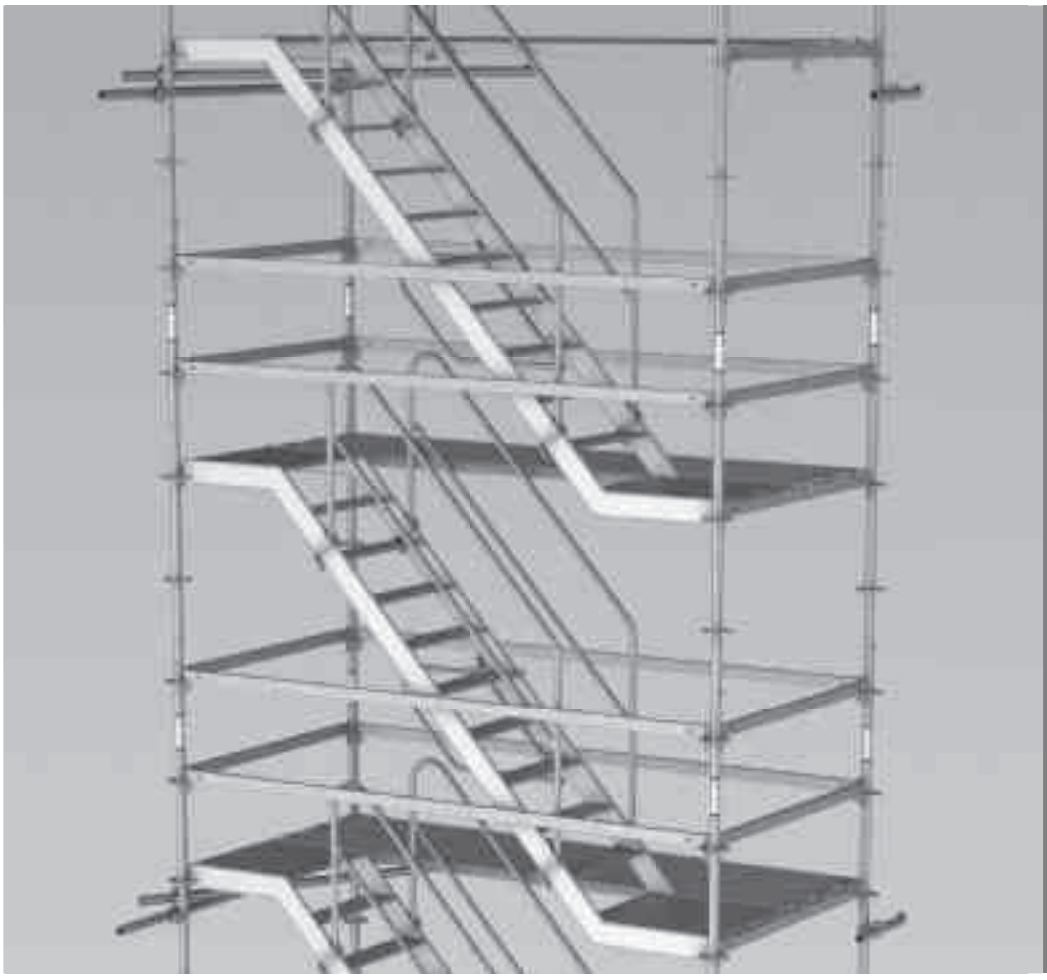
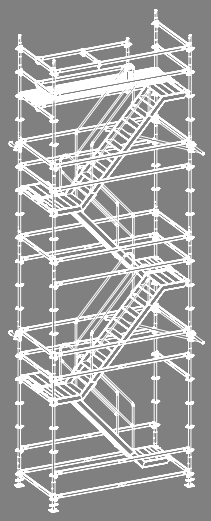
PERI UP Flex
Staircase 75

Instructions for Assembly and Use – Standard Configuration





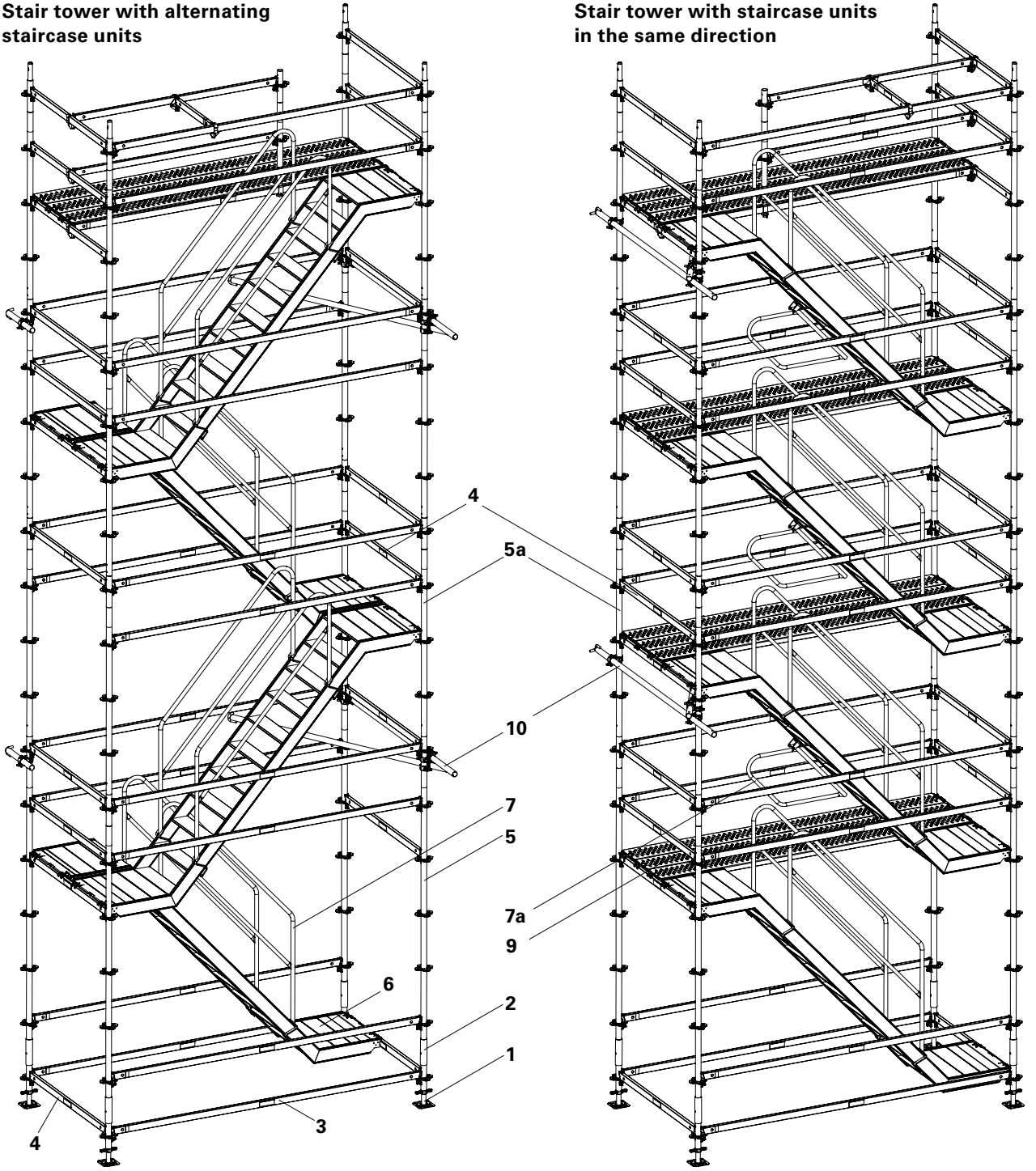
Edition 05 | 2016

Content

Main components

Stair tower with alternating staircase units

Stair tower with staircase units in the same direction



1 Adjustable Base Plate UJB
2 Base Standard UVB 24
3 Ledger UH 300, UH 300 Plus*
4 Ledger UH 150, UH 150 Plus*
5 Standard UVR 300
5a Standard UVR 200
6 Staircase UAS 75 x 300/200
7 Stair Guardrail UAG
7a Stair Guardrail UAH
9 Industrial Deck UDI 25 x 300*
10 Anchorage complete for one level

*On the following pages the term "Ledger UH" is used for both ledger versions. Ledgers UH can be replaced by Ledgers UH Plus. The same applies for Steel Decks UDG as an alternative for Industrial Decks UDI.

Overview

Key

Pictogram | Definition


Safety instructions


Note


Visual check


Tip

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

Conventions
- Instructions are numbered with: 1. ....., 2. ....., 3. .....
- Position numbers are clearly provided for the individual components and are given in the drawing, e.g. **1**, in the text in brackets, for example (1).
- Multiple position numbers, i.e. alternative components, are represented with a slash, e.g. **1 / 2**.

Arrows

→ Arrow representing an action

Presentational reference

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

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

Target groups

Scaffolding contractors/ building contractors
These Instructions for Assembly and Use are designed for contractors who use the scaffolds either to

- assemble, modify and dismantle the scaffolds, or use
- them e.g. for concreting or
- for other operations, e.g. carpentry or electrical work.

Construction site coordinator
The Safety and Health Protection Coordinator*

- is appointed by the client,
- must identify potential hazards during the planning phase,
- determines measures that provide protection against risks,
- creates a safety and health 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.

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

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

- An explanation of the plan for the assembly, modification or dismantling of the scaffolding in an understandable form and language.
- Description of measures in order to safely assemble, modify or dismantle the scaffolding.
- Designation of the preventive measures to avoid the risk of persons and objects falling.
- Designation of the safety precautions in the event of changing weather conditions which could adversely affect the safety of the scaffolding as well as the personnel concerned.
- Details regarding the permissible loads.
- Description of any other risks that are associated with the assembly, modification or dismantling procedures.

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

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

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

Additional technical documentation

- Approval:
– Z-8.22-863 PERI UP Flex Modular System

- Brochure:
– PERI UP Access Technology

- Instructions for Use:
– Original Instructions for Use for Pallets and Stacking Devices

Intended use

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

These Instructions for Assembly and Use are based on Approval Z-8.22-863 "Modular System PERI UP Flex".

They describe the standard configuration for stair towers with the staircase units in the same direction and stair towers with alternating staircase units as a means of access for temporary work to be carried out on working areas situated above ground level.

Features
The staircase is based on PERI UP Flex modular scaffolding with supplementary components.

For use as a stair tower with alternating staircase units or with units in the same direction from 2.0 m up to a maximum 66.0 m assembly height together with associated anchorage.

Permissible loads: for flights of stairs and decking
2.0 kN/m²
for the complete construction
2.0 kN/m²
per 20 m run of staircase and landing

– Flight of stairs corresponds to Class A in accordance with EN 12811, Part 1.

Technical data
Version 1: 150 x 250 cm
Version 2: 150 x 300 cm
Storey height 200 cm

Clear tread width 67 cm, decking width 71 cm.

Instructions on use

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

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

Changes to PERI components are not permitted.

Care and maintenance instructions

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

Some repair work may also be inevitable due to the tough working conditions. The following points should help to keep care and maintenance costs as low as possible.

Do not clean powder-coated or galvanized components with steel brushes or metal scrapers.

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

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

Do not clean components when suspended on a crane.

Any repairs to PERI products are to be carried out by PERI qualified personnel only.

Cross-system

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

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

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

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

Materials and working areas are to be inspected on a regular basis especially before each use and assembly for:
- signs of damage,
- stability and
- function.

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

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

Components provided by the contractor must conform with the characteristics required in these Instructions for Assembly and Use as well as 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 Ø 48.3 x 3.2 mm according to EN 12811-1:2003 4.2.1.2.
- scaffold tube couplings according to EN 74.

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

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

Before and after exceptional occurrences that may have an adverse effect regarding the safety of the scaffolding system, the contractor must immediately:
- create an additional risk assessment, with appropriate measures for ensuring the stability of the scaffolding system being carried out based on the results,
- and arrange for an extraordinary inspection by a qualified and competent person. The aim of this inspection is to identify and rectify any damage in good time in order to guarantee the safe use of the scaffolding 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 scaffolding systems may only be carried out by technically qualified personnel under the supervision of an authorized person. The qualified specialists must have received appropriate training for the work to be carried out with regard to specific risks and dangers.

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

Before initial use, the safe functioning of the scaffold must be checked by a qualified person. The result of the inspection must be documented in an inspection record.

The scaffold contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the system, e.g.:
- safety helmet,
- safety shoes,
- safety gloves,
- safety glasses,

is available and used as intended.

If personal protective equipment (PPE) is required or specified in local regulations, the scaffold contractor must determine appropriate attachment points on the basis of the risk assessment. The personal protective equipment to be used is determined by the contractor.

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

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

If the scaffolding 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 load-distributing support used, such as planking, must match the respective base. If several layers are required, planks are to be arranged crosswise.

Couplers with screw closure have to be tightened with 50 Nm. This corresponds to a force of 20 kg using a lever arm length of 25 cm.

Wedge couplers are to be securely fitted using a 500 g hammer.

Only use approved lifting gear.

The load-bearing capacity of the fastening means between the wall ties and the anchoring base must be verified for the specified anchor loads on the construction site.

Anchoring

The anchoring forces and the position of the anchoring are described in the "Reaction Forces" section.

The enclosure of the scaffolding or mounting of additional surfaces which are exposed to the influences of the wind changes the stability and must therefore be checked. If required, additional measures must be implemented.

Anchors should be installed progressively along with the erection of the scaffolding.

The anchoring forces must be transferred into a sufficiently load-bearing anchorage (e.g. building) via guardrail holders and fastening means.

The anchoring and its components must be inspected by a qualified person selected by the scaffolding contractor.

Inspecting the anchoring

Load tests must be carried out at the place of use.

Load tests are to be carried out using suitable test equipment.

The test load must be 1.2 times more than the required anchoring force $F_{\perp}$.

In the case of the anchorage ground, the scope must include the following:
– at least 10% concrete
– at least 30% other construction materials
all dowels used; however, at least 5 test loads must be carried out.

Storage and transportation

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

Do not drop the components.

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

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

Always guide pre-assembled scaffolding bays, scaffolding units or scaffolding sections with ropes when moving them by crane.

The access areas on the jobsite 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.

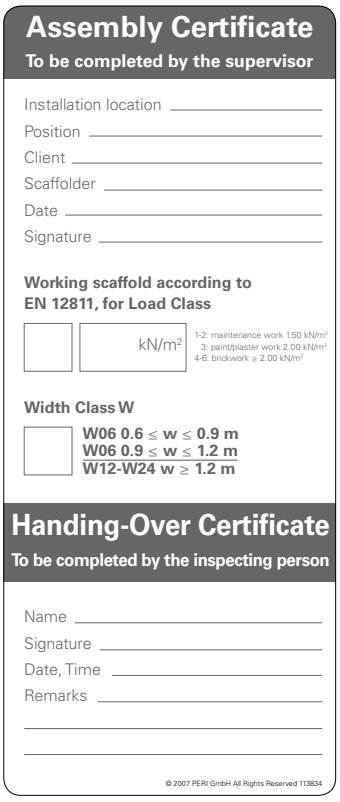
Use original PERI storage and transport systems, e.g. crate pallets, pallets or stacking devices.

Identification markings

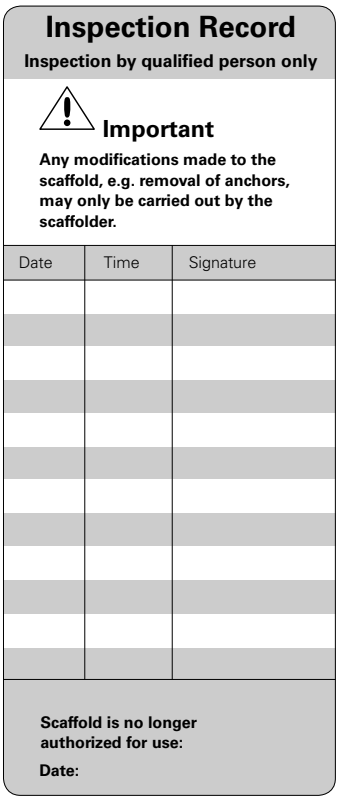
In carrying out the required work, the following identification markings are to be taken into consideration:
If certain parts of the scaffolding are not ready for use – especially during assembly, modification work and dismantling, a "No Entry" warning sign, restricting access, must be clearly displayed (Sign 1).
In addition, it must be made clear through appropriate physical means that the scaffold is not fully erected and may not be accessed.

After assembly has been completed, all scaffold entry points must clearly display the designated sign. (Sign 2)
The signs do not replace the inspection record! (Sign 2, rear side)

Sign 1



Sign 2



Sign 2, rear side

Laws and regulations

In Germany, during the assembly, modification and dismantling as well as the use of the scaffolding, accident prevention regulations and guidelines of the employer's liability insurance associations along with national health and safety regulations must be taken into account, in particular:
– Produktsicherheitsgesetz (ProdSG)
– Richtlinie 2009/104/EC
– Betriebssicherheitverordnung (BetrSichV)
– BGI / BGV-I 663
– BGI / BGV-I 5080
– TRBS 2121
– TRBS 1203
– Regulations for Occupational Health and Safety on Construction Sites 30 (RAB 30)
The latest version in each case must be taken into consideration.

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

Inspection, hand-over and utilisation

The erected scaffolding must be inspected by the scaffold contractor in order to determine that assembly has been carried out correctly. If the contractor is convinced that the scaffolding has been correctly erected, it can then be handed over to the user.
It is advisable to carry out the hand-over together with the user and, for example, document this in a written report.

During the hand-over, the scaffold contractor must advise the user of the possible risks involved with non-intended use and his obligation to provide adequate prevention against risk and danger!
- **Put up safety and warning signs at the scaffold access.**
- **Handing over of a utilisation plan.**

The contractor who uses the scaffolding must ensure that the scaffolds are maintained in proper condition and not arbitrarily altered in any way. In this respect, he has to instruct the qualified specialists that if changes have obviously been made to the scaffolding construction during use, this must be reported to the respective authorized person.

Inspection based on

Risk assessment
Instructions for Assembly and Use
Plan for assembly, modification and dismantling

Components used	Stability	Working and operational safety
Condition, e.g. obviously undamaged	Load-bearing capacity of the supporting surface and attachment points	Identification marking of the widths and load classes
Identification markings, e.g. tubes, scaffold couplers, system components	Anchoring, inspection, dimensions	Side protection
Dimensions, e.g. planking, tube wall thickness	Supporting system	Stairs
	Spacing of standards, suspensions, brackets, kickers	Corner execution
	Anchoring grid, bracing and reinforcement	Completeness and support of the decking
	Eccentricities, spindle lengths, inclinations, tolerances	Spacing between the building and edge of decking
		Decking configuration depending on the fall height
		Protection panel in roof safety scaffold

Source: based on TRBS 2121 Teil 1

Selected bay lengths

Modifications for bay length 250 cm

Assembly of stair towers with alternating staircase units and stair towers with staircase units in the same direction for a bay length of 300 cm is described in Sections A1 to A4 and C1 to C4.

Accordingly, the figures apply to the smaller bay length of 250 cm.

The following components must be replaced or reduced:

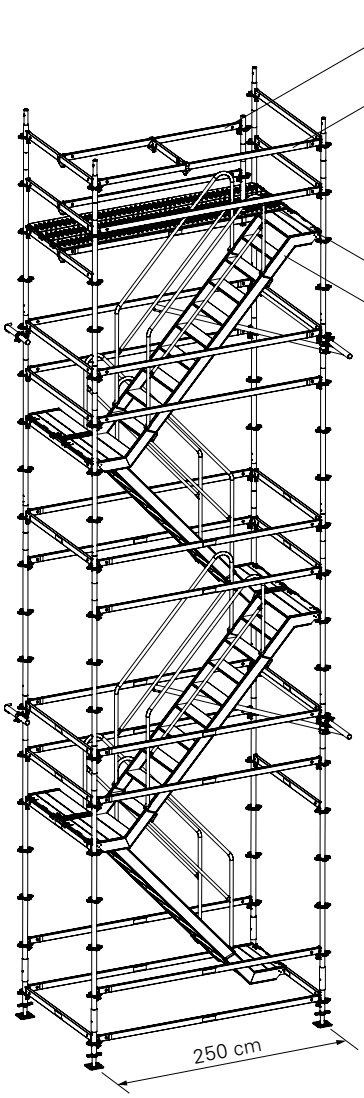
– Ledger UH 300 (3)
Ledger UH 250

– Ledger UH 250 (3a)
Ledger UH 200

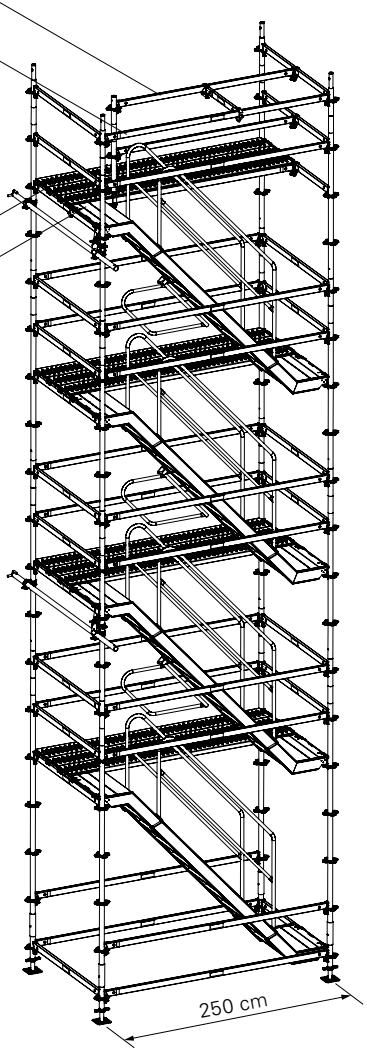
– Staircase UAS 75 x 300/200 (6)
Staircase UAS 75 x 250/200

– Industrial Deck UDI 25x300 (9)
Industrial Deck UDI 25x250

Stair tower with alternating staircase units

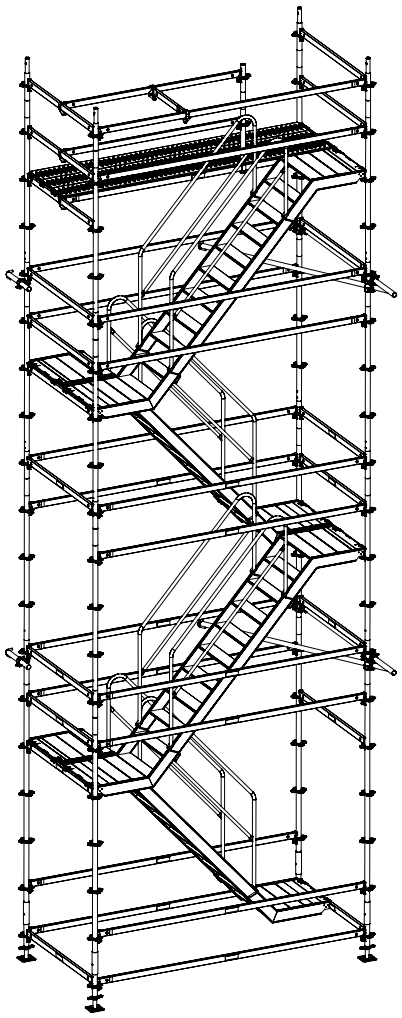


Stair tower with staircase units in the same direction

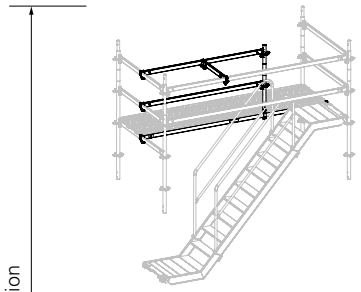


A Alternating staircase units

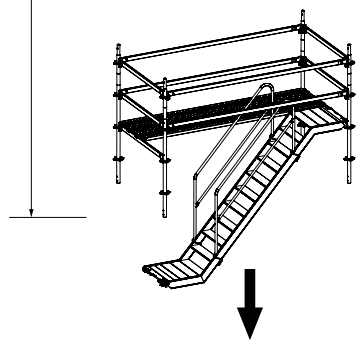
Stair tower with anchorage and access to the building



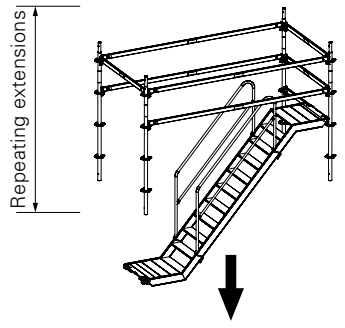
Stair Top Guardrail



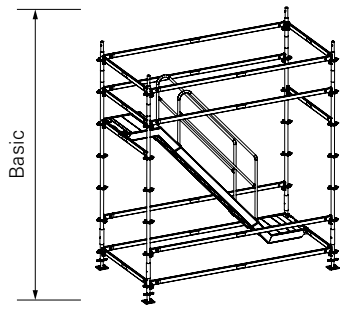
and Stair Tower Top



Stair Tower Plus



Stair Tower Basic-P

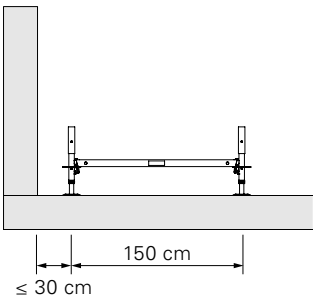


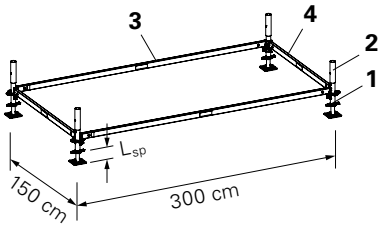
Stair Tower Basic-P

The assembly sequence shown in the following sections can be complemented by other measures which are presented in Section E "Working Safety during Assembly and Dismantling" as well as assembly with the crane.

A1.1 Base level

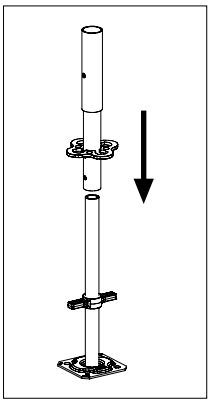
1	Adjustable Base Plate UJB	4x
2	Base Standard UVB 24	4x
3	Ledger UH 300	2x
4	Ledger UH 150	2x

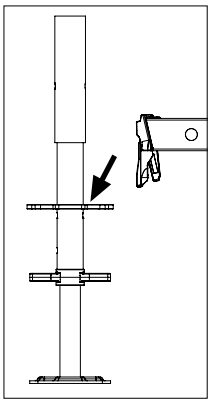




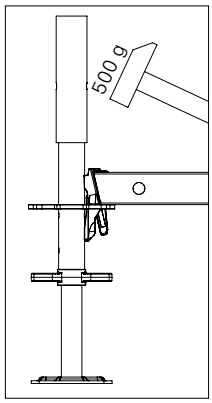
Assembly

1. Assemble frame.
   Distance to building ≤ 30 cm.
2. Horizontally align frame by adjusting the Adjustable Base Plates.
   Spindle extension:
   – for assembly heights up to 36 m: L_{sp} ≤ 30 cm,
   – for assembly heights over 36 m: L_{sp} ≤ 20 cm.





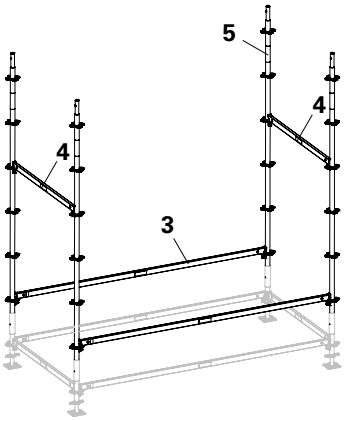
3. Secure wedges on all ledgers using a 500 g hammer.



Install Base Standards and Standards with holes lined up. This procedure allows that the Locking Pins can be always installed easily for crane use.

A1.2 Standards and ledgers

5	Standard UVR 300	4x
4	Ledger UH 150	2x
3	Ledger UH 300	2x



Assembly

1. Insert Standards UVR.
2. Attach Ledgers UH 150 and secure wedges with hammer blow.
3. Attach Ledgers UH 300 and secure wedges with hammer blow.

A1.3 Staircase and guardrails

6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
4	Ledger UH 150	3x
3	Ledger UH 300	4x

Assembly

1. Place Staircase UAS on Ledgers UH. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.

Securing hook must be flush with deck.

2. Mount Stair Guardrails UAG in the position shown.
3. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.

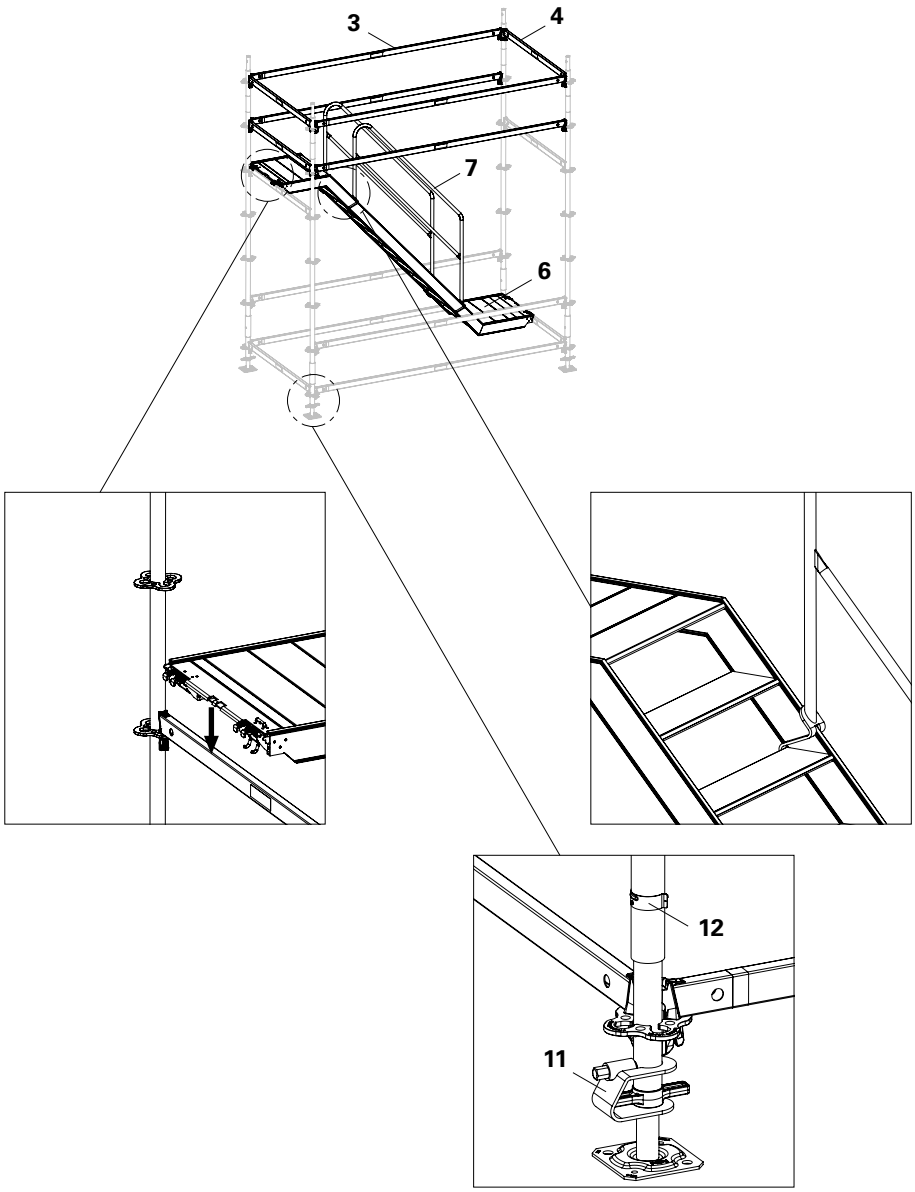
For an easier and safer assembly process Industrial Decks UDI can be installed on the base level.

Moving by crane

11	Spindle Locking UJS	4x
12	Locking Pin Ø 48/57	4x

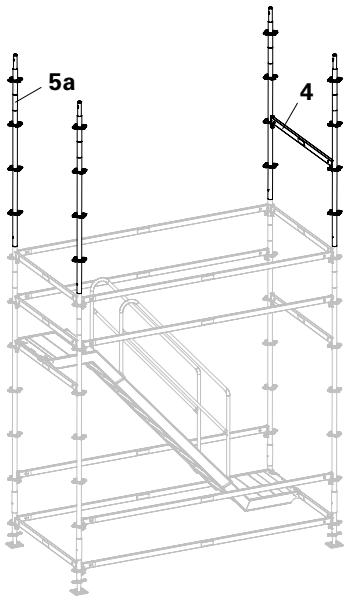
Assembly

1. Secure Adjustable Base Plate UJB with Spindle Locking UJS.
2. Positively connect Base Standard UVB and Standards UVR by means of Locking Pins.



Stair Tower Plus

The number of extensions with Stair Tower Plus depends on the height required and is repeated accordingly, see plan.



A2.1 Standards and ledgers

5a	Standard UVR 200	4x
4	Ledger UH 150	1x

Assembly

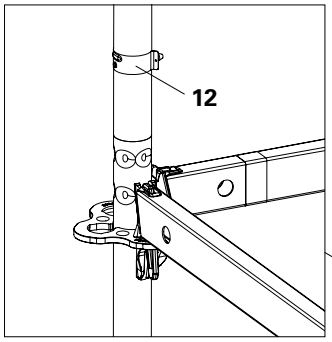
1. Insert Standards UVR.
2. Mount Ledgers UH and secure wedges.
3. Progressively install anchoring, see A4.

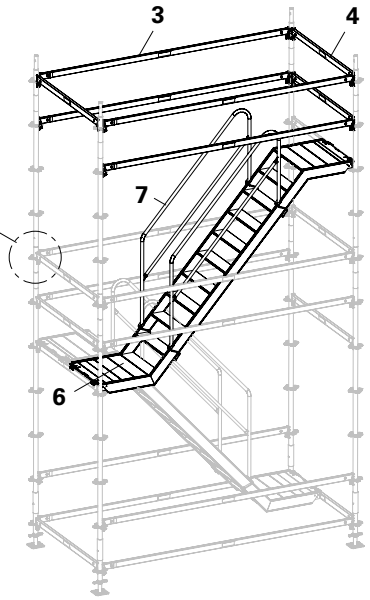
A2.2 Staircase and guardrails

6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
4	Ledger UH 150	3x
3	Ledger UH 300	4x

Assembly

1. Attach Staircase UAS to Ledgers UH. Securing hooks (which prevent lifting) close when staircase has been lowered onto Ledgers UH.





Securing hooks must be flush with deck.

2. Mount Stair Guardrails UAG.
3. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.

Moving by crane

12	Locking Pin Ø 48/57	4x

Assembly

Connect Standards UVR with Locking Pins.

Always install Standards UVR with holes lined up so that the Locking Pins can be easily installed.

A3 Assembly of top section

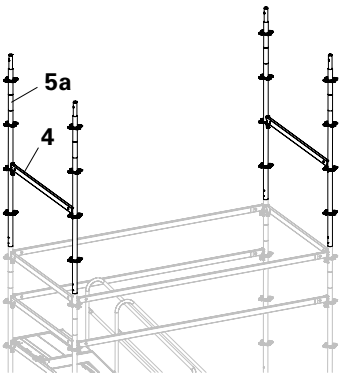
Stair Tower Top

A3.1 Standards and ledgers

5a	Standard UVR 200	4x
4	Ledger UH 150	2x

Assembly

1. Insert Standards UVR.
2. Mount Ledgers UH and secure wedges.

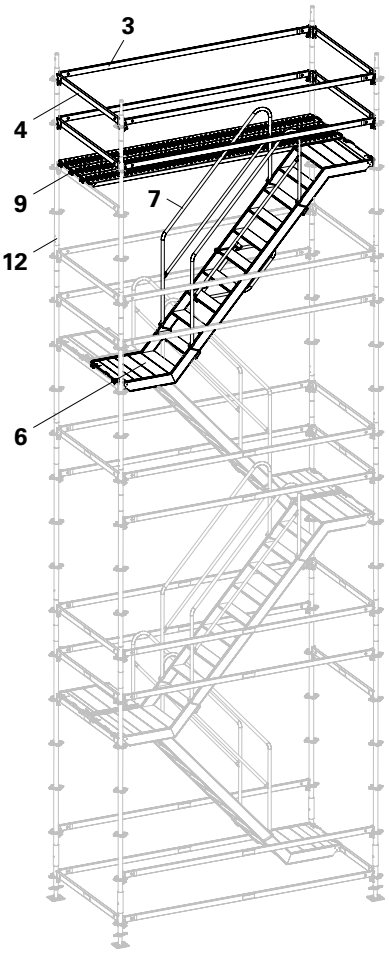


A3.2 Staircase and guardrails

6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
4	Ledger UH 150	4x
3	Ledger UH 300	4x
9	Industrial Deck UDI 25 x 300	3x

Assembly

1. Attach Staircase UAS to Ledgers UH. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.
2. Install Industrial Decks UDI. Securing hooks (which prevent lifting) open and close when decks have been lowered onto Ledger UH.



Securing hooks must be flush with deck.

3. Mount Stair Guardrails UAG.
4. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.

Moving by crane

12	Locking Pin Ø 48/57	4x

Assembly

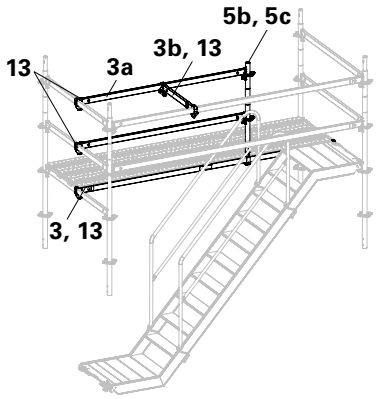
Connect Standards UVR with Locking Pins.

A3 Assembly of top section

A3.3 Access into the building

The Stair Tower Top receives an additional guardrail for safety for access to the building.

3	Ledger UH 300	1x
3a	Ledger UH 200	2x
3b	Ledger UH 75	1x
5b	Top Standard UVH 100	1x
5c	Spigot UH	1x
13	Ledger to Ledger Coupler UHA	6x



Assembly

1. Insert Ledger to Ledger Couplers UHA on the front side.
2. Attach Ledgers UH 300 to Ledger to Ledger Coupler UHA and secure wedges with hammer blow.
3. Place Spigot UH over UH 300 and secure wedge firmly, spacing 2.0 m. Insert Top Standard UVH.
4. Insert Ledger UH 200 into Ledger to Ledger Coupler UHA and Top Standard UVH, and secure wedges firmly.
5. Insert Ledger UH 75 with Ledger to Ledger Couplers UHA between the guardrails (approx. bay centre).
6. Dismantle Ledgers UH on the building side.

A3.4 Intermediate access

is possible for every second floor.

Additional components required:

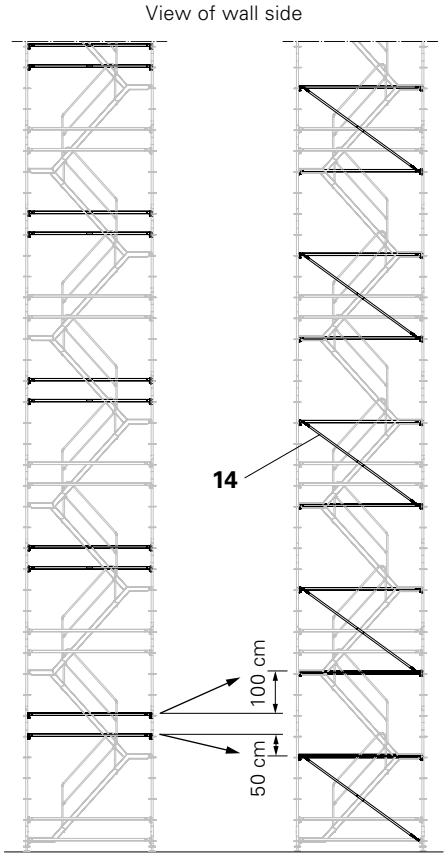
14	Ledger Brace UBL 300/200, alternatively: Scaffold Tube 48.3 x 3.2 mm and Swivel Couplings DK 48/48

Measures to be taken on the wall face (inside):

– Move the two Ledgers UH 300 up and down,
– Insert Ledger Braces UBL in the levels without access point,
– additional anchors, see B3.1.

Over 52 m height

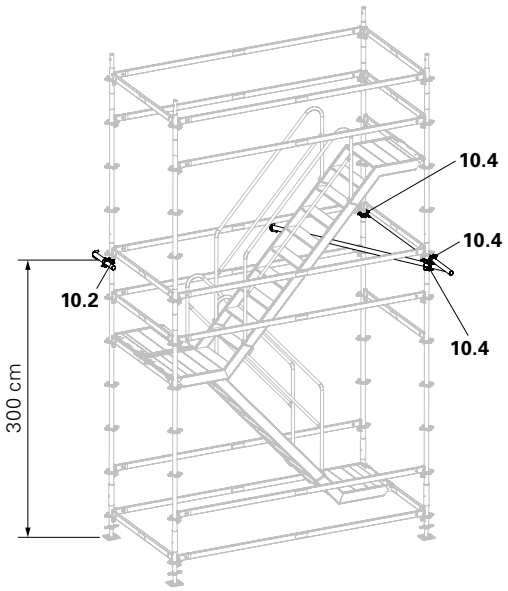
– Insert Ledger Braces UBL continuously up to 20 m height (wall side only).



A4 Anchoring / A5 Dismantling

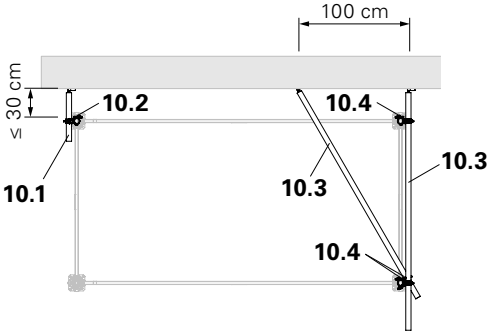
Anchors do not carry vertical loads!

- Anchors should be installed progressively along with the erection of the scaffolding.
- Fix with Bolts M 12, or equivalent connection.
- The load-bearing capacity of the fastening means between the wall ties and the anchoring base must be verified for the anchor loads in the Tables in Section B3.
- Insert the first row of anchors at a height of 3.0 m. The position of the other anchors is given in the anchor pattern tables in B3.
- Each anchor position consists of a short anchor and a triangulated anchor.



A4.1 Short anchors

10.1	Wall Tie UWT 45	1x
10.2	Swivel Coupling DK 48/48	1x



Assembly

1. Fix Swivel Coupling with Wall Tie UWT 45 to the inner leg.
2. Fix Wall Ties to the wall, e.g. with Bolts M12 and dowels (or equivalent connection).

A4.2 Triangulated anchors

10.3	Wall Tie UWT 220	2x
10.4	Standard Coupler NK 48/48	3x

Assembly

1. Fix the first Wall Tie UWT 220 with standard couplers to the inner and outer Standards UVR.
2. Fix the second Wall Tie UWT 220 with standard couplers to the outer Standard UVR.
3. Fix Wall Ties to the wall, e.g. with Bolts M12 and dowels (or equivalent connection).

A5 Dismantling

- Dismantle in reverse order from top to bottom of the erection diagram.
- Remove the anchors progressively with the staircase from top to bottom.
- In the event of work disruptions, the top level must not be extended more than 3.0 m beyond the last anchor position.

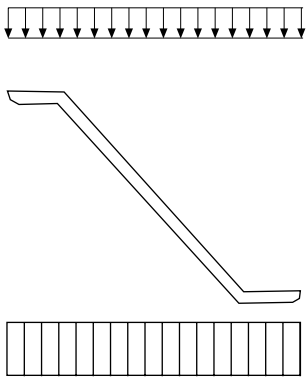
B1 Live loads

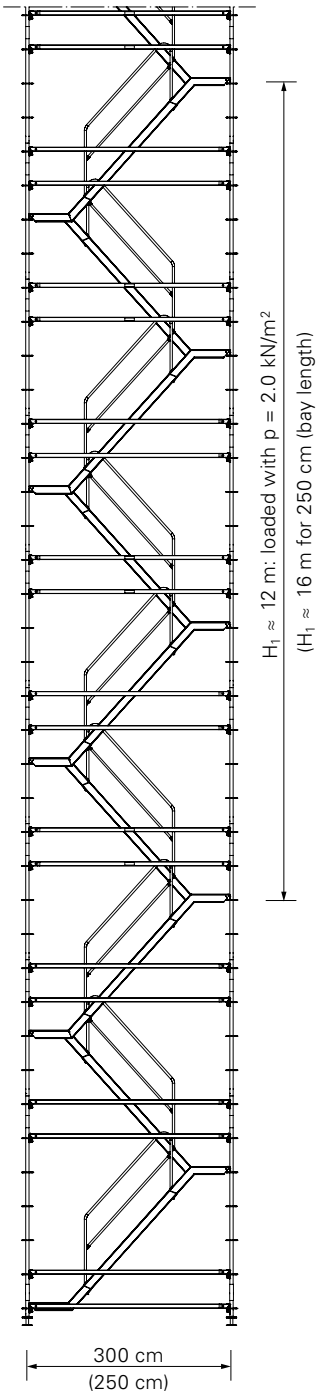
B1.1 Loads on Staircase UAS and Industrial Deck UDI

The permissible load for the flights of stairs is p = 2.0 kN/m² (on landings and steps).

Staircase	UAS 75x250/200
or	UAS 75x300/200

p = 2.0 kN/m²





B1.2 Loads on stair towers

A stair tower consists of several flights of stairs, which are arranged above one another like a tower.
The permissible load of the stair tower is p = 2.0 kN/m² for a maximum length of 20 m run of staircase and landing.
For stairs with a bay length of 3.0 m, approx. 6 levels are loaded (corresponds to a height of 12 m); for a bay length of 2.50 m, approx. 8 levels (corresponds to a height of 16 m).

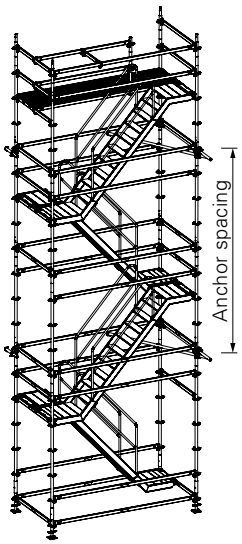
B2 Reaction forces

Reaction forces of legs
The reaction forces for the stair towers are given in the table and depend on the overall height and bay length respectively.

For the medium leg loads, the permissible load was distributed evenly across all legs. To determine the maximum leg loads, 75% of the permissible load was concentrated on one side of the scaffolding.

Table 1

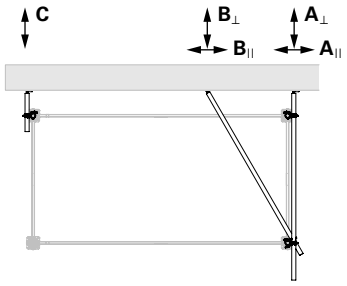
	Foundation for complete tower		Foundation for individual standards		Stair tower with alternating staircase units
Tower height	medium leg loads		max. leg loads		
[m]	Bay length 250 cm [kN]	Bay length 300 cm [kN]	Bay length 250 cm [kN]	Bay length 300 cm [kN]	
2.3	2.4	2.8	3.2	3.8	
4.3	3.6	4.2	4.8	5.7	
6.3	4.8	5.5	6.4	7.5	
8.3	6.0	6.9	8.0	9.4	
10.3	7.1	8.3	9.6	11.3	
12.3	8.3	9.3	11.2	12.7	
14.3	9.5	9.7	12.8	13.1	
16.3	9.9	10.1	13.2	13.4	
18.3	10.2	10.5	13.6	13.8	
20.3	10.6	10.9	13.9	14.2	
22.3	11.0	11.3	14.3	14.6	
24.3	11.3	11.6	14.6	15.0	
26.3	11.7	12.0	15.0	15.3	
28.3	12.0	12.4	15.4	15.7	
30.3	12.4	12.8	15.7	16.1	
32.3	12.7	13.2	16.1	16.5	
34.3	13.1	13.5	16.4	16.9	
36.3	13.5	13.9	16.8	17.3	
38.3	13.8	14.3	17.1	17.6	
40.3	14.2	14.7	17.5	18.0	
42.3	14.5	15.1	17.9	18.4	
44.3	14.9	15.5	18.2	18.8	
46.3	15.3	15.8	18.6	19.2	
48.3	15.6	16.2	18.9	19.5	
50.3	16.0	16.6	19.3	19.9	
52.3	16.3	17.0	19.7	20.3	
54.3	16.7	17.4	20.0	20.7	
56.3	17.0	17.7	20.4	21.1	
58.3	17.4	18.1	20.7	21.4	
60.3	17.8	18.5	21.1	21.8	
62.3	18.1	18.9	21.4	22.2	
64.3	18.5	19.3	21.8	22.6	
66.3	18.8	19.6	22.2	23.0	



B3.1 Anchor positions – installation heights

Table 2

Tower height [m]	Number of anchors	Stair tower with alternating staircase units Anchor installation height [m]														
2 – 6	1	8 m anchor spacing	3													
8 – 14	2		3	11												
16 – 22	3		3	11	19											
24 – 30	4		3	11	19	27										
Anchor forces [kN]	**A** A_{II} $A_{\perp}$ **B** B_{II} $B_{\perp}$ **C**		**4.2** 1.6 3.9 **4.5** 2.2 3.9 **1.9**	**6.2** 2.3 5.7 **6.5** 3.2 5.7 **2.8**	**6.7** 2.5 6.2 **7.1** 3.4 6.2 **3.0**	**7.1** 2.6 6.6 **7.5** 3.7 6.6 **3.2**										
					6 m anchor spacing											
32 – 34	6	4 m anchor spacing	3	7	13	19	25	31	**Anchor forces, see B3.2**							
36 – 38	7		3	7	11	17	23	29	35							
40 – 42	8		3	7	11	15	21	27	33	39						
44 – 46	9		3	7	11	15	19	25	31	37	43					
48 – 50	10		3	7	11	15	19	23	29	35	41	47				
52 – 54	11		3	7	11	15	19	23	27	33	39	45	51			
56 – 58	12		3	7	11	15	19	23	27	31	37	43	49	55		
60 – 62	13		3	7	11	15	19	23	27	31	35	41	47	53	59	
64 – 66	14		3	7	11	15	19	23	27	31	35	39	45	51	57	63



Tension and compression-proof anchorage
Anchor heights are measured without the length of jack extension.

Height up to 30 m
Position the first anchor at 3.0 m, then at intervals of 8.0 m.

Height from 32 m
Position the first anchor at 3.0 m, then every 4.0 m in the lower area (marked in gey), and then every 6.0 m.

Top level
May be cantilevered to a maximum of 3.0 m!

Intermediate access on every 2nd storey
Install anchors continuously every 4.0 m. Ledger Braces UBL are required on the inner side of the lower levels:
Heights from 52 – 56 m: Levels 1 and 2
Heights from 58 – 60 m: Levels 1 to 6
Heights from 62 – 66 m: Levels 1 to 10

Example: Stair Tower with a height of 32 – 34 m
– 32 m: last anchor at 31 m
– 34 m: last anchor at 31 m

B3.2 Anchor forces

The anchor forces have been calculated for an unclad stair tower in front of an open facade (60% openings).
A wind load with the following dynamic pressures has been taken into account for the scaffold's face areas:

Load combination – service condition
Constant dynamic pressure:
$q = 0.20$ kN/m²

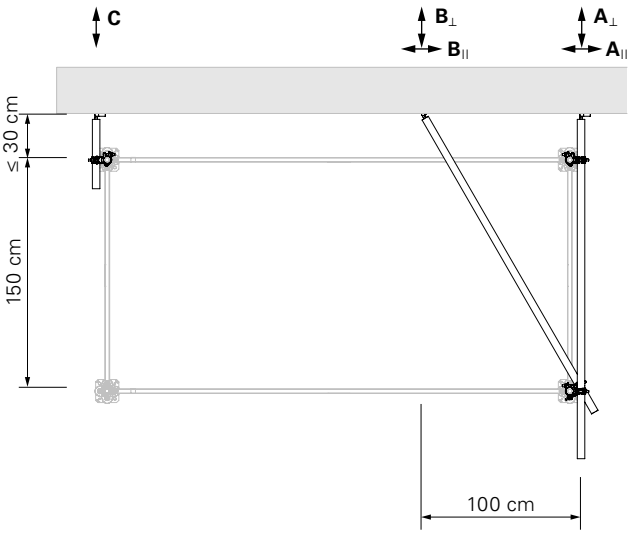
Load combination – max. wind load
Dynamic pressure changing with height:
$q_1 = 0.86$ kN/m² (at 0 m)
$q_2 = 1.10$ kN/m² (at 24 m) and
$q_3 = 1.50$ kN/m² (at 100 m)

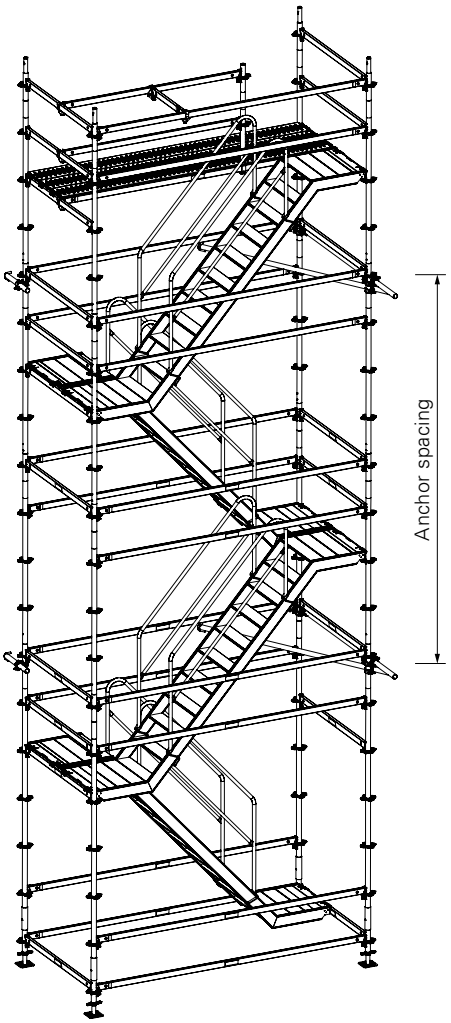
With the assumed wind loads, this results in the following maximum anchor forces for the various assembly heights and anchor spacings (see also Table 2):

Maximum anchor forces for 8 m anchor spacing
(Height ≤ 27 m)
Triangulated anchor: max. A = 7.1 kN
is divided into: A_{II} = 2.6 kN
$A_{\perp}$ = 6.6 kN
max. B = 7.5 kN
is divided into: B_{II} = 3.7 kN
$B_{\perp}$ = 6.6 kN
Short wall tie: max. C = 3.2 kN

Maximum anchor forces for 6 m anchor spacing
(Height ≤ 63 m)
Triangulated anchor: max. A = 6.2 kN
is divided into: A_{II} = 2.3 kN
$A_{\perp}$ = 5.8 kN
max. B = 6.6 kN
is divided into: B_{II} = 3.2 kN
$B_{\perp}$ = 5.8 kN
Short wall tie: max. C = 2.8 kN

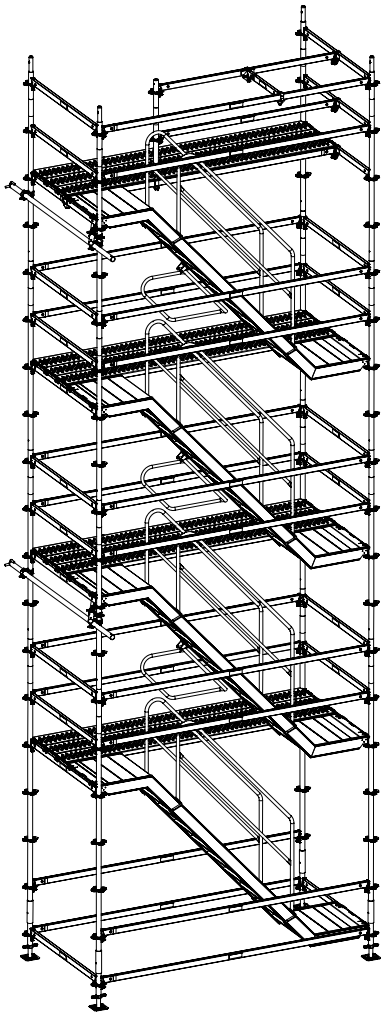
Maximum anchor forces for 4 m anchor spacing
(Height ≤ 63 m)
Triangulated anchor: max. A = 4.1 kN
is divided into: A_{II} = 1.5 kN
$A_{\perp}$ = 3.9 kN
max. B = 4.4 kN
is divided into: B_{II} = 2.1 kN
$B_{\perp}$ = 3.9 kN
Short wall tie: max. C = 1.9 kN



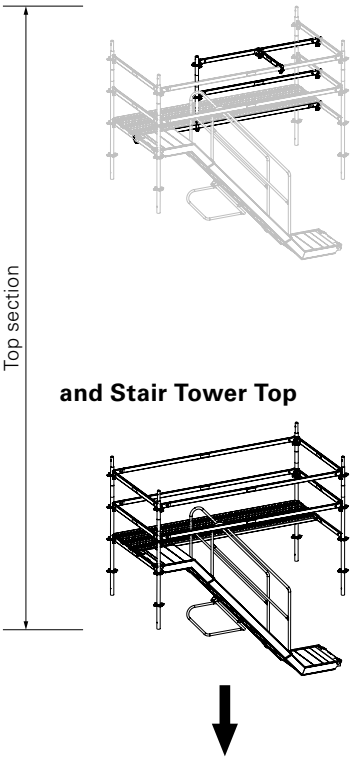


C Staircase units in the same direction

Stair tower with anchorage and access to the building

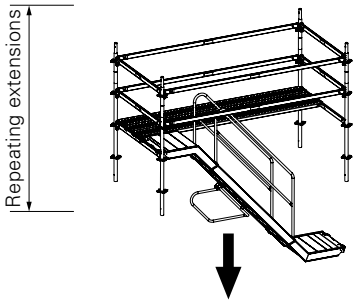


Stair Top Guardrail

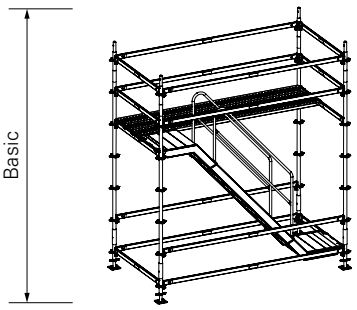


and Stair Tower Top

Stair Tower Top



Stair Tower Basic-T

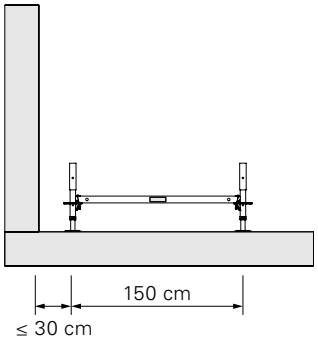


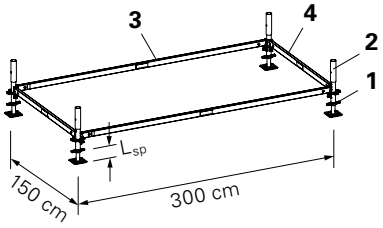
Stair Tower Basic-T

The assembly sequence shown in the following sections can be complemented by other measures which are presented in Section E "Working Safety during Assembly and Dismantling" as well as assembly with the crane.

C1.1 Base level

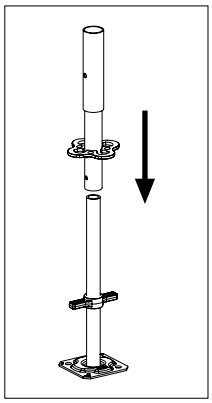
1	Adjustable Base Plate UJB	4x
2	Base Standard UVB 24	4x
3	Ledger UH 300	2x
4	Ledger UH 150	2x

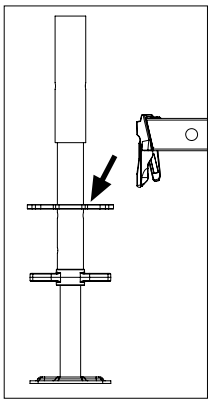


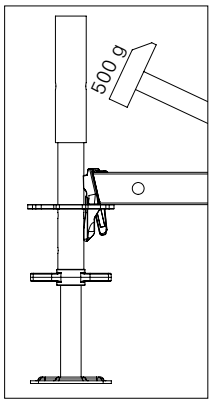


Assembly

1. Assemble frame.
   Distance to building ≤ 30 cm.
2. Horizontally align frame by adjusting the Adjustable Base Plates.
   Spindle extension:
   – for assembly heights up to 36 m: L_{sp} ≤ 30 cm,
   – for assembly heights over 36 m: L_{sp} ≤ 20 cm.
3. Secure wedges on all ledgers using a 500 g hammer.



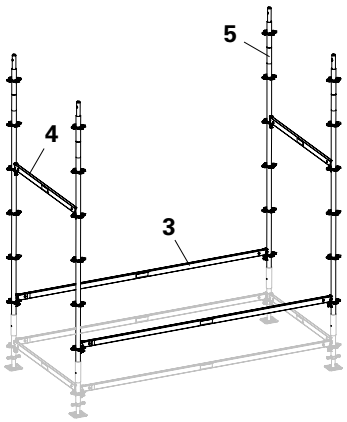




Install Base Standards and Standards with holes lined up. This procedure allows that the Locking Pins can be always installed easily for crane use.

C1.2 Standards and ledgers

5	Standard UVR 300	4x
3	Ledger UH 300	2x
4	Ledger UH 150	2x



Assembly

1. Insert Standards UVR.
2. Attach Ledgers UH 150 and secure wedges with hammer blow.
3. Attach Ledgers UH 300 and secure wedges with hammer blow.

C1.3 Staircase and guardrails

6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
3	Ledger UH 300	4x
4	Ledger UH 150	4x
9	Industrial Deck UDI 25 x 300	3x

Assembly

1. Place Staircase UAS on Ledgers UH. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.
2. Install Industrial Decks UDI. Securing hooks (which prevent lifting) open and close when decks have been lowered onto Ledger UH.

Securing hooks must be flush with deck.

2. Mount Stair Guardrails UAG in the position shown.
3. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.

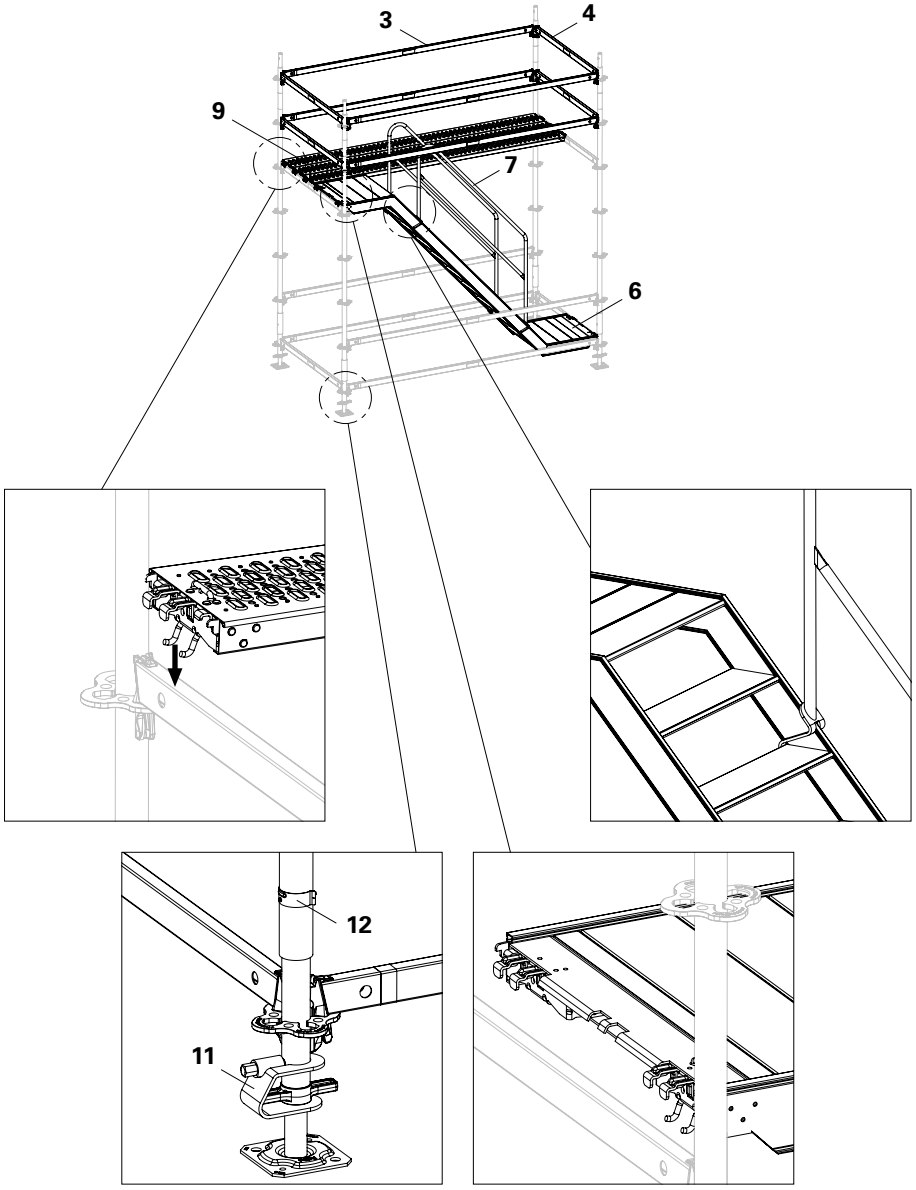
For an easier and safer assembly process, an Industrial Deck UDI or altermatively scaffold planks can be installed on the base level.

Moving by crane

11	Spindle Locking UJS	4x
12	Locking Pin Ø 48/57	4x

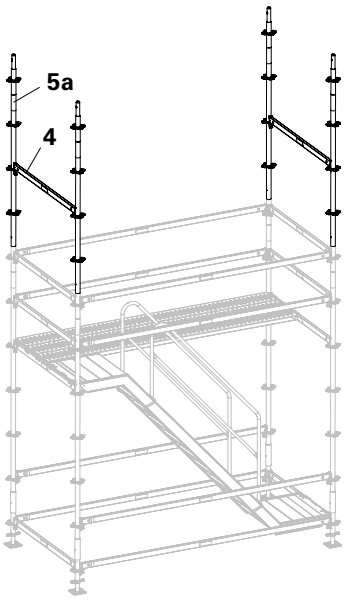
Assembly

1. Secure Adjustable Base Plate UJB with Spindle Locking UJS.
2. Positively connect Base Standard UVB and Standards UVR by means of Locking Pins.



Stair Tower Top

The number of extensions with Stair Tower Plus depends on the height required and is repeated accordingly, see plan.



C2.1 Standards and ledgers

5a	Standard UVR 200	4x
4	Ledger UH 150	2x

Assembly

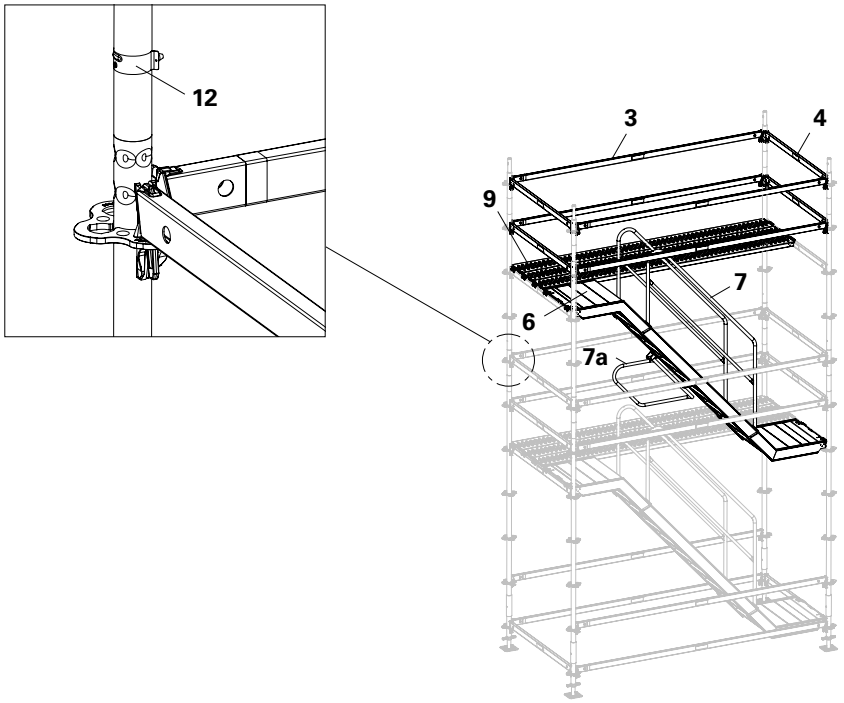
1. Insert Standards UVR.
2. Mount Ledgers UH and secure wedges.
3. Progressively install anchoring, see C4.

C2.2 Staircase and guardrails

6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
7a	Stair Guardrail UAH	1x
3	Ledger UH 300	4x
4	Ledger UH 150	4x
9	Industrial Deck UDI 25 x 300	3x

Assembly

1. Place Staircase UAS on Ledgers UH. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.
2. Install Industrial Decks UDI. Securing hooks (which prevent lifting) open and close when decks have been lowered onto Ledger UH.



Securing hooks must be flush with deck.

3. Mount Stair Guardrails UAG.
4. Attach Stair Guardrail UAH.
5. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.

Moving by crane

12	Locking Pin Ø 48/57	4x

Assembly

Connect Standards UVR with Locking Pins.

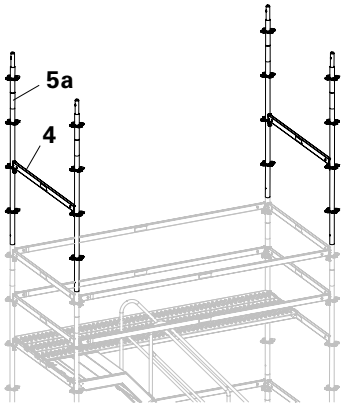
Stair Tower Top

C3.1 Standards and ledgers

5a	Standard UVR 200	4x
4	Ledger UH 150	2x

Assembly

1. Insert Standards UVR.
2. Mount Ledgers UH and secure wedges.



C3.2 Staircase and guardrails

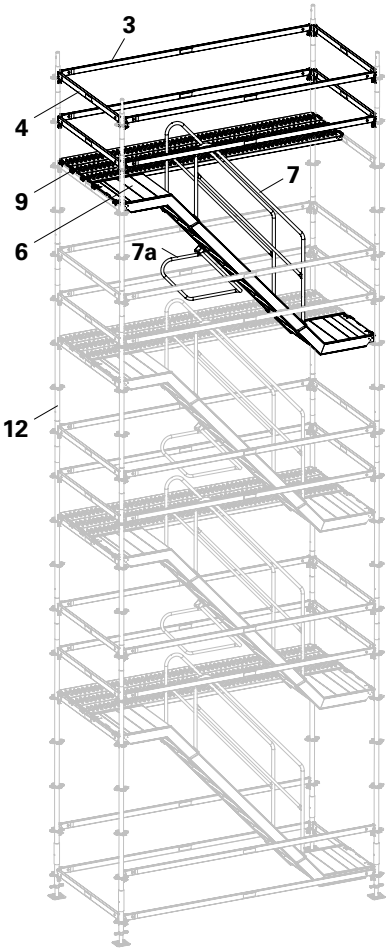
6	Staircase UAS 75 x 300/200	1x
7	Stair Guardrail UAG	2x
7a	Stair Guardrail UAH	1x
3	Ledger UH 300	4x
4	Ledger UH 150	4x
9	Industrial Deck UDI 25 x 300	3x

Assembly

1. Attach Staircase UAS to Ledgers UH. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.
2. Install Industrial Decks UDI. Securing hooks (which prevent lifting) open and close when decks have been lowered onto Ledger UH.

Securing hooks must be flush with deck.

3. Mount Stair Guardrails UAG.
4. Attach Stair Guardrail UAH.
5. Attach Ledgers UH on all sides as guardrails and secure wedges with hammer blow.



Moving by crane

12	Locking Pin Ø 48/57	4x

Assembly

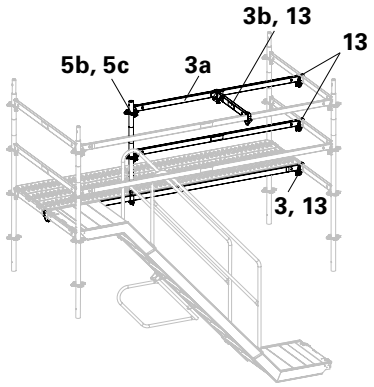
Connect Standards UVR with Locking Pins.

C3 Assembly of top section

C3.3 Access into the building

The Stair Tower Top receives an additional guardrail for safety for accessing the building.

3	Ledger UH 300	1x
3a	Ledger UH 200	2x
3b	Ledger UH 75	1x
5b	Top Standard UVH 100	1x
5c	Spigot UH	1x
13	Ledger to Ledger Coupler UHA	6x



Assembly

1. Insert Ledger to Ledger Couplers UHA on the front side and at deck level.
2. Attach Ledgers UH 300 to Ledger to Ledger Coupler UHA and secure wedges with hammer blow.
3. Place Spigot UH over UH 300 and secure wedge firmly, spacing 2.0 m. Insert Top Standard UVH.
4. Insert Ledger UH 200 into Ledger to Ledger Coupler UHA and Top Standard UVH, and secure wedges firmly.
5. Insert Ledger UH 75 with Ledger to Ledger Couplers UHA between the guardrails (approx. bay centre).
6. Dismantle Ledgers UH on the building side.

C3.4 Intermediate access

is possible every second floor.

Additional components required:

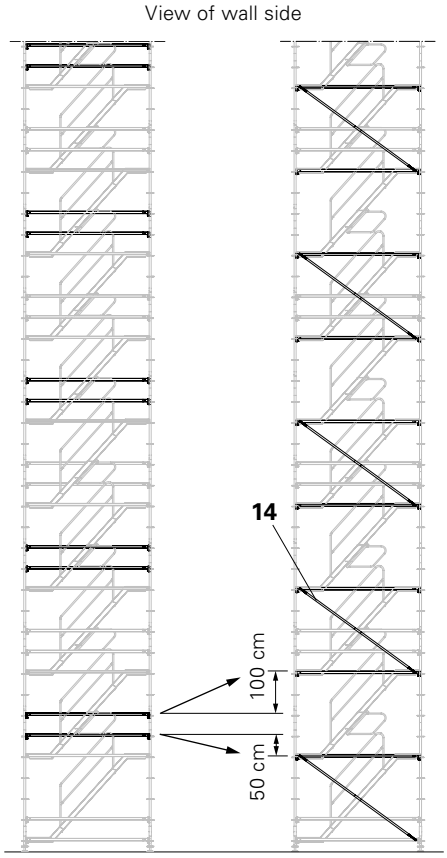
14	Ledger Brace UBL 300/200, alternatively: Scaffold Tube 48.3 x 3.2 mm and Swivel Couplings DK 48/48

Measures to be taken on the wall face (inside):

– Move the two Ledgers UH 300 up and down,
– Insert Ledger Braces UBL in the levels without access point,
– for additional anchors, see B3.1.

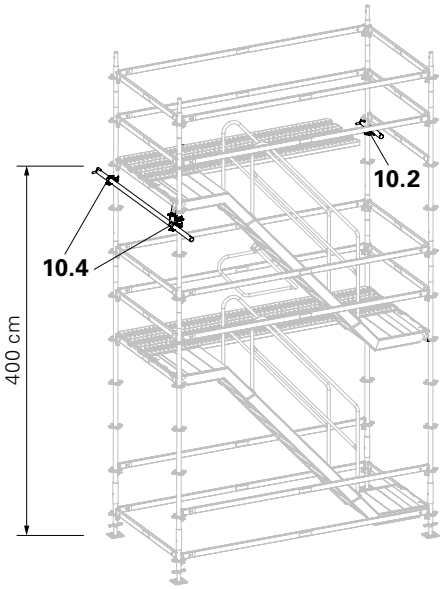
Over 52 m height

– Install additional Ledger Braces UBL continuously up to a height of 12 m (inside and outside), see D3.



Anchors do not carry vertical loads!

- Anchors should be installed progressively along with the erection of the scaffolding.
- Fix with Bolts M12, or equivalent connection.
- The load-bearing capacity of the fastening means between the wall ties and the anchoring base must be verified for the anchor loads in the tables in Section B3.
- Install the first row of anchors at a height of 4.0 m. The position of the other anchors is given in the anchor patterns in the tables in D3.
- Each anchor position consists of a short anchor and a triangulated anchor.

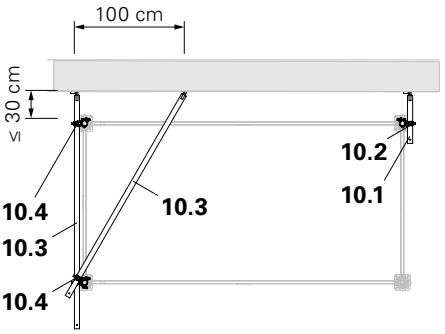


C4.1 Short anchor

10.1	Wall Tie UWT 45	1x
10.2	Swivel Coupling DK 48/48	1x

Assembly

1. Fix Swivel Coupling with Wall Tie UWT 45 to the inner leg.
2. Fix Wall Ties to the wall, e.g. with Bolts M12 and dowels (or equivalent connection).



C4.2 Triangulated anchor

10.3	Wall Tie UWT 220	2x
10.4	Standard Coupler NK 48/48	3x

Assembly

1. Fix the first Wall Tie UWT 220 with standard couplers to the inner and outer Standards UVR.
2. Fix the second Wall Tie UWT 220 with standard couplers to the outer Standard UVR.
3. Fix Wall Ties to the wall, e.g. with Bolts M12 and dowels (or equivalent connection).

C5 Dismantling

- Dismantle in reverse order from top to bottom of the erection diagram.
- Remove the anchors progressively with the staircase from top to bottom.
- In the event of interrupted work the top level should not extend more than 2.0 m beyond the last anchor position.

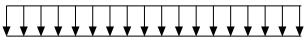
D1 Live loads

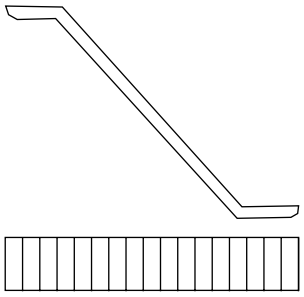
D1.1 Loads on Staircase UAS and Industrial Decks UDI

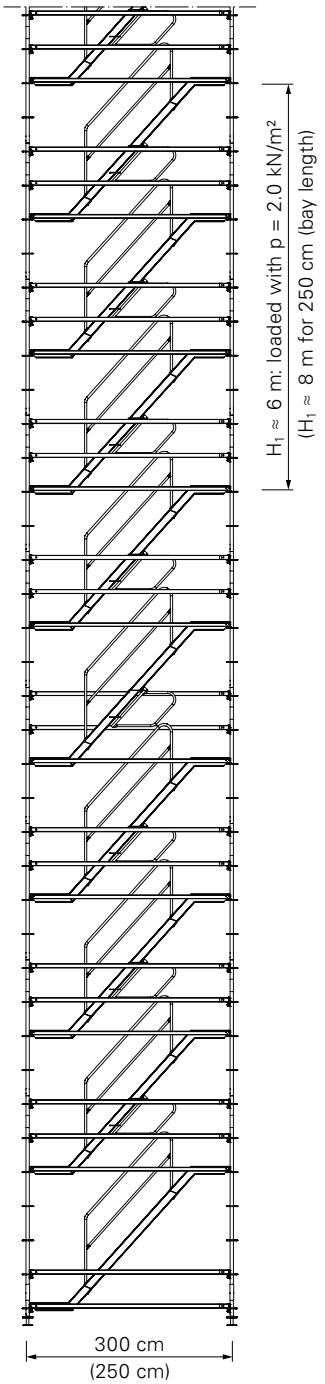
The permissible load for the flights of stairs is p = 2.0 kN/m² (on landings and steps).

Staircase	UAS 75x250/200
or	UAS 75x300/200

p = 2.0 kN/m²







D1.2 Loads on stair towers

A stair tower consists of several flights of stairs, which are arranged above one another like a tower.

The permissible load of the stair tower is p = 2.0 kN/m² for a maximum length of 20 m run of staircase and landing. For stairs with a bay length of 3.0 m, approx. 3 levels are loaded (corresponds to a height of 6 m); for a bay length of 2.50 m, approx. 4 levels (corresponds to a height of 8 m).

D2 Reaction forces

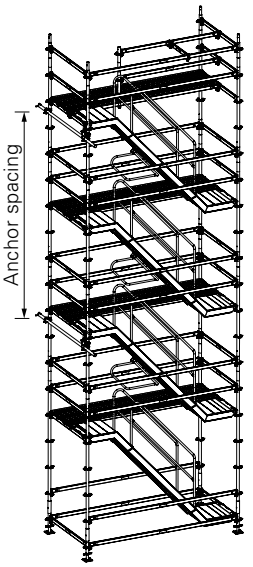
Reaction forces on the legs

The reaction forces for the stair towers are given in the table and depend on the overall height and bay length respectively.

For the medium leg loads, the permissible load was distributed evenly across all legs. To determine the maximum leg loads, 75 % of the permissible load was concentrated on one side of the scaffolding.

Table 3

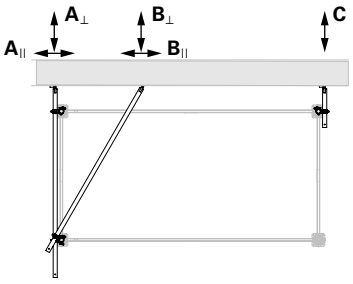
	Foundation for complete tower		Foundation for individual standards		Stair tower with staircase units in the same direction
Tower height	**medium leg loads**		**max. standard loads**		
[m]	Bay length 250 cm [kN]	Bay length 300 cm [kN]	Bay length 250 cm [kN]	Bay length 300 cm [kN]	
2.3	2.4	2.9	3.3	3.9	
4.3	4.7	5.5	6.5	7.6	
6.3	7.0	8.2	9.6	11.3	
8.3	9.2	9.5	12.7	13.0	
10.3	9.7	10.0	13.2	13.5	
12.3	10.3	10.6	13.8	14.1	
14.3	10.8	11.2	14.3	14.7	
16.3	11.3	11.7	14.8	15.2	
18.3	11.8	12.3	15.3	15.8	
20.3	12.3	12.9	15.8	16.4	
22.3	12.8	13.4	16.3	16.9	
24.3	13.3	14.0	16.8	17.5	
26.3	13.8	14.6	17.3	18.1	
28.3	14.4	15.1	17.9	18.6	
30.3	14.9	15.7	18.4	19.2	
32.3	15.4	16.3	18.9	19.8	
34.3	15.9	16.8	19.4	20.3	
36.3	16.4	17.4	19.9	20.9	
38.3	16.9	18.0	20.4	21.5	
40.3	17.4	18.5	20.9	22.0	
42.3	17.9	19.1	21.4	22.6	
44.3	18.5	19.7	22.0	23.2	
46.3	19.0	20.2	22.5	23.7	
48.3	19.5	20.8	23.0	24.3	
50.3	20.0	21.4	23.5	24.9	
52.3	20.5	22.0	24.0	25.5	
54.3	21.0	22.5	24.5	26.0	
56.3	21.5	23.1	25.0	26.6	
58.3	22.0	23.7	25.5	27.2	
60.3	22.6	24.2	26.1	27.7	
62.3	23.1	24.8	26.6	28.3	
64.3	23.6	25.4	27.1	28.9	
66.3	24.1	25.9	27.6	29.4	



D3.1 Anchor positions – installation heights

Table 4

Tower height [m]	Number of anchors	Stair tower with staircase units in the same direction Anchor installation height [m]														
2 – 6	1	8 m anchor spacing	4													
8 – 14	2		4	–	–	12										
16 – 22	3		4	–	–	12	20									
24 – 30	5		–	4*	8	12	20	28								
Anchor forces [kN]	**A** A_{II} $A_{\perp}$ **B** B_{II} $B_{\perp}$ **C**		**6.8** 1.9 6.5 **7.4** 3.6 6.5 **2.9**	**3.4** 1.0 3.2 **3.7** 1.8 3.2 **1.5**	**3.5** 1.0 3.4 **3.9** 1.9 3.4 **1.5**	**7.4** 2.1 7.1 **8.1** 3.9 7.1 **3.2**	**8.0** 2.2 7.6 **8.7** 4.2 7.6 **3.4**	**8.4** 2.4 8.1 **9.2** 4.5 8.1 **3.6**								
							6 m anchor spacing									
32 – 36	7	4 m anchor spacing	4	8	12	16	22	28	34							
38 – 40	8		4	8	12	16	20	26	32	38						
42 – 44	9		4	8	12	16	20	24	30	36	42					
46 – 48	10		4	8	12	16	20	24	28	34	40	46				
50 – 52	11		(4)	8	12	16	20	24	28	32	38	44	50			
54 – 56	12		(4)	8	12	16	20	24	28	32	36	42	48	54		
58 – 60	13		(4)	(8)	12	16	20	24	28	32	36	40	46	52	58	
62 – 64	14		(4)	(8)	(12)	16	20	24	28	32	36	40	44	50	56	62
– 66	15		(4)	(8)	(12)	16	20	24	28	32	36	40	44	48	54	60	66



*4 m anchor spacing

Anchor forces: see D3.2

(○) **Ledger Braces UBL are required on the inside and outside of the long sides.**

Tension and compression-proof anchorage
Anchor heights are measured without the length of jack extension.

Height up to 30 m
Install the first anchor at 4.0 m and then at intervals of 8.0 m. Intermediate anchors may be necessary in part for 8.0 m.

Height from 32 m
Install the first anchor at 4.0 m and then every 4.0 m in the lower area (area marked in grey), every 6.0 m above.

Height from 52 m
Ledger Braces UBL (or Scaffold Tubes 48.3 x 3.2 and Swivel Couplings DK 48/48) are required on the lower levels on the long sides inside and outside:
Heights from 52 – 56 m: Levels 1 to 2
Heights from 58 – 60 m: Levels 1 to 4
Heights from 62 – 66 m: Levels 1 to 6

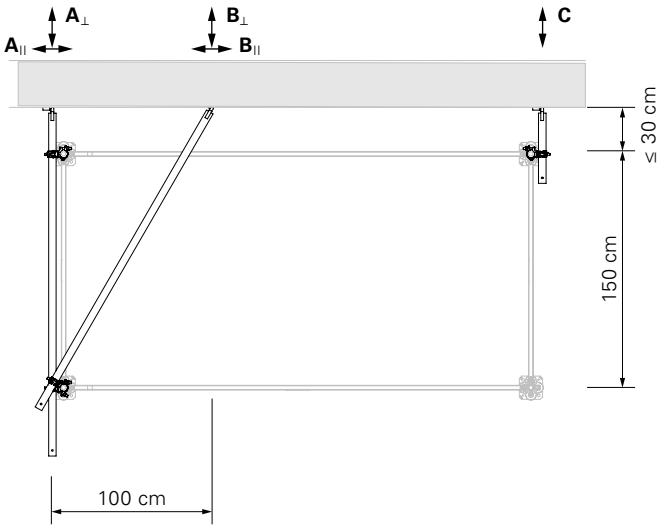
Top level
May be cantilevered to a maximum of 2.0 m!

Intermediate access on every 2nd storey
Install anchors progressively every 4.0 m; braces are required on the lower levels as for towers more than 52 m high.

Example: stair tower with a height from 32 – 36 m
– 32 m: last anchor at 32 m
– 34 m: last anchor at 34 m
– 36 m: last anchor at 34 m

D3.2 Anchor forces

The anchor forces have been calculated for an unclad stair tower in front of an open facade (60% openings).
A wind load with the following dynamic pressures has been taken into account for the scaffold's face areas:



Load combination – service condition
Constant dynamic pressure:
$q = 0.20$ kN/m²

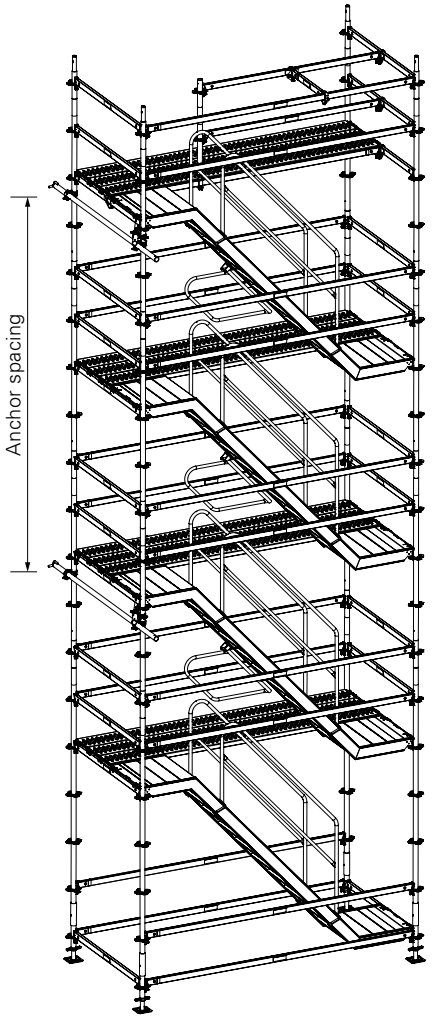
Load combination – max. wind load
Dynamic pressure changing with height:
$q_1 = 0.86$ kN/m² (at 0 m)
$q_2 = 1.10$ kN/m² (at 24 m) and
$q_3 = 1.50$ kN/m² (at 100 m)

With the assumed wind loads, this results in the following maximum anchor forces for the various assembly heights and anchor spacings (see also Table 4):

Maximum anchor forces for 8 m spacings
(Height ≤ 28 m) Triangulated Anchor:
max. A = 8.4 kN
is divided into: $A_{\parallel} = 2.4$ kN
$A_{\perp} = 8.1$ kN
max. B = 9.2 kN
is divided into: $B_{\parallel} = 4.5$ kN
$B_{\perp} = 8.1$ kN
Short wall tie: max. C = 3.6 kN

Maximum anchor forces for 6 m spacings
(Height ≤ 66 m)
Triangulated Anchor: max. A = 7.4 kN
is divided into: $A_{\parallel} = 2.1$ kN
$A_{\perp} = 7.1$ kN
max. B = 8.2 kN
is divided into: $B_{\parallel} = 4.0$ kN
$B_{\perp} = 7.1$ kN
Short wall tie: max. C = 3.2 kN

Maximum anchor forces for 4 m spacings
(Height ≤ 64 m)
Triangulated Anchor: max. A = 4.7 kN
is divided into: $A_{\parallel} = 1.4$ kN
$A_{\perp} = 4.7$ kN
max. B = 5.4 kN
is divided into: $B_{\parallel} = 2.6$ kN
$B_{\perp} = 4.7$ kN
Short wall tie: max. C = 2.1 kN



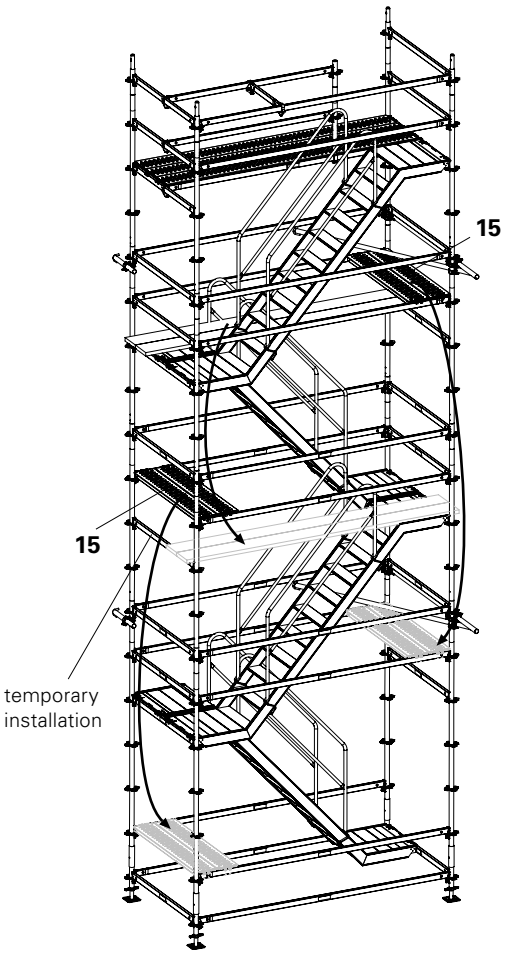
Suggestion for sequence with alternating staircase units

The scaffolding contractor can also undertake other measures on the basis of his own risk assessment.

Additional components required:

15	Industrial Deck UDI 25 x 150	4x

Preparation:
- Dismantling Guardrail UH 300.
- Installation of the guardrail in the lower level.
- Installation of 2 Industrial Decks UDI on a platform behind the staircase.
- Installation of Guardrail UH 300 in the lower level.
- Installation of 2 further Industrial Decks UDI one level below.
- Dismantling the Staircase UAS.



E2 Crane unit

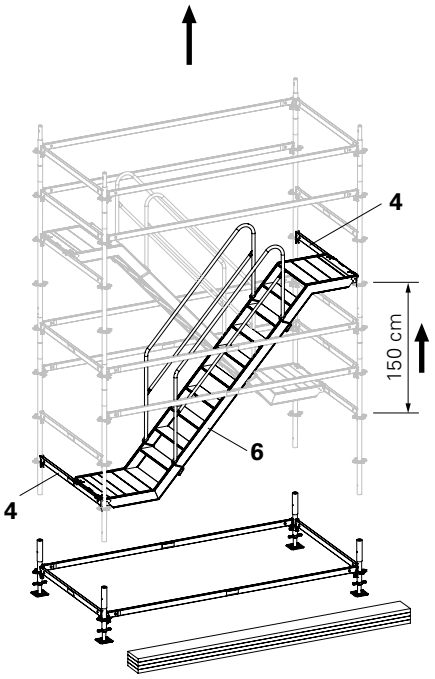
Suggestion for assembly of alternating staircase units with crane

4 m high units are preassembled on the ground which are positioned by means of a crane on to an already existing base that has a minimum height of 3 m.

A base frame is assembled as an erection aid on which a 4 m high moving unit is mounted. In order to ensure that the required flights of stairs are picked up when moving with the crane, the lower Staircase UAS (6) is to be mounted 150 cm higher on additional Ledgers UH.

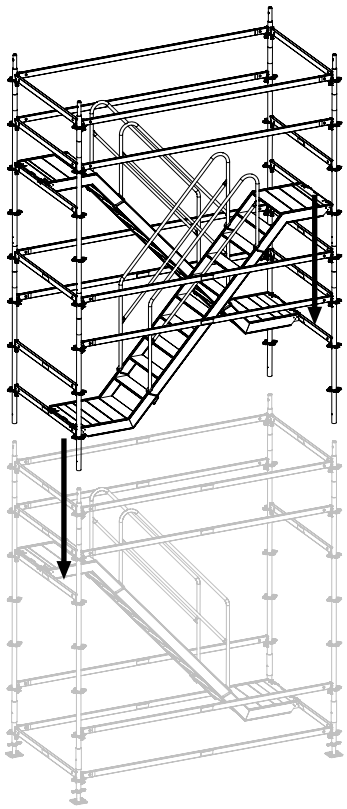
Additional components required:

4	Ledger UH 150	2x



Assembly

1. Attach UH 150 to the second rosette above the base (one-sided).
2. Attach UH 150 to the sixth rosette above base.
3. Attach Staircase UAS to UH 150. Securing hooks (which prevent lifting) open and close when staircase has been lowered onto Ledgers UH.
4. Attach Stair Guardrail UAG.
5. Check that the Standard UVR has a tension-proof connection.
6. Attach lifting unit (4-sling textile straps) to the standards.
7. Move scaffold unit by crane.
8. Position flight of stairs (6) 150 cm lower on existing ledger.



