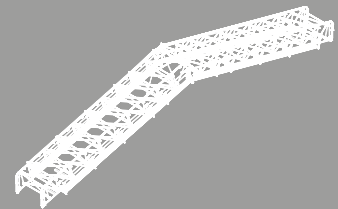
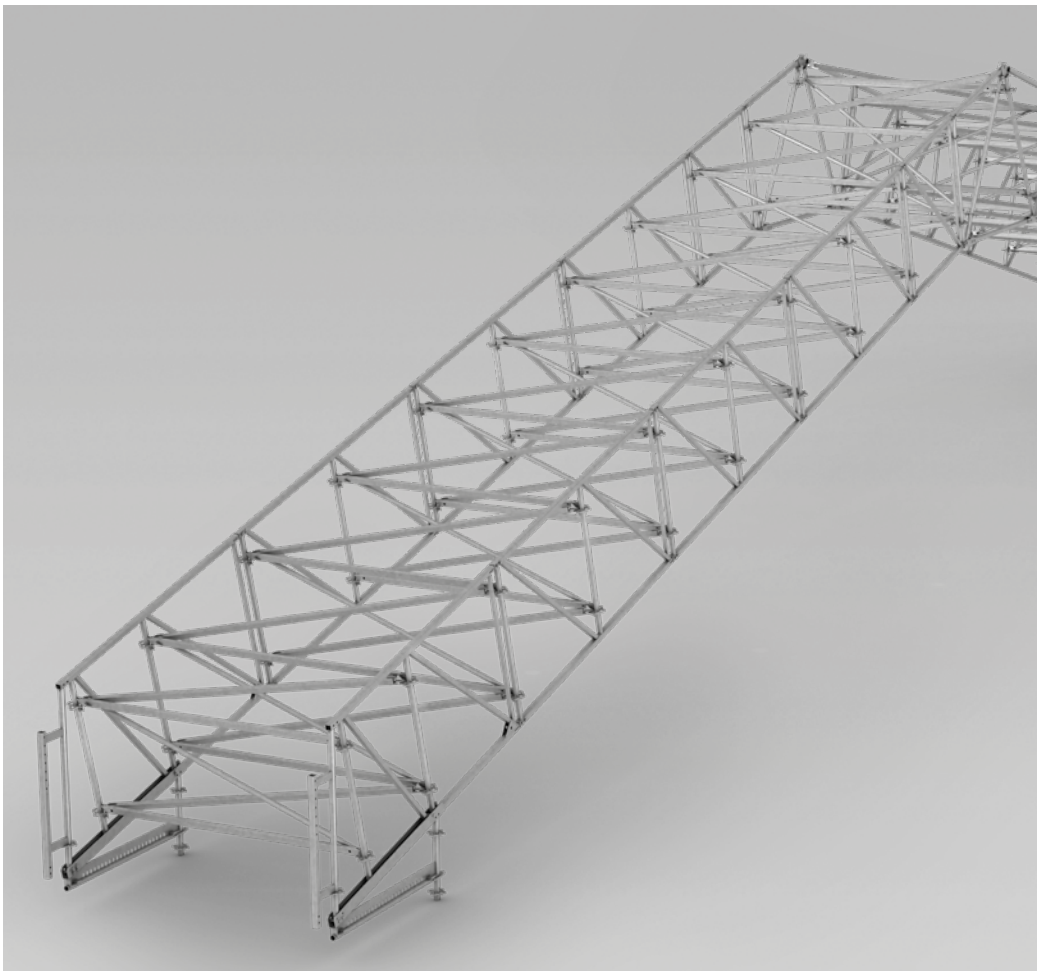


PERI UP Flex LGS Weather Protection Roof Protection Scaffold

Instructions for Assembly and Use – Standard Configuration – Issue 03/2021
incl. supplemental pages PERI UP Flex 2nd generation



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Main components

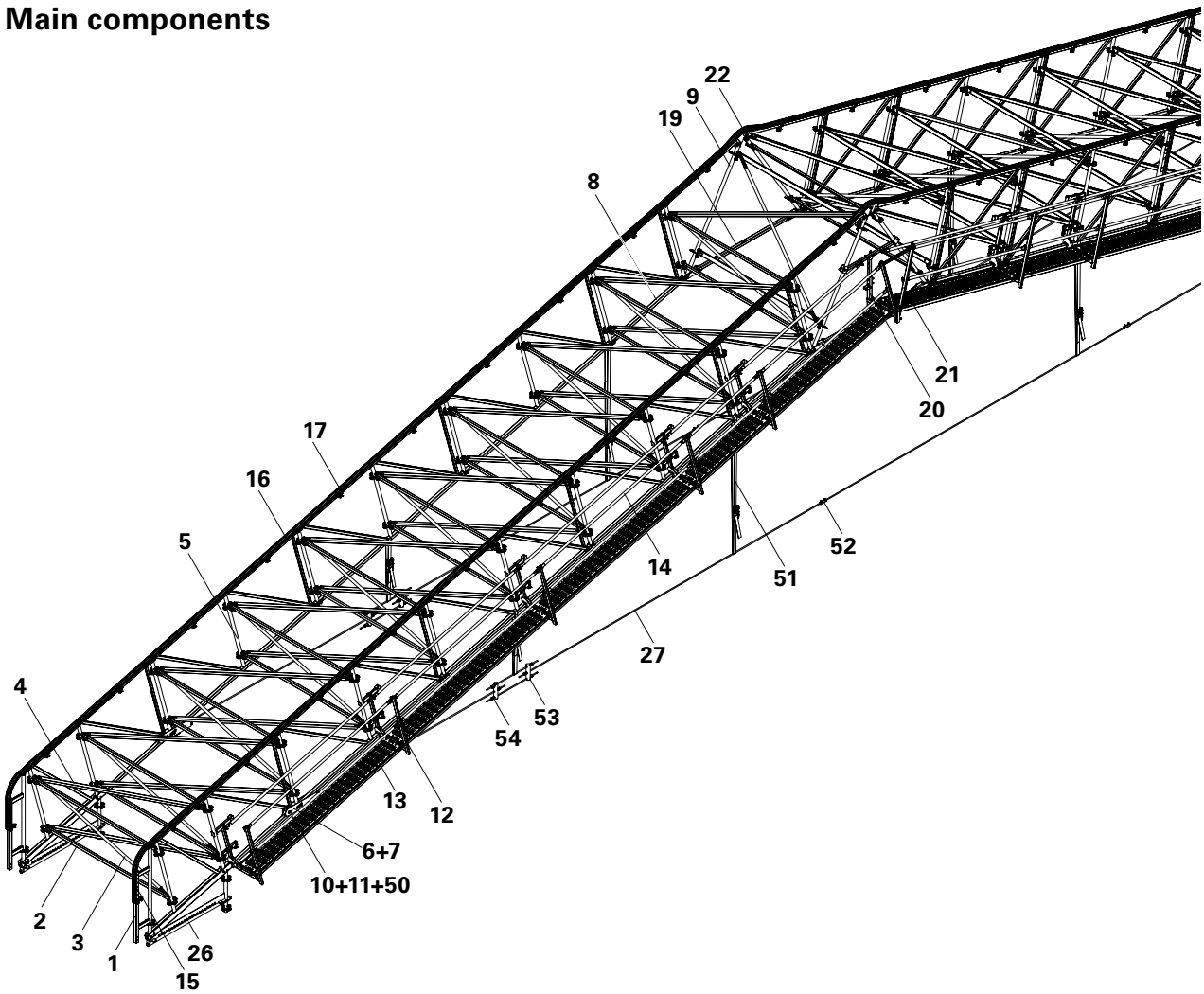


Fig. 01

1	LGS Eave Element URB 300/150	13	Industrial Deck Steel UDI	24	LGS Tarpaulin Reel URG 250 (not shown)
2	Ledger UH Plus	14	Guardrail UPG	25	LGS Handle (not shown)
3	Ledger Brace UBL	15	LGS Eave Rail URK	26	LGS Support URS
4	H-Brace UBH Flex	16	LGS Keder Rail URK	27	Tie Rod DW 15
5	LGS Basic Element URB 300/150	17	LGS Keder Connector URK	50	Suspension Tie Connector URU
6	Bolt Ø 16	18	Support Roller UEW (not shown)	51	Tension Belt
7	Cotter Pin 4/1	19	Ridge Bar HD UR	52	Tie Rod Extension URU
8	LGS Additional Element URB 150/150	20	LGS Ridge Console URH	53	Tie Yoke URU
9	LGS Ridge Element URR 150	21	LGS Ridge Guardrail URH	54	Hex. Nut DW 15 SW 30/50
10	Bolt Ø 24	22	LGS Ridge Rail URK		
11	Cotter Pin 5/1	23	LGS Reel Connector URG (not shown)		
12	LGS Console URH				

Key

Pictogram | Definition



Safety instructions



Note



Lifting point



Visual check



Tip

Dimension specifications

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

Conventions

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

Arrows

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

* if not identical to the action arrow

Span

is the dimension from the centre of one support to the centre of the other support.

The exact position of the support is specified in the project drawing.

Presentational reference

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

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

Target groups

Contractor

These Instructions for Assembly and Use are designed for contractors who use the scaffolds either for

- erecting, adapting and dismantling operations
- 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 and ensures compliance with the protective measures.

Qualified persons

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 tests.

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.

Technically qualified personnel

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

- An explanation of the plan for the assembly, adaptation or dismantling of the scaffolding in an understandable form and language.
- Description of measures in order to safely assemble, adapt 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, adaptation 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

- Instructions for Assembly and Use
 - PERI UP T 72: Working and Safety Scaffold with Guardrail in Advance and Steel Deck UDS
 - PERI UP T 104: Working and Safety Scaffold with Guardrail in Advance and Steel Deck UDS
 - PERI UP Rosett 72: Working and Safety Scaffold with Guardrail in Advance and Steel Deck UDS
 - PERI UP Rosett: Reinforcement Scaffold with Steel Deck UDS
 - PERI UP Rosett Flex: Reinforcement Scaffold with Steel Deck UDI/UDG
 - PERI UP Rosett: Stair Alu 64 with Steel Deck UDS
 - PERI UP Flex: Stair Alu 75 with Steel Deck UDI/UDG
 - PERI UP Flex: Stair Steel 100 and 125 with Steel Deck UDI/UDG
- Approvals
 - Approval Z-8.1-865 Scaffold System PERI UP T 72
 - Approval Z-8.1-916 Scaffold System PERI UP T 104
 - Approval Z-8.22-863 PERI UP Flex Modular System
- Instructions for Use – