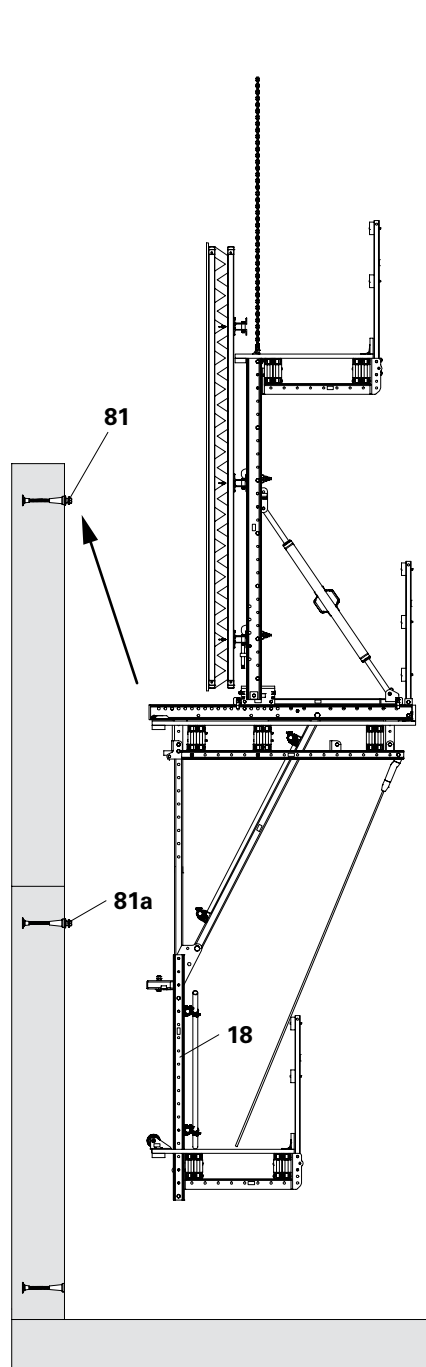


Fig. B2.05a

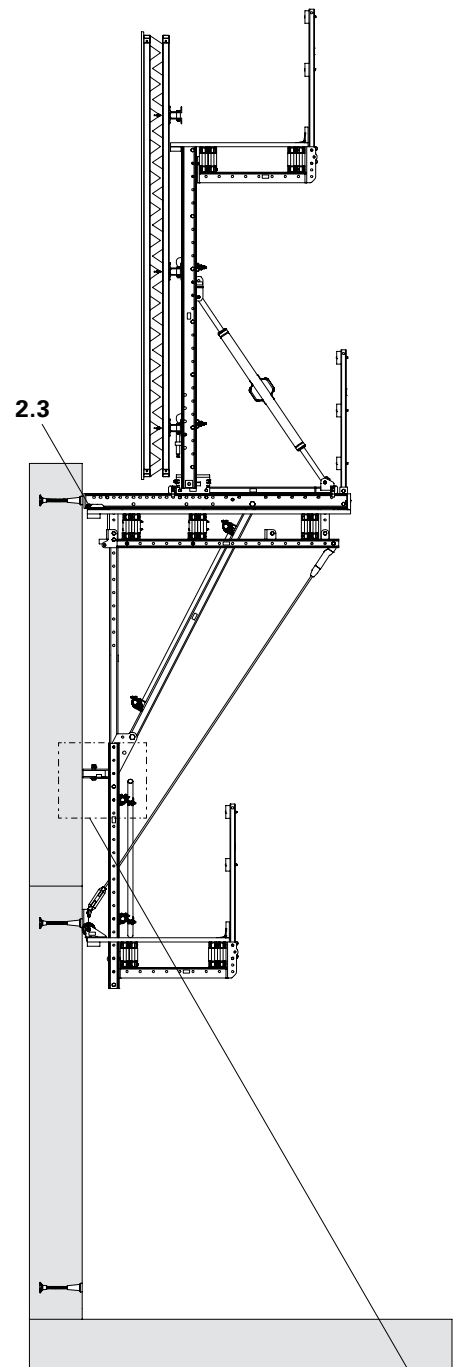


Fig. B2.05b

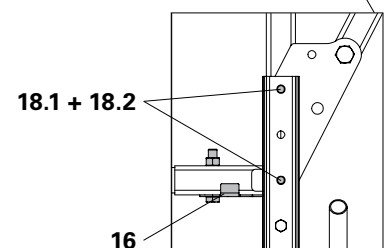


Fig. B2.05c

B2.3 Mounting the Finishing Platform – Starting Height 3 – 6 m

Assembly

1. Remove 2x bolts ISO 4014 M20 x 130-8.8 (7.1) and nuts ISO 70404 M20-8 (7.2) from the connection plate and set aside or mount in the bottom row of holes.
2. If necessary, release the wind bracing from the wall.
3. Mount Limit Stop Platform Post SCS (16) on the Vertical Strut SCS 237 (7) using bolts ISO 4014 M24 x 130-8.8 (16.1) and nuts ISO 7040 M24-8 (16.2).
4. Fix the finishing platform unit to the Vertical Strut SCS 237 (7) in the top hole using fitting pins $\varnothing 21 \times 120$ (18.1) and secure with cotter pins 4/1 (18.2).
5. Fold up guardrails and lock in place using fitting pins.



Spacers on the Platform Post Double SCS 232 (18.3) must always be positioned under the fixing of the vertical strut (7) and in the third-last hole. In case of any collision with the platform beam position, the spacer must be moved (see Section B3.6).

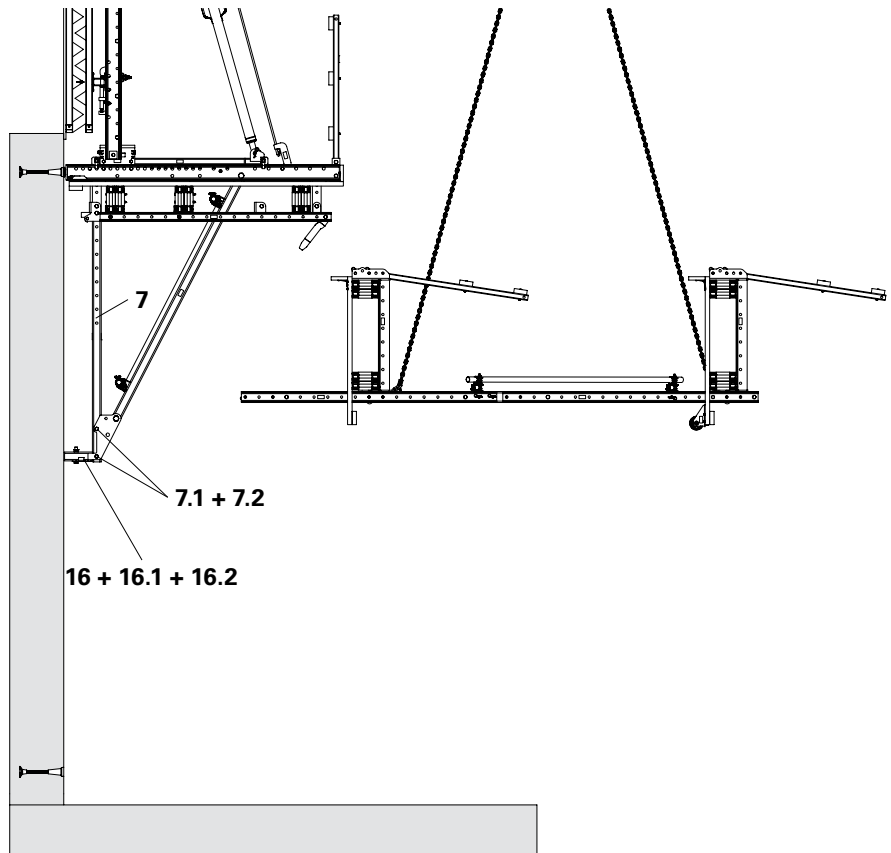


Fig. B2.06

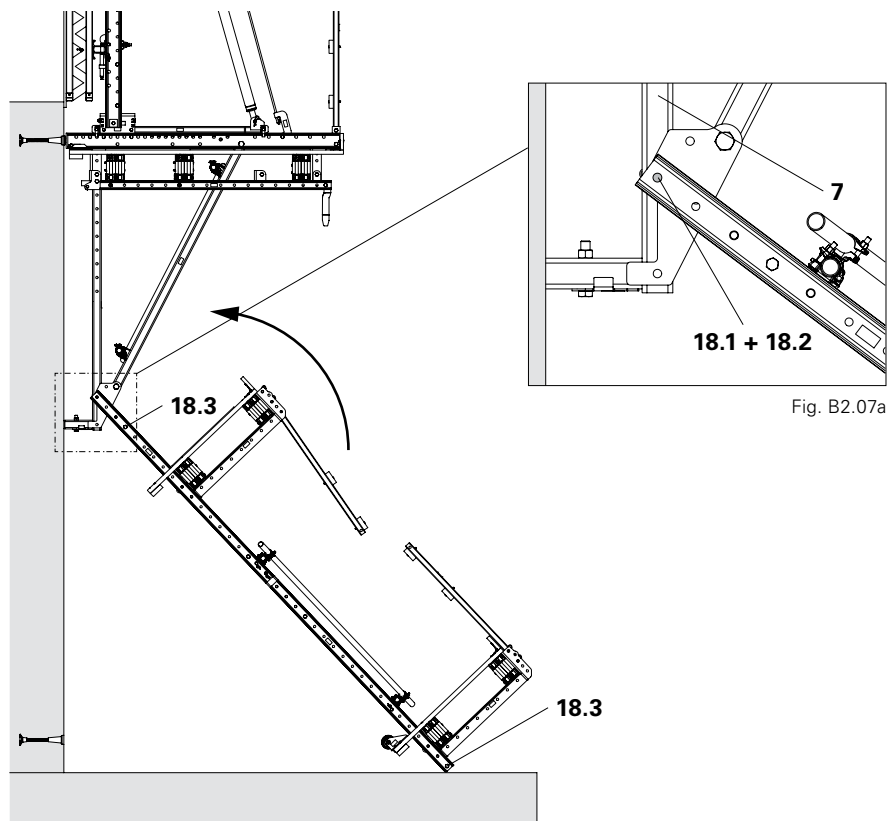


Fig. B2.07a

Fig. B2.07



Danger

Finishing platform unit swings while in a vertical position!

Risk of crushing.

⇒ Leave the area of risk.



- For moving the climbing unit (platform with formwork) using 2-sling lifting gear, a Compression Brace must be placed between the Strongbacks (see Section B3.2).

Moving

1. Attach the climbing unit to the crane lifting gear and move to the next casting segment.
2. Attach the climbing unit in the Scaffold Mounting Ring SCS M30 (81).
3. Insert securing pins (2.3) in the securing position (see Section B6.2).
4. Fix the Platform Post Double SCS 232 (18) using the second fitting pin $\varnothing 21 \times 120$ (18.1) and secure with cotter pin 4/1 (18.2).
5. Remove the Limit Stop Platform Post SCS (16).

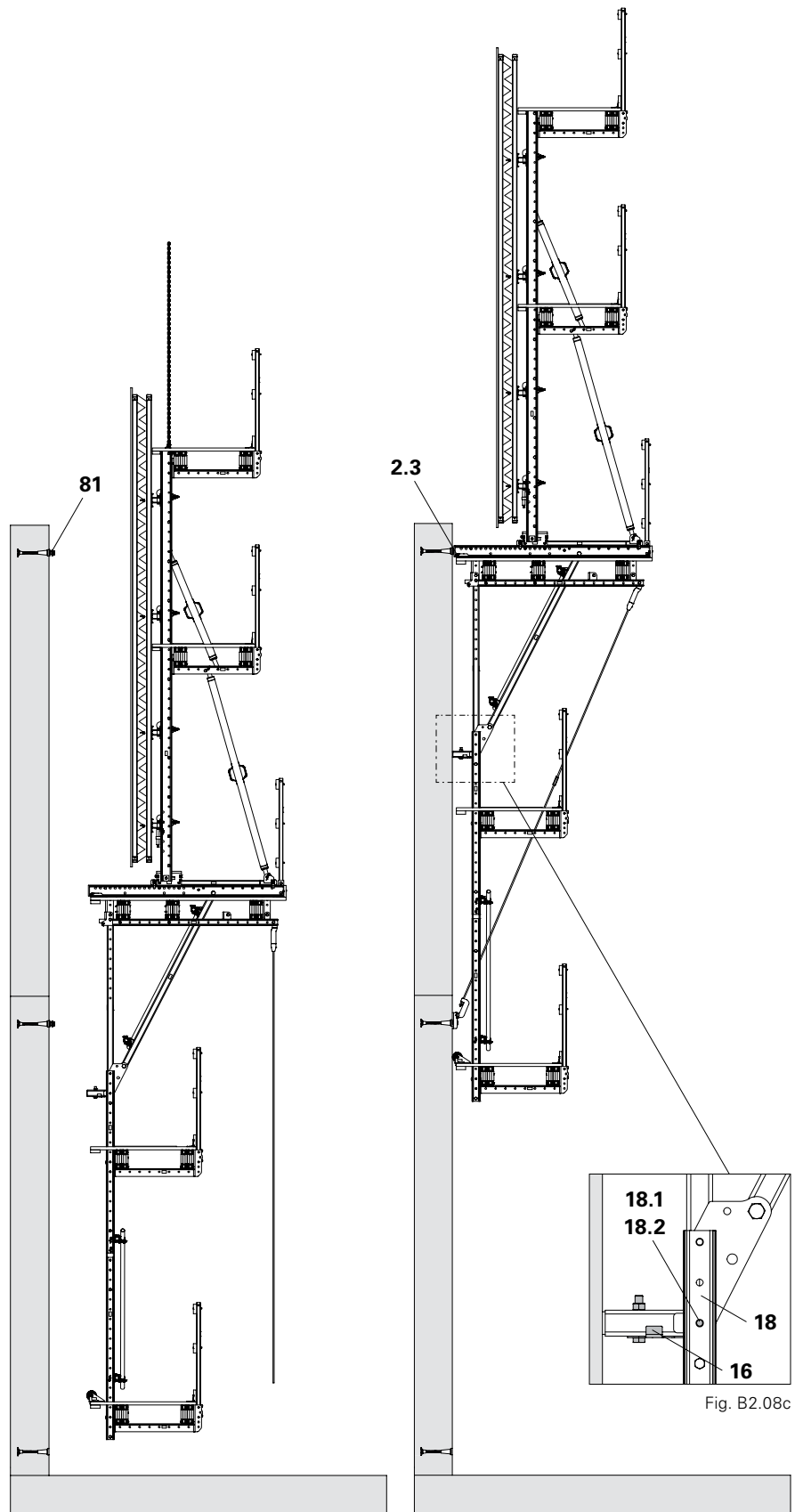


Fig. B2.08a

Fig. B2.08b

Fig. B2.08c

B2.4 Mounting the Finishing Platform Unit – Large Starting Heights



If the starter height is greater than the Platform Unit SCS with finishing platform unit, the entire unit can be pre-assembled on the ground.

Assembly

1. Remove 2x bolts ISO 4014 M20 x 130-8.8 (7.1) and nuts ISO 70404 M20-8 (7.2) from the connection plate and set aside or mount in the bottom row of holes.
2. Fix the finishing platform unit to the Vertical Strut SCS 237 (7) in the top hole using fitting pins $\varnothing 21 \times 120$ (18.1) and secure with cotter pins 4/1 (18.2).
3. Suspend the complete the Platform Unit SCS with the crane in the first concreting cycle.

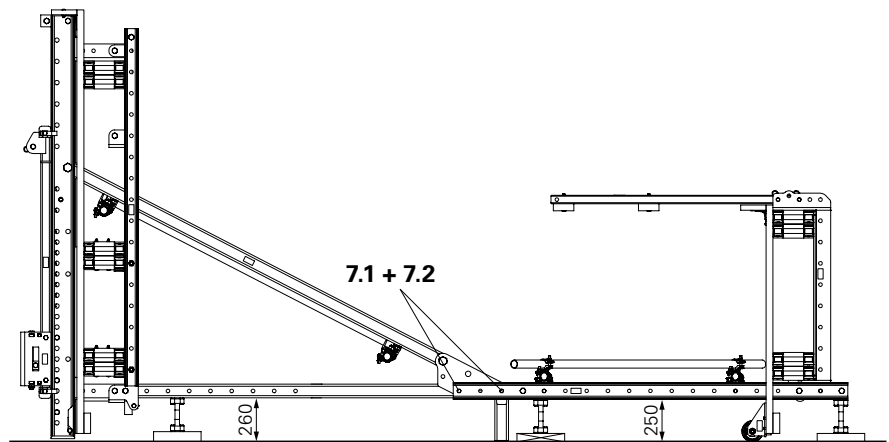


Fig. B2.09

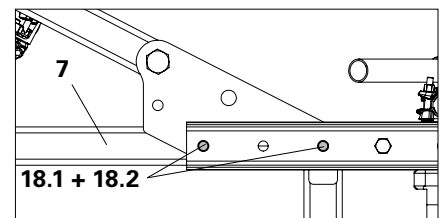


Fig. B2.09a

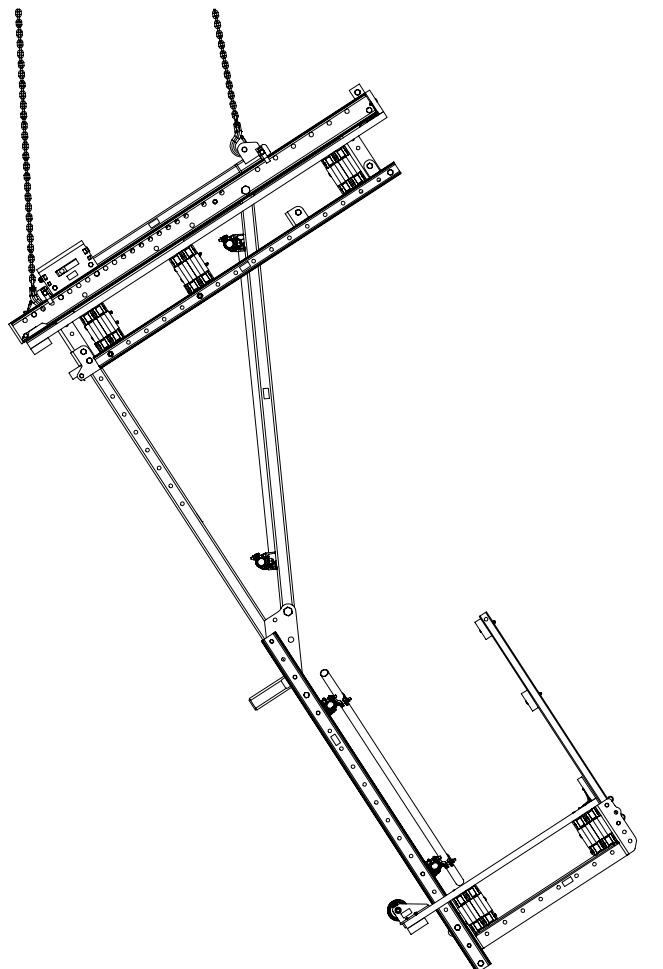


Fig. B2.10



Danger

When installing the anti-fall protection, there is no fall protection!

Risk of falling.

⇒ Use PPE to prevent falling.

Mounting the guardrails

1. Fix Guardrail Post SCS 150 (57) to the Crossbeam Unit SCS 250 (1/2) using bolts ISO M20 x 120-8.8 (2.6) and nuts ISO 7040 M20-8 (2.7).

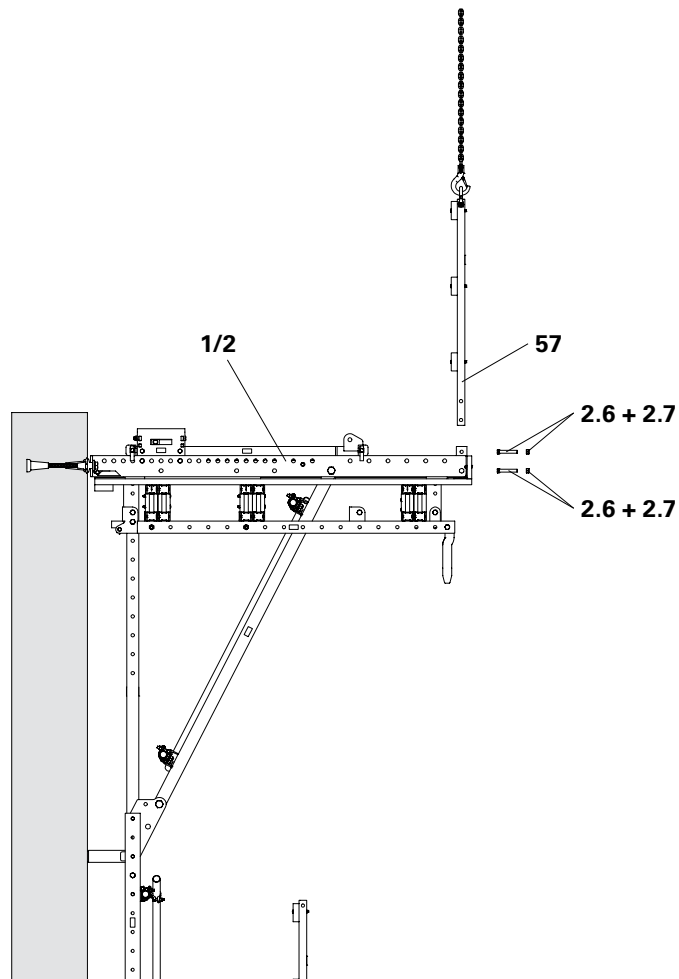


Fig. B2.11

B2.5 Wind Bracing



Assemble wind bracing according to static requirements.

Tension Belt



- When not in use, wrap the Tension Belt around the guardrail of the finishing platform and secure.
- A Tension Belt can be used for concreting heights up to 5.40 m.

Assembly

1. Attach Tension Belt L = 5.70 m, 2.5 t (30) to the Bolt ISO 4014 M20 x 130-8.8 (4) of the Cross Beam Unit SCS (1) or Platform Beam Support SCS (3) using the hook of the longer end.
2. Fix the Belt Connector Wall M24 (32) to the Climbing Cone using bolt ISO 4014 M24 x 70-10.9 (33).
3. Insert Tension Belt L = 5.70 m, 2.5 t (30) on the inner side of the bracket and attach hook to the Tension Belt Connector Wall M24 (32).
4. Adapt length of Tension Belt L = 5.70 m, 2.5 t (30) and tighten using a ratchet lever (30.1).

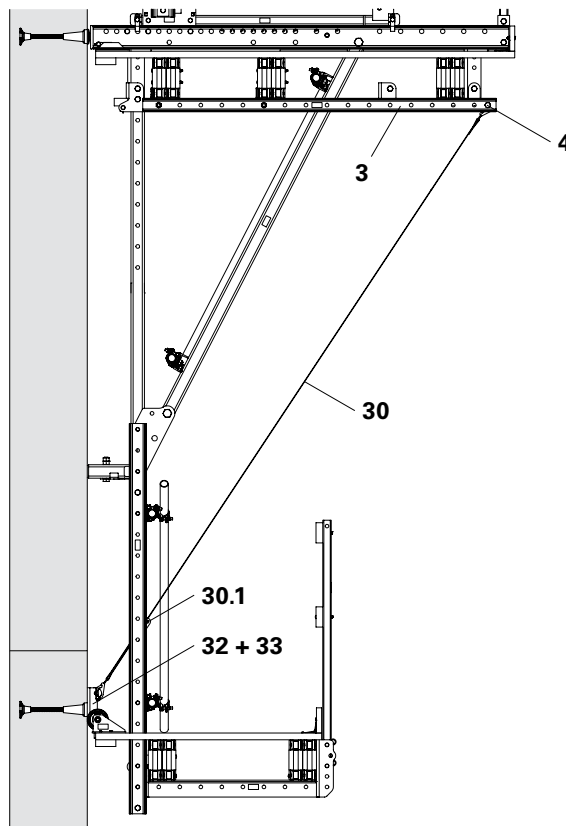


Fig. B2.12

Releasing

1. Release Tension Belt L = 5.70 m, 2.5 t (30) using the ratchet lever (30.1).
2. Remove Tension Belt L = 5.70 m, 2.5 t (30) from the Tension Belt Connector Wall M24 (32).
3. Release Belt Connector Wall M24 (32) from the Climbing Cone.
4. Remove Climbing Anchor (see B2.9).

Tie Rod DW 15, Anchor M24



When not in use, attach the Tie Rod DW 15 to the finishing platform, e.g. with tie wire.

Assembly

1. Screw Tie Rod DW 15 (22) into the Tension Anchor Connector CB/SCS (21).
2. Release Turnbuckle CB M20/DW 15 (28) from the Tension Anchor Connector Wall (32) and screw onto Tie Rod DW 15 (22).
3. Fix Tension Anchor Connector Wall (32) to the Climbing Cone using bolt ISO 4014 M24 x 70-10.9 (33).
4. Re-attach Turnbuckle CB M20/DW 15 (28) with eyebolt to the Tension Anchor Connector Wall (32) using bolts $\varnothing 16 \times 42$ and cotter pins 4/1.
5. Tension the wind bracing by turning the turnbuckle CB M20/DW 15 (28).

Releasing

1. Turn the Tension Anchor Connector Wall (32) in order to release the wind bracing.
2. Remove the Tension Anchor Connector Wall (32) from the Climbing Cone.
3. Remove the Climbing Anchor (see B2.9).

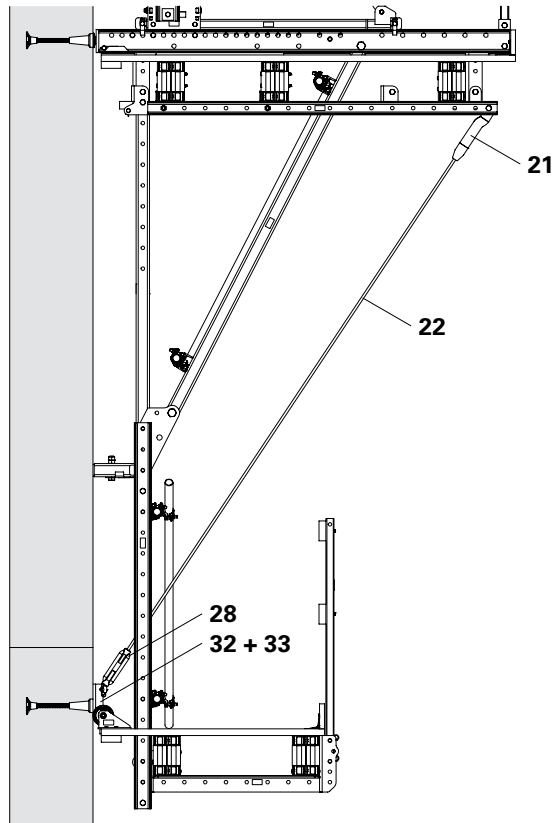


Fig. B2.13

Tie Rod DW 15, Anchor M30



When not in use, attach the Tie Rod DW 15 to the finishing platform, e.g. with tie wire.

Assembly

1. Screw Tie Rod DW 15 (22) into the Tension Anchor Connector CB/SCS (21).
2. If necessary, couple Tie Rod DW 15 (22) with Hex. Nut DW 15 SW 30/108 (24).
3. Slide Articulated Spanner RCS DW 15 (25) onto the Tie Rod DW 15 (22) and secure using the Hex. Nut DW 15 SW 30/50 (23).
4. Fix Bracing Shoe SCS M30/M24 (34) to the Climbing Cone using bolt ISO 4017 M30 x 080-10.9 (35).
5. Install Articulated Spanner RCS DW 15 (25) in the Bracing Shoe SCS M30/M24 (34) using fitting pins $\varnothing 26 \times 120$ (107) and secure with cotter pins 5/1 (108).
6. Tension the wind bracing by turning the Hex. Nut DW 15 SW 30/50 (23) by means of a wrench.

Releasing

1. For releasing the wind bracing, remove the Hex. Nut DW 15 SW 30/50 (23) by means of a wrench.
2. Release Bracing Shoe SCS M30/M24 (34) from the Climbing Cone.
3. Remove Climbing Anchor (see B2.9).

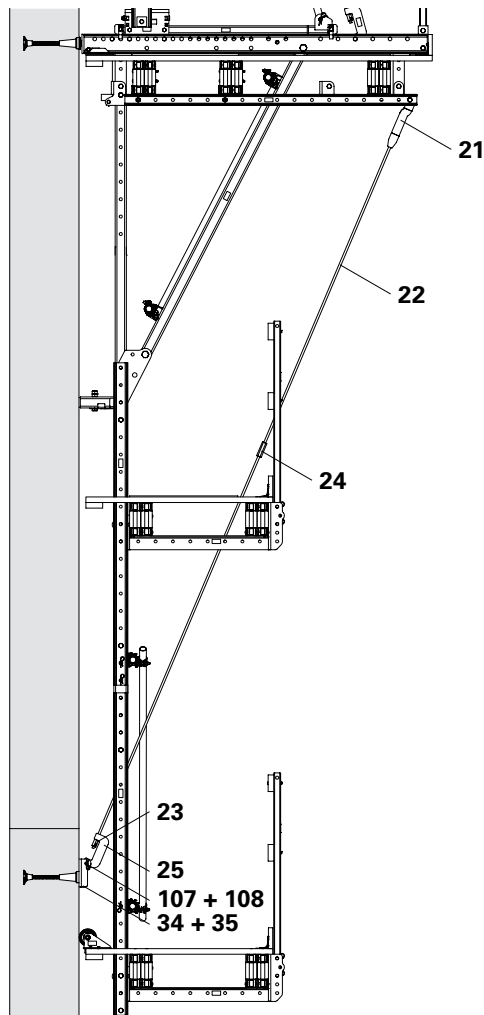


Fig. B2.14

Tie Rod DW 15, formwork bracing



- When not in use, attach the Tie Rod DW 15 to the finishing platform, e.g. with tie wire.
- If no intermediate platform is available or the platform system of the wall formwork is used, the wind bracing can be directly mounted on the Strongback above the Heavy-Duty Spindle SLS.
- Install additional formwork wind bracing according to static requirements.

Assembly

1. Screw Tie Yoke VARIOKIT Ø 22 / DW 15 (27) on the Tie Rod DW 15 (22).
2. Bolt Tie Yoke VARIOKIT Ø 22 / DW 15 (27) to the Platform Beam SCS 120 (17) using fitting pin Ø 21 x 120 (99) and secure with cotter pins 4/1 (100).
3. Slide Articulated Spanner RCS DW 15 (25) on to the Tie Rod DW 15 (22) and secure using Hex. Nut DW 15 SW 30/50 (23).
4. Bolt Articulated Spanner RCS DW 15 (25) on to the Cross Beam Unit (1/2) using fitting pins Ø 26 x 120 (107) and secure with cotter pins 5/1 (108).
5. Tension wind bracing by turning the Hex. Nut DW 15 SW 30/50 (23) by means of a wrench.

Releasing

1. For releasing the wind bracing, remove the Hex. Nut DW 15 SW 30/50 (23) by means of a wrench.

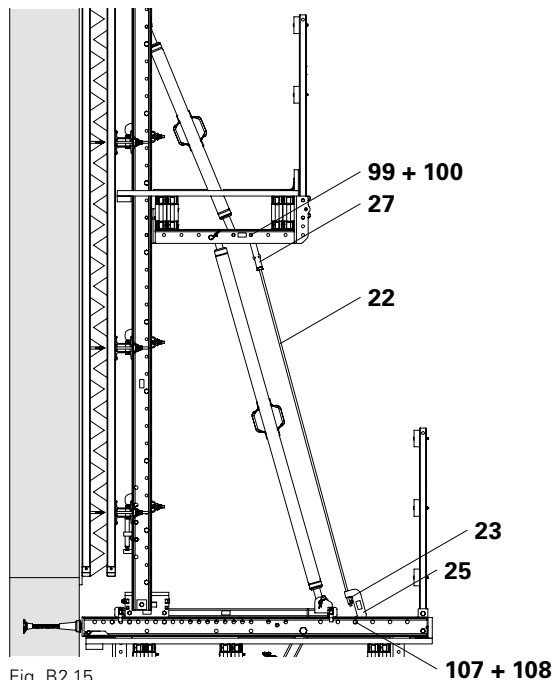


Fig. B2.15

B2.6 Mounting the Leading Anchor

Preparation

Measure out the position of the Leading Anchor and mark on the surface of the formlining.

Standard: advancing bolt



- Ensure there is sufficient distance to the formwork girder.
- If the distance is insufficient, the advancing bolt must be used.
- Before concreting takes place, check all anchor components, assembly and position.



Fig. B2.16

Components per Climbing Anchor

70	Climbing Cone-2 M30 / DW 20	1x
71	Tie Rod DW 20	1x
73	Threaded Anchor Plate DW 20	1x
74	Advancing Bolt M30	1x
75	Anchor Positioning Plate M30	1x
76	Hex. Wood Screw DIN 571 6 x 20	4x

Assembly

1. Drill a suitable hole in the formlining (M30 = hole size \varnothing 32 mm)
2. Attach Anchor Positioning Plate M30 (75) to the rear side of the formlining matching the drilled hole using 4x hex. wood screws DIN 571 6 x 20 (76).
3. Insert the advancing bolt M30 (74) from the rear side through the drilled hole.
4. Screw the Climbing Cone-2 M30 / DW 20 (70) from the front side on the advancing bolt M30 (74).
5. Screw the Tie Rod DW 20 (71) on the Climbing Cone-2 M30/DW 20 (74).
6. Screw the Threaded Anchor Plate DW 20 (73) on the Tie Rod DW 20 (71).

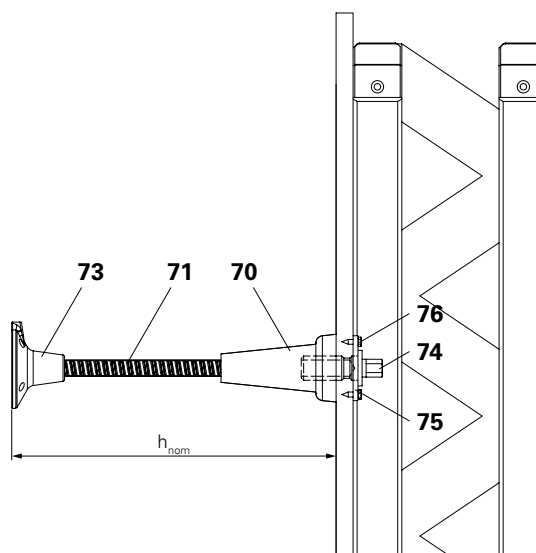


Fig. B2.17



For ensuring a secure position, fix the Threaded Anchor Plate DW 20 (73) to the reinforcement with wire.

Alternatively: Anchor Positioning Stud



- Firmly connect the Threaded Anchor Plate DW 20 (73) to the reinforcement with wire to ensure a secure position.
- Check all anchor components, assembly and position before concreting takes place.
- If possible, use the mounting with the Advancing Bolt as the connection is more stable.

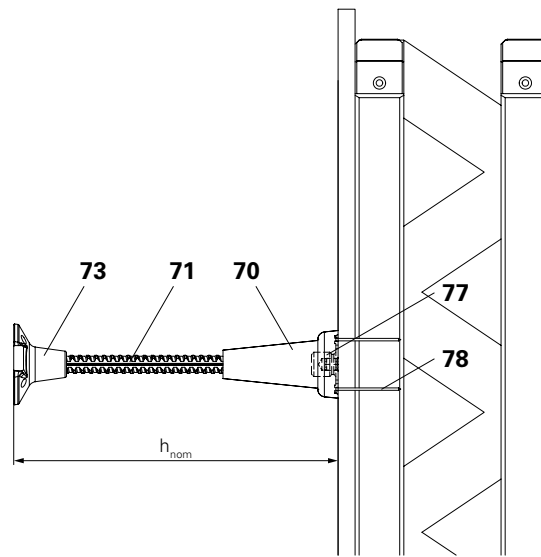


Fig. B2.18

Components per Climbing Anchor

70	Climbing Cone-2 M30 / DW 20	1x
71	Tie Rod DW 20	1x
73	Threaded Anchor Plate DW 20	1x
77	Anchor Positioning Stud M30	1x
78	Wire Nail 3 x 80	6x

Assembly

1. Nail Anchor Positioning Stud M30 (77) to the front side of the formlining using 6x wire nails 3 x 80 (78).
2. Screw Climbing Cone-2 M30 / DW 20 (70) on the Anchor Positioning Stud M30 (77).
3. Screw Tie Rod DW 20 (71) on the Climbing Cone-2 M30/DW 20 (74).
4. Screw Threaded Anchor Plate DW 20 on the Tie Rod DW 20 (71).

B2.7 Releasing the Leading Anchor

Preparation

Remove all connections, e.g. couplings, from the formwork elements of the adjacent climbing units.

Standard: advancing bolt

Dismantling

1. Release advancing bolts M30 (74) and remove.
2. Release the formwork from the wall using the Heavy Duty Spindle.
3. Strike formwork with Adjusting Unit or with Carriage (see B4.4 or B4.5).

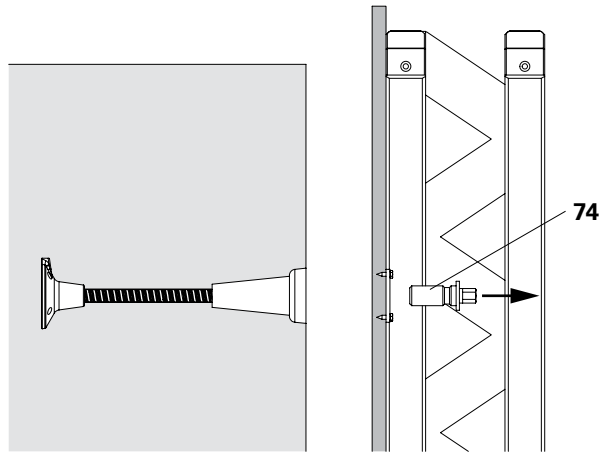


Fig. B2.19

Alternatively: anchor positioning stud

Dismantling

1. Straighten wire nails $\text{Ø} 3 \times 80$ (78).
2. Release the formwork using the Heavy Duty Spindle.
→ Pull wire nails $\text{Ø} 3 \times 80$ (78) out of the formlining.
3. Strike formwork with Adjusting Unit or Carriage (see B4.4 or B4.5).
4. Bend wire nails $\text{Ø} 3 \times 80$ (78) in order to protect hands.
5. Remove anchor positioning stud M30 (77) using an Allen key SW 14.

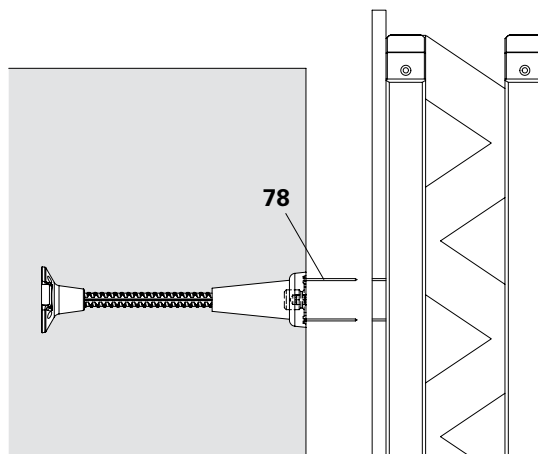


Fig. B2.20

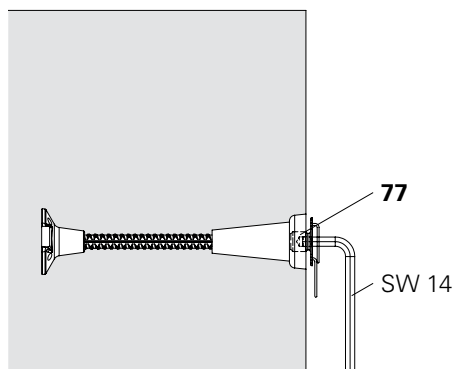


Fig. B2.21

B2.8 Scaffold Mounting Ring

Components per Climbing Anchor

81 Mounting Ring SCS M30	1x
---------------------------------	----

Assembly

1. Screw in and tighten the Scaffold Mounting Ring SCS M30 (81) in the Climbing Cone 2 M30/DW 20.

Dismantling

1. Release the Scaffold Mounting Ring SCS M30 (81) and screw out.

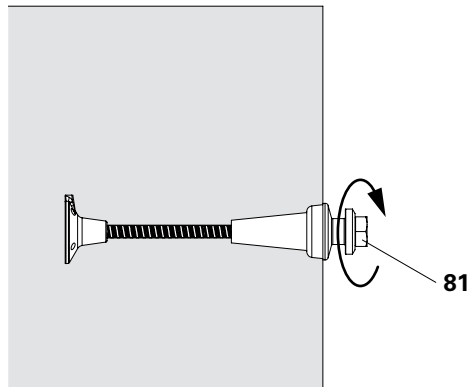


Fig. B2.22

B2.9 Removing Climbing Cones



- If necessary, the anchor hole can be closed using PERI Concrete Cones KK and a suitable adhesive.
- See User Information for Concrete Cones with Sealing Compound-3.

Dismantling

1. Release the Climbing Cone-2 M30/DW 20 (70)
2. Manually screw out the Climbing Cone-2 M30 / DW 20 (70).

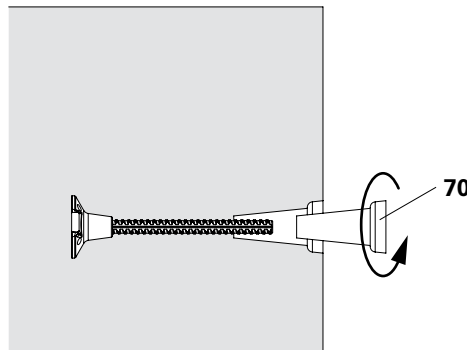


Fig. B2.23

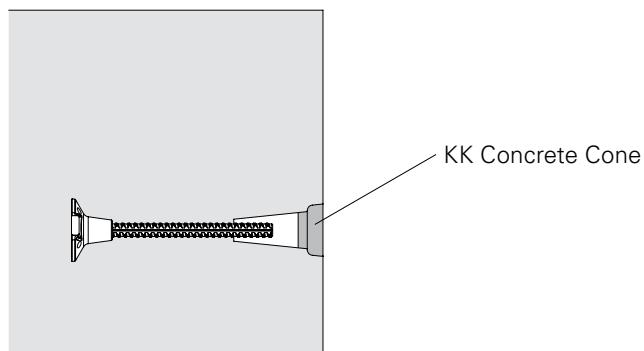


Fig. B2.24

B3.1 Assembling the Formwork



Follow Instructions for Assembly and Use for GT 24 Girder Wall Formwork.

Mounting the Strongbacks

1. Place Strongbacks (9/10) on Steel Waler SRU and align roughly at the planned height h_F .
2. Fix Height Adjustment Unit-2 CB/SCS/RCS (102) on the Strongbacks (9/10) using bolts $\varnothing 25 \times 180$ m and clamping sleeve $\varnothing 6$ (102.1) and secure with cotter pins 4/1 (102.2).
3. Ensure that there is sufficient adjusting range available for the required formwork adjustment.
4. Spacer could need moving (see Section B3.6).
5. Mount Spindle Connector SCS $\varnothing 26-21$ (9.1) with $\varnothing 21$ hole downwards or Spindle Adapter SLS/RCS (105) at the planned height h_{Sp} .
6. Place Strongbacks (9/10) on the formwork element so that the bracket arrangement in the ground plan can be maintained.
7. Fix Strongbacks (9/10) to the Steel Waler SRU using Waler Fixation U100 – U120 (12).
8. Check Strongback spacing and clamp Strongbacks using the Waler Fixation U100 – U120 (12).
9. Move the climbing unit (platform with formwork). If the crane lifting gear is spread apart, a Compression Brace must be installed between the Strongbacks (9/10) (see Section B3.2).

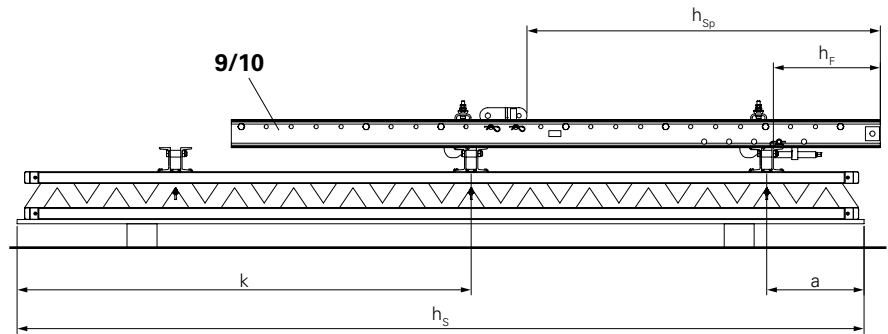


Fig. B3.01

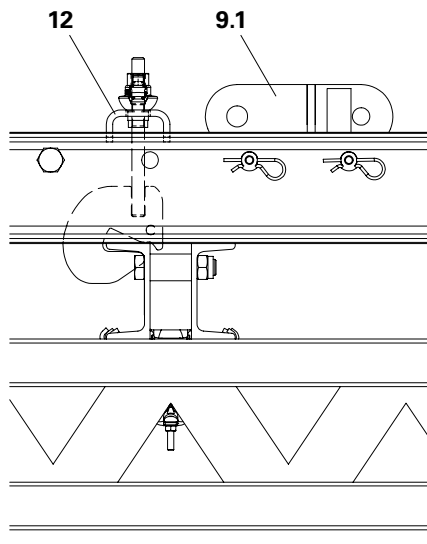


Fig. B3.01a

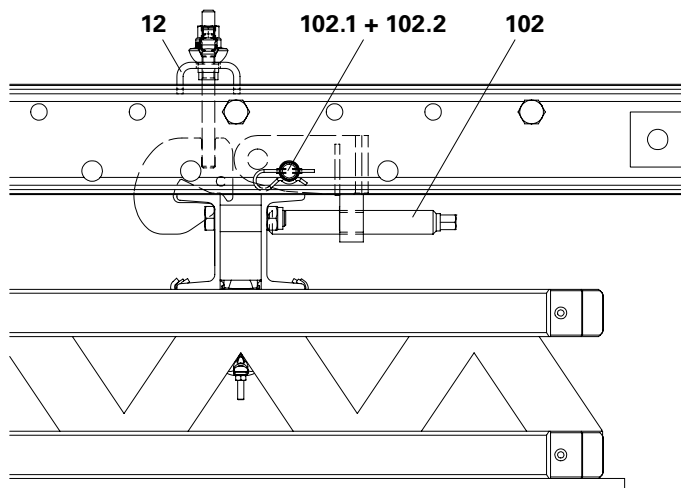


Fig. B3.01b

B3.2 Compression Brace



- If the crane lifting gear is spread apart, a Compression Brace must be installed between the Strongbacks (9/10).
- Size of timber 14/14 cm or according to the planning.
- Length of Compression Brace $L = \text{bracket spacing } c - 96 \text{ mm}$.

Components per side

49	Washer ISO 7094 200 HV, A 8	1x
107	Hex. Wood Screw DIN 571 8 x 160	1x

Assembly

1. Mount Compression Brace between the Strongbacks using 1x hex. wood screw DIN 571 8 x 160 (107) and washer ISO 7094 200 HV, A 8 (49) per Strongback respectively.

Attachment points and position



- Attach crane lifting gear to the top Spacer M20-82 of the Strongback (9.2/10.1).
- If no Compression Braces can be used, the angle α is too small due to the bracket spacing or if the platforms are strongly asymmetrical, then the Lifting Beam 9 t must be used.
- Follow Instructions for Use for Lifting Beam 9t.

Technical data

Perm. F = 3.5 t (35 kN)

$c_{\text{max}} = 4.0 \text{ m}$

$\alpha_{\text{min}} = 60^\circ$

Maximum cantilever e of Compression Brace and top edge of Strongback = 30 cm. (Abb. B3.02a)

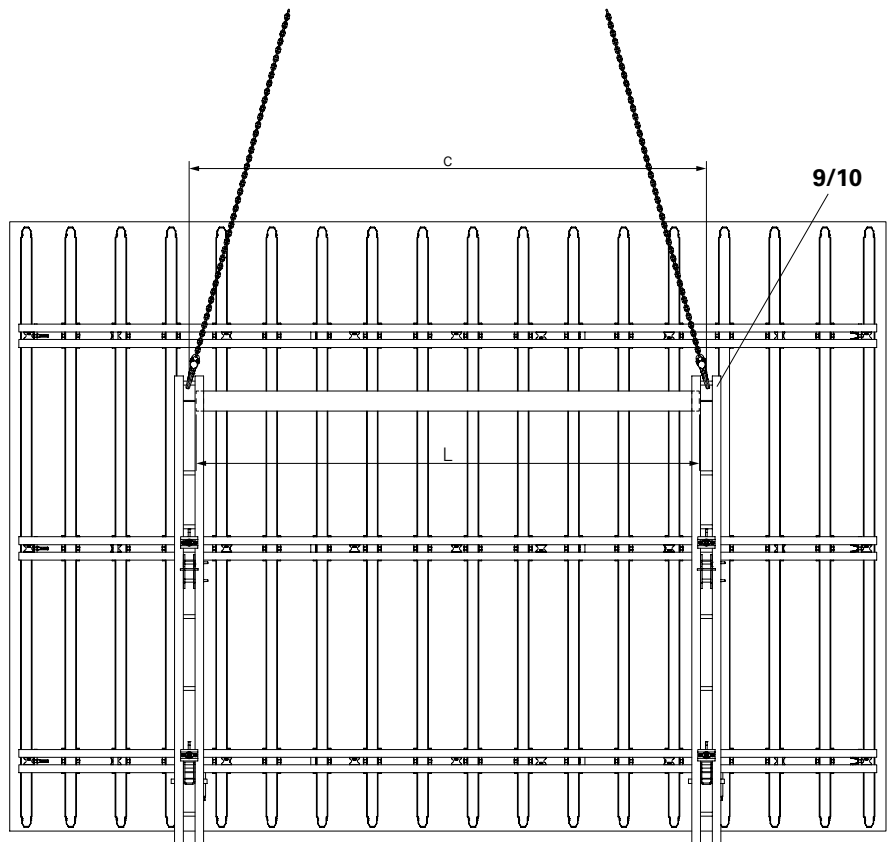


Fig. B3.02

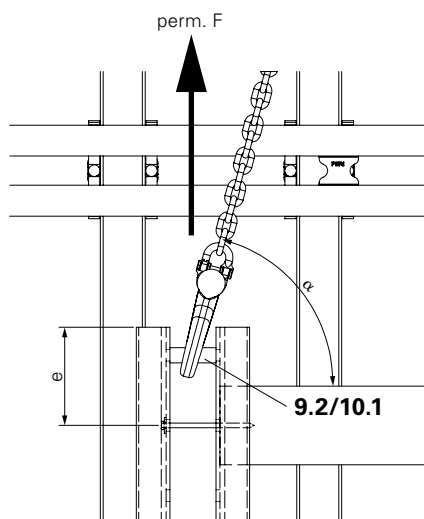


Fig. B3.02a

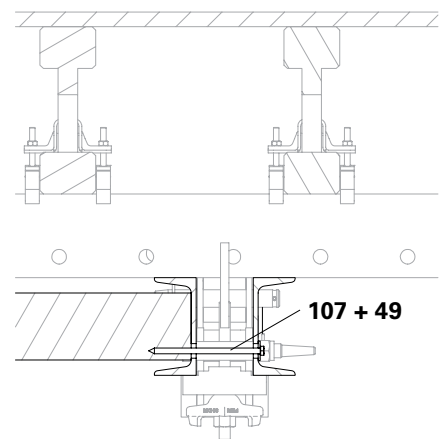


Fig. B3.02b

B3.3 Installing the Concreting Platform

Assembly

1. Lift concreting platform over the formwork element using textile straps and crane.
2. Insert concreting platform into the Strongbacks (9/10).
3. Bolt Platform Beam SCS 120 (17) using 2x fitting pins $\varnothing 21 \times 120$ (17.1) per Strongback (9/10) respectively and secure with cotter pins 4/1 (17.2).

(Fig. B3.03)

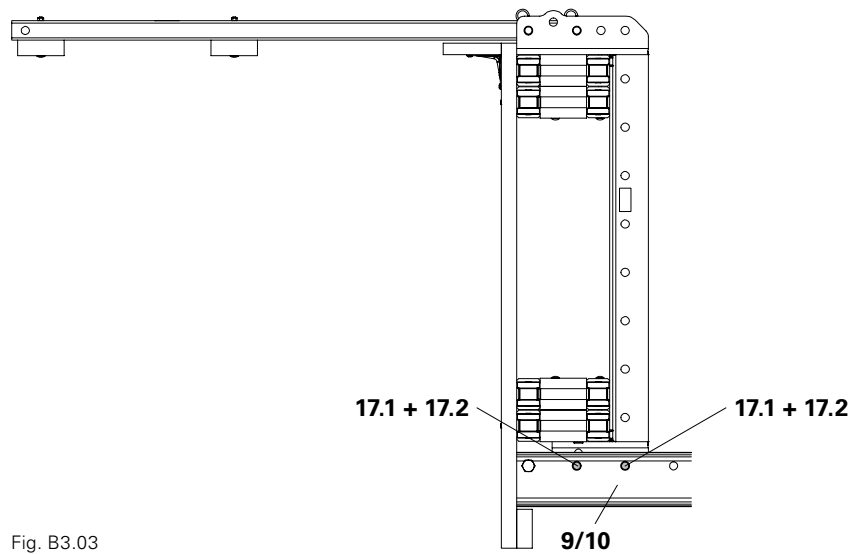


Fig. B3.03

B3.4 Fixing the Formwork to the Bracket

Requirements:

The working platform must be correctly mounted and secured against lifting by means of locking pins. If necessary, install wind bracing to prevent tipping (see Section B2.5).

Assembly

1. Only SCS: retract Carriage (2.1) and fix in position using fitting pins \varnothing 26 mm (see Section B4.5).
2. Turn back the sliding piece (2.11.1) in the Adjusting Unit SCS (see Section B4.4).
3. Adjust the Heavy-Duty Spindle SLS (11) to the required length and mount on the Strongback using locking pin \varnothing 21 mm.
4. Attach crane lifting gear to the top spacer on the Strongback, and move the formwork to the platform using the crane.
5. Mount Strongbacks in the sliding piece (2.11.1) on the Adjusting Unit using locking pins \varnothing 26 mm. The crane continues to carry the load.
6. If necessary, Reducing Bushings \varnothing 26 – 21 (103) must then be mounted.
7. Vertically position the formwork, move Heavy-Duty Spindle (11) into the Spindle Connector SCS (2.1a) and mount using locking pins \varnothing 21 mm.
8. Release crane of all loads and release crane lifting gear.
9. Align formwork (see Section B4). (Fig. B3.04)

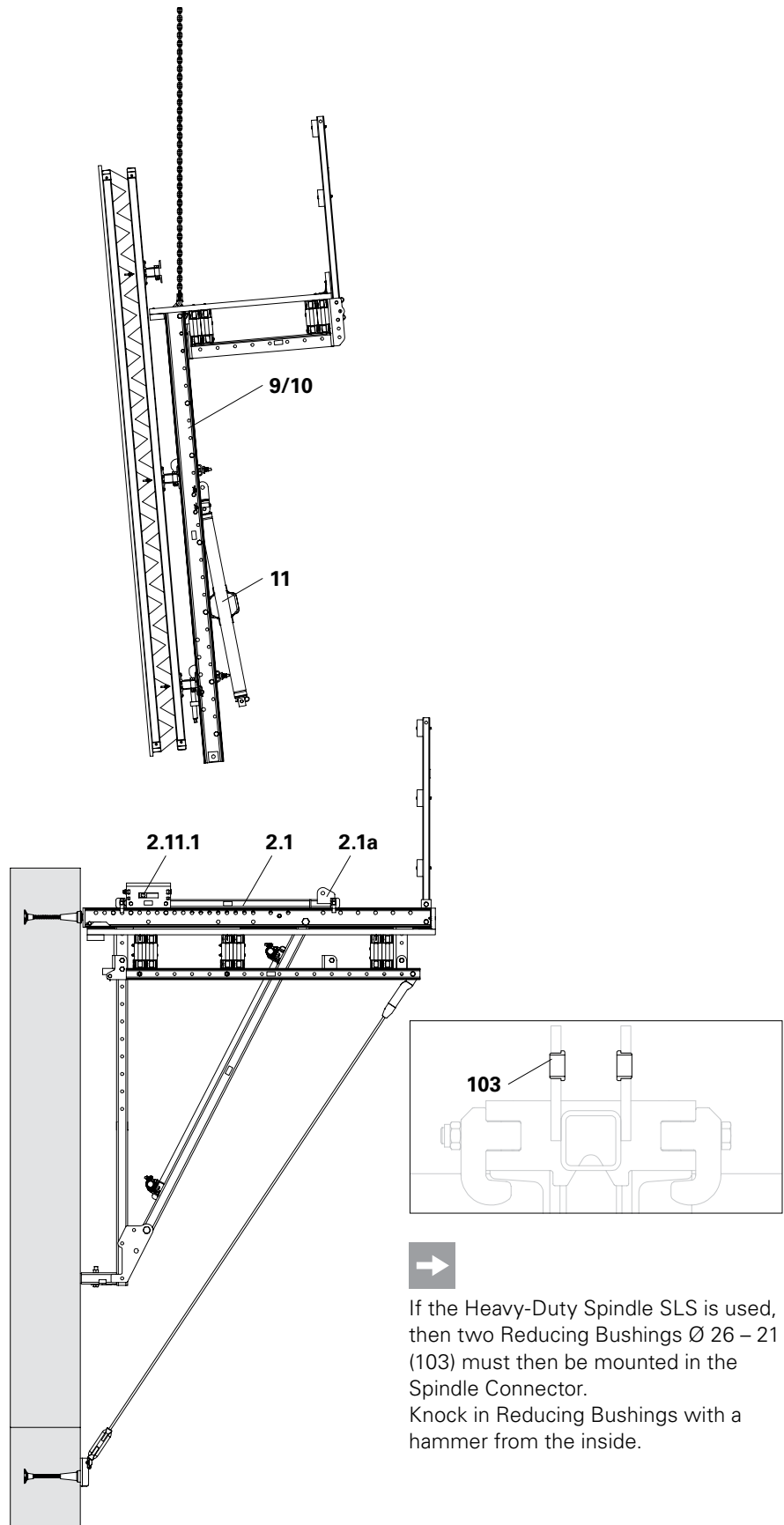


Fig. B3.04

→
If the Heavy-Duty Spindle SLS is used, then two Reducing Bushings \varnothing 26 – 21 (103) must then be mounted in the Spindle Connector. Knock in Reducing Bushings with a hammer from the inside.

B3.5 Exchanging the Formwork



- Always follow the Instructions for Use of the respective lifting device!
- Remove load-bearing points from the formwork after the formwork has been exchanged. Otherwise, it may happen that the crane hooks are fastened there when moving the climbing unit.

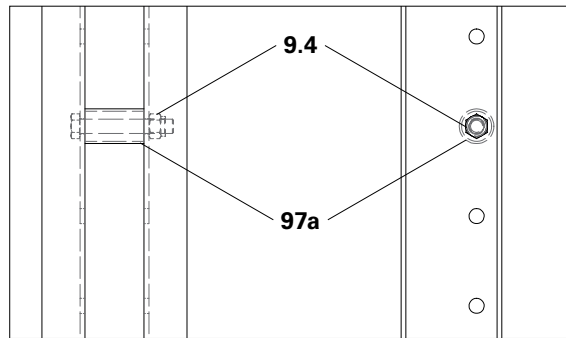


Fig. B3.05

Requirements:

The working platform must be correctly mounted and secured against lifting by means of locking pins. If necessary, install wind bracing to prevent tipping (see Section B2.5).

Preparation

To ensure that the Strongbacks remain stable at right angles with the concreting platform, the Strongbacks must be reinforced.

- Cut two pieces of scaffold tube (97a) to a length of 82 mm.
- For one Strongback above, for the other Strongback below: release the bolt connection of the Spacer (9.4) and dismantle the spacer tube.
- Place the scaffold tube pieces over the spacer tube and re-assemble both parts in the Strongback using bolts and nuts.
- For diagonal bracing, screw one scaffold tube (97) to the scaffold tube pieces using Swivel Couplers DK 48/48 (98).

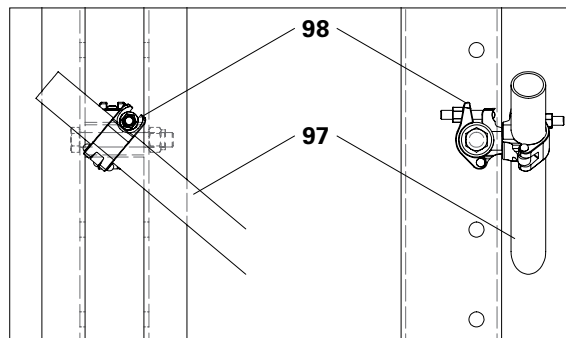


Fig. B3.06

5. Only SCS 250: retract Carriage (2.1) and fix in position using Fitting Pins \varnothing 26 mm (see Section B4.5).
Only SCS 190: incline Strongback to the rear (see Section B4.2).
6. Turn back the sliding piece (2.11.1) in the Adjusting Unit SCS (see Section B4.4).
7. Fix crane splices or other load-bearing points to the formwork. Attach crane lifting gear and tension.

Exchanging the formwork

1. Open all Waler Fixations U100-120 and dismantle.
2. Carefully lift the formwork with the crane.
3. Adapt or offset the Height Adjusting Unit (102) for the new formwork element.
4. Lift in new formwork element with the crane.
5. Lower formwork waler onto the Height Adjusting Unit. The crane continues to carry the load.
6. Insert Waler Fixation U100-120 (12) and clamp the formwork element against the Strongback.
7. Release crane of all loads and release crane lifting gear.
8. Remove load-bearing points from the formwork.
9. Align formwork (see Section B4). (Fig. B3.07)

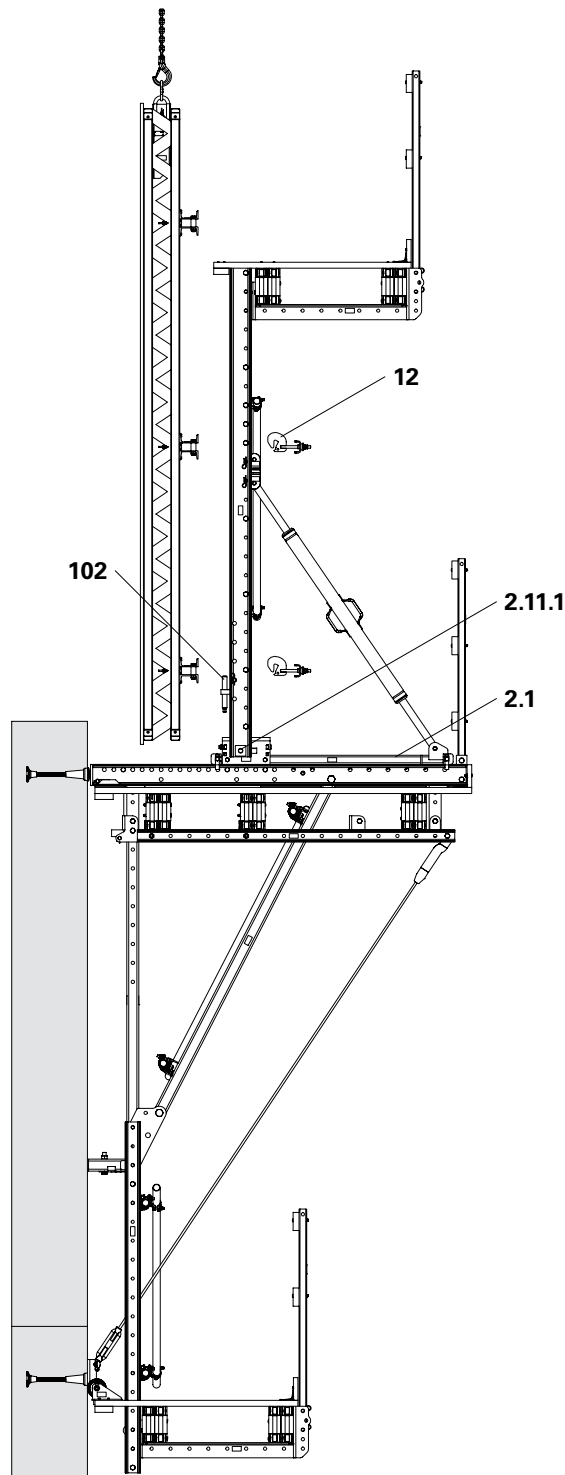


Fig. B3.07

B3.6 Spacers



It may be necessary to re-position the Spacers in the Strongbacks.

Re-positioning the Spacer M20

1. Release nut ISO 7040 M20-8 (9.4).
2. Remove bolt ISO 4014 M20 x 130-8.8 (9.3).
3. Remove tube sleeve of the Spacer M20-82 (9.2).
4. Re-position the tube sleeve with the help of a hammer to a $\varnothing 26$ hole.
5. Insert bolt ISO 4014 M20 x 130-8.8 (9.3) through the tube sleeve of the Spacer M24-82 (9.2).
6. Turn nut ISO 7040 M20-8 (9.4) on bolt ISO 4014 M20 x 130-8.8 (9.3) and tighten (tightening torque = 240 Nm).

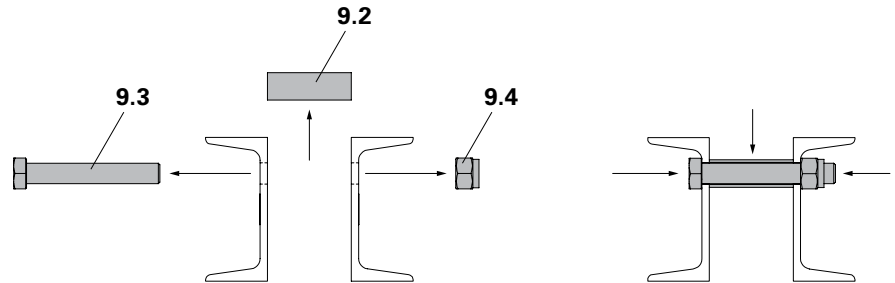


Fig. B3.08

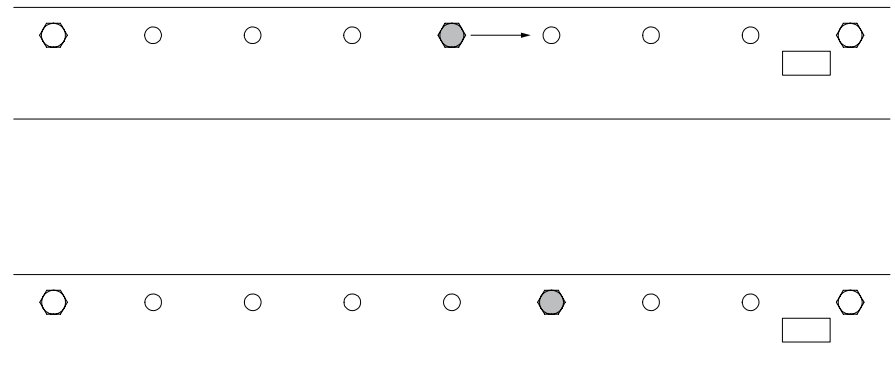


Fig. B3.09

B4.1 Vertical Alignment

Tools

Ratchet Wrench 1/2"
Socket SW 19-1/2" L

Aligning

1. Slightly open the Waler Fixation U100 – U120 (12) or Waler Fixation-2 U100 – U120 (13).
2. Adjust the height of the formwork using the Adjusting Bolt of the Height Adjustment Unit-2 CB/SCS/ RCS (102).
3. Tighten the Waler Fixation U100 – U120 (12) or Waler Fixation-2 U100 – U120 (13).



For an accurate alignment, place a spirit level on the formwork waler.

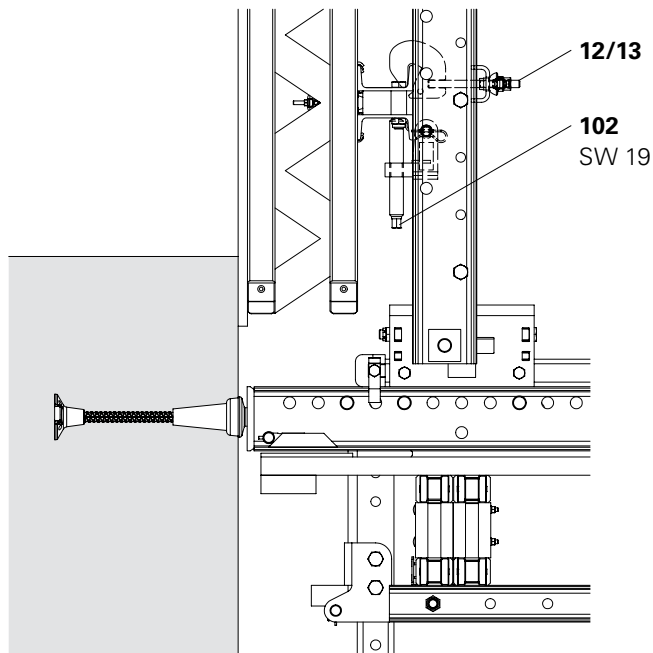


Fig. B4.01

B4.2 Aligning the Formwork Inclination



For large angles of inclination, the sliding piece in the Adjusting Unit might need re-adjusting.

Aligning

1. The formwork can be inclined by turning the Heavy-Duty Spindle.



- For an accurate alignment, place a spirit level on the formwork waler.
- During assembly, pay attention to ensuring the same direction of rotation of the Heavy-Duty Spindles SLS. This can be ensured whereby the hole (11.2) is directed downwards.

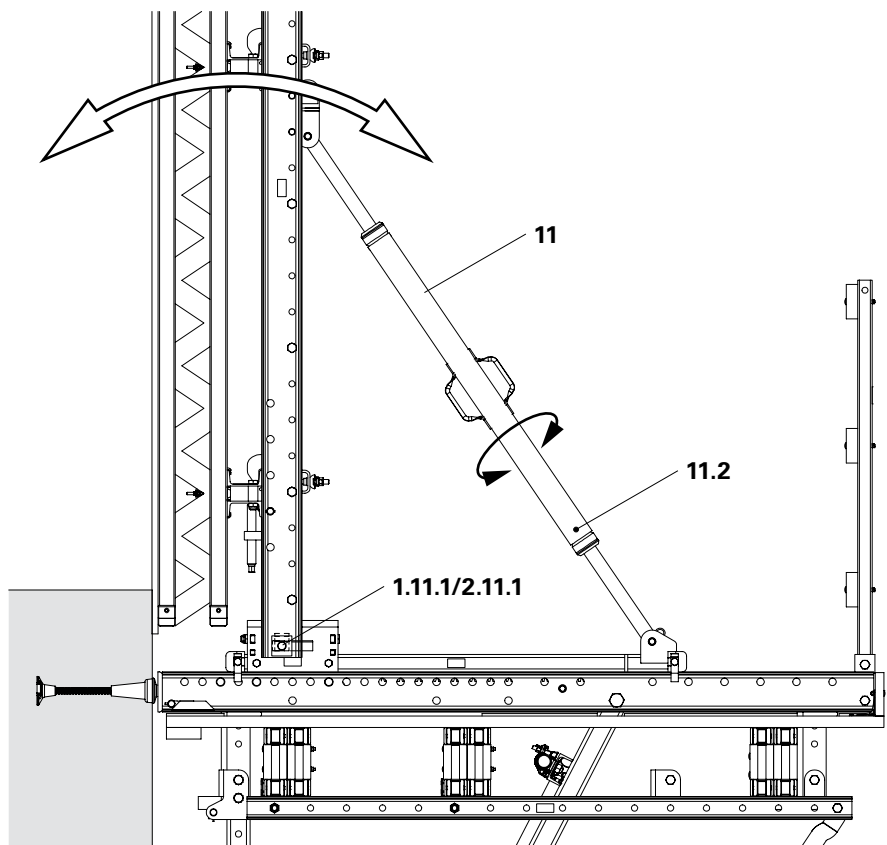


Fig. B4.02

B4.3 Horizontal Alignment

Tools

Hammer
Wrench SW 27

or

22 Tie Rod DW 15

Aligning

1. Slightly open the Waler Fixation U100 – U120 (12) or Waler Fixation-2 U100 – U120 (13) using a hammer or Tie Rod DW 15.
2. Move the formwork.
3. Tighten the Waler Fixation U100 – U120 (12) or Waler Fixation-2 U100 – U120 (13).
(Fig. B4.03)

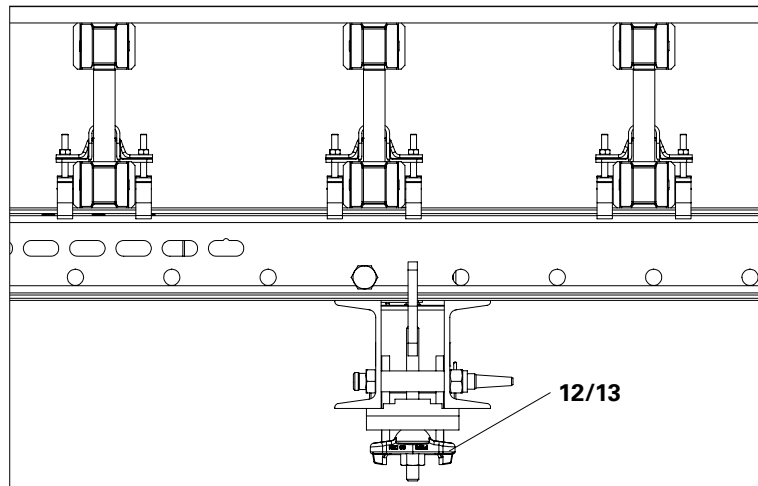


Fig. B4.03

B4.4 Operating the Adjusting Unit

The Adjusting Unit SCS is used to position the formwork. The base of the formwork is pressed tightly against the previous concreting section.

When striking, the Heavy-Duty Spindle is released first and then the Adjusting Unit is placed to the rear.

Tools

Ratchet Wrench
Wrench Socket SW 30

Adjusting the Adjusting Unit

Turn the Adjusting Bolt SW 30 (2.11.2) which allows the sliding piece (2.11.1) to be moved forwards and backwards. Adjusting range = ± 45 mm starting from the middle position. (Fig. B4.04)



In case there is insufficient space for the sliding piece to move as required, the Adjusting Unit must be re-positioned.

For SCS 190:

Secure the formwork against tipping. For this, attach crane lifting gear to the top walers and hold the formwork in position with the crane.

For the SCS 250:

Move the Carriage to the rear.

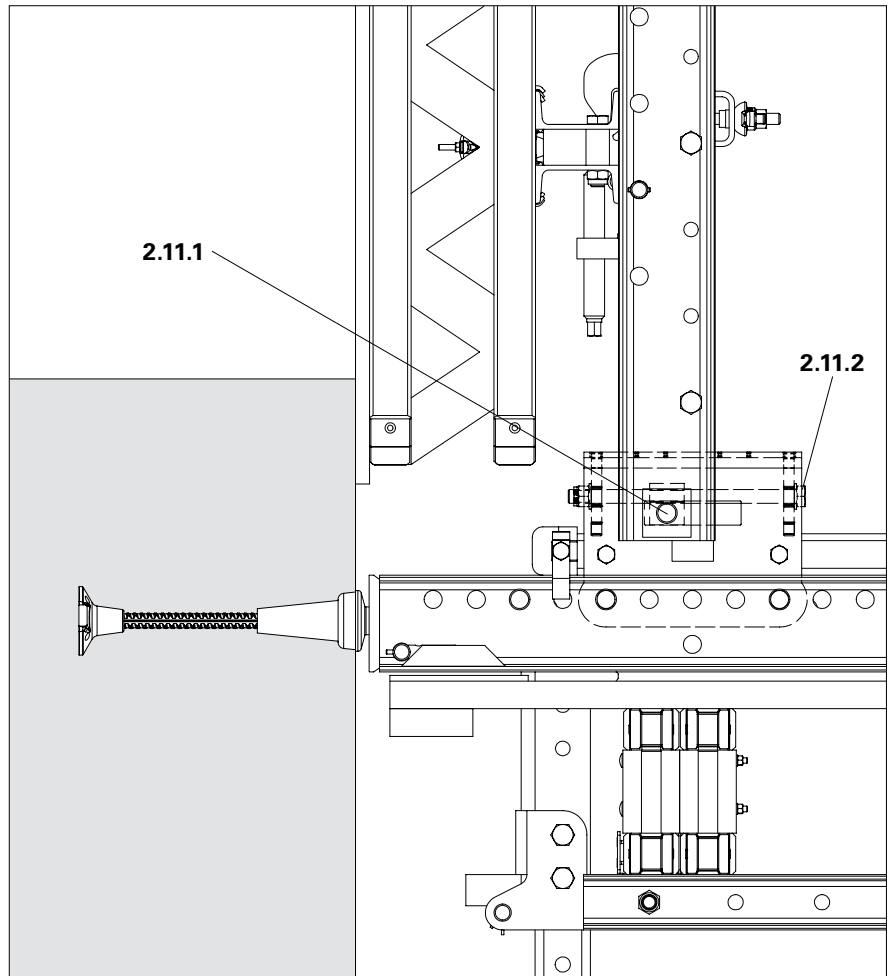


Fig. B4.04

B4.5 Operating the Carriage

The carriage is used for moving forward and retracting the formwork. As a result, this creates sufficient space for working in front of the formwork. The maximum retraction distance depends on the thickness of the formwork being used.

Max. retraction distance:

VARIO: $x_r = 64 \text{ cm}$

MAXIMO/TRIO: $x_r = 78 \text{ cm}$

Tools

Ratchet Wrench
Wrench Socket SW 19

Operating the Carriage

After the required concrete strength has been reached:

1. Release Heavy-Duty Spindle (11) and open the Adjusting Unit. The formwork is then released from the concrete.
2. Remove fitting pins (2.8 + 2.10) from the Adjusting Unit.
3. Turn the gear wheel drive (2.2) of the Carriage using a ratchet wrench and wrench socket SW 19 thus allowing the Carriage to be moved.
4. Bring Carriage (2.1) in the end position and insert fitting pins (2.8 + 2.10) into the Adjusting Unit.
5. For shuttering operations, move the Carriage up to the previous concreting section. Then move it back to the nearest holes and position the Adjusting Unit with fitting pins (2.8 + 2.10).
6. Use the Adjusting Unit for pressing the formwork against the previous concreting section (see Section B4.4).

(Fig. B4.05 + B4.05a)

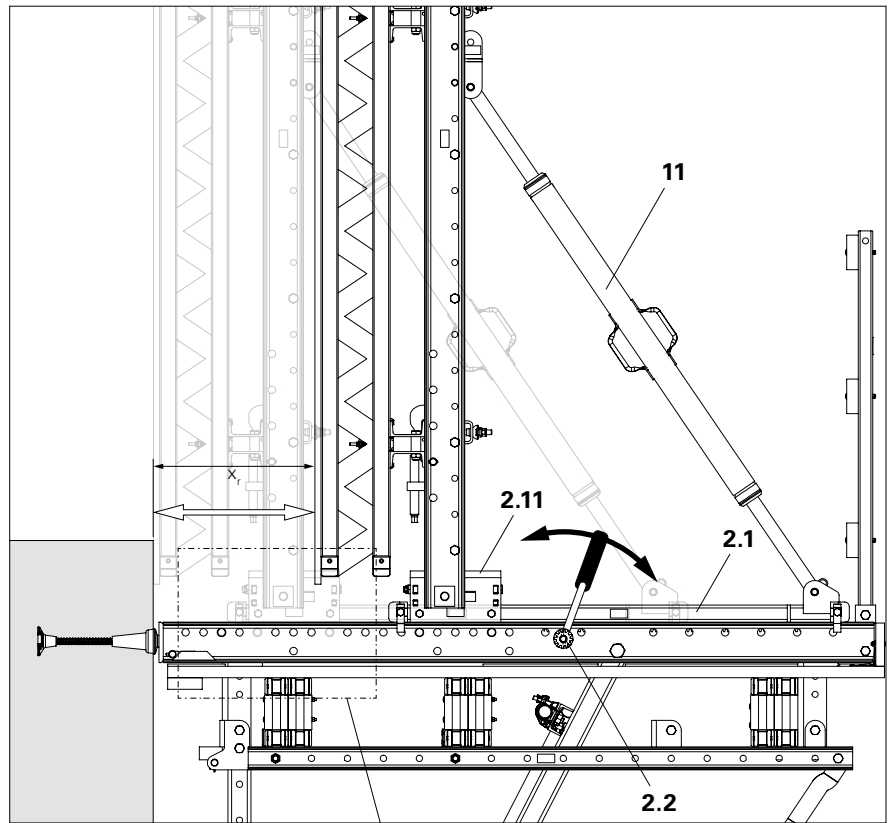


Fig. B4.05

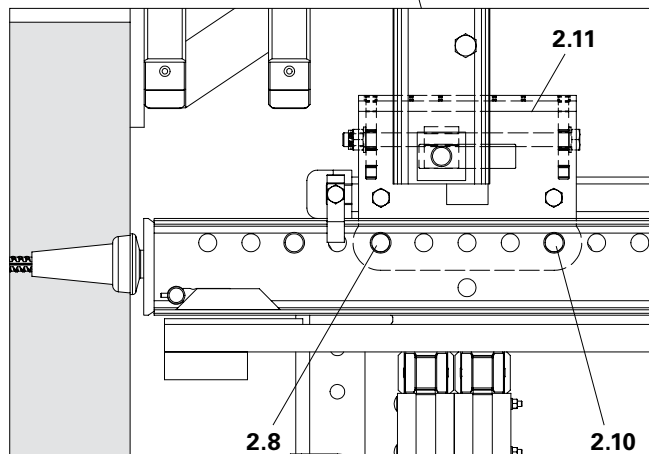


Fig. B4.05a

B5.1 Platforms

Preparing recesses for hatches:

Installation takes place in the same way for all recesses.

Components

- 62a** Plank 1200 x 40 x 120 mm
- 44** TSS-Torx 6 x 80
- 50** Washer ISO 7094 100 HV, A 8
- 96** F.H. Bolt DIN 603 M8 x 100 MU

SCS 250

Arrangement on the guardrail-side platform beam (36), hatch opens on the wall side.

1. For installation, a 72 x 57 cm opening is made in the planking between the brackets. The platform beams must be mounted using the appropriate spacings. Remaining planking width >13 cm.
2. Support the cut planks with timbers (36a), L = 120 cm, min. 120 x 40 mm, and secure with TORX 6 x 80 (44).
3. Attach timbers (36a) to the laterally positioned continuous planking with 2x bolts M8 x 100 (96), nuts and washers (50) respectively. (Fig. B5.01)

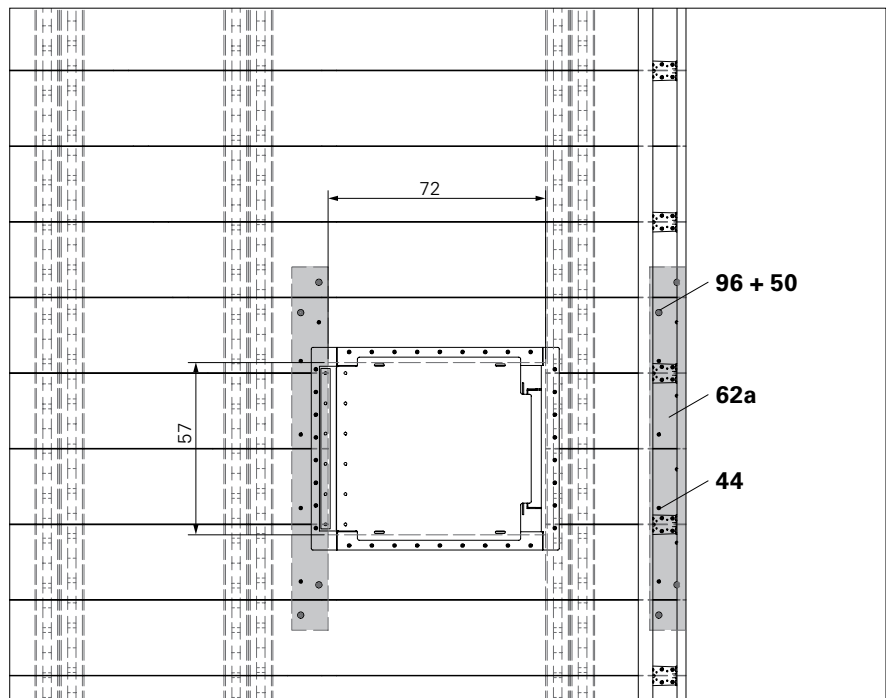


Fig. B5.01

SCS 190



- With the Bracket SCS 190, a hatch can only be mounted if there are no platform beams in the middle.
- Provide separate statical proof for the platform beams.
- Install hatch directly next to the bracket. As a result, the ladder descent is between the horizontal and diagonal scaffold tube bracing of the bracket unit. (Fig. B5.02a)
- Hatch opens on the wall side

Dimensions according to Fig. B5.02. Assembly takes place in the same way as for the SCS 250.

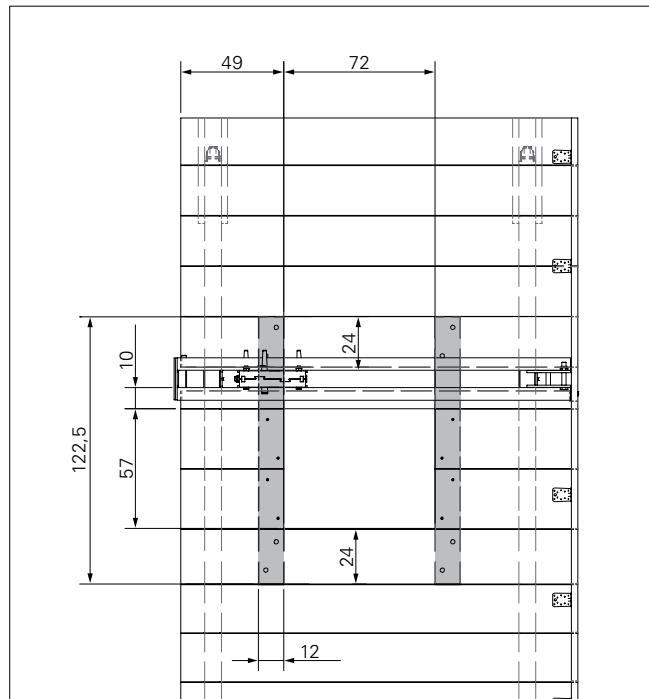


Fig. B5.02

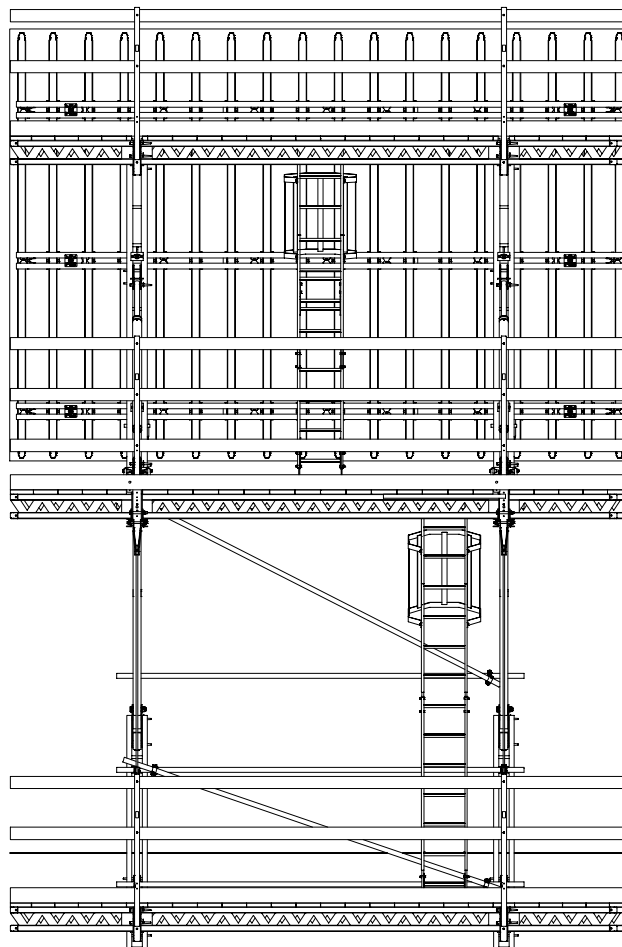


Fig. B5.02a

B5.2 Mounting the Concreting Platform Hatch



- Minimum plank width 120 mm.
- Install the hatch in the middle of the platform.

For the transition area between the platforms, hatches must be mounted.

Components

45	TSS-Torx 6 x 40	20x
82	Hatch RCS 55 x 60-2, foldable	1x
alternatively:		
	Hatch 55 x 60, foldable	1x
	Sliding hatch*	1x

*Important! The recess of the sliding hatch in the decking has a different size. Details are available on request.

Preparation

- Cut recess 72 x 57 cm between the crossbeams in the centre of the planking. Remaining planking width on Crossbeam: 10 cm.

(Fig. B5.03)

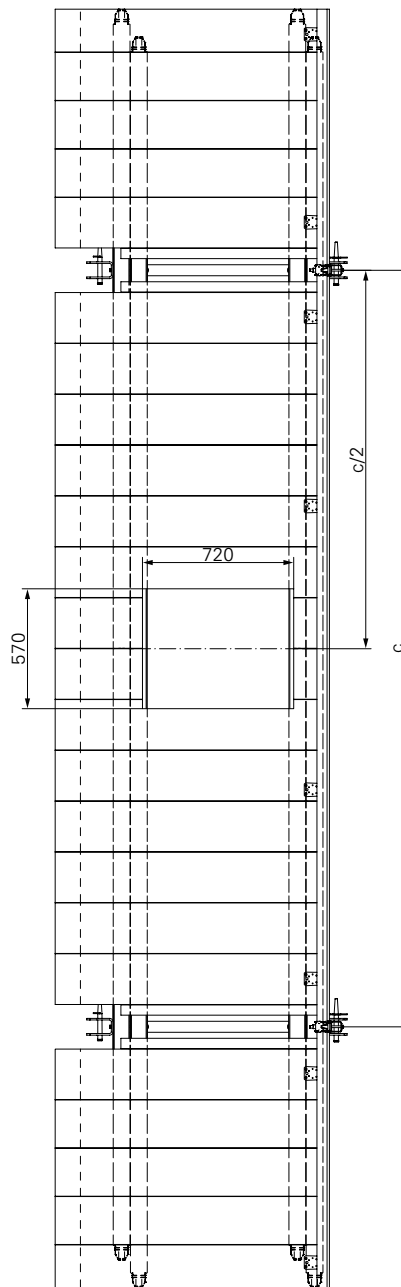


Fig. B5.03

Assembly

1. Place Hatch RCS 55 x 60-2, foldable (82) in the prepared recess. The opened hatch cover (82.1) points towards the wall side. (Fig. B5.04a)
2. Secure frame of the hatch and decking using approx. 16x TSS Torx 6 x 40 (45) (2 per plank). (Fig. B5.04b)



Mount hatches and access ladders in the corner platforms.
→ Free access to the hatch is possible.

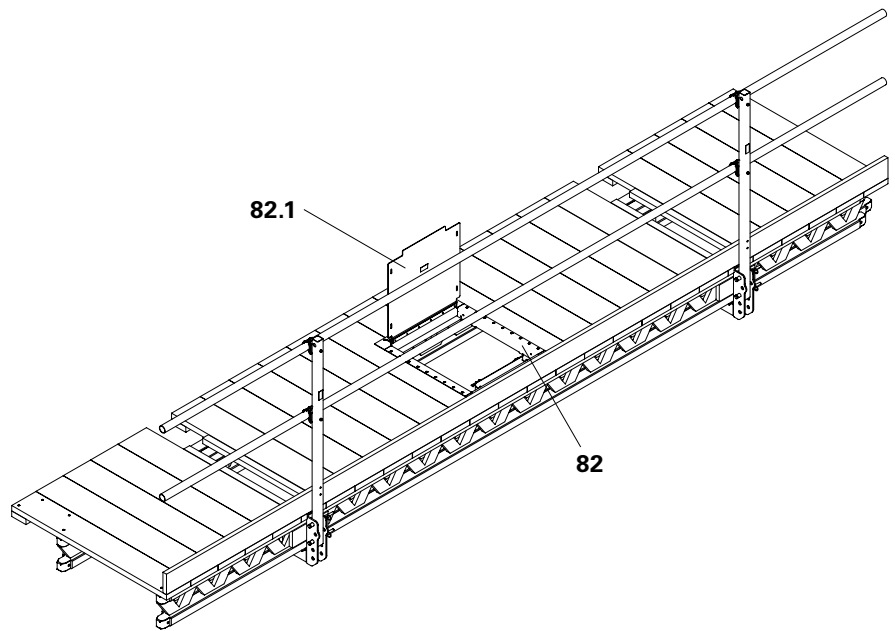


Fig. B5.04a

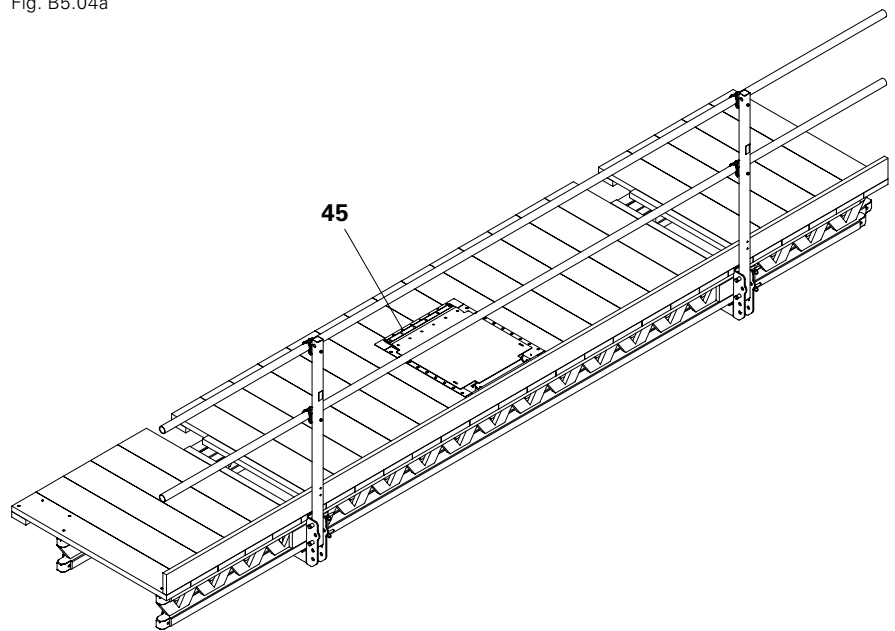


Fig. B5.04b

B5.3 Ladder Platform for the Finishing Platform



- Take the ladder platform into consideration when assembling the finishing platform (see Section B1.6).
- Clear internal dimensions of the ladder platform: min. 90 cm!

Components

- 36** Girder GT 24
- 40** Cross Connector GT 24 / GT 24
- 42** Hex. Wood Screw DIN 571 8 x 60
- 45** TSS-Torx 6 x 40
- 49** Washer ISO 7094 200 HV, A 8
- 50** Washer ISO 7094 100 HV, A 8
- 54** Angle Connector 90° reinforced
- 57** Guardrail Post SCS 150
- 59** Guardrail Post Holder Multi
- 68** Screw-On Coupling-2 D48-M20
- 69** L-Angle RCS 120 x 120 x 200
- 96** F.H. Bolt DIN 603 M8 x 100 MU
- 98** Swivel Coupling DK 48/48
- 101** TSS-Torx 6 x 60

Assembly

- For the platform joint, push the Cross Connectors (40) into the chords of the platform beam, position them and screw tightly in the slotted holes using 4 screws 6 x 40 (45) respectively.
- Slide the Lattice Girder GT 24, L = 1.80 m (36), on the Cross Connector, move into position and screw tightly in the slotted holes using 4 screws 6 x 40 (45) respectively.
- Mount the Guardrail Post Holder Multi (59).



Mount the Cross Connector only in the area where the girder chord is undamaged.
Load-bearing capacity: see Product Information PI 405.



The claws of the Cross Connector must rest in the chord of the girder. There is 10 mm gap between the lattice girders if correctly installed.

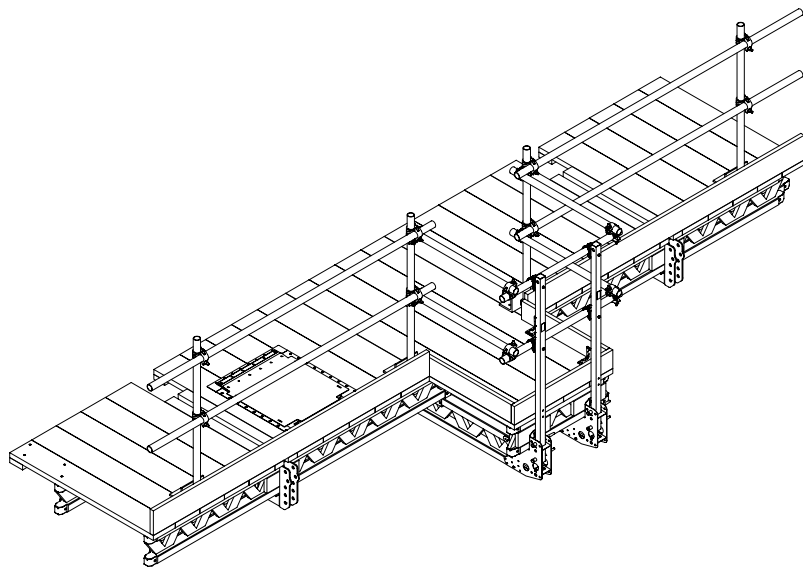


Fig. B5.05

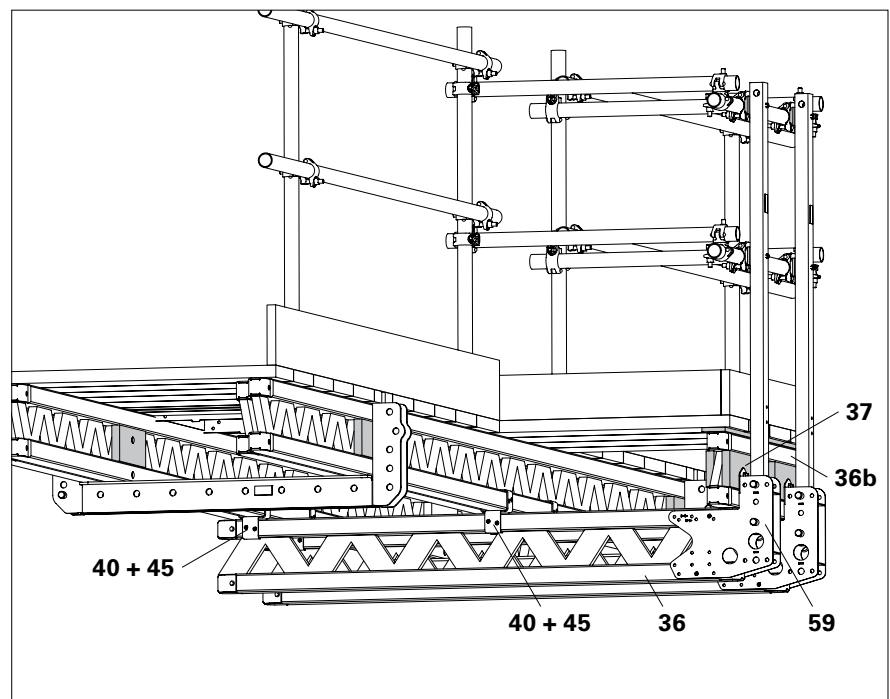


Fig. B5.05a

4. Fill the lattice structure of the Lattice Girder GT 24, L = 0.90 m (36b) with formlining strips (37) (300 x 120 x 26) up to the width of the chord.
 5. Pre-drill (Ø 8 mm) the prepared lattice girder and attach it to the Guardrail Post Holder (59) with bolts M8 x 100 (96), washers (49) and nuts.
 6. Fill the chord of the lattice girder with 10 mm thick wooden strips.
 7. Cut planking to required length and mount on each platform beam using 2 screws 6 x 60.
 8. Mount Guardrail Posts SCS (57) on Guardrail Post Holders.
 9. Attach scaffold tube Ø 48 to the Guardrail Post SCS.
 10. Position L-Angle RCS (69) and pre-drill planking 2 x with Ø 6 mm.
 10. Mount L-Angle on planking using 2x wood screws 8 x 60 (42) and washers (50) respectively.
 11. Mount Screw-On Coupling (68) on L-Angle RCS.
 12. Mount guardrails consisting of scaffold tubes Ø 48 mm and Swivel Couplers (98) along the complete length of the platform and ladder platform.
 13. Mount Toeboards on the planking using Angle Connectors (54) and screws 6 x 40 (45).
- (Fig. B5.05 - B5.07)



Take into consideration the guardrail dimensions. (Fig. B5.06 + B5.07)

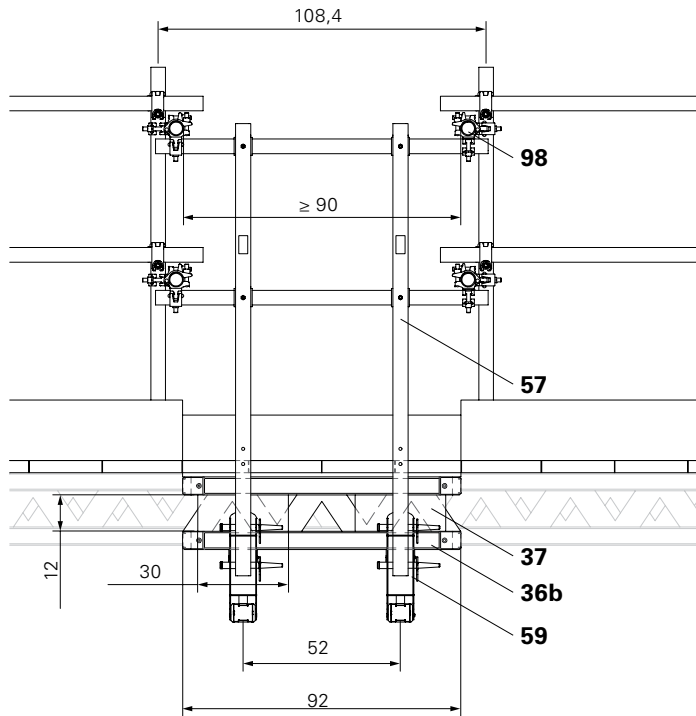


Fig. B5.06

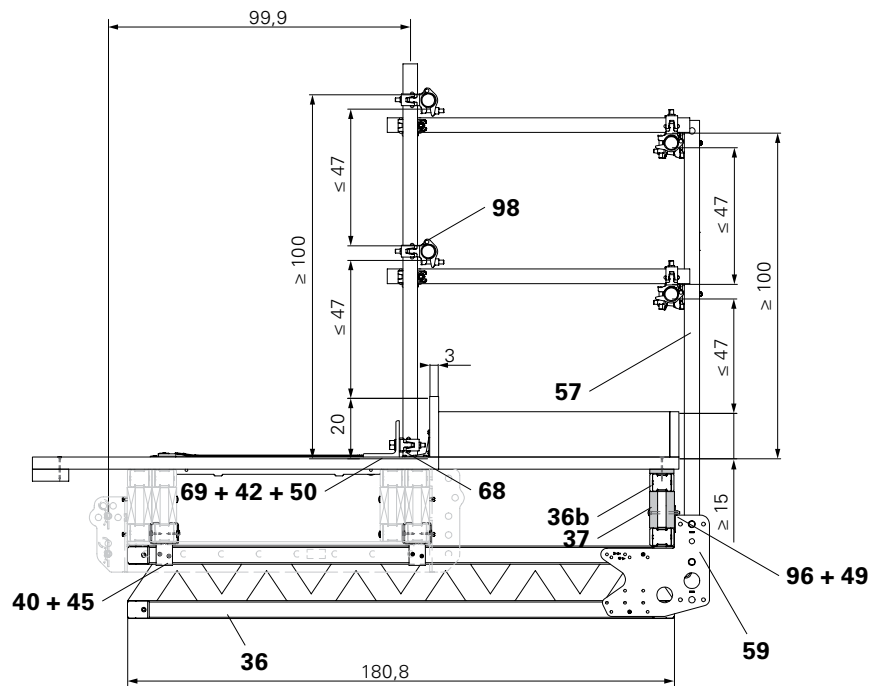


Fig. B5.07

B5.4 Ladders



Do not use the ladder until it is securely attached at the top and bottom, and the Ladder Safety Cage has been mounted.

Tools

- Ratchet Wrench
- Wrench Socket SW 19
- Ring / Open-End Wrench SW 19

Components

- 45** TSS-Torx 6 x 40
- 83** Bolt ISO 7014 M12 x 40-8.8
- 84** Nut ISO 7040 M12-8
- 85** Ladder 180/6
- 86** Ladder 220/6
- 88** Ladder Base 30, adjustable
- 91** Ladder Safety Cage 75
- 92** Ladder Safety Cage 150

Pre-assembly of ladder

- Permanently mounted ladder:
 1. Push top Ladder 220/6 (86) with the connector (86.1) as far as possible into the bottom Ladder 180/6 (85).
 2. Secure the bottom ladder to the connector using the 4x bolts M12 x 40 and nuts (86.2) which have been provided.
 3. Fix Ladder Base (88) to the connector on the bottom ladder in the same way using 4x bolts M12 x 40 and nuts. (Fig. B5.08)

Fixing the ladder base

1. Pull out the bracket (88.1) of the ladder base (88) as far as the platform decking. Secure bracket to the platform decking using 3x TSS Torx 6 x 40 (45).

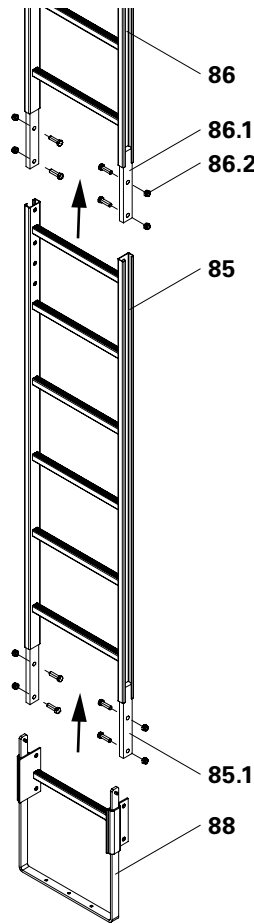


Fig. B5.08

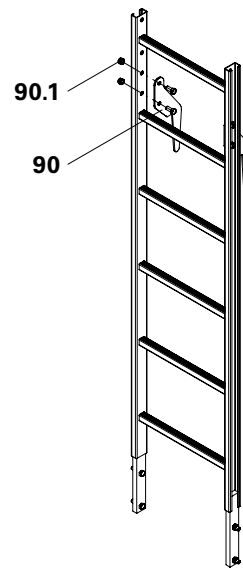


Fig. B5.09



The rungs of the hook-in ladder and top ladder must be positioned at the same height. Otherwise secure ladder hooks using the correct holes.

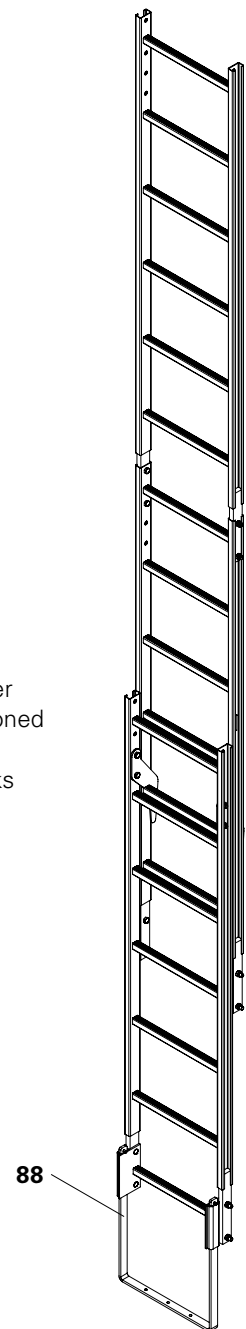


Fig. B5.10

- Bottom ladder as hook-in ladder:
 1. Secure ladder hook (90) to the 2 bottom holes on the ladder rail using 4x bolts M12 x 25 and nuts (90.1) which have been provided.
 2. Securely mount the ladder base (88). See above.
 3. Attach hook-in ladder to the top ladder.
 (Fig. B5.09 + B5.10)

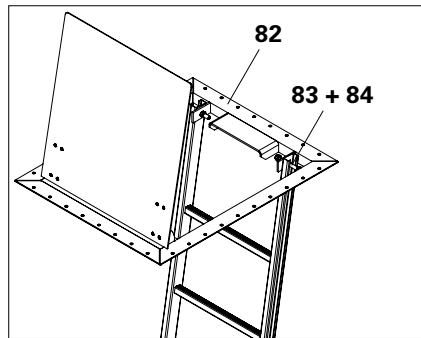


Fig. B5.11

Attaching the ladder to the hatch

1. Lift ladder using the crane. Lower ladder through hatch opening (82).
2. Fix ladder to the hatch from above using 2x bolts M12 x 40 and nuts (83 + 84). (Fig. B5.11)

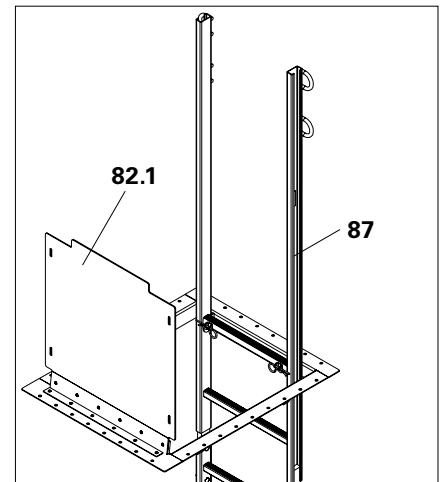


Fig. B5.12

Attaching the End Ladder 180/2

1. Open hatch cover (82.1).
2. Lift pre-assembled ladders (85 + 87) with the crane into the hatch and lower so that the top rung of the ladder lies in the U-profile of the hatch. (Fig. B5.12)

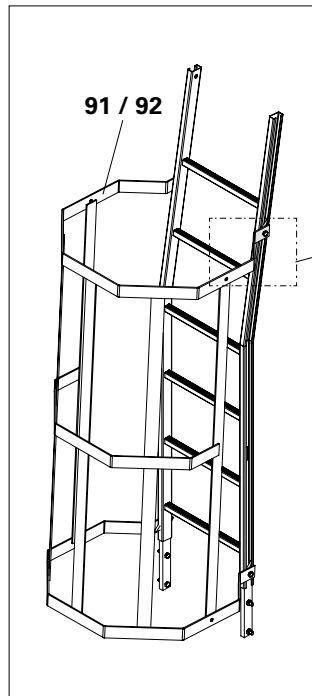


Fig. B5.13

Mounting the Ladder Safety Cage



- The distance from the platform decking to the Ladder Safety Cage ranges from 2.2 m to 3.0 m.
- The opening between two Ladder Safety cages must not exceed 50 cm.

1. Bring and hold Ladder Safety Cage (91) in position using a rope.
2. Slightly loosen bolts M12 x 25 (4x) on the clamping plate (91.1), position clamping plate on the ladder rail, turn and tighten bolts. (Fig. B5.13)

Pos.	Designation	Concreting height hB in [m]		
		4.00	6.00	
		Spacing between the decking in [m]		
		4.052	3.177	6.427
		Qty		
82	Hatch 55 x 60-2, foldable	1	1	1
85	Ladder 180/6	2 (2)	2 (2)	4 (4)
90	Ladder Hook	- (2)	2	2
88	Ladder Base 30, adjustable	1	1	1
92	Ladder Safety Cage 150	1	-	2
91	Ladder Safety Cage 75	-	1	-
87	End Ladder 180/2	(1)	(1)	(1)

Numbers in brackets indicate the combination with the End Ladder 180/2.

B6.1 Climbing Procedure

Moving

Preparation

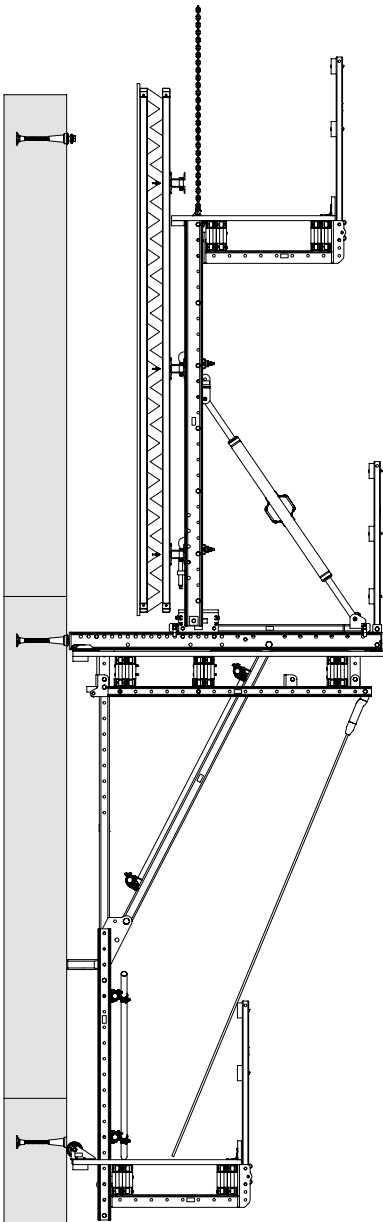


Fig. B6.01

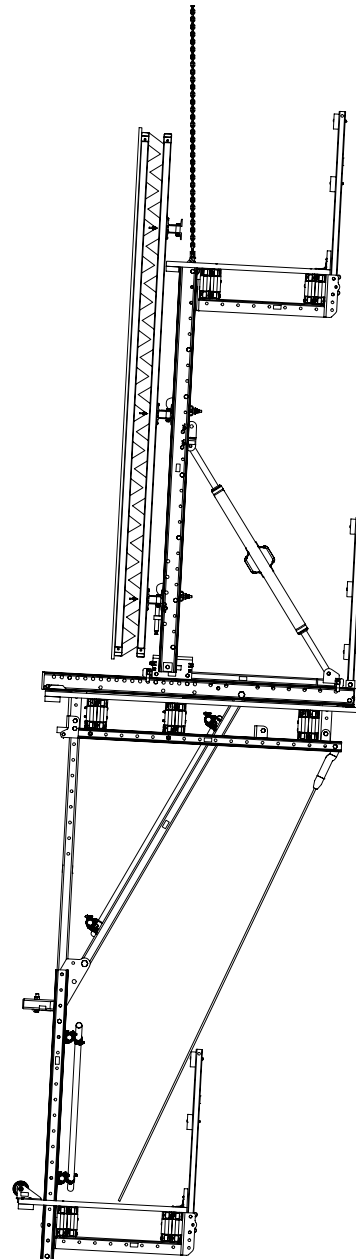


Fig. B6.02

Mounting

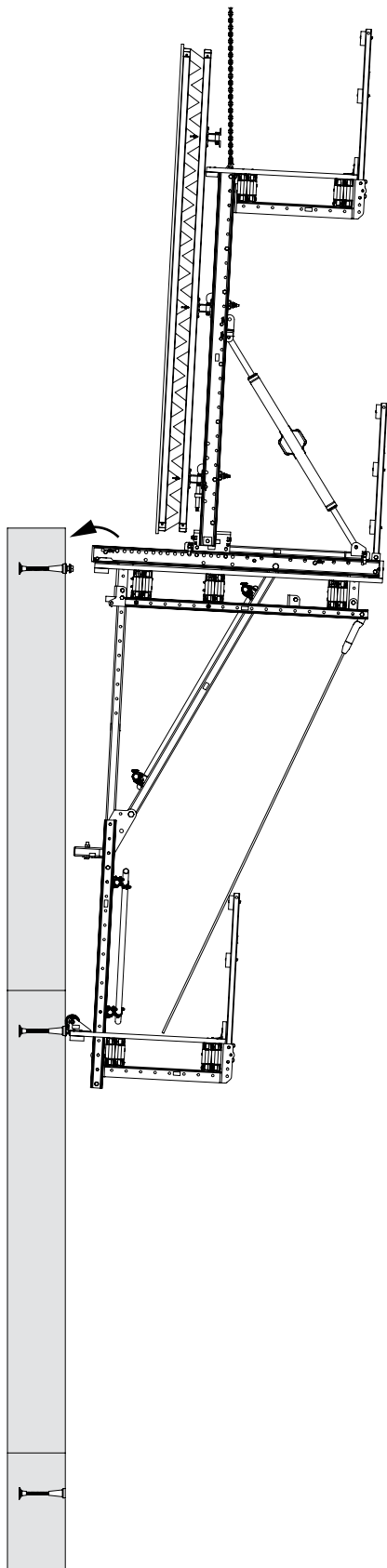


Fig. B6.03

Finishing work

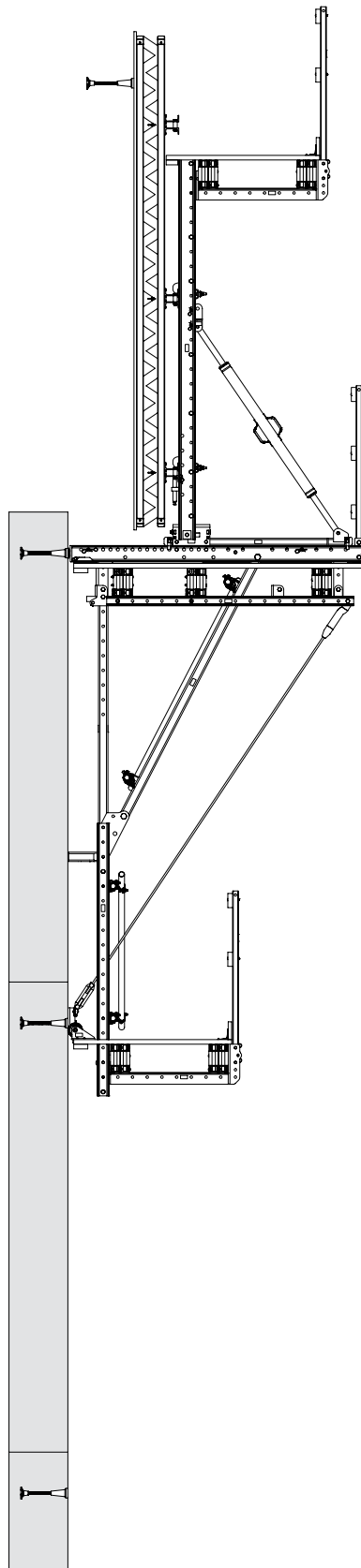


Fig. B6.04



Warning

Leading edges are created during the moving procedure!

Falling from the structure.

⇒ When working on leading edges, use PPE to prevent falling.



- Use a guide rope to ensure that the moving procedure is fully under control. (Fig. B6.05)
- Secure of cordon off leading edges during the climbing procedure.
- Plan access ways and respective sequences to ensure that safe escape routes are available at all times for all site personnel on the climbing units.
- Carrying personnel is forbidden.
- Do not transport any loose materials or other loads.

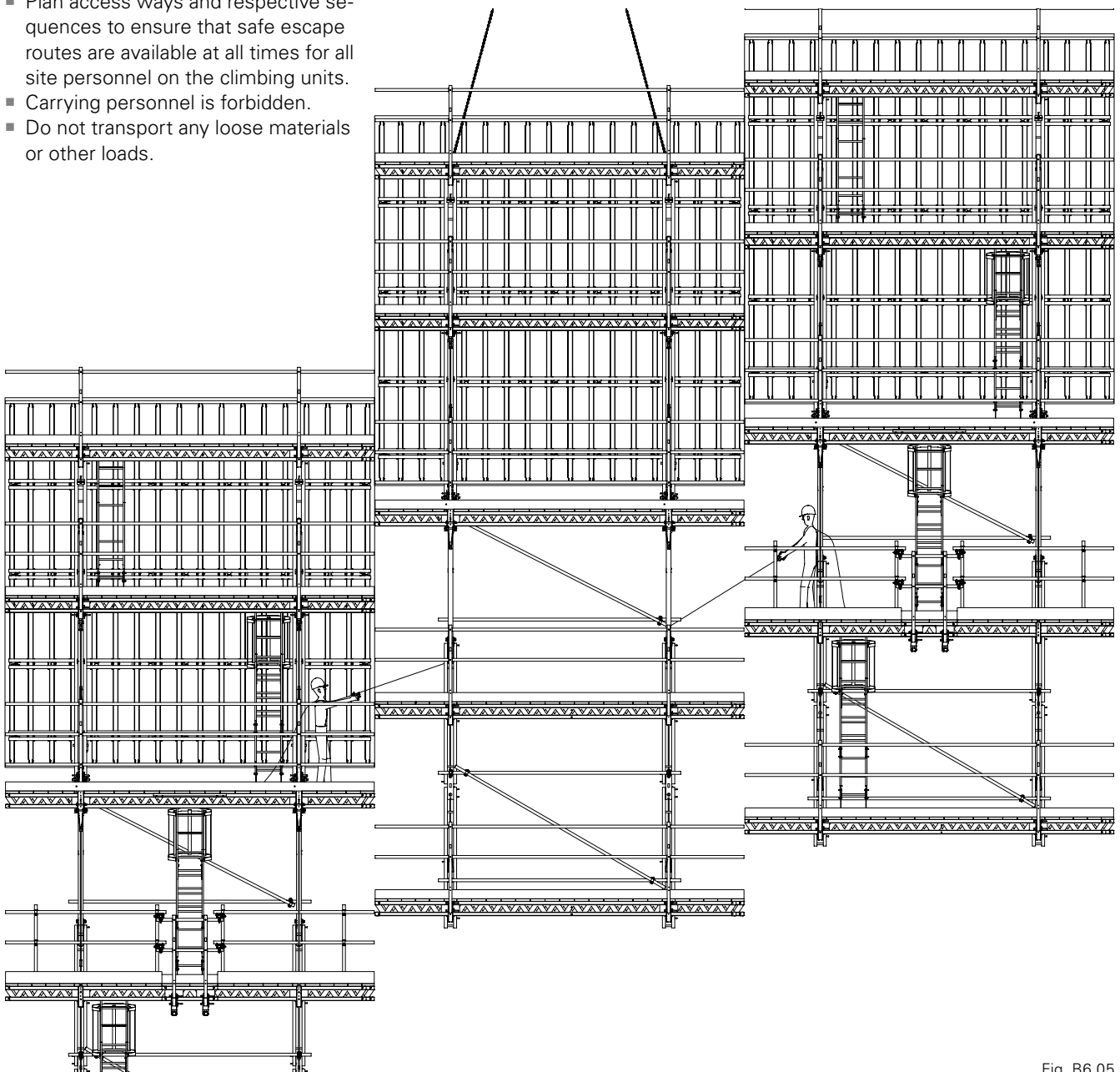


Fig. B6.05



Never attach crane lifting gear to the formwork. (Fig. B6.06a)



- When using 2-sling lifting gear, a Compression Brace must be installed between the Strongbacks (see Section B3.2).
- Determine the load centre of gravity so that the climbing unit tilts approx. 1 – 2° with the trailing platform to the building when being lifted, e.g. through trial and error.

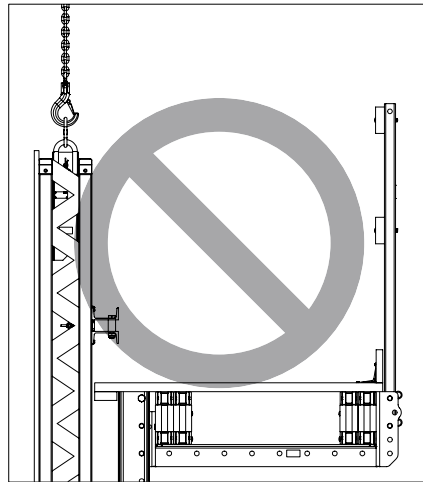


Fig. B6.06a

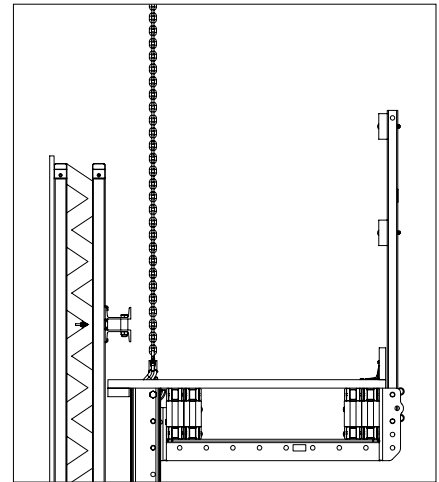


Fig. B6.06b

Preparation

1. Remove all connection elements and couplings from the formwork elements of the adjacent climbing units.
2. Fix Scaffold Mounting Ring M30 (81) to the Leading Anchor.
3. Release wind bracing and remove the wall connection.
4. Remove Climbing Cone from the finishing platform and close anchor holes where required.
5. Remove all loose components from the climbing unit.

Moving

1. Attach crane lifting gear at the top to the Strongback.
2. Move securing pins to the climbing position and leave the platform (see Section B6.2).
3. Lift climbing unit out of the Scaffold Mounting Ring. The pressure point should be approx. 5 – 10 cm away from the wall. If the bracket jams, correct the formwork inclination accordingly.
4. Lift climbing unit to next Climbing Anchor.

Mounting

1. Lower Cross Beam and attach to the Scaffold Mounting Ring.
2. Enter platform and move securing pins to the securing position (see Section B6.2).



Are both cross beam heads suspended in the corresponding Scaffold Mounting Rings?

Troubleshooting

- If installation in the Scaffold Mounting Ring is unsuccessful or the bracket jams, lift the platform and lower again.
- If the bracket spacing does not match that of the Scaffold Mounting Rings, check the distance of the Leading Anchor to the formwork.
- If the mounting procedure is not possible, the bracket spacing must be corrected through re-assembly of the platform.

Finishing work

1. Release crane lifting gear.
2. Remove Scaffold Mounting Ring used in the last cycle from the Climbing Anchor of the finishing platform.
3. If necessary, mount wind bracing on the Climbing Cone used in the last cycle from the finishing platform.
4. Mount the Leading Anchor for the next cycle on the formlining (see Section B2.6).

B6.2 Securing Pins

Securing pins in the securing position

During work operations on the climbing bracket, the brackets must be secured to prevent lifting with securing pins (2.3) in the securing position under the Scaffold Mounting Rings (81).

In addition to the lateral stop plates (2.5), the pins must be secured on the opposite side by means of cotter pins. (Fig. B6.07 + B6.07a)

The securing pin is in the securing position when in the transport and storage position of the Cross Beam Unit SCS.

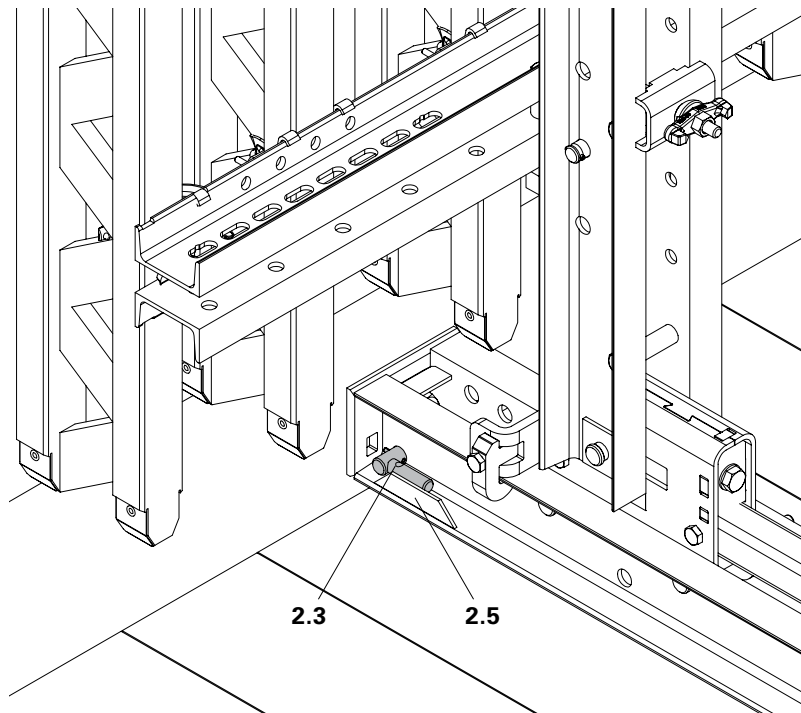


Fig. B6.07

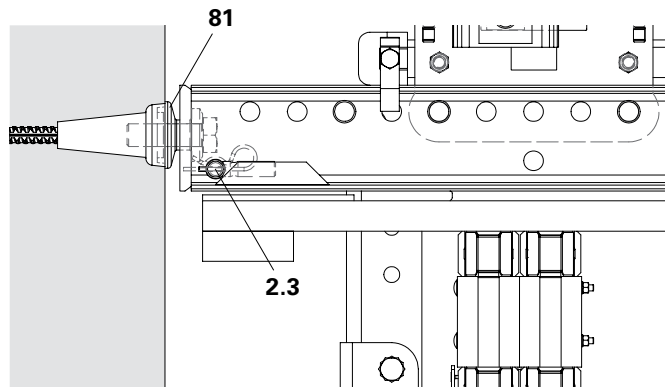


Fig. B6.07a

Securing pins in the climbing position

During the climbing procedure, the securing pins (2.3) are stored in the climbing position. The cotter pins are inserted into the shaft of the securing pins. (Fig. B6.08 + B6.08a)

During the mounting procedure, the pins must not collide with the Scaffold Mounting Ring (81).

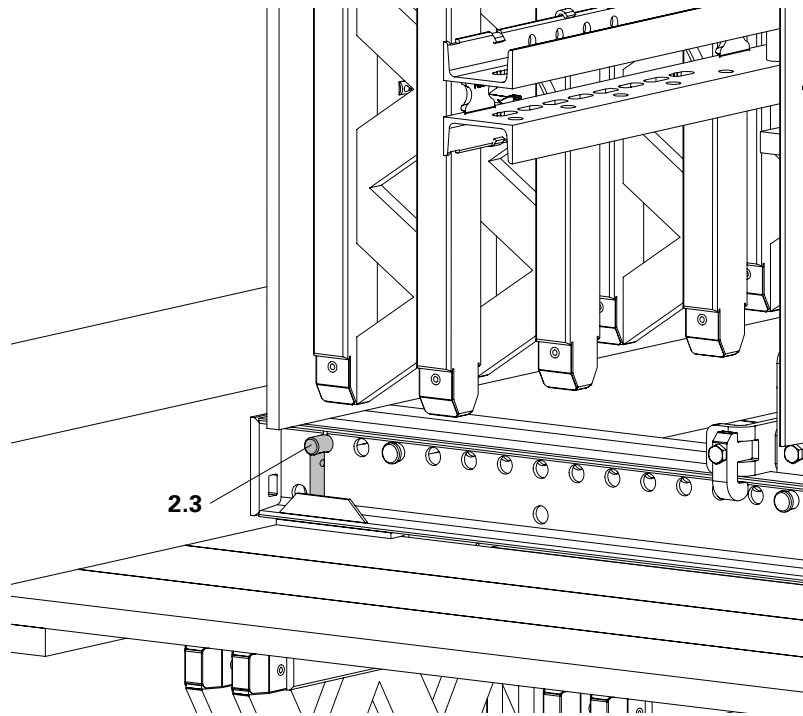


Fig. B6.08

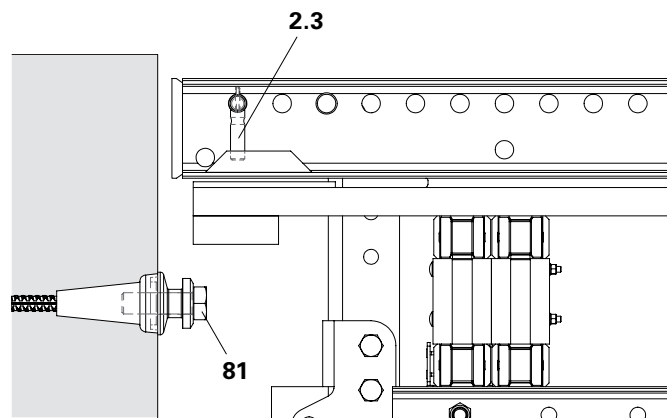


Fig. B6.08a



Warning

Leading edges are created during the moving procedure!

Falling from the structure.

⇒ These areas must be cordoned off or secured using other suitable measures.

⇒ When working on leading edges, use PPE to prevent falling.

B7.1 Formwork



- Environmentally-friendly disposal of non-recyclable material in accordance with regulations.
- Re-attach relevant connection means (screws, fitting pins, etc.) of the individual PERI items as indicated in the programme overview.

Dismantling

1. Remove formwork.
2. Attach crane lifting gear to the Strongbacks (9/10).
3. Tension the crane lifting gear.
4. Remove fitting pins $\varnothing 21$ from the Heavy-Duty Spindle SLS (11) and spindle in the Heavy-Duty Spindle SLS.
5. Remove fitting pins $\varnothing 26$ from the Adjusting Unit SCS (2.11) and lift the Strongback with the crane.
6. Set down formwork unit on designated area and dismantle. (Fig. B7.01)

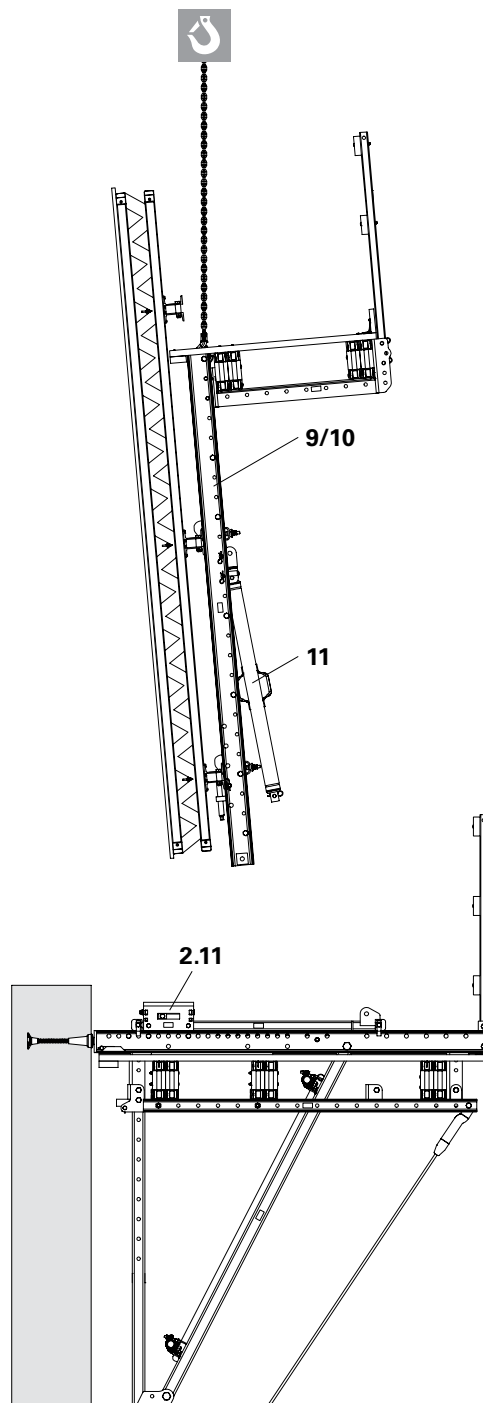


Fig. B7.01

B7.2 Guardrails and Start Roller



Follow Instructions for Use for the Crane Eye CB 240-2 0.7 t.

Dismantling

1. If necessary, dismantle the wind bracing.
2. Dismantle Start Roller ACS (15).
3. Mount Crane Eye CB 240-2 0.7 t (95) in the top holes of the Guardrail Post SCS 150 (57).
4. Attach crane lifting gear to the crane eye and tension.
5. Remove Bolts ISO M20 x 120-8.8 (2.6) and Nuts ISO 7040 M20-8 (2.7).
6. Set guardrail unit down on designated area and dismantle. (Fig. B7.02)

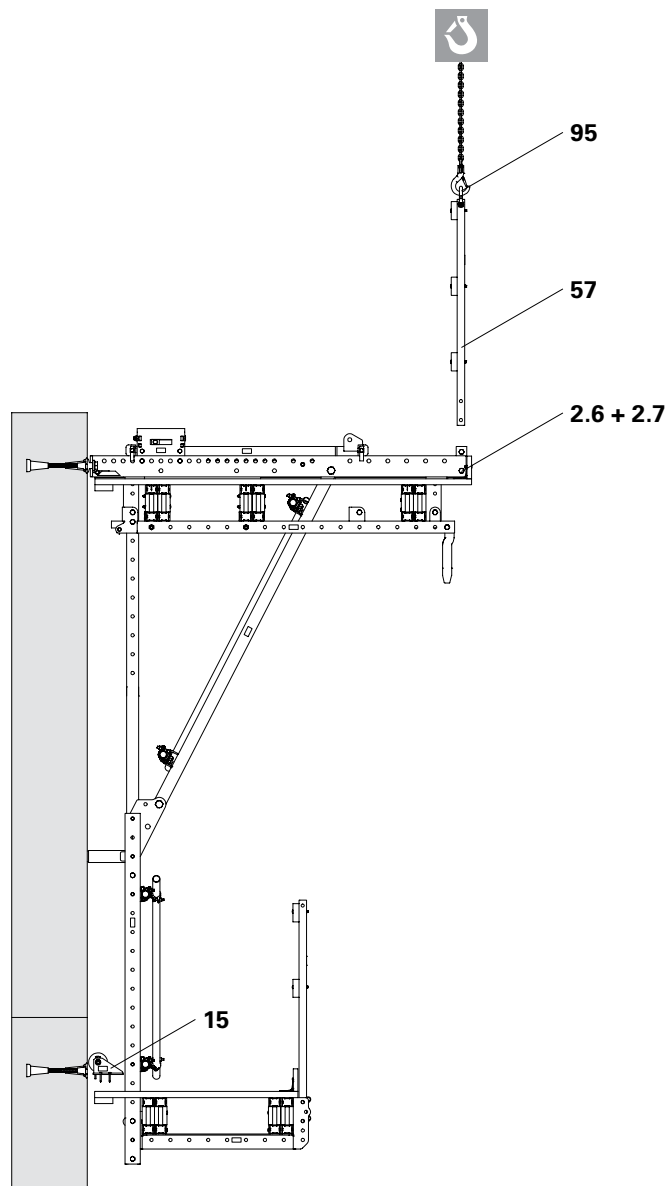


Fig. B7.02

B7.3 From the Building

1. Remove 2x fitting pins $\varnothing 26$ (2.8) and cotter pins 5/1 (2.9) from the marked positions on the Adjusting Unit SCS (2.11).
2. Insert fitting pins $\varnothing 26$ (2.8) into the holes on the Crossbeam and secure with cotter pins 5/1 (2.9).
3. Attach crane lifting gear to the fitting pins.
- (Fig. B7.03)
4. Move securing pins to the climbing position and leave the platform (see Section B6.2).
5. Lift platform unit out of the Scaffold Mounting Rings (81) and set down on the dismantling area. (Fig. B7.04)
6. Lower the finishing platform first and place the bracket unit forward on the dismantling support (260 mm / 250 mm). (Fig. B7.05)
7. Dismantle the Climbing Anchor from a safe working position.

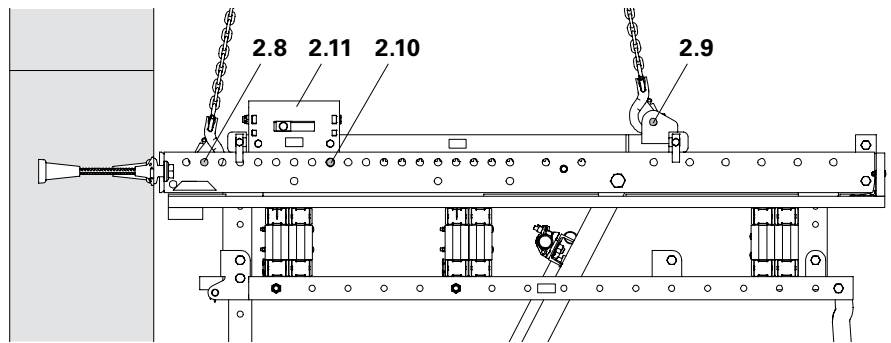


Fig. B7.03

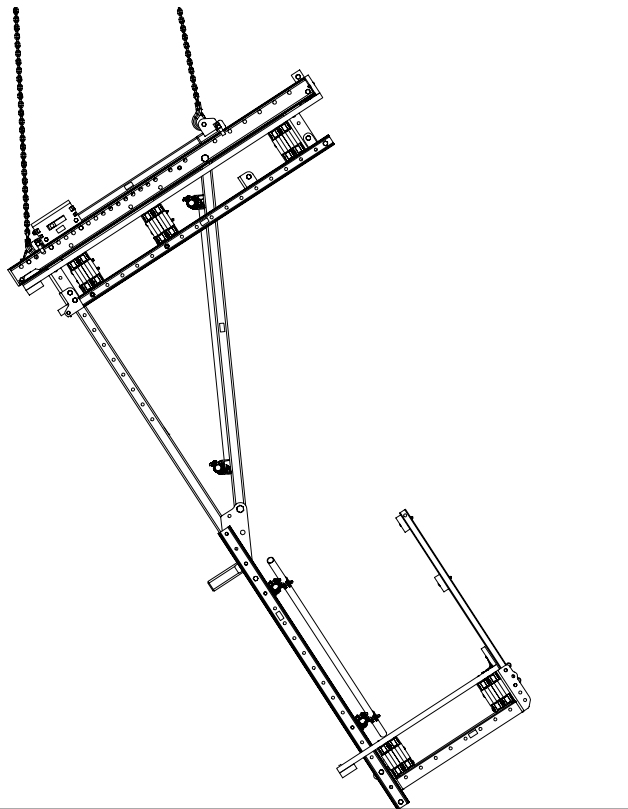


Fig. B7.04

B7.4 Platform Unit

Dismantling the finishing platform

1. Secure bracket against tipping.
2. Dismantle the guardrail unit.
3. Attach rear end of the finishing platform to the crane lifting gear and tension.
4. Remove fitting pins from the Platform Beam SCS 120 (16) and lift out the finishing platform.
5. Dismantle the scaffold tube bracing on the Platform Post Double SCS 232 (18).
6. Remove Platform Post Double SCS 232 (18) from the Vertical Strut SCS 237 (7).

(Fig. B7.05)

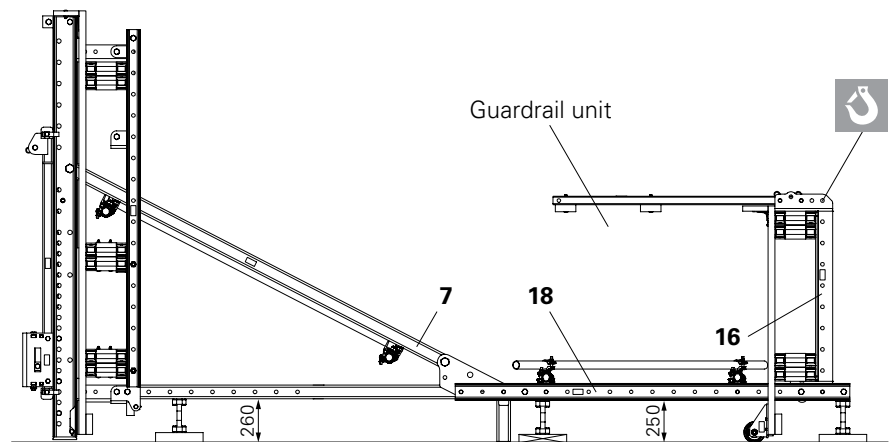


Fig. B7.05

Dismantling the working platform

1. Protect bracket against tipping.
2. Attach Crossbeam Unit SCS (1/2) to the crane lifting gear.
3. Dismantle bracket.
4. Move securing pins (2.3) to the securing position (see Section B6.2).
5. Lower the Crossbeam Unit SCS (1/2).

(Fig. B7.06)

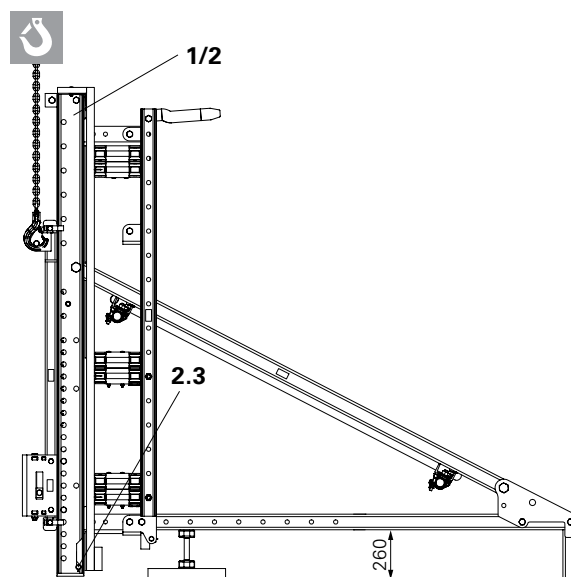


Fig. B7.06

Dismantling the decking

1. Dismantle planking (55) on Platform Beam (36).
2. Dismantle Platform Beam (36).
3. Dismantle Platform Beam Support SCS (3) or Platform Beam Support RCS (6).

(Fig. B7.07)

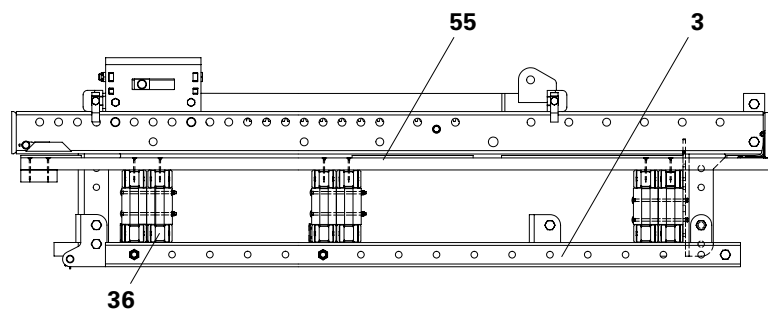


Fig. B7.07

C1.1 General

Climbing units are fixed to circular structures using the Angle Adapter SCS and Swivel-Mounted Pressure Point SCS.

This ensures that the brackets of the platform are in a parallel position and the formwork can be retracted with the Carriage.

The Angle Adapter SCS and Swivel-Mounted Pressure Point SCS can be mounted on the Crossbeam Unit SCS 190 and SCS 250 in the same way.

Limits of use

Angle Adapter SCS and

Swivel-Mounted Pressure Point SCS:
Max. angle β building / centre line of bracket: $\pm 15^\circ$. (Fig. C1.01 + C1.01a)

Connect Brackets SCS as of angle β building / centre line of bracket $> 7.5^\circ$ to the Swivel-Mounted Pressure Point SCS by means of timbers (see Section C1.3).

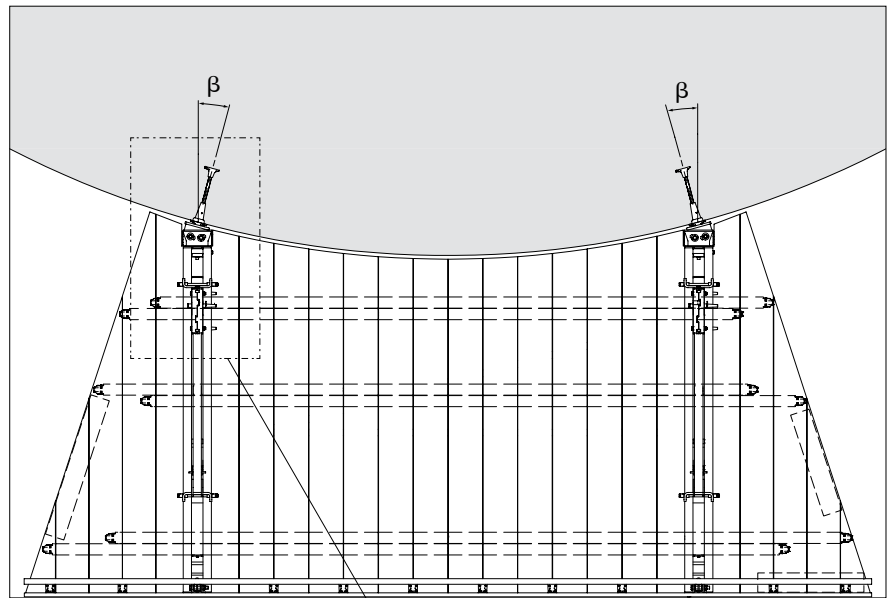


Fig. C1.01

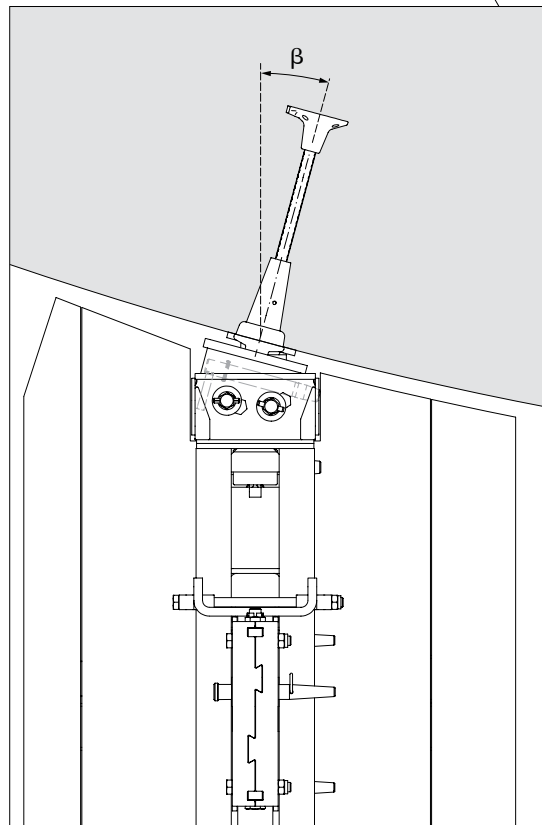


Fig. C1.01a

C1.2 Angle Adapter SCS

Components:

1	Crossbeam Unit SCS 190	2x
1.3	Locking Pin 25x200 SCS	2x
1.5	Securing Plate	2x
1.9	Cotter Pin 5/1	2x
1.10	Securing Plate	2x
7	Vertical Strut SCS 237	2x
108	Angle Adapter SCS	2x
108.1	Locking Pin 25x200 SCS	2x
109	Swivel-Mounted Pressure Point SCS	2x

Assembling the Angle Adapter

1. Remove locking pins (1.3) from the Crossbeam Unit (1).
2. Mount Angle Adapter (108) from below in the Crossbeam Unit. In the process, insert the sleeve of the Angle Adapter behind the head plate (1.10) of the Crossbeam Unit (1).
3. Insert locking pin (1.3) through the hole on the Crossbeam Unit and sleeve of the Angle Adapter.
4. Secure locking pins on the Crossbeam Unit (1.3) by means of cotter pins (1.9).
5. Turn down the hand grip of the locking pin behind the securing plate (1.11) of the Crossbeam Unit. (Fig. C1.02)

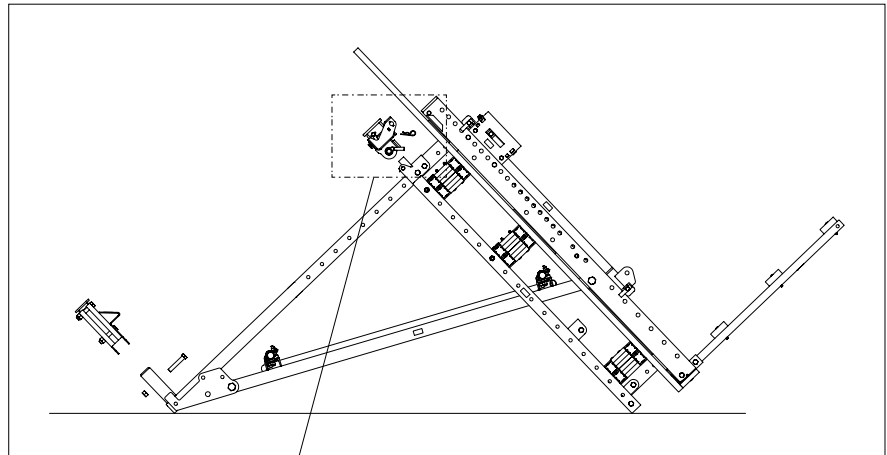


Fig. C1.02

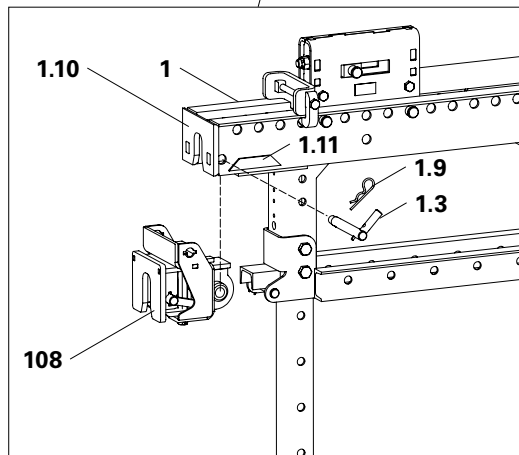


Fig. C1.02a



The locking pins of the Crossbeam Unit and Angle Adapter are not interchangeable and can be distinguished as follows:

locking pin for the Crossbeam Unit:
dowel pin protrudes on one side.

locking pin for the Angle Adapter:
dowel pin protrudes on both sides,
hand grip is rectangular.

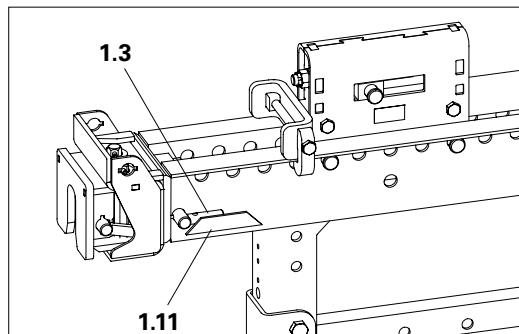


Fig. C1.02b

C1.3 Swivel-Mounted Pressure Point

Assembly

1. Slide the swivel-mounted pressure point (109) on the vertical strut.
2. Secure the swivel-mounted pressure point using bolts M24 x 130 (109.1) and nuts M24 (109.2).

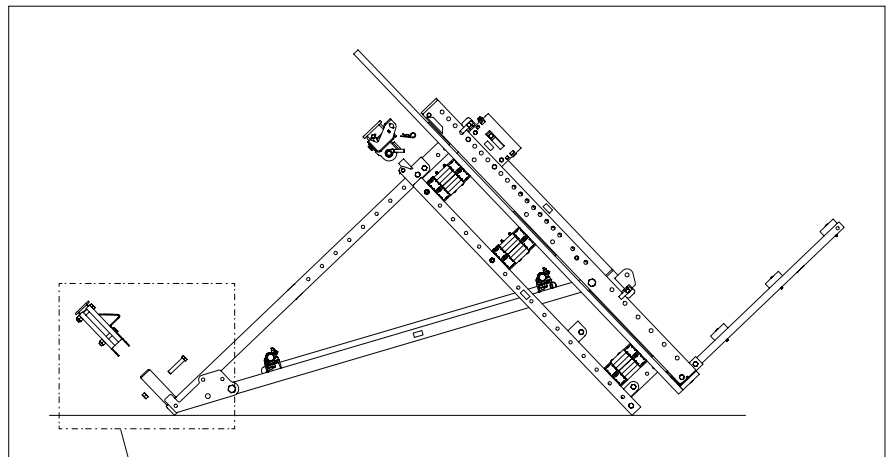


Fig. C1.03

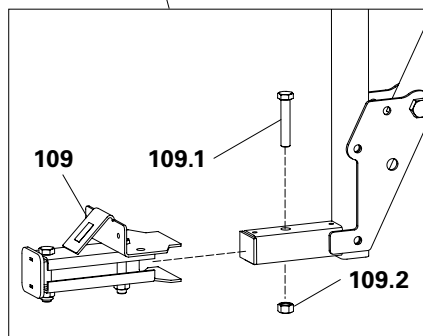


Fig. C1.03a

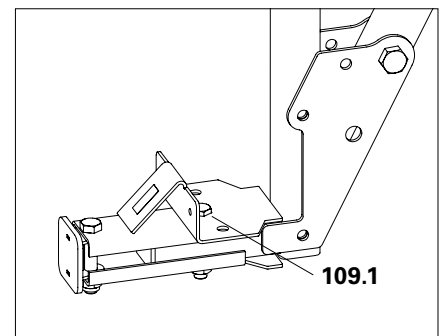


Fig. C1.03b

Additional measures for angle $\beta > 7.5^\circ$

For force transmission of the horizontal components into the structure, a friction coefficient $\mu \geq 0.2$ (steel/concrete) must be present at the contact point between the base of the bracket and building.

For larger angles β or smaller friction coefficients, connect Brackets SCS consoles by means of timbers.

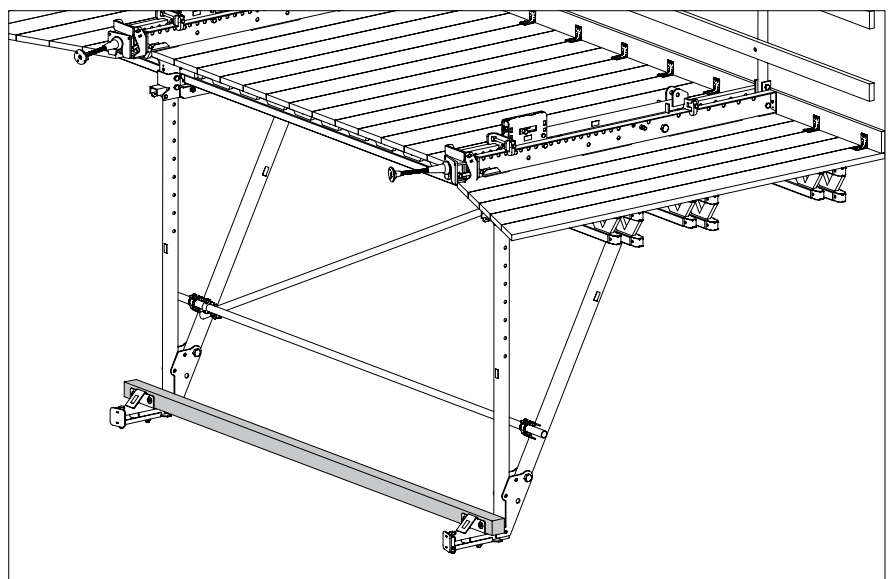


Fig. C1.04

Assembly

1. Pre-drill timbers (\varnothing 13 mm) for bolts M12.
2. Pre-drill timbers for the screw heads (109.1) using a Forstner drill \varnothing 42. Drilling pattern: see Fig. C1.04c.
3. Secure timber 10/10 with bolts M12 x 140, washers A12 and nuts M12 which have been provided with the swivel-mounted pressure point. (Fig. C1.04 - C1.04b)

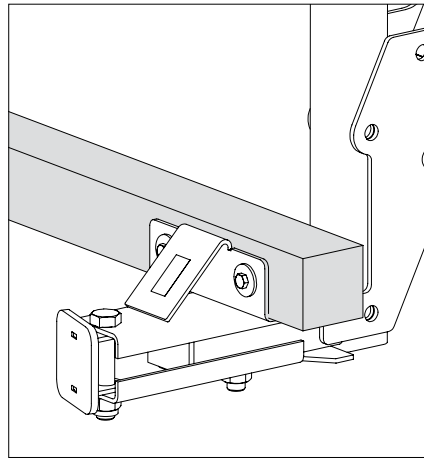


Fig. C1.04a

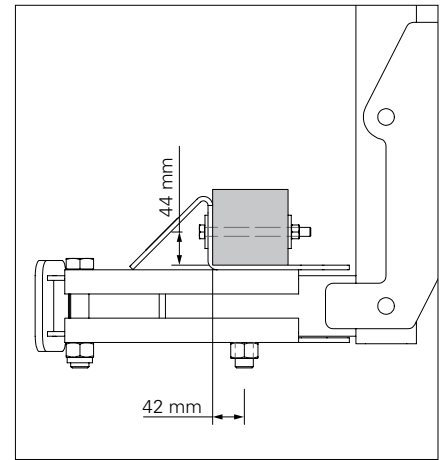


Fig. C1.04b

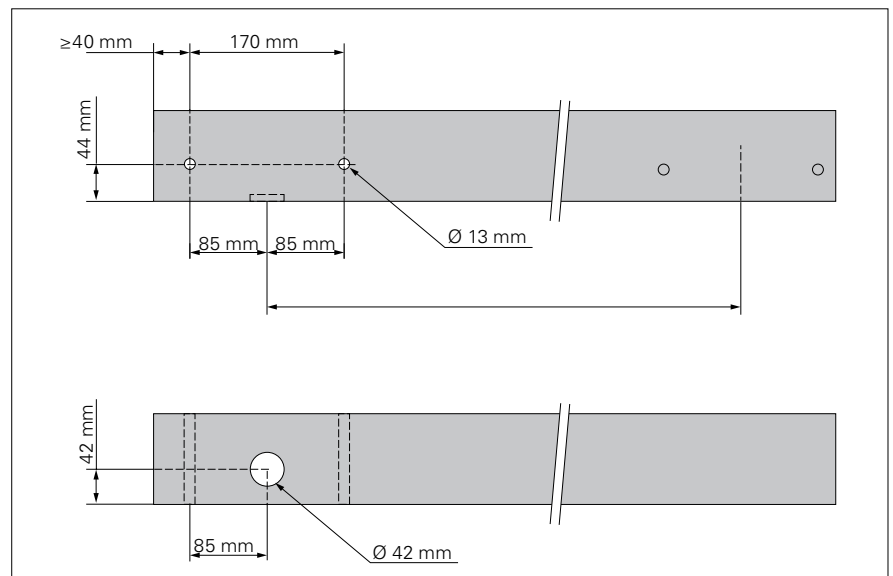


Fig. C1.04c

C1.4 Climbing Procedure



Warning

Never remove the locking pins from the Crossbeam Unit (1.3)! Otherwise the Angle Adapter will fall out and can cause a serious injury to site personnel positioned below!

⇒ Secure locking pins to prevent them being accidentally pulled out!

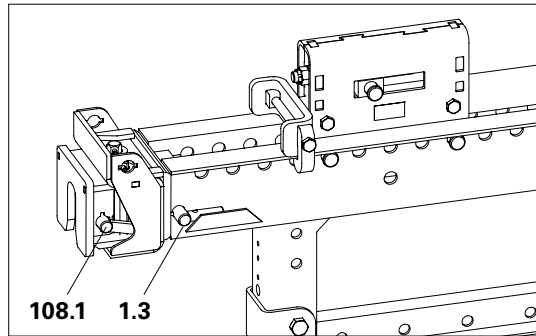


Fig. C1.05

Mounting the Climbing Unit

1. Slightly swing the Climbing Unit against the building just above the Scaffold Mounting Ring SCS.
→ Angle Adapter rotates in the existing building angle.
2. Lower the Climbing Unit into the Scaffold Mounting Ring.



Have both Angle Adapters been completely and correctly attached to the Scaffold Mounting Ring?

3. Enter platform and bring the locking pins (108.1) in the securing position so that the Climbing Unit cannot lift off.

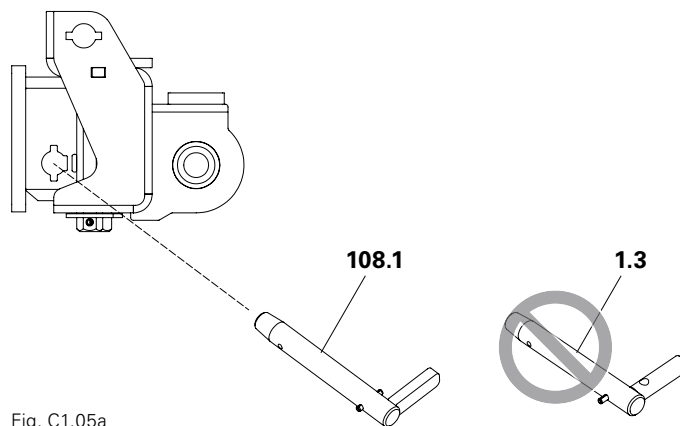


Fig. C1.05a



Only use the locking pin for the Angle Adapter. Only this fits through the key-holes (108.3) of the Angle Adapter and can be locked in the securing position.

The locking pins of the Crossbeam Unit and Angle Adapter are not interchangeable and can be distinguished as follows:

locking pin for the Crossbeam Unit (1.3): dowel pin protrudes on one side.

locking pin for the Angle Adapter (108.1):
dowel pin protrudes on both sides,
hand grip is rectangular.

On building corners, ensure that there is secure access to the next platform. For this, the platform is cantilevered together with mitred joints.

Select cantilever and mitre so that, on the one hand, movement to the next platform is possible at any time and, on the other, the platform cantilever is not too large.

Components

- 36** Girder
- 36a** Timber
- 44** TSS-Torx 6 x 80, galv.
- 54** Angle Connector 90°
- 55** Planking
- 57** Guardrail Post SCS 150
- 59** Guardrail Post Holder Multi
- 62** Plank L x 40 x 120 mm

Assembly of Decking

1. Push Platform Beam (36) up to the mitre.
2. Planking (55) is mitred accordingly.
3. In the mitred area, reinforce the planking (55) from below using timbers (36a). Securely fix timbers (36a) through the planking (36) using Torx 6 x 80 (44).



Pay attention to lifting forces on the other side of the platform. Ensure that all Platform Beams are adequately fixed to the Crossbeam.

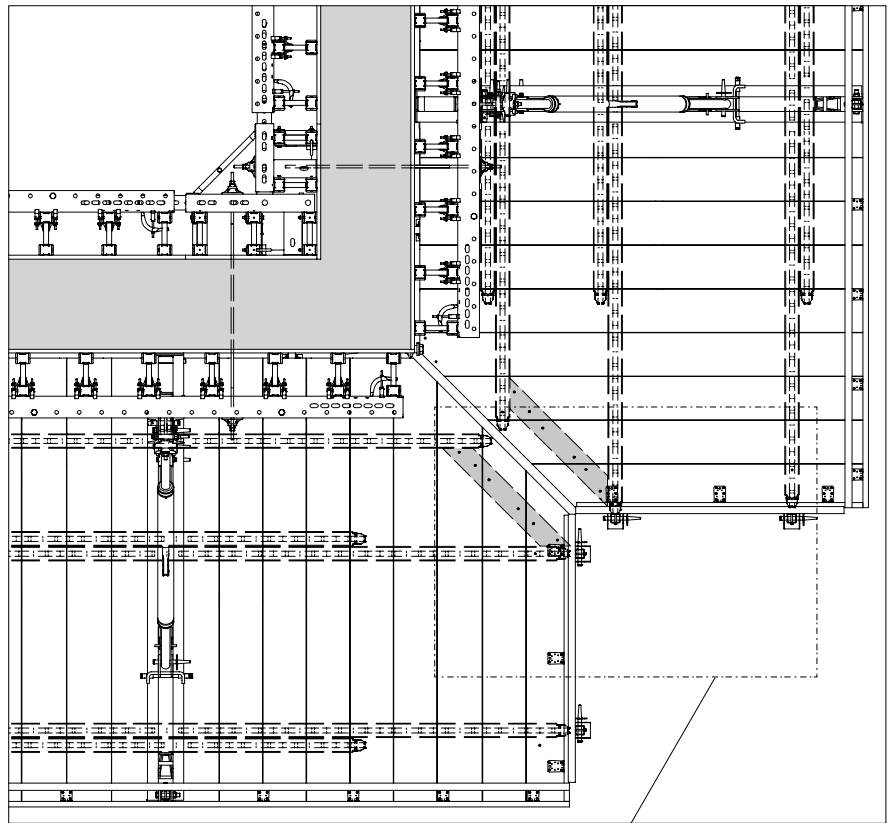


Fig. C2.01

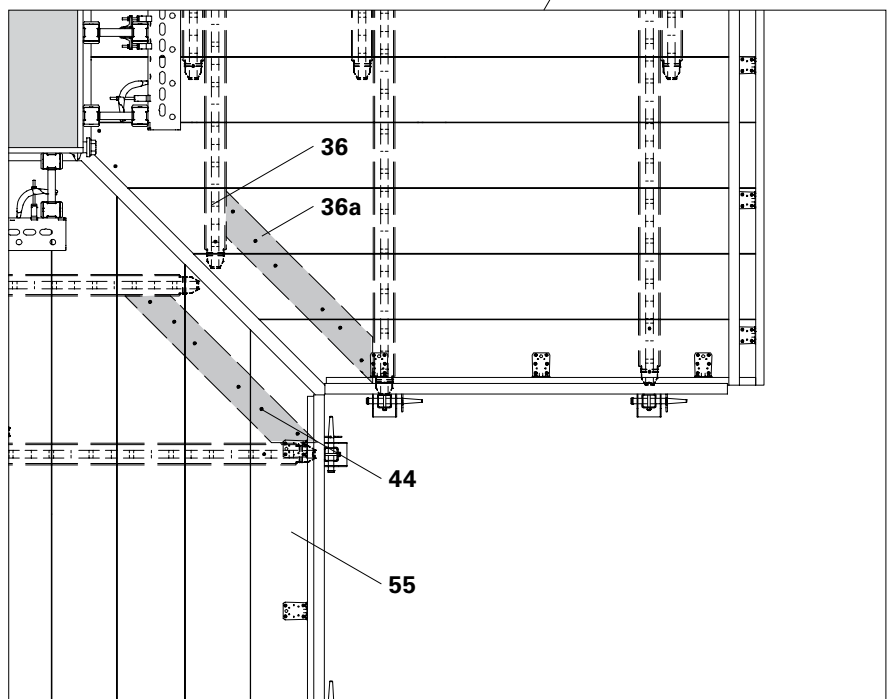


Fig. C2.01a

Assembly of guardrails

For detailed assembly instructions:
see Section B1.8.

1. Secure the Guardrail Post Holder Multi (59) to the Platform Beam (36).
2. Insert Guardrail Post SCS 150 (57) and securely fix in position.
3. Install planks (62) as guardrail boards.
4. Mount Toeboards (56) to the planking using Angle Connectors.

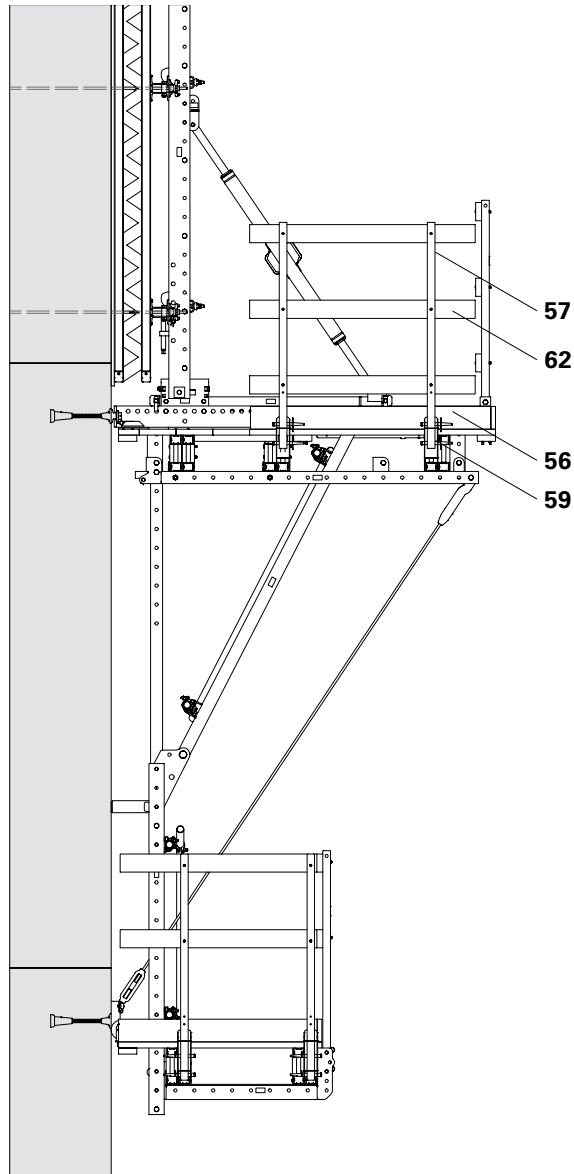


Fig. C2.02

C3 Climbing Rail RCS as Strongback

Instead of the Strongback SCS, a Climbing Rail RCS can be installed as a Strongback.



Project-specific planning and dimensioning is required!

Components

- 11** Heavy-Duty Spindle SLS
- 102** Height Adjustment Unit-2 CB/SCS/RCS
- 104** Spindle Adapter SLS/RCS
- 105** Adapter for Adjusting Unit SCS/RCS
- 113** Anchor Plate RCS DW 20
- 114** Wingnut DW 15, galv.
- 115** Wingnut Counterplate DW 15, galv.
- 116** Climbing Rail RCS
- 117** Tie Rod DW 15

Assembly

1. Mount Height Adjustment Unit-2 CB/SCS/RCS (102) on the Climbing Rail (116) using the bolts \varnothing 25 mm and cotter pins 4/1 which are included in the delivery.
 2. Mount the Adapter for Adjusting Unit SCS/RCS (105) on the Climbing Rail using locking pins 2 x \varnothing 21 mm and 2 x \varnothing 26 mm as well as cotter pins 4/1 and 5/1 which are included in the delivery.
 3. Mount the top side of the Heavy-Duty Spindle SLS (11) with the Spindle Adapter (104) to the Climbing Rail.
 4. Mount each formwork waler with Tie Rod DW 15 (117), Wingnut DW 15 (114), Anchor Plate DW 20 (113) and Wingnut Counterplate DW 15 (115) to the Climbing Rail.
 5. Transport the formwork to the SCS platform with the crane.
 6. Mount the Adapter for Adjusting Unit (105) on the Adjusting Unit (2.11) using locking pins \varnothing 26 mm and cotter pins 5/1.
 7. Mount the bottom side of the Heavy-Duty Spindle SLS (11.1) with Reducing Bushing \varnothing 26 – 21 (103), locking pin \varnothing 21 mm and cotter pin 4/1 on the Crossbeam Unit (2).
- (Fig. C3.01 – C3.01b)

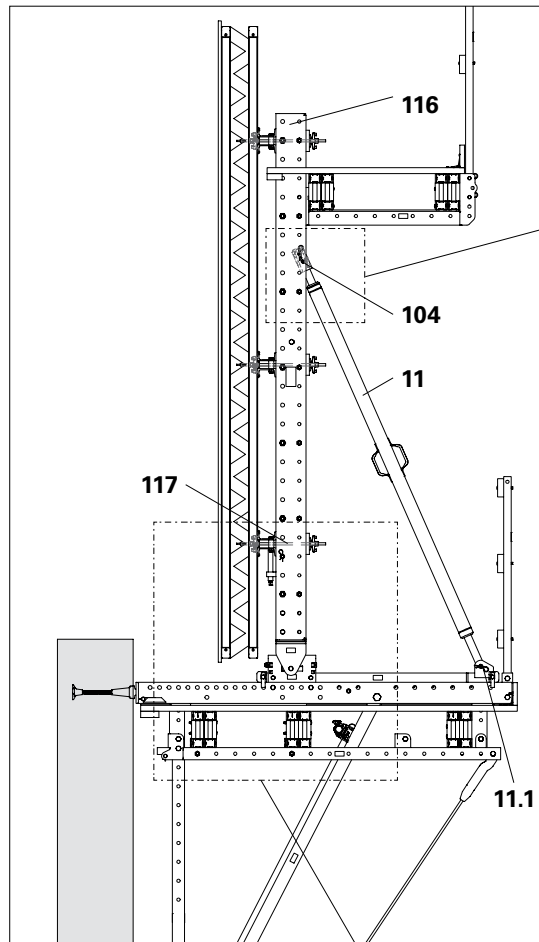


Fig. C3.01

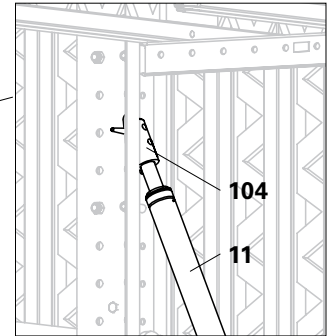


Fig. C3.01a

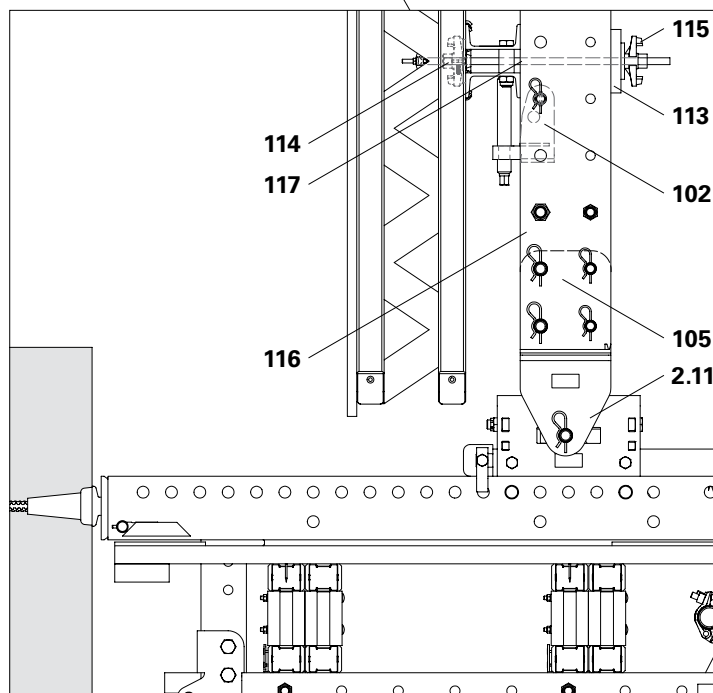


Fig. C3.01b

C4.1 TRIO/MAXIMO Panel with Formwork Waler 150 CB



For static reasons, the U-Profile of the Formwork Waler 150 CB must be pointing upwards. (Fig. C4.05)



- Project-specific planning and dimensioning is required!
- The Formwork Waler 150 CB (110) is attached to the Clamp Adapter MX / TR – SRU (112) as standard by means of the Tie Rod DW 15 (112.3) and Wingnut Counterplate DW 15 (112.4). (Fig. C1.16a)
- If the Wingnut Counterplate DW 15 (112.4) collides with the Strongback, the Clamp Adapter MX / TR – SRU (112) can be secured using fitting pins $\varnothing 21 \times 120$ (84.2) and cotter pins 4/1.
- Assembly on the Strongback SCS 325 and 550 takes place in the same way.

Components

-
- 9** Strongback SCS
 - 12** Waler Fixation U100 – U120
 - 102** Height Adjustment Unit-2
CB/SCS/RCS
 - 110** Formwork Waler 150 CB
 - 112** Clamp Adapter MX / TR-SRU
alternatively
 - 99** Fitting Pin $\varnothing 21 \times 120$
 - 100** Cotter Pin 4/1
-

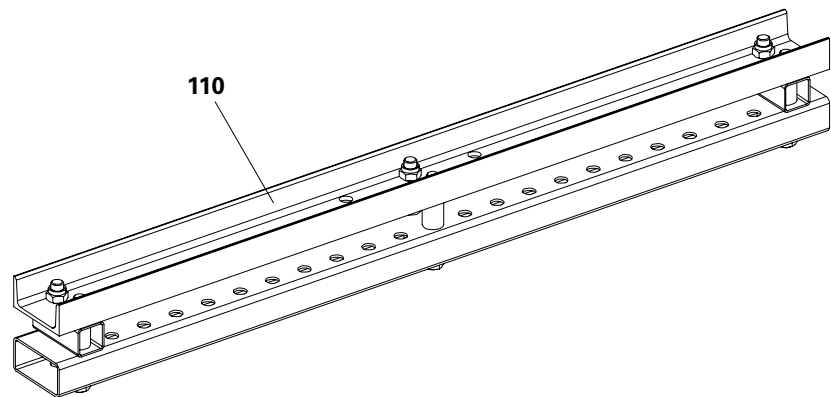


Fig. C4.01

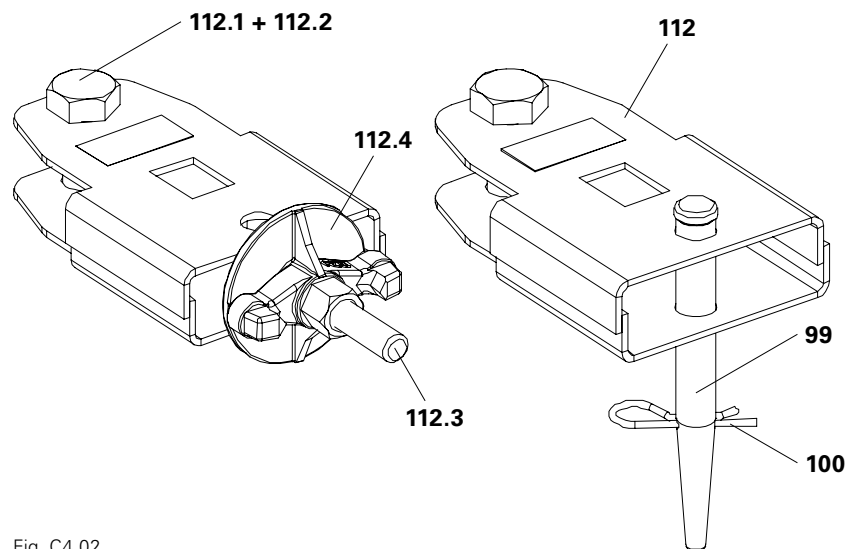


Fig. C4.02

Assembly of Formwork Waler 150 CB on the TRIO/MAXIMO Panel

1. Assemble TRIO/MAXIMO Panels on the assembly area to form formwork units.
2. Fix 2x Clamp Adapter MX / TR – SRU (112) to the formwork using bolts ISO 4014 M24 x 80-8.8 (112.1) and nuts ISO 4032 M24-8 (112.2). (Fig. C4.03a)
3. Place the Formwork Waler 150 CB (110) with U-profile pointing upwards on the Clamp Adapter MX / TR-SRU (112).
4. Brace the Formwork Waler 150 CB (110) on the formwork using Tie Rod DW 15 (112.3) and Wingnut Counterplate DW 15 (112.4). (Fig. C4.03b)
Alternatively: mount Formwork Waler 150 CB on the Clamp Adapter MX / TR - SRU using fitting pins $\varnothing 21 \times 120$ (99) and secure with cotter pins 4/1 (100).
5. Position the Strongback (9) on Formwork Waler 150 CB (110) according to the bracket spacing, and secure. Bottom projecting length: see project drawing or Section C1.
6. Mount Waler Fixation U 100 – U120 (12) and secure in position by tightening the quick jack nut. (Fig. C4.04a + C4.04b)

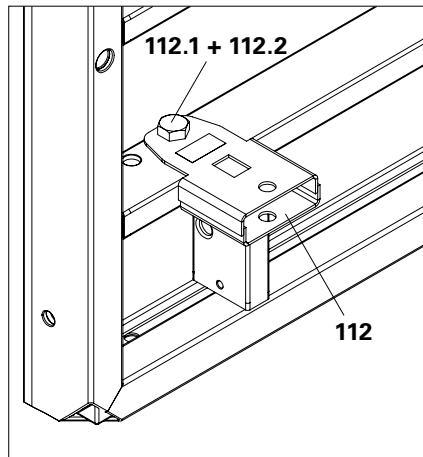


Fig. C4.03a

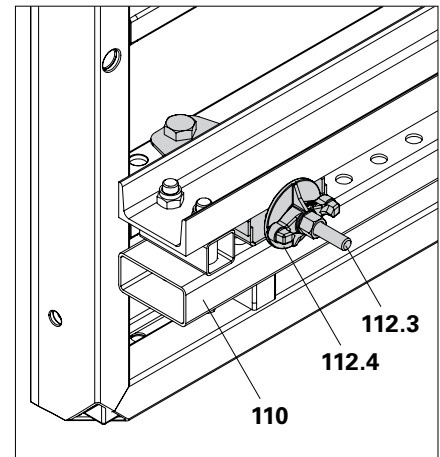


Fig. C4.03b

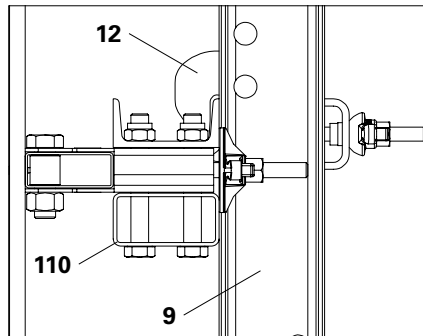


Fig. C4.04a

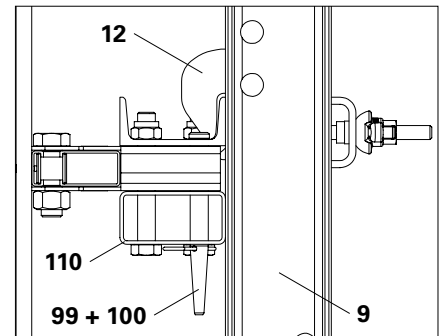


Fig. C4.04b



- Does the U-profile of the Formwork Waler 150 CB point upwards? (Fig. B2.25a + B2.25b)
- Does the Formwork Waler 150 CB rest against the vertical profiles of the formwork?

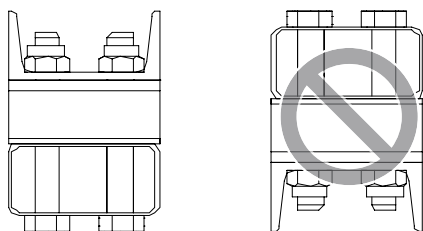


Fig. C4.05

Item no.	Weight kg
118737	140.000

Crossbeam Unit SCS 250

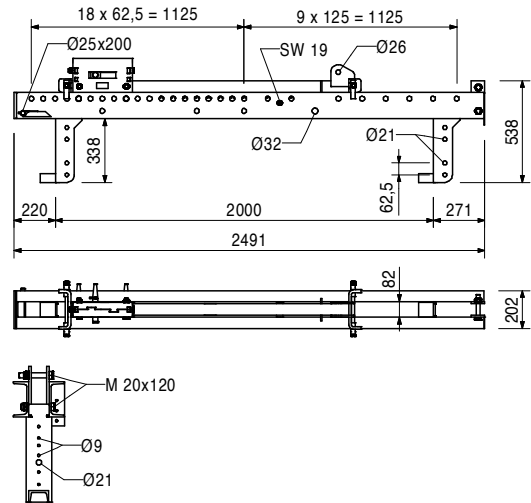
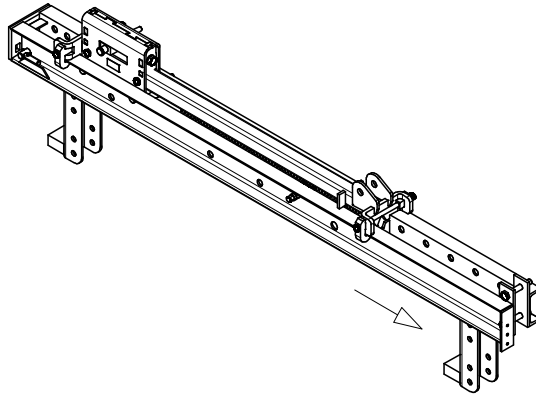
Platform Beam for climbing brackets with Adjusting Unit SCS and Carriage SCS to work in front of the formwork.

Complete with

- 1 pc. 118690 Carriage SCS
- 1 pc. 118575 Adjusting Unit SCS
- 2 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
- 2 pc. 781053 Nut ISO 7040 M20-8, galv.
- 1 pc. 123692 Pin Ø 25 x 200 SCS
- 1 pc. 022230 Cotter Pin 5/1, galv.

Note

Wrench Size Carriage SW 19,
Height Adjusting Unit SW 30.



Accessories

118710	45.800
118714	41.000
118579	6.280

- Vertical Strut SCS 237**
- Diagonal Strut SCS 257**
- Guardrail Post SCS 150**

SCS Double-Sided



Item no.	Weight kg
118730	96.700

Crossbeam Unit SCS 190

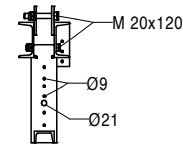
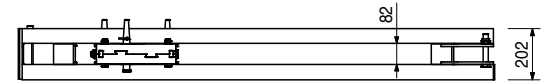
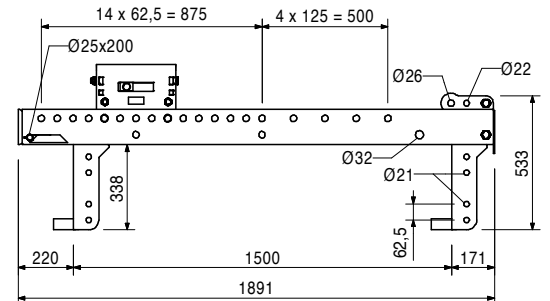
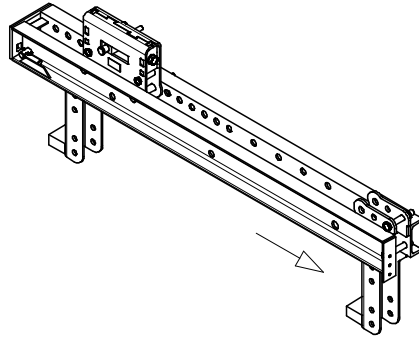
Platform Beam for climbing brackets with Adjusting Unit SCS to prevent tipping of the formwork.

Complete with

- 1 pc. 118575 Adjusting Unit SCS
- 2 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
- 2 pc. 781053 Nut ISO 7040 M20-8, galv.
- 1 pc. 123692 Pin Ø 25 x 200 SCS
- 1 pc. 022230 Cotter Pin 5/1, galv.

Note

Wrench Size Height Adjusting Unit SW 30.



Accessories

118710	45.800
118714	41.000
118579	6.280

Vertical Strut SCS 237

Diagonal Strut SCS 257

Guardrail Post SCS 150

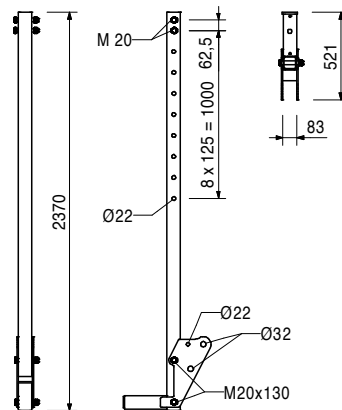
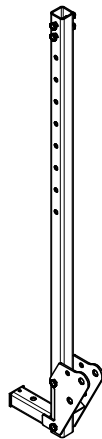
118710	45.800
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Vertical Strut SCS 237

Vertical tension strut of the climbing bracket for support heights of 2.58 m and 2.40 m.

Complete with

- 4 pc. 711078 Bolt ISO 4014 M20 x 130-8.8, galv.
- 4 pc. 781053 Nut ISO 7040 M20-8, galv.



SCS Double-Sided



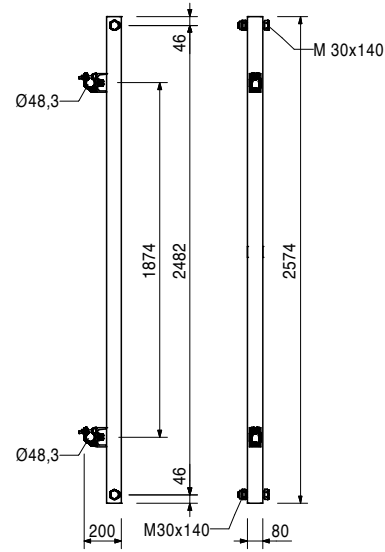
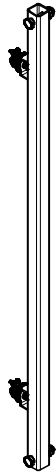
Item no.	Weight kg
118714	41.000

Diagonal Strut SCS 257

Diagonal compression strut of the climbing bracket.

Complete with

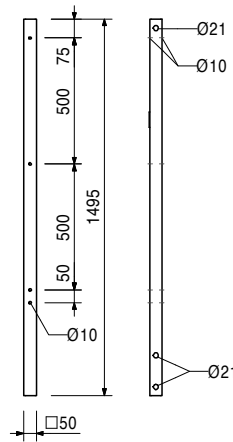
- 2 pc. 017040 Screw-On Coupler AK 48, galv.
- 2 pc. 125999 Hex Bolt M30 x 140-8.8, galv.
- 2 pc. 725119 Nut ISO 7042 M30-8, galv.



118579	6.280
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Guardrail Post SCS 150

Guardrail post to connect handrail boards and toeboards.



113762	0.884
051160	1.050

Accessories

Guardrail Conn. Plate ACS/SCS

Guardrail Connector CB

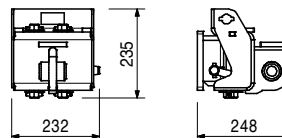
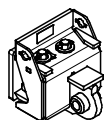
131279	19.700
--------	--------

Angle Adapter SCS

For parallel bracket arrangement in circular structures. For single- and double-sided application.

Complete with

- 1 pc. 131252 Steckbolzen 25 x 200 besch. SCS

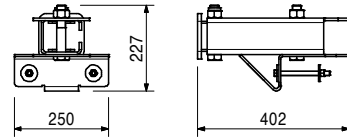
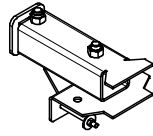


SCS Double-Sided

Item no.	Weight kg
129747	11.800

Pressure Point Pivoted SCS

For supporting round structures in combination with Angle Adapter SCS.



118584	112.000
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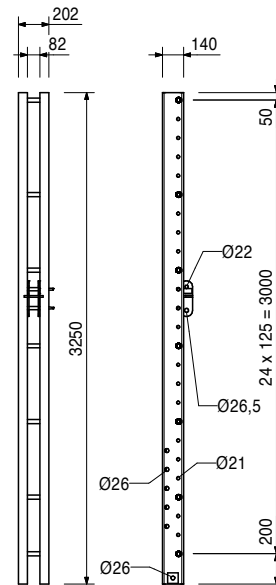
Strongback SCS 325

Strongback with Spindle Connector SCS to support the formwork.



Complete with

1 pc. 118580 Spindle Connector SCS Ø 26-21



Accessories

051030	5.530
110059	2.840

Height Adjusting Unit CB, SCS Waler Fixation U100 – U120

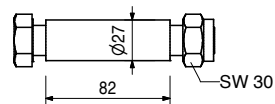
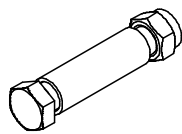
110022	0.491
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Spacer M20-82

Spacer for Climbing Rails RCS.

Complete with

1 pc. 104477 Bolt ISO 4014 M20 x 120-8.8, galv.
1 pc. 130341 Nut ISO 7042 M20-8, galv.



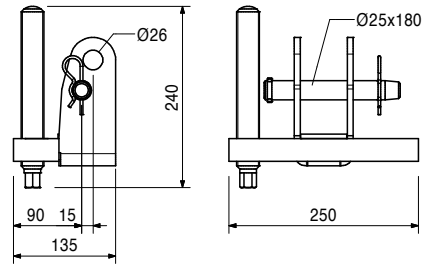
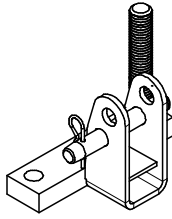
Item no.	Weight kg
129689	6.960

Height Adjusting Unit-2 CB/SCS/RCS

For height adjustment of RUNDFLEX Panels on the Strongbacks CB/RCS/SCS.

Complete with

1 pc. 715936 Pin \varnothing 25 x 180, incl. dowel pin \varnothing 6
1 pc. 018060 Cotter Pin 4/1, galv.



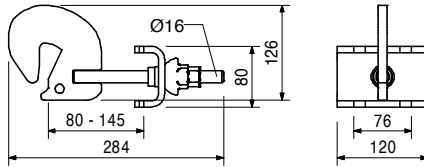
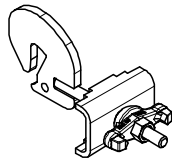
110059	2.840
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Waler Fixation U100 – U120

For fixing VARIO GT 24 Panels to Strongbacks CB, SCS and Steel Waler SRU.

Complete with

1 pc. 110055 Cross Clamp, galv.
1 pc. 118260 Spherical Nut RD 16, galv.



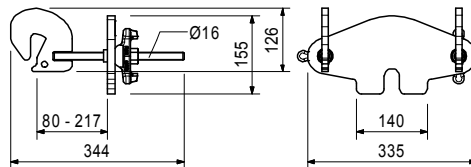
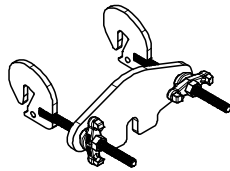
129720	8.040
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Waler Fixation-2 U100 – U120

For fixing VARIO GT 24 Panels to Strongbacks CB, SCS, Steel Waler SRU if anchoring is done through the strongback.

Complete with

2 pc. 118260 Spherical Nut RD 16, galv.

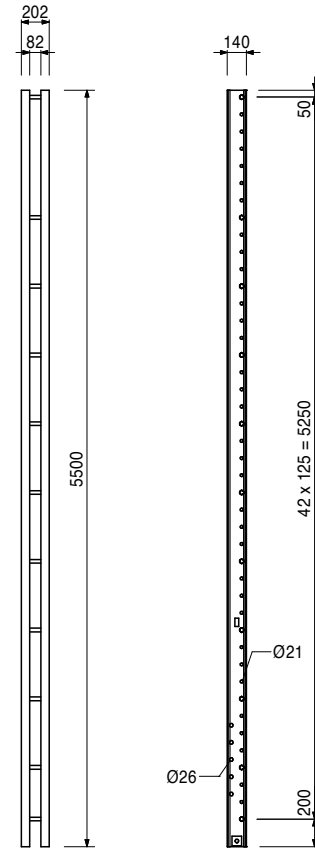


SCS Double-Sided

Item no.	Weight kg
129674	178.000

Strongback SCS 550

Strongback for supporting the formwork for double-sided application and formwork heights up to 6.00 m.



111035	12.000	Heavy Duty Spindles
101773	15.300	Heavy Duty Spindle SLS 40/80
101774	18.300	Heavy Duty Spindle SLS 80/140
101776	24.900	Heavy Duty Spindle SLS 100/180
101777	32.300	Heavy Duty Spindle SLS 140/240
101778	38.500	Heavy Duty Spindle SLS 200/300
101779	44.800	Heavy Duty Spindle SLS 260/360
109726	51.000	Heavy Duty Spindle SLS 320/420
109785		Heavy Duty Spindle SLS 380/480

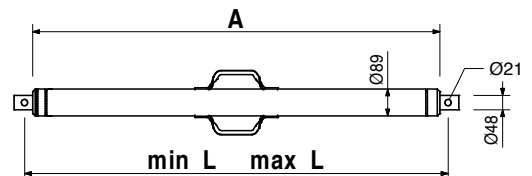
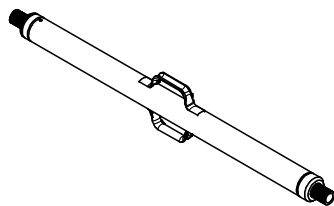
Heavy Duty Spindles

Used as adjustable spindle for truss beams made of Steel Walers SRU and Climbing Rails RCS.

A	min. L	max. L
344	400	800
746	800	1400
946	1000	1800
1346	1400	2400
1944	2000	3000
2544	2600	3600
3144	3200	4200
3744	3800	4800

Note

Permissible load see PERI Design Tables.



Accessories

104031	0.462	Fitting Pin Ø 21 x 120
018060	0.014	Cotter Pin 4/1, galv.
110477	3.990	Spindle Adapter SLS/RCS
129695	0.028	Reducing Sleeve Ø 26 - 21, galv.

Fitting Pin Ø 21 x 120

Cotter Pin 4/1, galv.

Spindle Adapter SLS/RCS

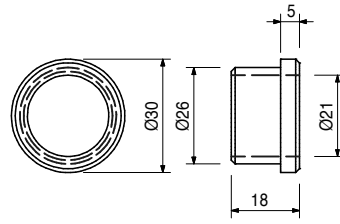
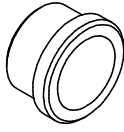
Reducing Sleeve Ø 26 - 21, galv.

SCS Double-Sided



Item no.	Weight kg
129695	0.028

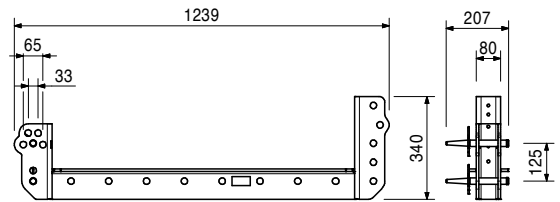
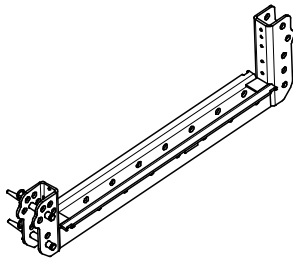
Reducing Sleeve Ø 26 - 21, galv.
For reducing the hole diameter from Ø 26 to Ø 21 mm in fitting pin connections.



129772	25.600
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Platform Beam SCS 120
For use as finishing and concreting platform for double-sided application of SCS Climbing Bracket.

Complete with
2 pc. 104031 Fitting Pin Ø 21 x 120
2 pc. 018060 Cotter Pin 4/1, galv.



118579	6.280
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Accessories
Guardrail Post SCS 150

SCS Double-Sided

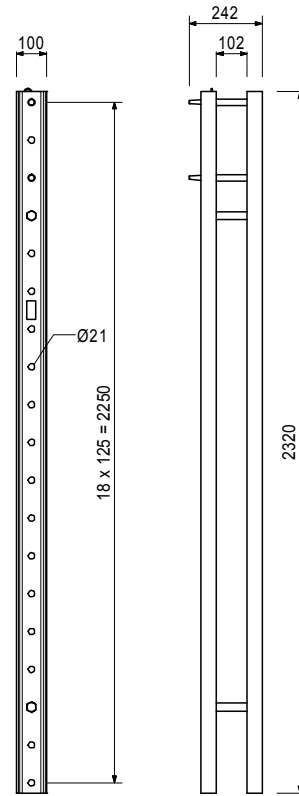
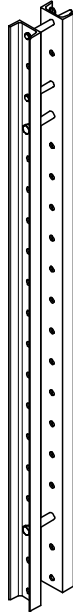
Item no.	Weight kg
129708	50.100

Platform Post Double SCS 232

For mounting finishing platforms for double-sided application of SCS Climbing Bracket.

Complete with

- 2 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 018060 Cotter Pin 4/1, galv.
- 2 pc. 129704 Spacer M20-102
- 2 pc. 118578 Platform Post SCS 232



Accessories

129707	9.560
129772	25.600
129699	1.950

Platform Post Connector SCS

Platform Beam SCS 120

Scaffold Tube Connector SCS 48

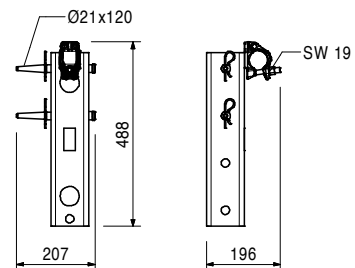
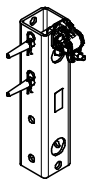
129707	9.560
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Platform Post Connector SCS

For mounting and additional Platform Post Double SCS 232 for formwork heights > 3.90 m up to 6.00 m.

Complete with

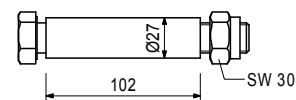
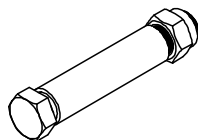
- 2 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 018060 Cotter Pin 4/1, galv.
- 1 pc. 017040 Screw-On Coupler AK 48, galv.



129704	0.645
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Spacer M20-102

Spacer for Platform Post Double SCS 232.

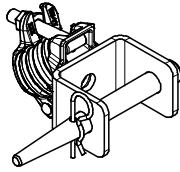


SCS Double-Sided

Item no.	Weight kg
129699	1.950

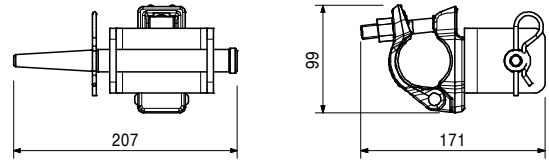
Scaffold Tube Connector SCS 48

For stiffening Platform Post Double SCS 232 with Scaffold Tubes \varnothing 48.



Complete with

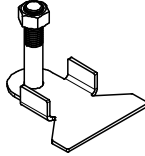
1 pc. 104031 Fitting Pin \varnothing 21 x 120
1 pc. 018060 Cotter Pin 4/1, galv.



129778	1.440
--------	-------

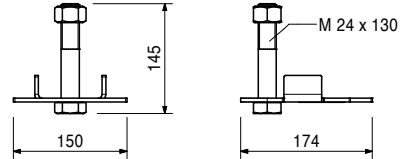
Platform Post Stop SCS

Temporary stopper of finishing platform during moving in the first standard cycle.



Complete with

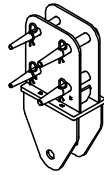
1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
1 pc. 105032 Nut ISO 7040 M24-8, galv.



127099	12.000
--------	--------

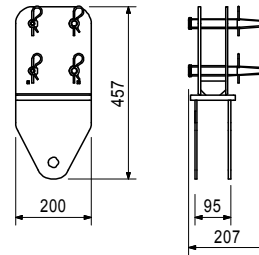
Adapter Adjusting Unit SCS/RCS

Adapter for using a Climbing Rail RCS as Strongback with SCS Climbing System.



Complete with

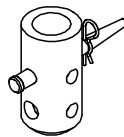
2 pc. 111567 Fitting Pin \varnothing 26 x 120
2 pc. 104031 Fitting Pin \varnothing 21 x 120
4 pc. 018060 Cotter Pin 4/1, galv.



110477	3.990
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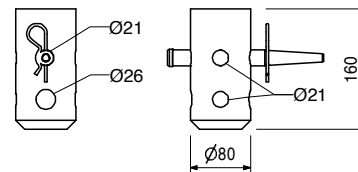
Spindle Adapter SLS/RCS

For connecting the Heavy-Duty Spindle SLS to the Climbing Rail RCS.



Complete with

1 pc. 104031 Fitting Pin \varnothing 21 x 120
1 pc. 018060 Cotter Pin 4/1, galv.



Accessories

104031	0.462
018060	0.014
111567	0.729
022230	0.033

Fitting Pin \varnothing 21 x 120
Cotter Pin 4/1, galv.
Fitting Pin \varnothing 26 x 120
Cotter Pin 5/1, galv.

SCS Double-Sided

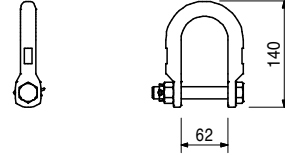
Item no.	Weight kg
127821	0.957

Crane Eye CB 240-2 0.7 t
 For assembly on the Climbing Bracket CB 240 when used as working scaffold.

Complete with
 1 pc. 128335 Bolt ISO 4015 M16 x 110
 1 pc. 126248 Castle Nut M16 DIN 935-8, galv.
 1 pc. 722825 Cotter Pin ISO 1234-04, 0 x 030 St

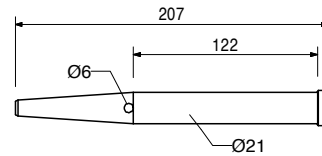
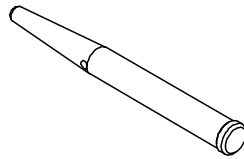
Note
 Follow Instructions for Use!

Technical Data
 Permissible load-bearing capacity 700 kg.



104031	0.462
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Fitting Pin Ø 21 x 120
 For different connections.



018060	0.014
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Accessories
Cotter Pin 4/1, galv.

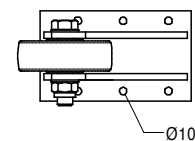
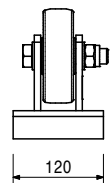
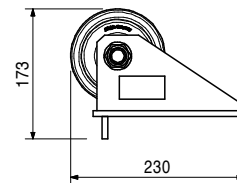
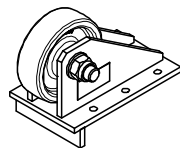
018060	0.014
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Cotter Pin 4/1, galv.



057417	4.080
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Supporting Roller ACS



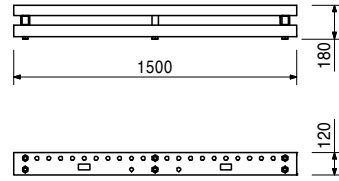
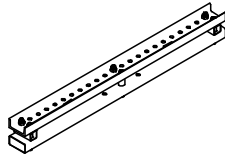
024540	0.005
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Accessories
TSS-Torx 6 x 40, galv.

Item no.	Weight kg
127633	38.700

Formwork Waler 150 CB

Horizontal waler for connecting the spindle with the wall formwork.



Accessories

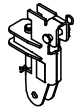
127659	3.980
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Clamp Adapter MX/TR-SRU

127650	3.640
--------	-------

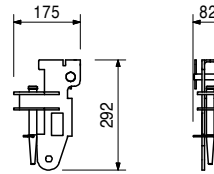
Brace Connector CB

Connector for the connection of the spindle with the Formwork Waler 150 CB.



Complete with

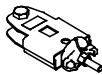
- 1 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 018060 Cotter Pin 4/1, galv.
- 1 pc. 111147 Pin for CB 240 bracket



127659	3.980
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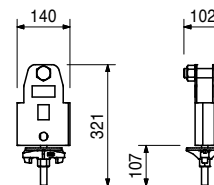
Clamp Adapter MX/TR-SRU

For the connection of Formwork Waler 150 CB to the formwork.



Complete with

- 1 pc. 105416 Bolt ISO 4014 M24 x 80-8.8, galv.
- 1 pc. 022250 Nut ISO 4032 M24-8, galv.



Accessories

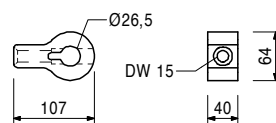
127633	38.700
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Formwork Waler 150 CB

115378	1.080
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Eye Nut RCS DW 15

As an articulated connection to the Climbing Rail RCS, Steel Waler SRU for bracing with DW 15.



Accessories

104031	0.462
018060	0.014
111567	0.729
022230	0.033

Fitting Pin \varnothing 21 x 120

Cotter Pin 4/1, galv.

Fitting Pin \varnothing 26 x 120

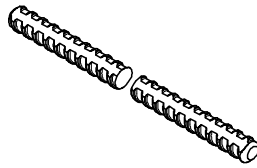
Cotter Pin 5/1, galv.

SCS Double-Sided

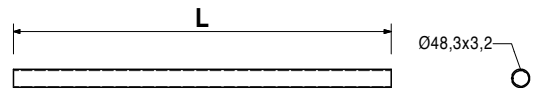
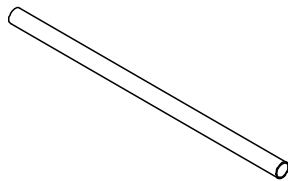
Item no.	Weight kg
030030	1.440
030050	0.000

Tie Rod DW 15
Tie Rod DW 15, spec. length
Cutting Cost Tie Rod DW 15, B 15

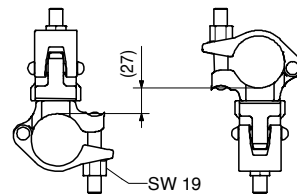
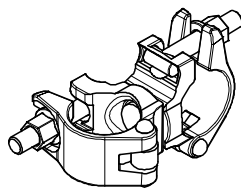
Note
 Non-weldable! Take official Approval into consideration!
Technical Data
 Permissible tension force 90 kN.



			L
026415	3.550	Scaffold Tubes Steel	
026417	0.000	Scaff. Tube Steel Ø 48.3 x 3.2, special length	
		Cutting Cost Scaffold Tube	
026411	3.550	Scaff. Tube Steel Ø 48.3 x 3.2, l = 1.0 m	1000
026412	7.100	Scaff. Tube Steel Ø 48.3 x 3.2, l = 2.0 m	2000
125976	8.900	Scaff. Tube Steel Ø 48.3 x 3.2, l = 2.5 m	2500
026413	10.650	Scaff. Tube Steel Ø 48.3 x 3.2, l = 3.0 m	3000
114287	12.500	Scaff. Tube Steel Ø 48.3 x 3.2, l = 3.5 m	3500
026414	14.200	Scaff. Tube Steel Ø 48.3 x 3.2, l = 4.0 m	4000
026419	17.750	Scaff. Tube Steel Ø 48.3 x 3.2, l = 5.0 m	5000
026418	21.600	Scaff. Tube Steel Ø 48.3 x 3.2, l = 6.0 m	6000



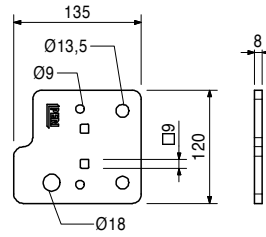
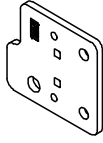
017010 1.400 **Swivel Coupling SW 48/48, galv.**
 For Scaffold Tubes Ø 48 mm.



Item no.	Weight kg
113762	0.884

Guardrail Conn. Plate ACS/SCS

For assembling Scaffold Tubes \varnothing 48 or \varnothing 60 as guardrail by means of Bail Pin A64 on Guardrail Posts ACS, SCS and GT 24. Fixation by Hex. Bolt M8, M12, M16 or Wood Screw \varnothing 8.



Accessories

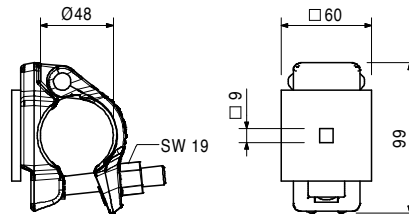
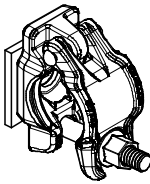
110296	0.220
710330	0.017

Clamp A64 DIN 3570 M12, galv.
Nut ISO 4032 M12-8, galv.

051160	1.050
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Guardrail Connector CB

For assembling scaffold tubes on handrail posts.



Accessories

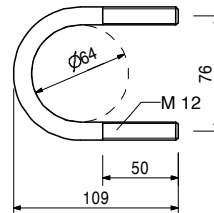
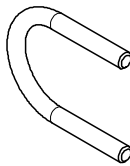
126228	0.030
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F.H. Bolt DIN 603 M8 x 70 MU, galv.

110296	0.220
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Clamp A64 DIN 3570 M12, galv.
For assembling Scaffold Tubes \varnothing 48 or \varnothing 60.

Note
Wrench size SW 19.



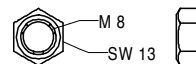
Accessories

710330	0.017
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Nut ISO 4032 M12-8, galv.

710330	0.017
--------	-------

Nut ISO 4032 M12-8, galv.



Item no.	Weight kg
711071	0.004

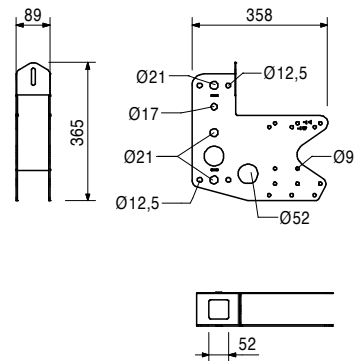
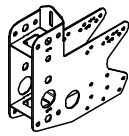
Nut ISO 7042 M8-8, galv.
Self-locking.



126088	4.390
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Guardrail Post Holder Multi

For fixing of an end guardrail post on Girders GT 24, VT 20 or Timbers 80/160.
Fixing of the guardrail posts by means of Hex. Bolts M20 or Clamp A64.



Accessories

710285	0.050
024090	0.005
024470	0.008

Bolt ISO 4014 M8 x 100-8.8, galv.
Nut ISO 4032 M8-8, galv.
TSS-Torx 6 x 60, galv.

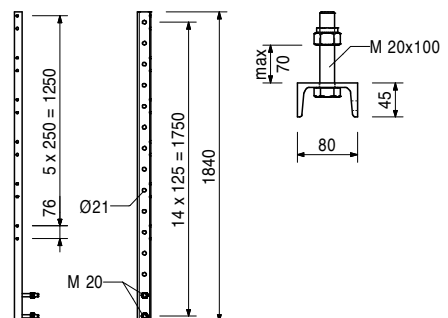
114328	16.600
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Guardrail Post RCS/SRU 184

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

Complete with

2 pc. 114727 Bolt ISO 4017 M20 x 100-8.8, galv.
2 pc. 781053 Nut ISO 7040 M20-8, galv.



Accessories

110296	0.220
710330	0.017

Clamp A64 DIN 3570 M12, galv.
Nut ISO 4032 M12-8, galv.

SCS Double-Sided



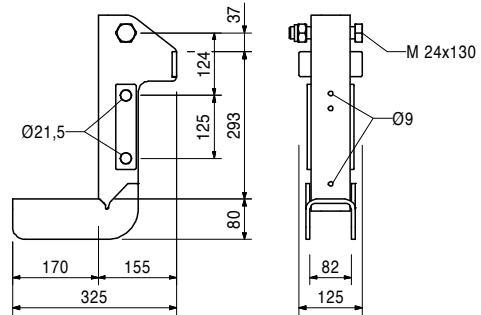
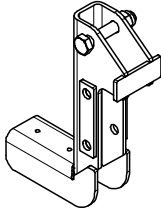
Item no.	Weight kg
116477	10.600

Platform Beam Support RCS

Support for additional Platform Beams 2 x GT 24 or VT 20 when used with Cross Beam RCS 220. With connector for Guardrail Post RCS.

Complete with

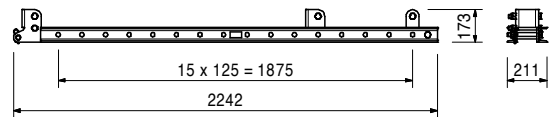
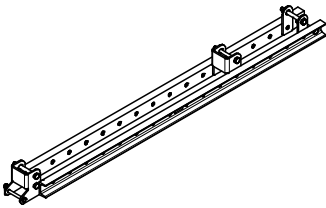
1 pc. 109612 Bolt ISO 4014 M24 x 130-8.8, galv.
1 pc. 105032 Nut ISO 7040 M24-8, galv.



131701	45.800
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Platform Beam Support SCS

Bearing for double arranged platform beams. For SCS 250 and SCS 190.



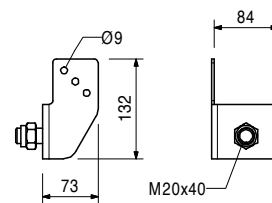
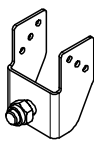
110330	0.865
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Girder Fixation M20

For the fixation of 80 mm wide decking supports made of wood on Platform Beams with suitable boring of $\varnothing 21$ mm.

Complete with

1 pc. 706458 Bolt ISO 4017 M20 x 40-8.8, galv.
1 pc. 781053 Nut ISO 7040 M20-8, galv.



Accessories

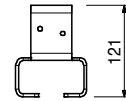
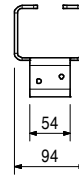
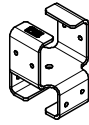
024470	0.008
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TSS-Torx 6 x 60, galv.

SCS Double-Sided

Item no.	Weight kg
129722	0.746

Cross Connector GT 24 / VT 20
 For the connection of crossing GT 24 and VT 20 Formwork Girders.

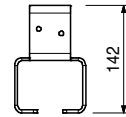
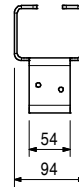


024540	0.005
024470	0.008

Accessories
TSS-Torx 6 x 40, galv.
TSS-Torx 6 x 60, galv.

129724	0.817
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Cross Connector GT 24 / GT 24
 For the connection of crossing GT 24 Formwork Girders.

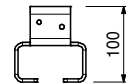
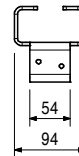
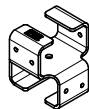


024540	0.005
024470	0.008

Accessories
TSS-Torx 6 x 40, galv.
TSS-Torx 6 x 60, galv.

129817	0.675
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Cross Connector VT 20 / VT 20
 For the connection of crossing VT 20 Formwork Girders.

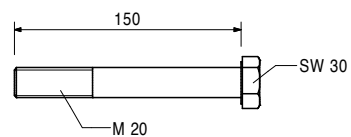
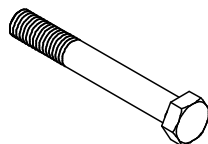


024540	0.005
024470	0.008

Accessories
TSS-Torx 6 x 40, galv.
TSS-Torx 6 x 60, galv.

711084	0.420
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Bolt ISO 4014 M20 x 150-8.8, galv.

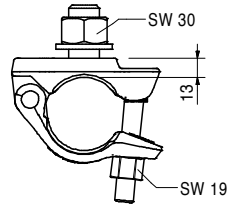
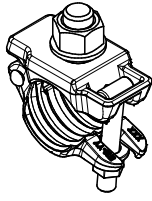


781053	0.065
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Accessories
Nut ISO 7040 M20-8, galv.

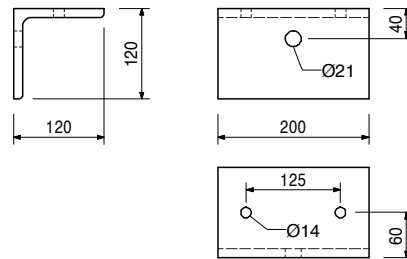
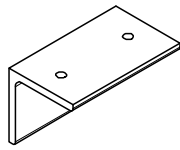
Item no.	Weight kg
131404	1.080

Screw-On Coupler-2 HT B Ø 48-M20, galv.
 For Screwing Scaffold Tubes Ø 48 mm to components up to 9 mm thickness.



110289	4.260
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L-Angle RCS 120 x 120 x 200
 For fixing end handrail posts on the decking.



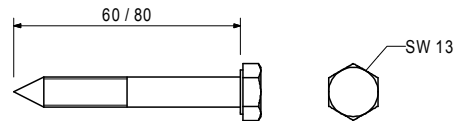
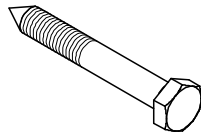
Accessories

017040	0.850
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Screw-On Coupler AK 48, galv.

024270	0.023
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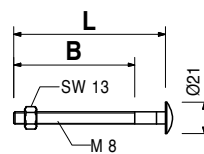
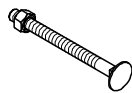
Lag Screw DIN 571 8 x 60, galv.



710295	0.028
024140	0.033
710240	0.050
024360	0.058

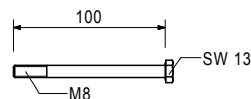
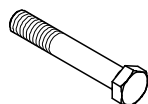
F. H. Bolts DIN 603
F.H. Bolt DIN 603 M8 x 45 MU, galv.
F.H. Bolt DIN 603 M8 x 70 MU, galv.
F.H. Bolt DIN 603 M8 x 100 MU, galv.
F.H. Bolt DIN 603 M8 x 125 MU, galv.

L	B
45	22
70	58
100	80
125	113



SCS Double-Sided

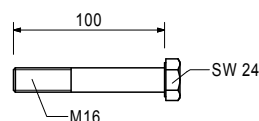
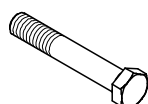
Item no.	Weight kg	
710285	0.050	Bolt ISO 4014 M8 x 100-8.8, galv.



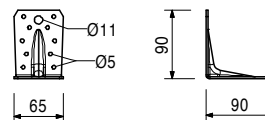
780354	0.002	Washer ISO 7089 200 HV, A 8, galv.
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710219	0.184	Bolt ISO 4014 M16 x 100-8.8, galv.
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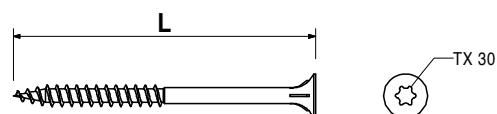
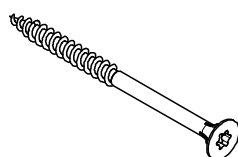



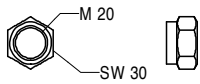

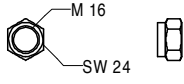

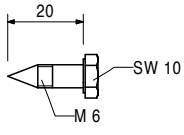
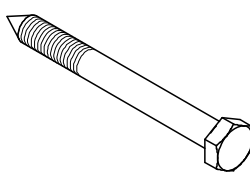
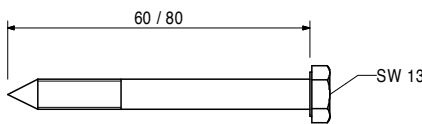

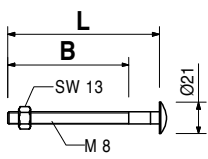

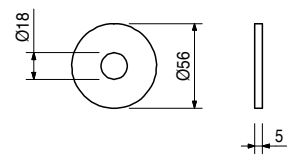
123478	0.255	Toe Board Angle 90° For diverse timber connections.
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		Accessories
024550	0.005	Spax Screw TX 30 8 x 20, yellow galv.
129711	0.010	Spax Screw TX 25, 6 x 20, yellow galv.

		TSS-Torxs, galv.	L
024540	0.005	TSS-Torx 6 x 40, galv.	40
024470	0.008	TSS-Torx 6 x 60, galv.	60
024690	0.008	TSS-Torx 6 x 80, galv.	80
			For Torx Bits TX 30. Self-drilling.

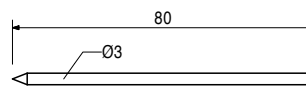
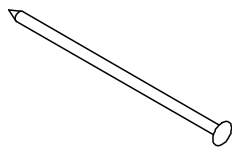


Item no.	Weight kg						
781053	0.065	Nut ISO 7040 M20-8, galv. Self-locking.	 				
070890	0.030	Nut ISO 7040 M16-8, galv. Self-locking.	 				
029440	0.005	Lag Screw DIN 571 6 x 20, galv.	 				
024260	0.027	Lag Screw DIN 571 8 x 80, galv.	 				
108834	0.085	F.H. Bolt DIN 603 M8 x 180 MU, galv.	<table border="1" data-bbox="893 1467 1444 1534"> <thead> <tr> <th>L</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>180</td> <td>28</td> </tr> </tbody> </table>  	L	B	180	28
L	B						
180	28						
113349	0.087	Washer ISO 7094 100 HV, A 16, galv.	 				

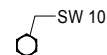
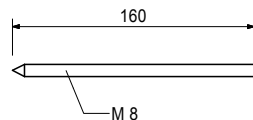
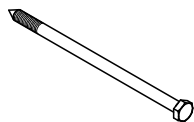
SCS Double-Sided

Item no. Weight kg

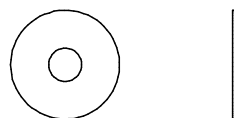
710312 0.005 **Nail 3 x 80**



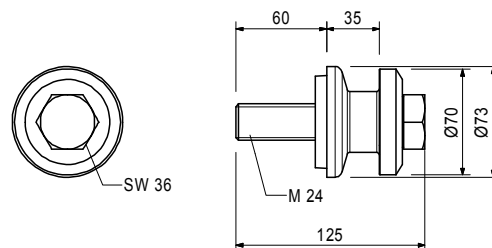
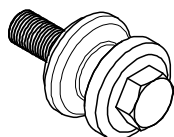
024520 0.052 **Lag Screw DIN 571 8 x 160, galv.**



113347 0.013 **Washer ISO 7094 100 HV, A 8, galv.**



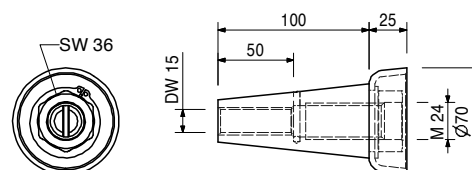
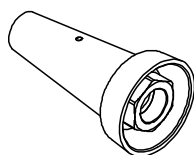
129729 1.430 **Mounting Ring SCS M24**



031220 1.010 **Climbing Cone-2 M24/DW 15, galv.**

Anchor system M24.
For anchoring climbing systems.

Note
Separate design information on request.



Accessories

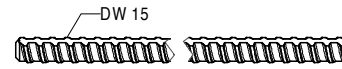
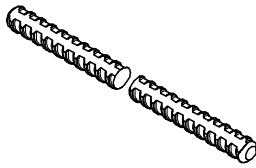
030840 0.515 **Threaded Anchor Plate DW 15**
030030 1.440 **Tie Rod DW 15, spec. length**
030740 1.550 **Tie Rod B 15, spec. length**

Item no.	Weight kg
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		Tie Rod DW 15
030030	1.440	Tie Rod DW 15, spec. length
030050	0.000	Cutting Cost Tie Rod DW 15, B 15

Note
Non-weldable! Take official Approval into consideration!

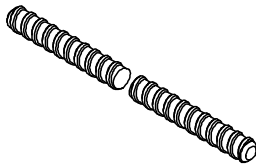
Technical Data
Permissible tension force 90 kN.



		Tie Rod B 15
030740	1.550	Tie Rod B 15, spec. length
030050	0.000	Cutting Cost Tie Rod DW 15, B 15

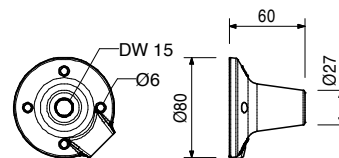
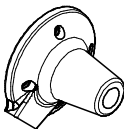
Note
Weldable! Take official Approval into consideration!

Technical Data
Permissible tension force 82 kN.



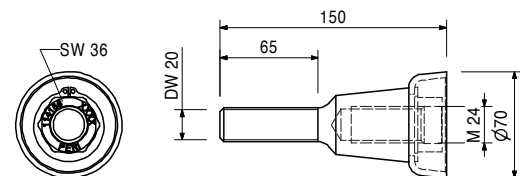
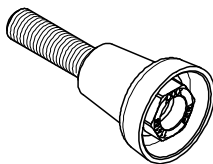
030840	0.515	Threaded Anchor Plate DW 15 For use with Tie Rod DW 15 or B 15. For anchoring in concrete.
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Note
Lost anchor part.



114158	1.030	Screw-On Cone-2 M24/DW 20, galv. Anchor system M24. For anchoring climbing systems.
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Note
Separate design information on request.



Accessories		
030860	0.792	Threaded Anchor Plate DW 20

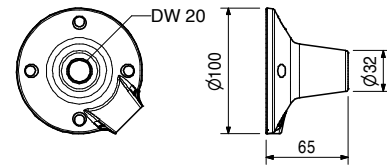
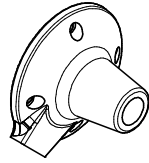
Item no.	Weight kg
030860	0.792

Threaded Anchor Plate DW 20

For use with Tie Rod DW 20, B 20 or Screw-On Cone-2 M24/DW 20. For anchoring in concrete.

Note

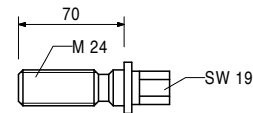
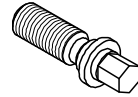
Lost anchor part.



029270	0.331
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Advancing Bolt M24, galv.

For fixing the M24 anchor system if the plywood formlining is drilled through.



Accessories

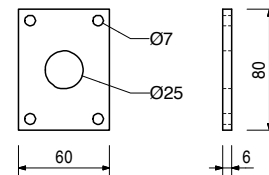
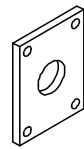
029280	0.196
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Anchor Positioning Plate M24, galv.

029280	0.196
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Anchor Positioning Plate M24, galv.

For fixing the M24 anchor system if the plywood formlining is drilled through.



Accessories

029440	0.005
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Lag Screw DIN 571 6 x 20, galv.

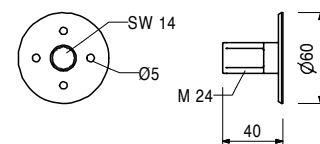
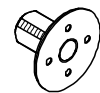
026420	0.123
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Anchor Positioning Stud M24, galv.

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

Note

Allen Key SW 14.



Accessories

027212	0.445
710312	0.005

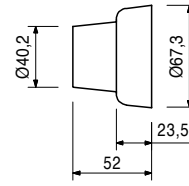
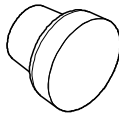
Allen Key SW 14, long

Nail 3 x 80

Item no.	Weight kg
031652	0.247

KK Concrete Cone M24-67/52
 For closing anchor points with Climbing Cone-2, M24/DW 15 and Screw-On Cone-2 M24/DW 20.

Note
 Delivery unit 50 pieces.



Accessories

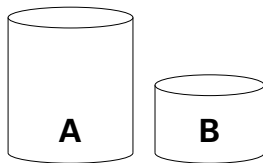
131709	9.980
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Sealing Compound-3, 6 cans-set

131709	9.980
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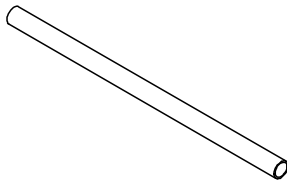
Sealing Compound-3, 6 cans-set
 For bonding PERI Concrete Cones.

Note
 See Safety Data sheet!
 Consisting of:
 6 x Component A, 6 x Component B



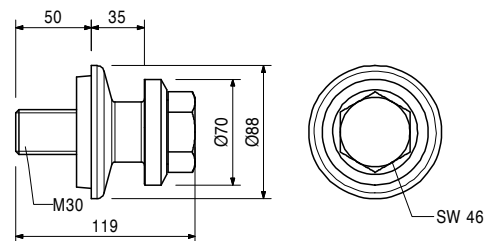
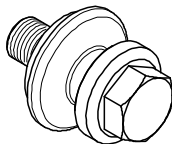
065027	0.359
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Spacer Tube rough DR 22, l = 2.00 m
 Plastic spacer tube for DW 15, B 15.



118582	1.850
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Mounting Ring SCS M30
 For anchoring of the SCS Bracket at high vertical loads.



Accessories

030920	1.650
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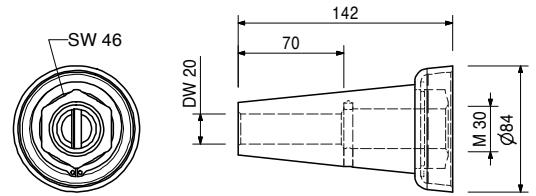
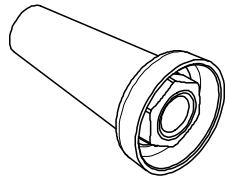
Climbing Cone-2 M30/DW 20, galv.

SCS Double-Sided

Item no.	Weight kg
030920	1.650

Climbing Cone-2 M30/DW 20, galv.
Anchor System M30.
For anchoring climbing systems.

Note
Separate Design Information on request.



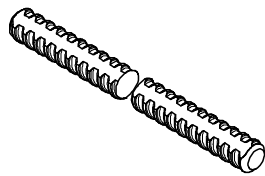
030860	0.792
030700	2.560
030745	2.600

Accessories
Threaded Anchor Plate DW 20
Tie Rod DW 20, spec. length
Tie Rod B 20, spec. length

030700	2.560
030800	0.000

Tie Rod DW 20
Tie Rod DW 20, spec. length
Cutting Cost Tie Rod DW 20/B 20

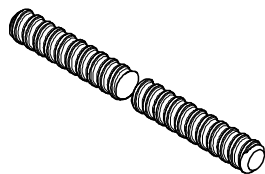
Note
Non-weldable! Take official Approval into consideration!
Technical Data
Permissible tension force 150 kN.



030745	2.600
030800	0.000

Tie Rod B 20
Tie Rod B 20, spec. length
Cutting Cost Tie Rod DW 20/B 20

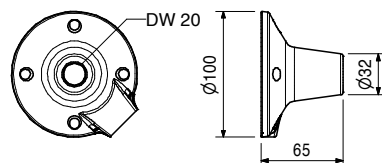
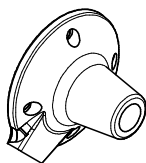
Note
Weldable! Take official Approval into consideration!
Technical Data
Permissible tension force 150 kN.



030860	0.792
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Threaded Anchor Plate DW 20
For use with Tie Rod DW 20, B 20 or Screw-On Cone-2 M24/DW 20. For anchoring in concrete.

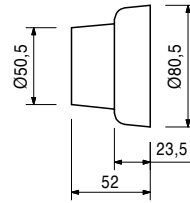
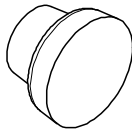
Note
Lost anchor part.



Item no.	Weight kg
031653	0.364

KK Concrete Cone M30-80/52
 For closing anchor points with Climbing Cone-2 M30/DW 20 or Screw-On Cone M30/DW 26.

Note
 Delivery unit 50 pieces.



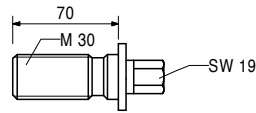
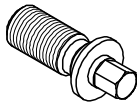
Accessories

131709	9.980
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Sealing Compound-3, 6 cans-set

029450	0.339
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Advancing Screw M30, galv.
 For fixing the M30 Anchor System if the plywood formlining is drilled through.



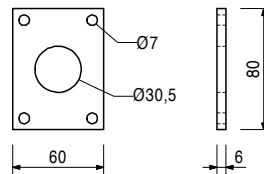
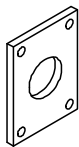
Accessories

029380	0.200
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Anchor Positioning Plate M30, galv.

029380	0.200
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Anchor Positioning Plate M30, galv.
 For fixing the M30 Anchor System if the plywood formlining is drilled through.



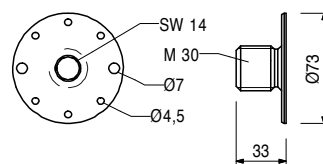
Accessories

029440	0.005
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Lag Screw DIN 571 6 x 20, galv.

026450	0.214
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Anchor Positioning Stud M30, galv.
 For fixing the M30 Anchor System if the plywood formlining is not drilled through.



Accessories

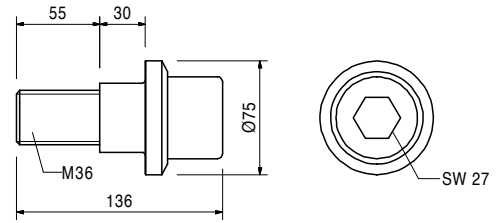
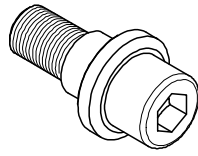
027212	0.445
710312	0.005

Allen Key SW 14, long
Nail 3 x 80

SCS Double-Sided

Item no.	Weight kg
118769	1.880

Mounting Bolt SCS M36
For anchoring of the SCS Bracket at high tension forces.



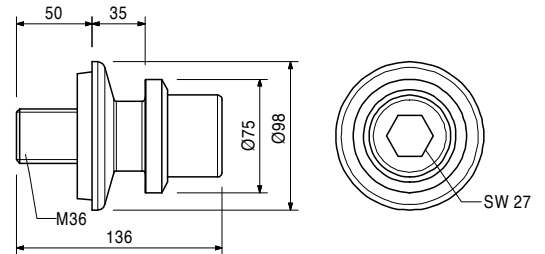
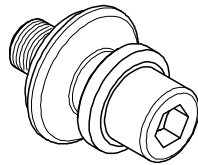
Accessories

030940	3.040
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Climbing Cone-2 M36/DW 26, galv.

118772	2.550
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Mounting Ring SCS M36
For anchoring of the SCS Bracket at high tension forces and vertical loads.



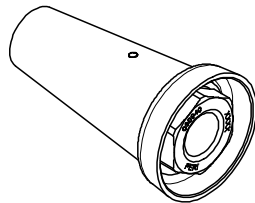
Accessories

030940	3.040
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Climbing Cone-2 M36/DW 26, galv.

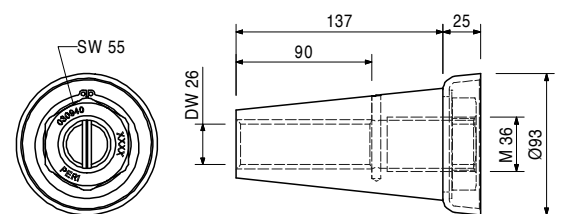
030940	3.040
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Climbing Cone-2 M36/DW 26, galv.
Tie System M36.
For anchoring of climbing systems.



Note

Separate design information on request.



Accessories

030870	1.260
030340	4.480

Threaded Anchor Plate DW 26
Tie Rod DW 26, spec. length

030340	4.480
030500	0.000

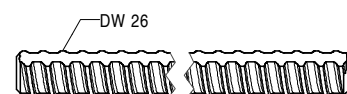
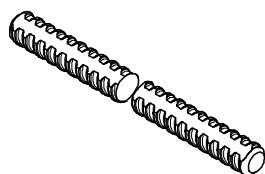
Tie Rod DW 26
Tie Rod DW 26, spec. length
Cutting Cost Tie Rod DW 26

Note

Non-weldable! Take official approval into consideration!

Technical Data

Permissible tension force 250 kN.

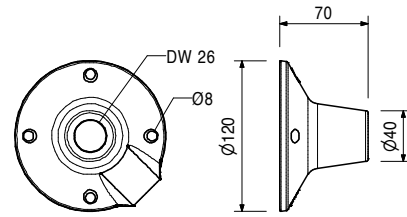
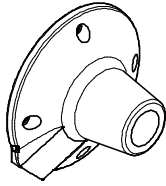


Item no.	Weight kg
030870	1.260

Threaded Anchor Plate DW 26

For use with Tie Rod DW 26 or Screw-On Cone M36/DW 26. For anchoring in concrete.

Note
Lost anchor part.

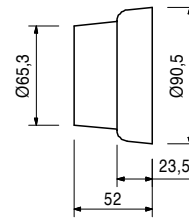
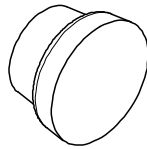


031654	0.512
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KK Concrete Cone M36-90/52

For closing anchor points with Climbing Cone-2 M36/DW 26.

Note
Delivery unit 50 pieces.



Accessories

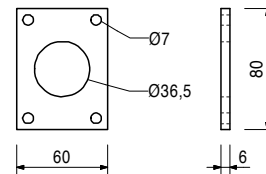
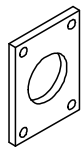
131709	9.980
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Sealing Compound-3, 6 cans-set

029390	0.170
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Anchor Positioning Plate M36, galv.

For fixing the M36 anchor system if the plywood formlining is drilled through.



Accessories

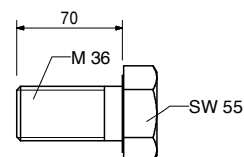
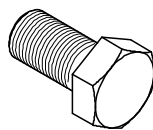
029440	0.005
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Lag Screw DIN 571 6 x 20, galv.

029430	0.930
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Bolt ISO 4017 M36 x 70-8.8, galv.

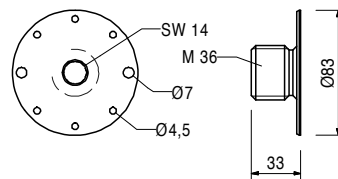
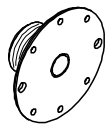
Bolt for anchoring of climbing systems and as advancing bolt.



Item no.	Weight kg
026460	0.308

Anchor Positioning Stud M36, galv.

For fixing the M36 anchor system if the plywood formlining is not drilled through.



Accessories

027212	0.445
710312	0.005

Allen Key SW 14, long

Nail 3 x 80

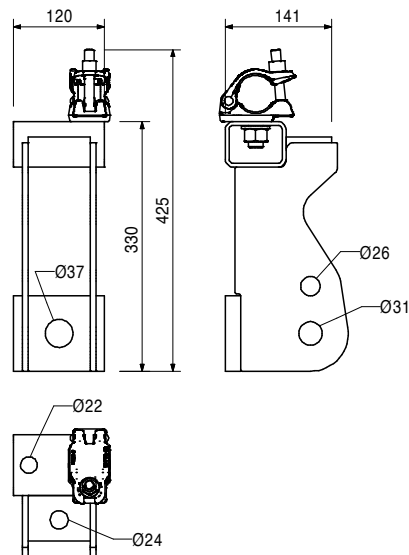
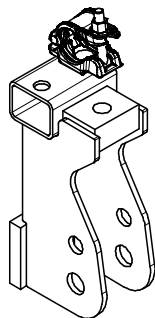
123819	9.610
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Bracing Shoe SCS M30/DW20

Used as compression point at starter sections with optional connections to Scaffold Tube Bracing Ø 48, Vertical Tie Rod DW 20 Suspension, Climbing Anchor M36, Diagonal Strut SCS or Heavy Duty Spindle SCS.

Complete with

1 pc. 017040 Screw-On Coupler AK 48, galv.



Accessories

029420	0.590
029430	0.930

Bolt ISO 4017 M30 x 70-8.8, galv.

Bolt ISO 4017 M36 x 70-8.8, galv.

030580	0.371
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Hex. Nut DW 20 SW 36/60, weldable

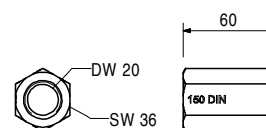
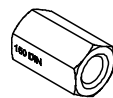
For anchoring with Tie Rod DW 20 and B 20.

Note

Weldable!

Technical Data

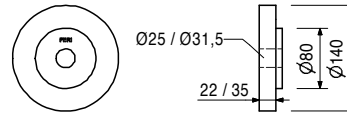
Permissible load 150 kN.



Item no.	Weight kg
114082	2.860

Counterplate RCS DW 20

Counterplate with centring for anchoring through the Climbing Rail RCS.



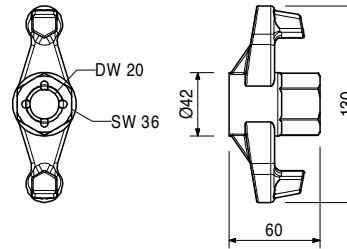
030990	0.786
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Wingnut DW 20, galv.

For anchoring with Tie Rod DW 20 and B 20.

Technical Data

Permissible load 150 kN.



051250	2.790
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Tension Belt, l = 5.70 m, 2.5 t

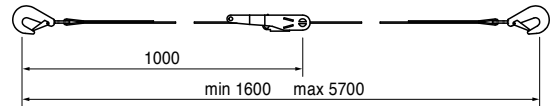
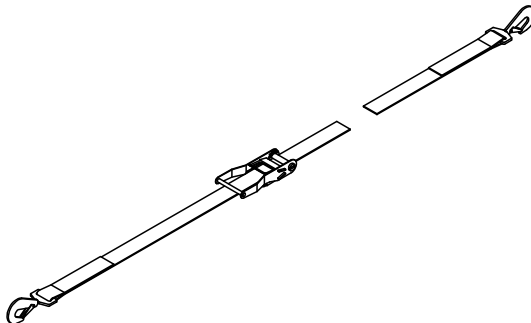
To prevent climbing systems from tipping over due to wind loads.

Note

Follow Instructions for Assembly and Use!

Technical Data

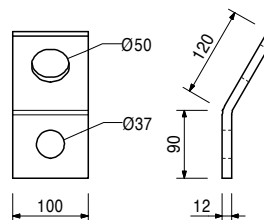
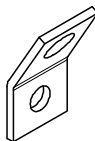
Permissible tension force 2.5 t.



110469	1.660
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Tension Belt Connector Wall M36

To connect Tension Belt to the previous anchor M30 or M36.



Accessories

029420	0.590
029430	0.930

Bolt ISO 4017 M30 x 70-8.8, galv.

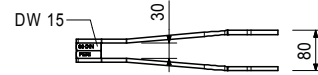
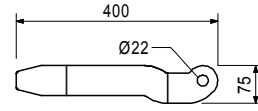
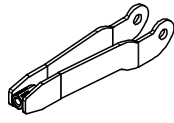
Bolt ISO 4017 M36 x 70-8.8, galv.

SCS Double-Sided

Item no.	Weight kg
129693	3.130

Tension Anchor Connector CB/SCS

For connecting the wind suspension with Tie Rod DW 15 to the Crossbeam Unit SCS 250 / 190 or CB Climbing Bracket.



711084	0.420
781053	0.065

Accessories

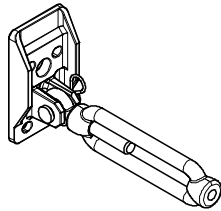
Bolt ISO 4014 M20 x 150-8.8, galv.

Nut ISO 7040 M20-8, galv.

107008	4.100
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Wall Tension Anchor

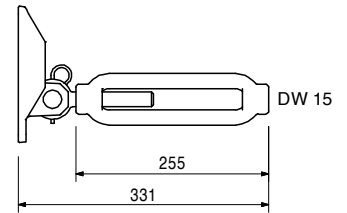
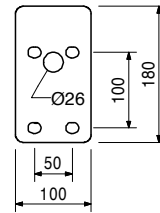
Alternative wall connector to prevent tipping over due to wind loads with Tie Rod DW 15. Including Turnbuckle CB M20/DW 15.



Complete with

1 pc. 027170 Pin Ø 16 x 42, galv.

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



026430	0.334
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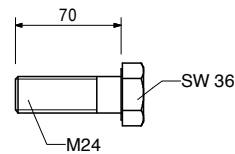
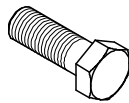
Accessories

Bolt ISO 4014 M24 x 70-10.9, glav.

026430	0.334
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Bolt ISO 4014 M24 x 70-10.9, glav.

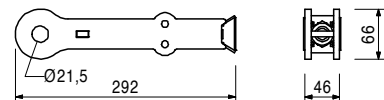
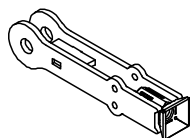
High-strength bolt for anchoring climbing systems.



116532	1.890
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Tie Yoke VARIOKIT Ø 22 / DW 15

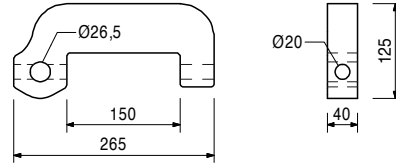
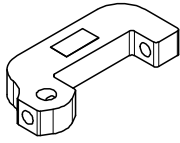
For assembling in Steel Waler SRU.



Item no.	Weight kg
115375	6.100

Articulated Spanner RCS DW 15

For tensioning and as an articulated connection to the Climbing Rail RCS, Steel Waler SRU or Bracing Shoe RCS for bracing with DW 15.



Accessories

104031	0.462	Fitting Pin Ø 21 x 120
018060	0.014	Cotter Pin 4/1, galv.
111567	0.729	Fitting Pin Ø 26 x 120
022230	0.033	Cotter Pin 5/1, galv.
030070	0.222	Hex. Nut DW 15 SW 30/50, galv.
030030	1.440	Tie Rod DW 15, spec. length

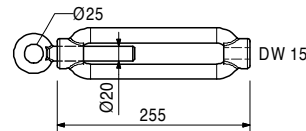
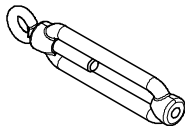
116807	1.820
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Turnbuckle CB M20/DW 15

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

Complete with

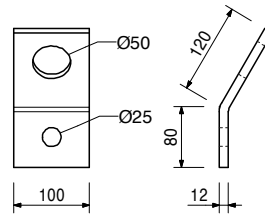
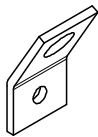
1 pc. 711059 Turnbuckle for tension anchor CB
1 pc. 711060 Eye Bolt M20, left, galv.



051270	1.620
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Tension Belt Connector Wall M24

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



Accessories

026430	0.334	Bolt ISO 4014 M24 x 70-10.9, galv.
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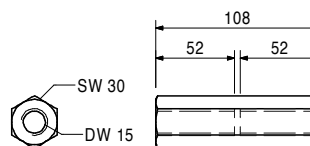
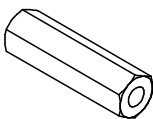
030090	0.402
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Hex. Nut DW 15 SW 30/108, galv.

For coupling Tie Rod DW 15 and B 15.

Technical Data

Permissible load 90 kN.



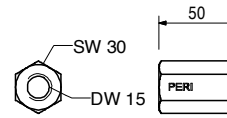
SCS Double-Sided



Item no.	Weight kg
030070	0.222

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

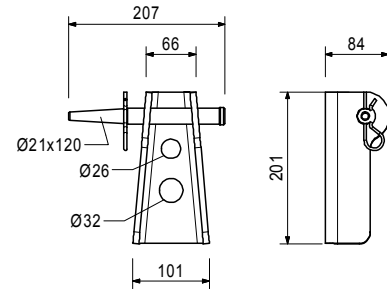
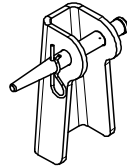
Technical Data
Permissible load 90 kN.



129831	2.740
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Bracing Shoe SCS M30/M24
To connect wind suspension to the previous anchor.

Complete with
1 pc. 104031 Fitting Pin \varnothing 21 x 120
1 pc. 018060 Cotter Pin 4/1, galv.



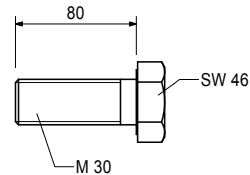
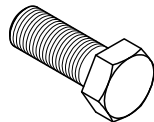
Accessories

123843	0.623
026430	0.334

Bolt ISO 4017 M30 x 80-10.9
Bolt ISO 4014 M24 x 70-10.9, galv.

123843	0.623
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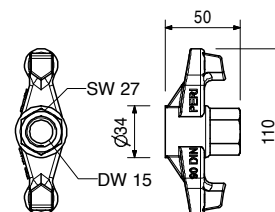
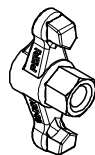
Bolt ISO 4017 M30 x 80-10.9



030100	0.439
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Wingnut DW 15, galv.
For anchoring with Tie Rod DW 15 and B 15.

Technical Data
Permissible load 90 kN.



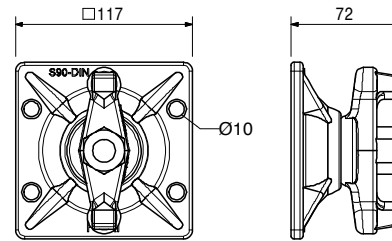
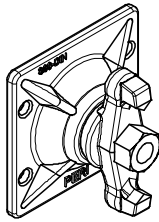
SCS Double-Sided



Item no.	Weight kg
030370	1.660

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

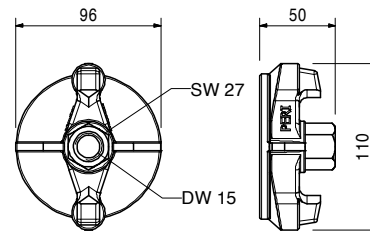
Note
 Wrench size SW 27.
Technical Data
 Permissible load 90 kN.



030110	0.799
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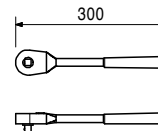
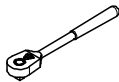
Wingnut Counterplate DW 15, galv.
 For anchoring with Tie Rod DW 15 and B 15.

Technical Data
 Permissible load 90 kN.



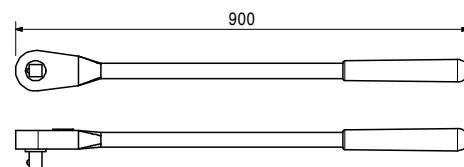
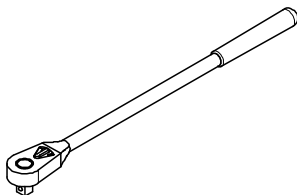
072180	0.560
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Ratchet Wrench 1/2"



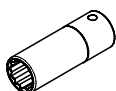
029610	5.300
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Ratchet Wrench 1"



123751	0.216
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Socket SW 19-1/2" L
 Fits to Hex. Bolts M12. To operate the Carriage SCS with Drive Shaft SW 19.

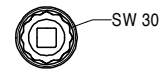
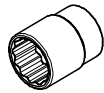


SCS Double-Sided

Item no. Weight kg

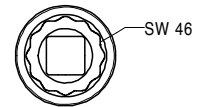
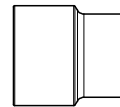
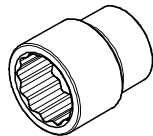
104823 0.175

Socket SW 30-1/2"
Fits to Hex. Bolts M20.
To operate the Adjusting Unit SCS.



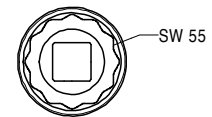
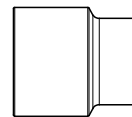
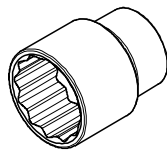
029630 0.580

Socket SW 46-1"
Fits to Hex. Bolts M30.



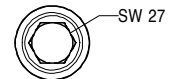
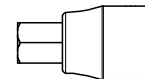
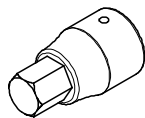
029640 1.000

Socket SW 55-1"
Fits to Hex. Bolts M36.



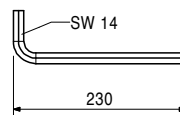
123750 0.776

Hexagon Socket SW 27-1"
Fits to Cyl. Bolts ISO 4762 M36.



027212 0.445

Allen Key SW 14, long
Fits to PERI Anchor Positioning Studs and Allen Key Bolts M16.



SCS Double-Sided



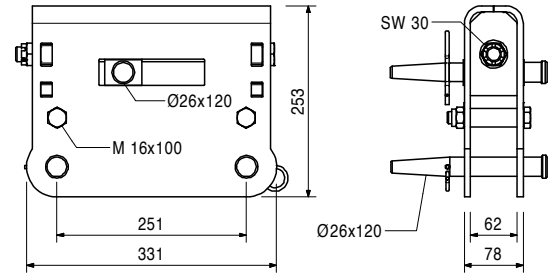
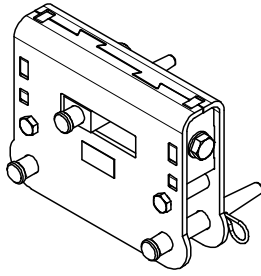
Item no.	Weight kg
118575	16.800

Adjusting Unit SCS

Spare part for Crossbeam Unit SCS.

Complete with

- 3 pc. 111567 Fitting Pin \varnothing 26 x 120
- 3 pc. 022230 Cotter Pin 5/1, galv.
- 2 pc. 710219 Bolt ISO 4014 M16 x 100-8.8, galv.
- 2 pc. 070890 Nut ISO 7040 M16-8, galv.



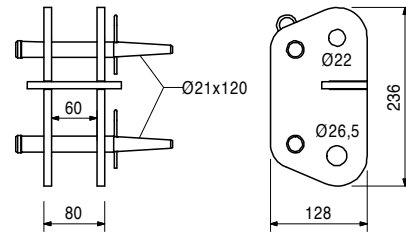
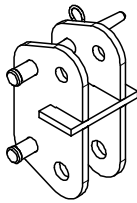
Item no.	Weight kg
118580	5.500

Spindle Connector SCS \varnothing 26-21

Spare part for Strongback SCS.

Complete with

- 2 pc. 104031 Fitting Pin \varnothing 21 x 120
- 2 pc. 018060 Cotter Pin 4/1, galv.



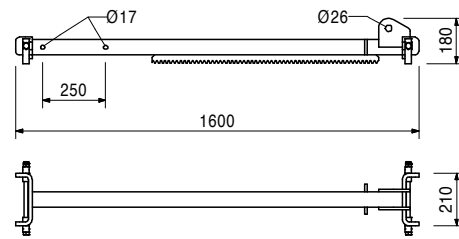
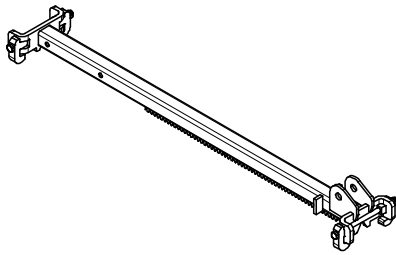
Item no.	Weight kg
118690	23.500

Carriage SCS

Spare part for Crossbeam Unit SCS 250.

Complete with

- 2 pc. 103740 Bolt ISO 4016 M16 x 280-4.6 MU, galv.
- 2 pc. 070890 Nut ISO 7040 M16-8, galv.

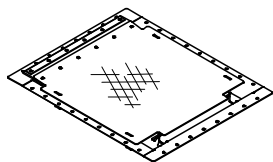


SCS Double-Sided

Item no.	Weight kg
126431	12.300

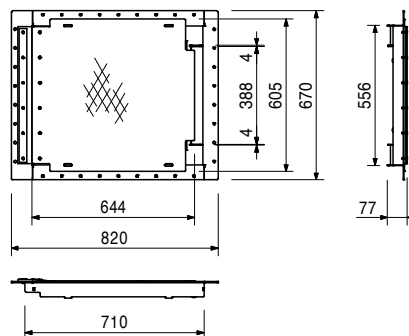
Hatch 55 x 60-2, foldable

Self-closing hatch for ladder access. Clear opening approx. 55 x 60 cm. Ladder fixation with bolts or by hanging up.



Complete with

- 1 pc. 126785 Hatch Hinge RCS
- 12 pc. 108647 Rivet DIN 7337- A5 x 20
- 2 pc. 022230 Cotter Pin 5/1, galv.



Accessories

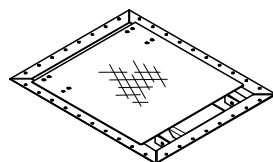
710224	0.047
710381	0.017

- Bolt ISO 4017 M12 x 40-8.8, galv.**
- Nut ISO 7042 M12-8, galv.**

110608	15.600
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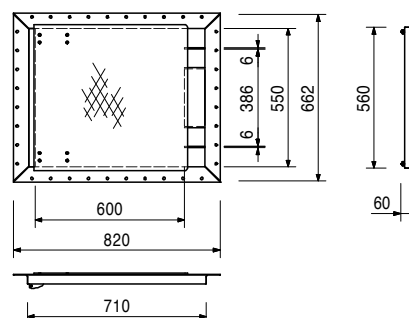
Hatch 55 x 60, foldable

Self-closing hatch for ladder access. Clear opening approx. 55 x 60 cm. Ladder fixation with bolts.



Complete with

- 1 pc. 110529 Hinging Plate left, galv.
- 1 pc. 110535 Hinging Plate right, galv.
- 8 pc. 721412 Rivet DIN 7337 - A4,8 x 12



Accessories

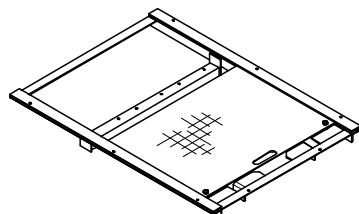
710224	0.047
710381	0.017

- Bolt ISO 4017 M12 x 40-8.8, galv.**
- Nut ISO 7042 M12-8, galv.**

051430	37.900
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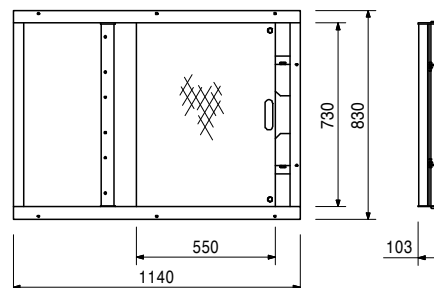
Sliding Hatch Cover

Non self-closing hatch for ladder access. Clear opening approx. 73 x 55 cm. Ladder fixation with bolts.



Complete with

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

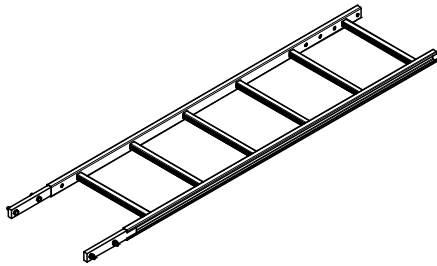


SCS Double-Sided

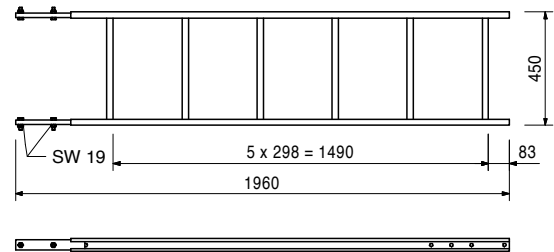


Item no.	Weight kg
051410	11.700

Ladder 180/6, galv.
As access for PERI Formwork Systems.

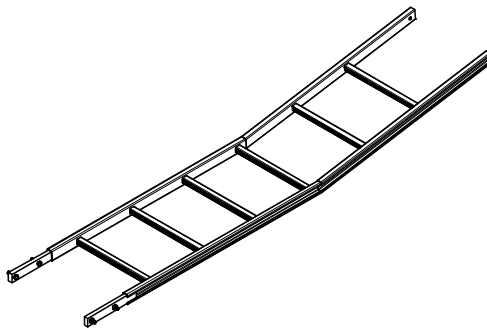


Complete with
4 pc. 710224 Bolt ISO 4017 M12 x 40-8.8, galv.
4 pc. 710381 Nut ISO 7042 M12-8, galv.

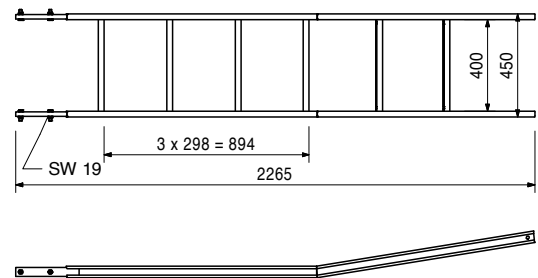


051420	12.800
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Ladder 220/6, galv.
As access for PERI Formwork Systems.

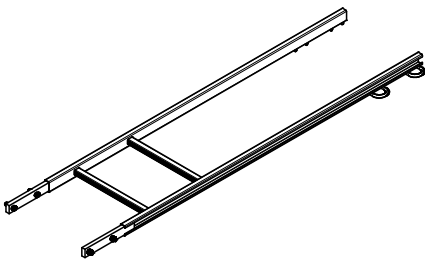


Complete with
4 pc. 710224 Bolt ISO 4017 M12 x 40-8.8, galv.
4 pc. 710381 Nut ISO 7042 M12-8, galv.

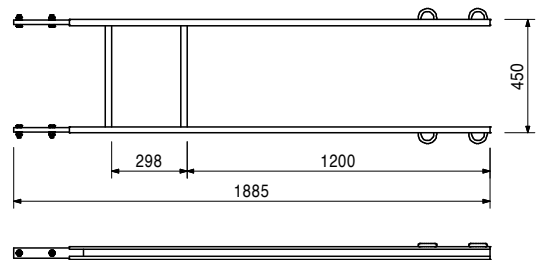


103724	10.400
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End Ladder 180/2, galv.
As access for PERI Formwork Systems.

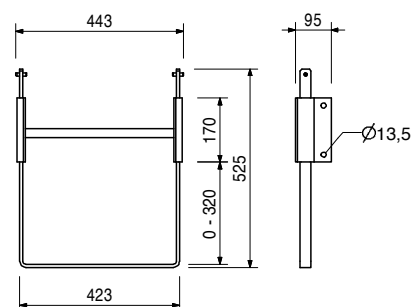
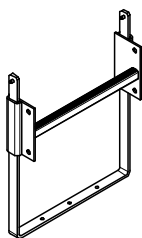


Complete with
4 pc. 710224 Bolt ISO 4017 M12 x 40-8.8, galv.
4 pc. 710381 Nut ISO 7042 M12-8, galv.



109105	5.070
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Ladder Base 30 adjustable, galv.
For horizontal fixing of ladders on the platform decking.

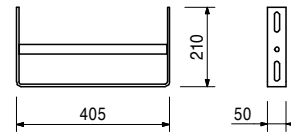
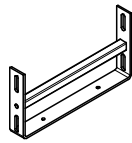


SCS Double-Sided

Item no.	Weight kg
051460	2.180

Ladder Base, galv.

As bottom ladder connection and for securing ladders against sliding on the scaffold decks.



103718	0.684
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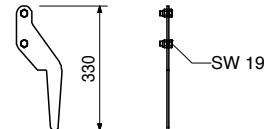
Ladder Hook, galv.

For adjusting the bottom ladder.
Always use in pairs.



Complete with

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



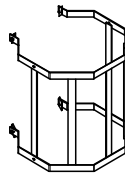
104132	15.600
051450	25.200

Ladder Safety Cages, galv.

Ladder Safety Cage 75, galv.

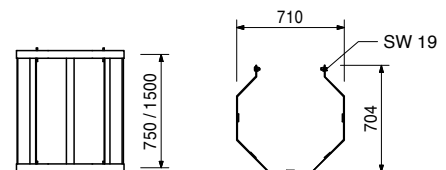
Ladder Safety Cage 150, galv.

Ladder safety cage for PERI Access Ladders.



Complete with

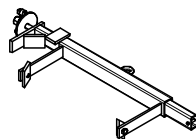
4 pc. 710266 Bolt ISO 4017 M12 x 25-8.8, galv.
4 pc. 701763 Clamping Plate FI 25 x 10 x 90



111165	6.080
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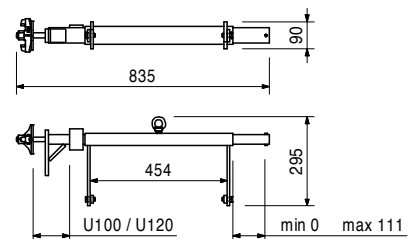
Ladder Connector VARIO, adjustable

For connecting ladders to Steel Walers SRZ and SRU, Profile U100 – U120.



Complete with

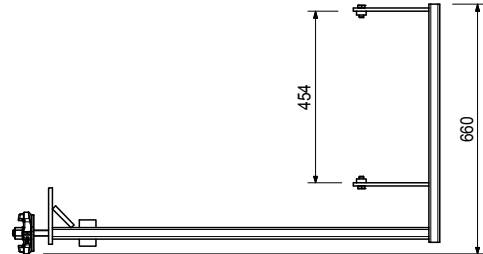
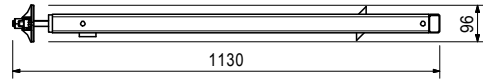
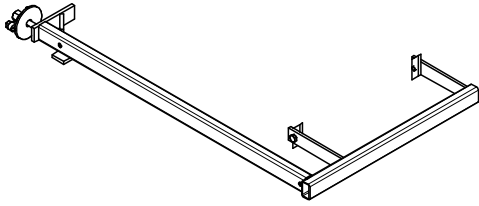
2 pc. 710266 Bolt ISO 4017 M12 x 25-8.8, galv.
2 pc. 701763 Clamping Plate FI 25 x 10 x 90



Item no.	Weight kg
129805	8.600

Ladder Connector VARIO/SCS

For connecting ladders to Steel Walers SRZ and SRU (U100 - U120) when using Platform Beam SCS 120.

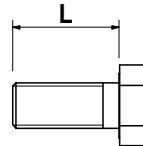
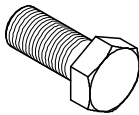


710224	0.047
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Bolt ISO 4017 M12 x 40-8.8, galv.

As access for PERI formwork systems.

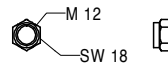
L
40



710381	0.017
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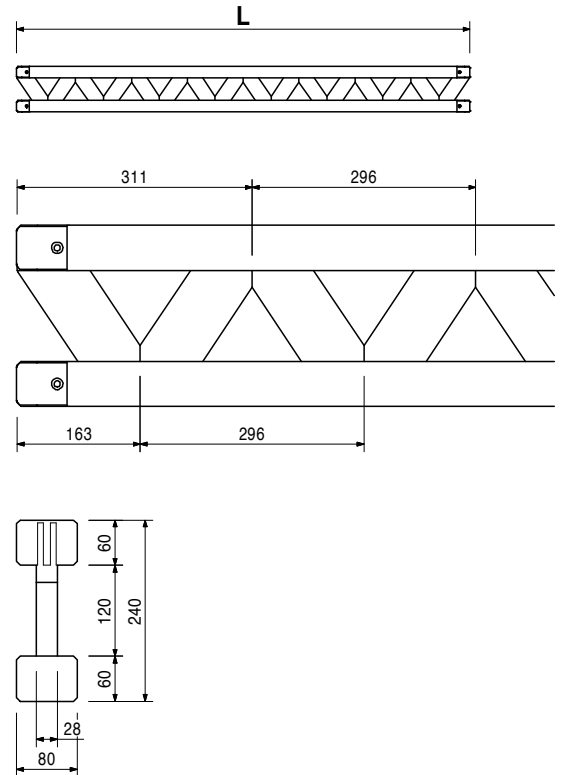
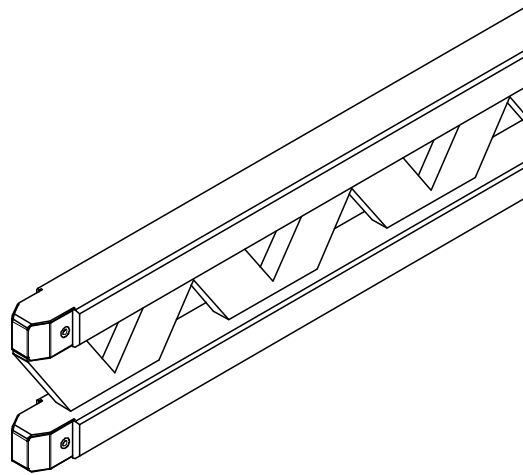
Nut ISO 7042 M12-8, galv.

Self-locking.



SCS Double-Sided

Item no.	Weight kg		L
075100	5.300	Girders GT 24	918
075120	7.100	Girder GT 24, l = 0.90 m	1214
075150	8.900	Girder GT 24, l = 1.20 m	1510
075180	10.600	Girder GT 24, l = 1.80 m	1806
075210	12.400	Girder GT 24, l = 2.10 m	2102
075240	14.200	Girder GT 24, l = 2.40 m	2398
075270	15.900	Girder GT 24, l = 2.70 m	2694
075300	17.700	Girder GT 24, l = 3.00 m	2990
075330	19.500	Girder GT 24, l = 3.30 m	3286
075360	21.200	Girder GT 24, l = 3.60 m	3582
075390	23.000	Girder GT 24, l = 3.90 m	3878
075420	24.800	Girder GT 24, l = 4.20 m	4174
075450	26.600	Girder GT 24, l = 4.50 m	4470
075480	28.300	Girder GT 24, l = 4.80 m	4766
075510	30.100	Girder GT 24, l = 5.10 m	5062
075540	31.900	Girder GT 24, l = 5.40 m	5358
075570	33.600	Girder GT 24, l = 5.70 m	5654
075600	35.400	Girder GT 24, l = 6.00 m	5950

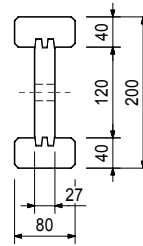
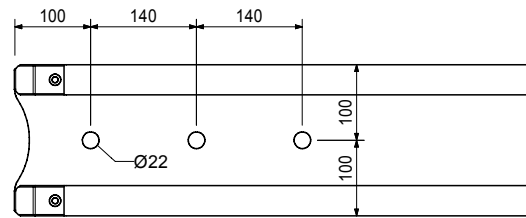
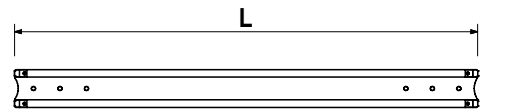
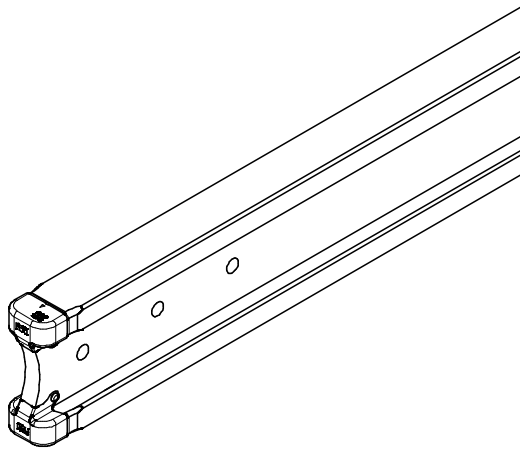


078010	36.875	Girder GT 24, l = 6.25 m
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Item no.	Weight kg		L
074990	8.600	Girders VT 20K	1447
074905	12.700	Girder VT 20K, l = 1.45 m	2152
074910	14.500	Girder VT 20K, l = 2.15 m	2452
074890	15.600	Girder VT 20K, l = 2.45 m	2652
074920	17.100	Girder VT 20K, l = 2.90 m	2902
074930	19.500	Girder VT 20K, l = 3.30 m	3292
074940	21.200	Girder VT 20K, l = 3.60 m	3592
074950	23.000	Girder VT 20K, l = 3.90 m	3892
074960	26.700	Girder VT 20K, l = 4.50 m	4492
074970	29.900	Girder VT 20K, l = 4.90 m	4902
074980	34.800	Girder VT 20K, l = 5.90 m	5902

Universal formwork girder made of wood.

Note
The girder fulfils all requirements of DIN EN 13377 class P20 (Declaration of Conformity).



**The optimal System
for every Project and
every Requirement**



Wall Formwork



Column Formwork



Slab Formwork



Climbing Systems



Bridge Formwork



Tunnel Formwork



Shoring Systems



Construction Scaffold



Facade Scaffold



Industrial Scaffold



Access



Protection Scaffold



Safety Systems



**System-Independent
Accessories**



Services



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