Modification after moving

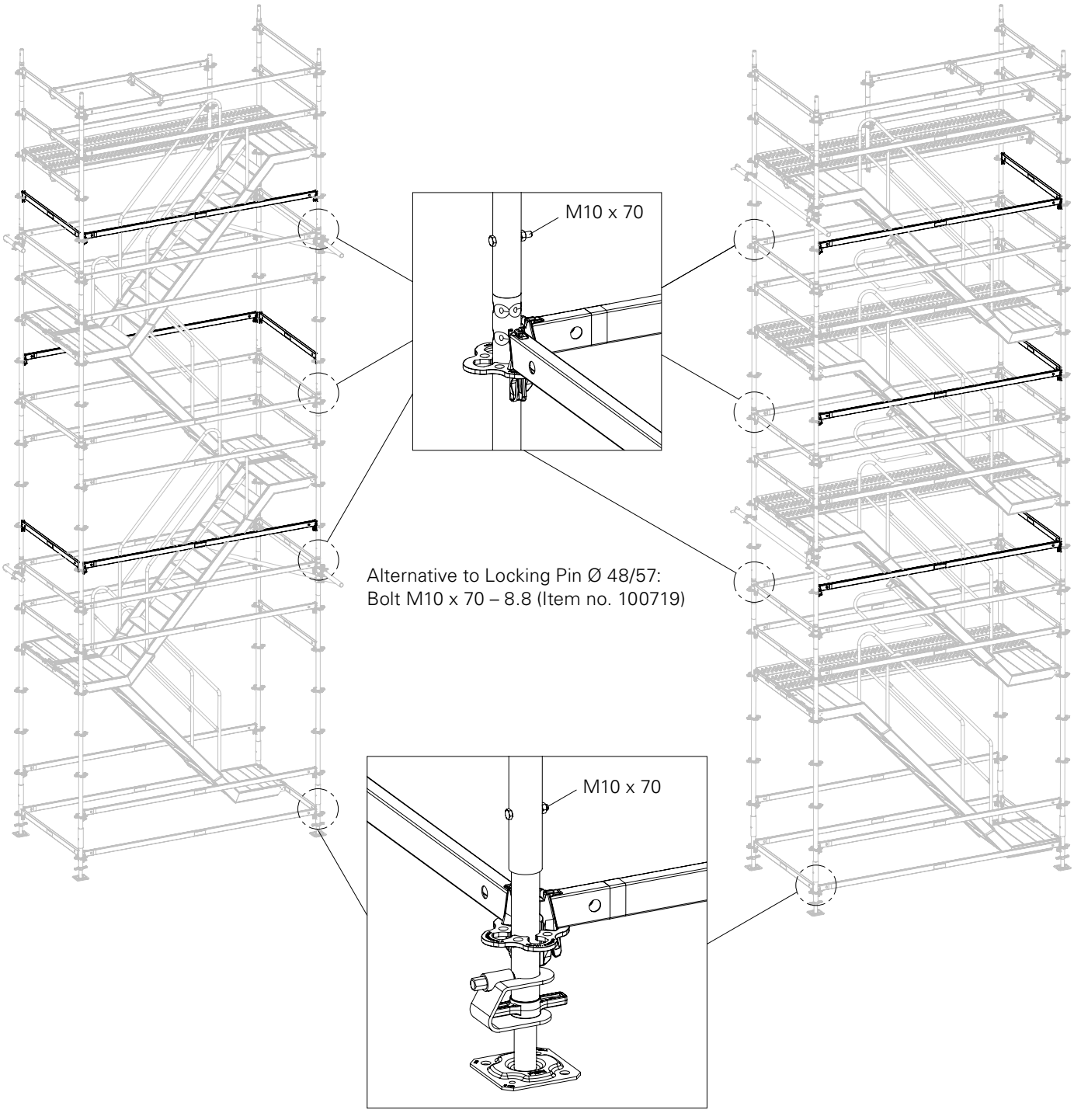
– Move the lower stair downwards.
– Remove unnecessary UH 150.

E3 Options

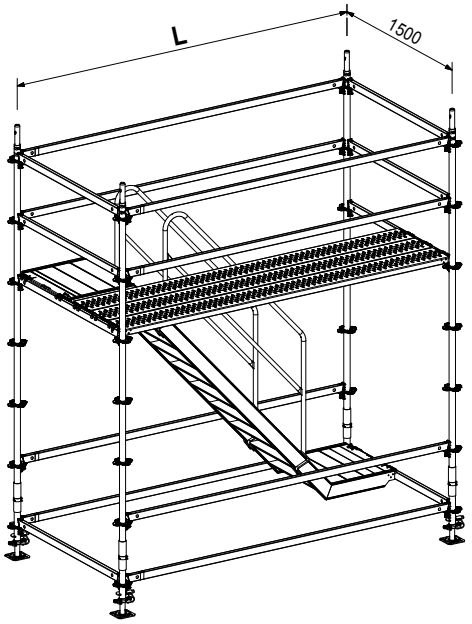
Components are to be installed as an option or as an alternative if required by local standards and regulations!

Stair tower with alternating staircase units

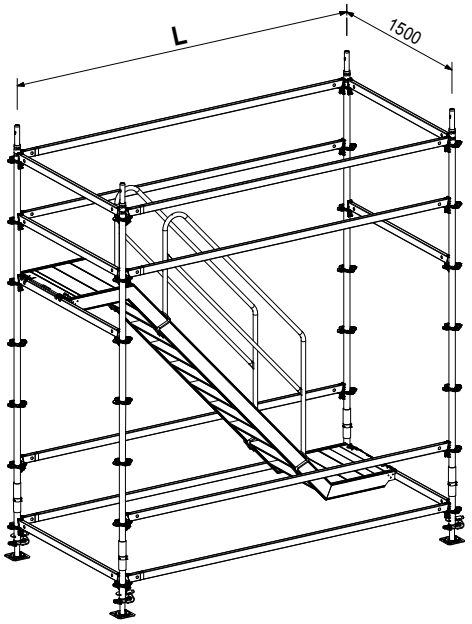
Stair tower with staircase units in the same direction



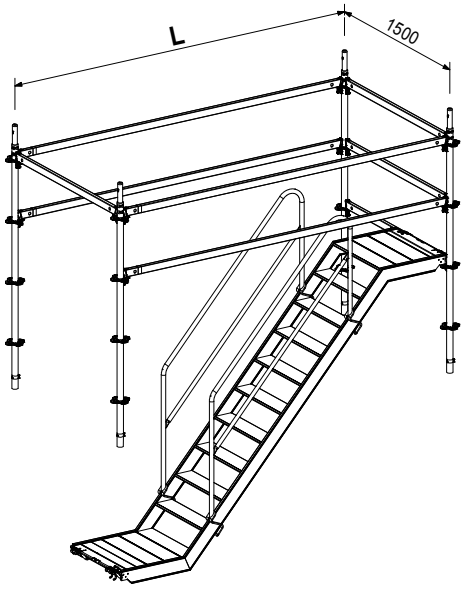
Item no.	Weight kg	Staircases Tower UDI/UDG Basis-T	L
001137	275.936	**Staircase Tower UDI/UDG Basic-T 250 x 150**	2500
001141	299.796	**Staircase Tower UDI/UDG Basic-T 300 x 150**	3000



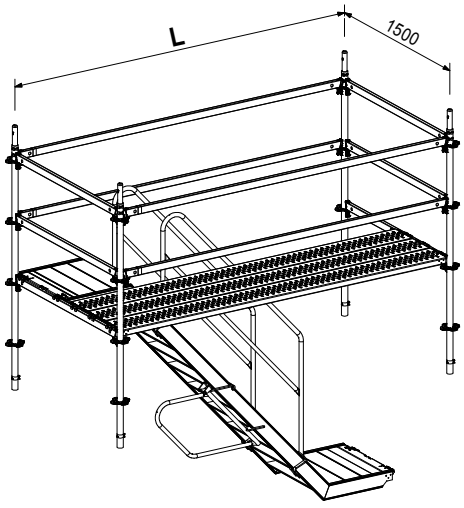
		Staircases Tower UDI/UDG Basis-P	L
001138	226.526	**Staircase Tower UDI/UDG Basic-P 250 x 150**	2500
001142	241.986	**Staircase Tower UDI/UDG Basic-P 300 x 150**	3000



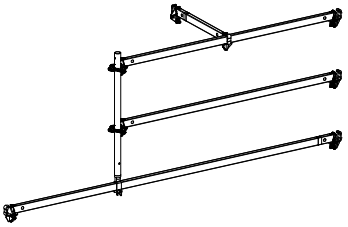
Item no.	Weight kg		
		Staircases Tower UDI/UDG Plus	**L**
001139	136.476	**Staircase Tower UDI/UDG Plus 250 x 150**	2500
001143	146.656	**Staircase Tower UDI/UDG Plus 300 x 150**	3000



		Staircases Tower UDI/UDG Top	**L**
001140	195.566	**Staircase Tower UDI/UDG Top 250 x 150**	2500
001144	214.146	**Staircase Tower UDI/UDG Top 300 x 150**	3000

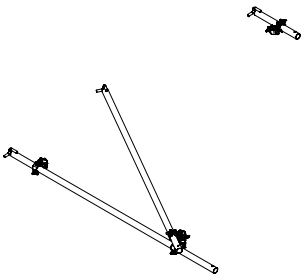


Item no.	Weight kg		
		Staircases Tower UDI/UDG Top Guardrail	**L**
001145	30.416	**Staircase Tower UDI/UDG Top Guardrail 250**	2500
001146	34.396	**Staircase Tower UDI/UDG Top Guardrail 300**	3000



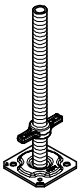
001044 24.780 **Staircase Tower Anchoring**

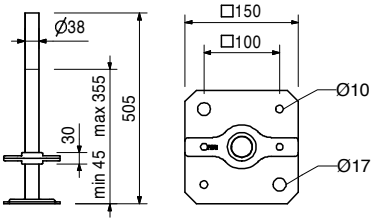
For anchoring the PERI UP staircase unit. A complete unit for one anchoring position.



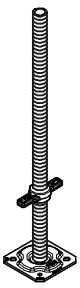
100411 3.420 **Adj. Base Plate UJB 38-50/30**

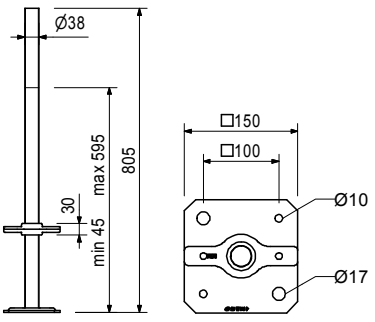
Note
With captive red Quick Jack Nut.





100242 4.570 **Adj. Base Plate UJB 38-80/55**

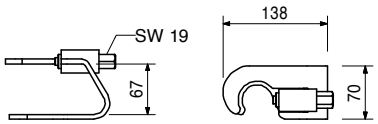




Item no.	Weight kg
100863	1.020

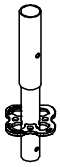
Spindle Locking UJS
Secures the Adjustable Base Plates and Section Spindles Ø 38 mm in the leg while moving.

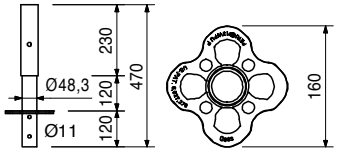
Technical Data
Permissible load 1.5 kN.



100014	2.470

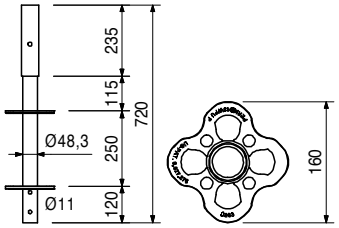
Base Standard UVB 24
For assembly directly on the base spindle.



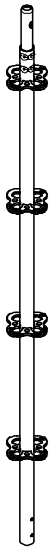


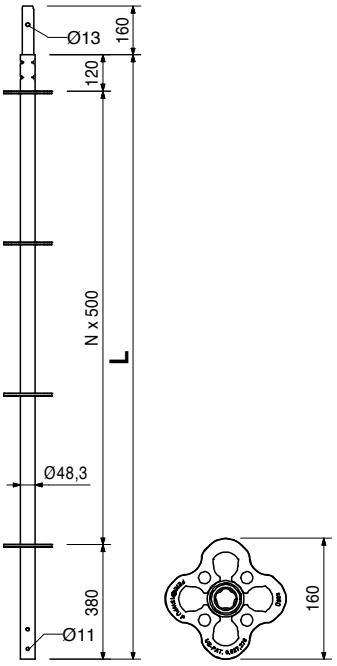
117194	3.980

Base Standard UVB 49
For assembly directly on the base spindle.
Reduces necessary spindle extension lengths through distance between rosettes of 25 cm.

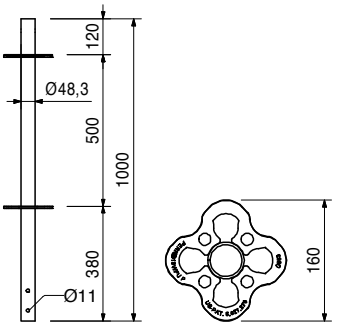


Item no.	Weight kg	Standards UVR	L
102860	7.690	**Standard UVR 150**	1500
100009	9.990	**Standard UVR 200**	2000
100012	14.700	**Standard UVR 300**	3000





100000	4.610	**Top Standard UVH 100** Without spigot for supporting head spindles.

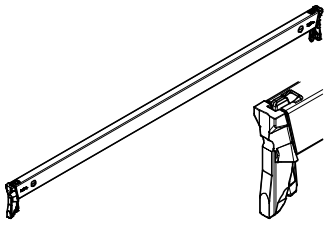


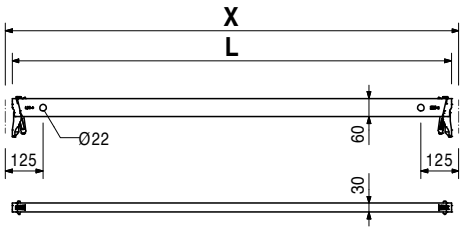
PERI UP Flex Stair 75

Item no.	Weight kg	Ledgers UH Plus	L	X	Sticker
114629	2.730	**Ledger UH 75 Plus**	704	750	White
114641	4.710	**Ledger UH 150 Plus**	1454	1500	
114645	6.040	**Ledger UH 200 Plus**	1954	2000	
114648	7.360	**Ledger UH 250 Plus**	2454	2500	
114651	8.680	**Ledger UH 300 Plus**	2954	3000	

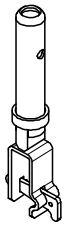
Note

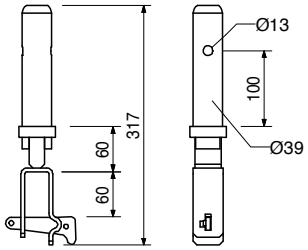
Longitudinally-stamped and with coloured label for easier identification.



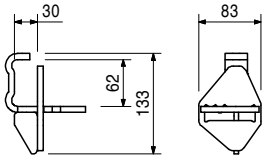


109764	1.250	**UH Spigot**





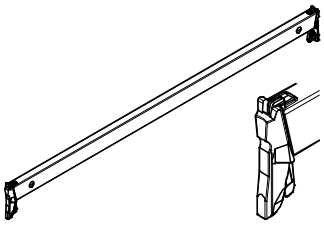
101731	0.841	**Ledger to Ledger Coupler UHA** For connecting ledger to ledger at right-angles.

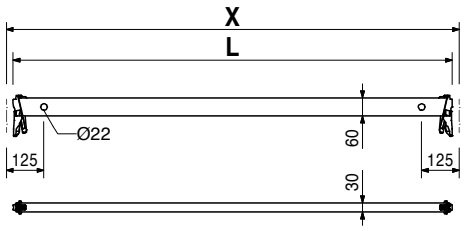


Item no.	Weight kg	Ledgers UH
400017	2.710	**Ledger UH 75**
400021	4.690	**Ledger UH 150**
400023	6.020	**Ledger UH 200**
400025	7.340	**Ledger UH 250**
400027	8.670	**Ledger UH 300**

L	X	Sticker
704	750	White
1454	1500	
1954	2000	White
2454	2500	Red
2954	3000	Black

Note
Longitudinally-stamped and with coloured label for easier identification.
Ledgers UH can be replaced by ledgers UH Plus.



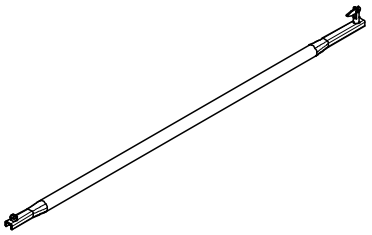


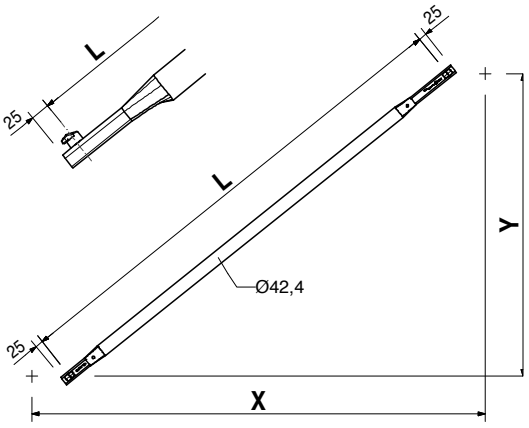
Item no.	Weight kg	Ledger Braces UBL
100065	8.050	**Ledger Brace UBL 250/200**
100069	9.050	**Ledger Brace UBL 300/200**

Attach using holes in the ledger.

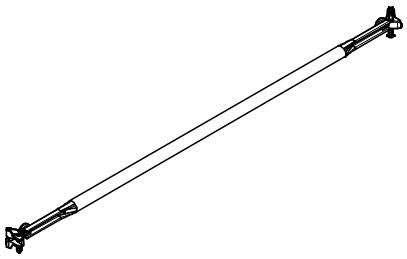
L	X	Y	Sticker
3010	2500	2000	Red
3400	3000	2000	Black

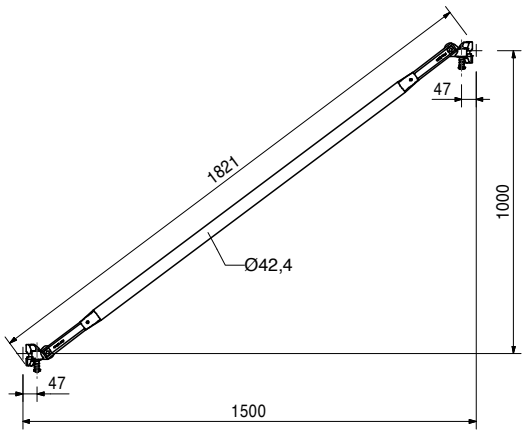
Note
Longitudinally-stamped and with coloured label for easier identification.



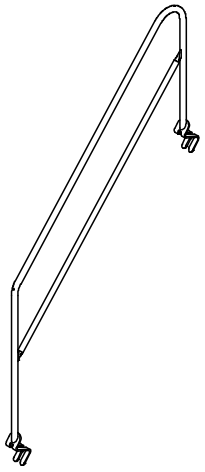


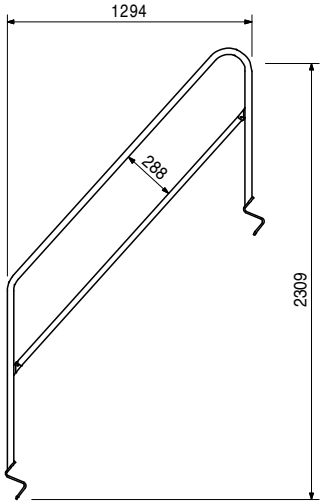
Item no.	Weight kg	
100981	5.710	**Node Brace UBK 150/100**



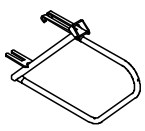


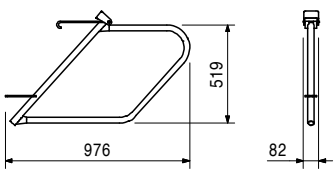
100742	10.000	**Stair Guardrail UAG** Suitable for Staircases UAS 64 x 250/200, UAS 64 x 300/200, UAS 75 x 250/200 and UAS 75 x 300/200 as internal and external guardrail.





100830	4.970	**Stair Guardrail UAH** For fixing to the stringers of the Staircase Units UAS 64 x 250/200, UAS 64 x 300/200, UAS 75 x 250/200, UAS 75 x 300/200.

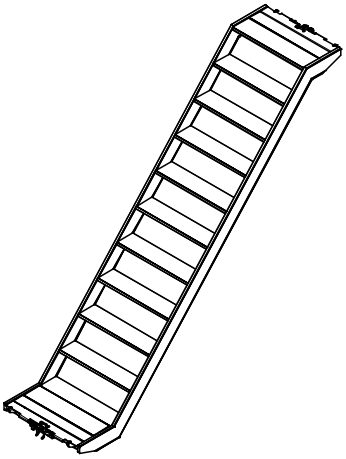


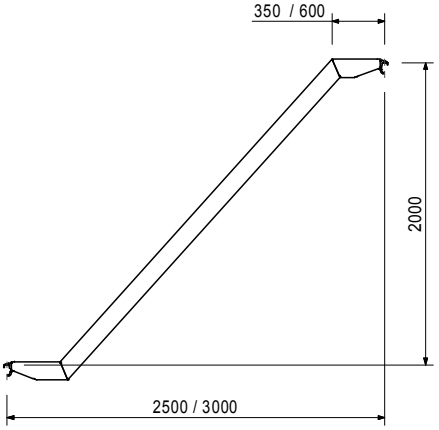


Item no.	Weight kg	
		Staircases UAS 75, Alu
111117	28.000	**Staircase UAS 75 x 250/200, Alu**
111124	32.900	**Staircase UAS 75 x 300/200, Alu**

Assembly on Ledgers UH.

Technical Data
Permissible load 2.0 kN/m².

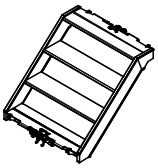


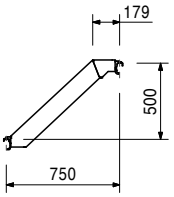


113228	10.100	**Staircase UAS 75 x 75/50, Alu**

Assembly on Ledgers UH.

Technical Data
Permissible load 2.0 kN/m².

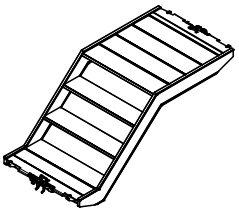


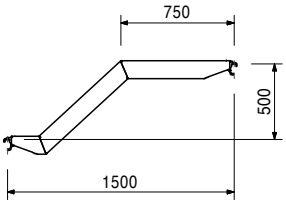


111087	17.500	**Staircase UAS 75 x 150/50 T, Alu**

Assembly on Ledgers UH.

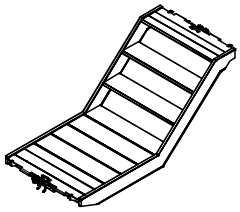
Technical Data
Permissible load 2.0 kN/m².

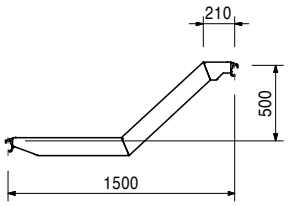




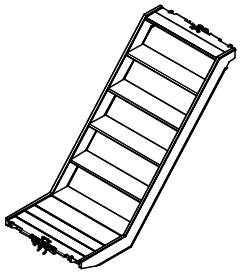
PERI UP Flex Stair 75

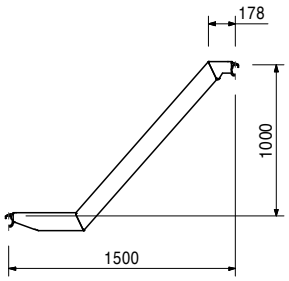
Item no.	Weight kg		
111095	17.500	**Staircase UAS 75 x 150/50 S, Alu** Assembly on Ledgers UH.	**Technical Data** Permissible load 2.0 kN/m².



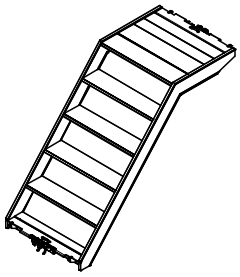


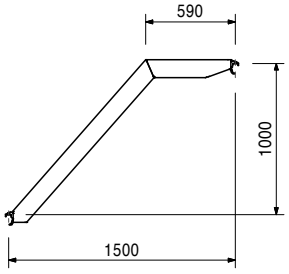
114536	17.900	**Staircase UAS 75 x 150/100 S, Alu** Assembly on Ledgers UH.	**Technical Data** Permissible load 2.0 kN/m².



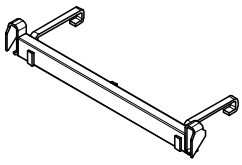


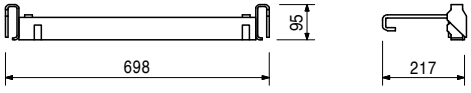
111103	17.900	**Staircase UAS 75 x 150/100, Alu** Assembly on Ledgers UH.	**Technical Data** Permissible load 2.0 kN/m².





115189	3.080	**Waler on Staircase UAS 75** Mounted on the treads of the staircase. Allows installation of Industrial Decks Steel UDI or UDG.





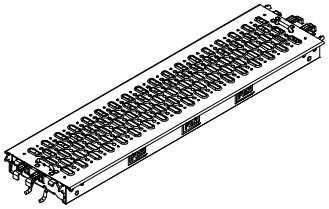
Item no.	Weight kg	
		Industrial Decks Steel UDI
408540	15.500	**Industrial Deck UDI 25 x 250**
408689	18.400	**Industrial Deck UDI 25 x 300**

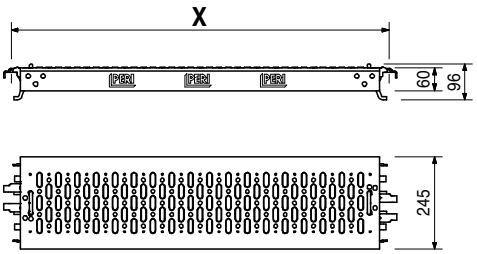
Mounted on Ledger UH.

X	perm. p [kN/m²]	max. p [kN/m²]
2500	4.5	6.9
3000	3.0	4.7

Note

perm. p according to DIN EN 12811-1.
max. p = maximum possible load without deflection limitation.





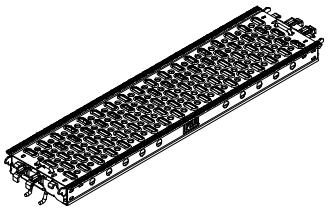
		Steel Decks UDG
123771	14.900	**Steel Deck UDG 25 x 250**
124915	17.700	**Steel Deck UDG 25 x 300**

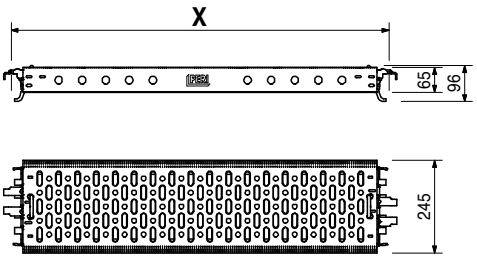
Mounted on Ledger UH.

X	perm. p [kN/m²]	max. p [kN/m²]
2500	4.5	6.9
3000	3.0	4.7

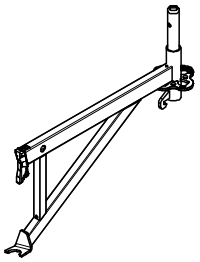
Note

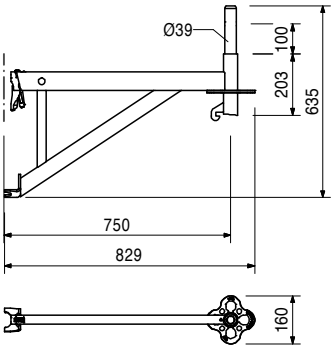
perm. p according to DIN EN 12811-1.
max. p = maximum possible load without deflection limitation.



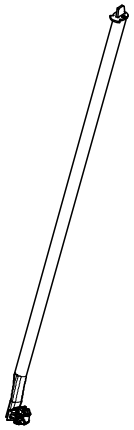


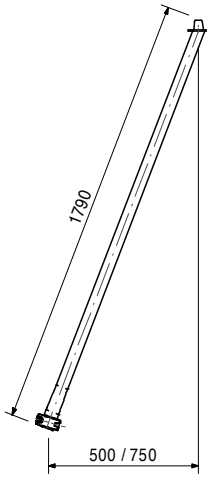
112678	6.520	**Console UCM 75 with Spigot**



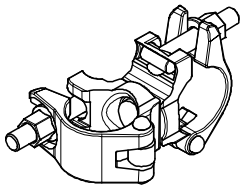


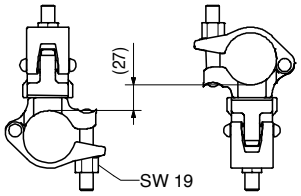
Item no.	Weight kg	
112717	7.000	**Console Bracket Brace UCM** For increasing the load-carrying capacity of Consoles UCM 50 and UCM 75 with yellow coupling.



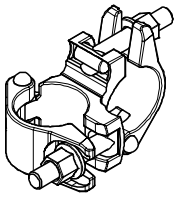


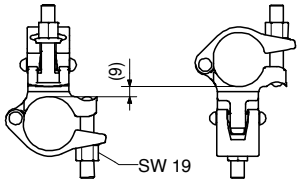
017010	1.400	**Swivel Coupling DK 48/48, galv.** For Scaffold Tubes Ø 48 mm.



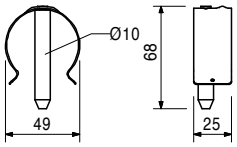


017020	1.120	**Standard Coupler NK 48/48, galv.** For Scaffold Tubes Ø 48 mm.

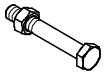


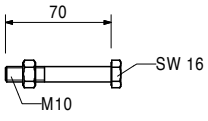


111053	0.059	**Locking Pin Ø 48/57** As tension-proof connection of standards with a diameter of 48 up to 57 mm.

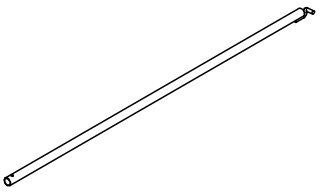


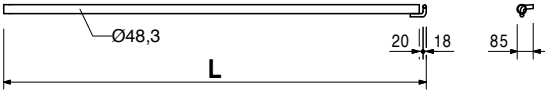
100719	0.060	**Bolt ISO 4014 M10 x 70-8.8 MU** As tension-proof connection of standards for suspended scaffolds or lattice girders.





Item no.	Weight kg		L
		Wall Ties UWT	
100088	1.920	**Wall Tie UWT 45**	488
102954	9.050	**Wall Tie UWT 220**	2238



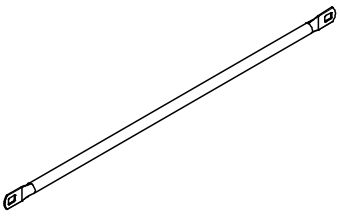


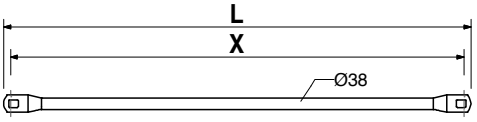
		Ring Bolts UFE	**Note**
100693	0.169	**Ring Bolt UFE 12/90**	With marking for screw-in depth.
100694	0.190	**Ring Bolt UFE 12/120**	
100695	0.250	**Ring Bolt UFE 12/190**	
		For assembling the Wall Tie UWT. Wall Insert UFI 14 required.	

		Wall Inserts UFI
100696	0.007	**Wall Insert UFI 14/70**
100697	0.009	**Wall Insert UFI 14/100**
100698	0.010	**Wall Insert UFI 14/135**

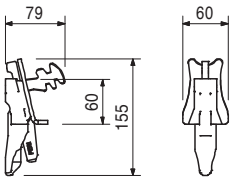
Item no.	Weight kg		L	X	Sticker
		Guardrails UPG			
100265	2.410	**Guardrail UPG 150**	1546	1500	
100266	3.220	**Guardrail UPG 200**	2046	2000	White
100267	4.020	**Guardrail UPG 250**	2546	2500	Red
100268	4.820	**Guardrail UPG 300**	3046	3000	Black

Note
Longitudinally-stamped and with coloured label for easier identification.



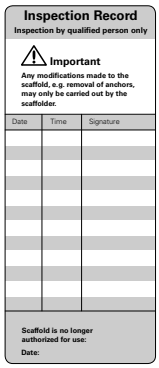


Item no.	Weight kg		
104412	0.711	**Guardrail Coupler UPW** For mounting the Guardrail UPG to the rosettes.	**Note** Assembly with guardrail in advance.



113832	0.035	**PERI UP Scaffold Tag** To cordon off scaffolding areas not yet authorized for use. With the exception of inserting the PERI UP Assembly Certificate.	

		PERI UP Assembly Certificates	**Note** Front side: Assembly report for release of scaffolding. Rear side: Test report
113833	0.005	**PERI UP Assembly Certificate, D**	
113834	0.005	**PERI UP Assembly Certificate, EX**	
113829	0.005	**PERI UP Assembly Certificate, F**	
113835	0.005	**PERI UP Assembly Certificate, CDN**	
113836	0.005	**PERI UP Assembly Certificate, ES**	
113837	0.005	**PERI UP Assembly Certificate, PT**	
113838	0.005	**PERI UP Assembly Certificate, PL**	
113839	0.005	**PERI UP Assembly Certificate, CZ**	
115739	0.005	**PERI UP Assembly Certificate, TR**	
115729	0.005	**PERI UP Assembly Certificate, SK** Inserted into the PERI UP Scaffold Tag.	



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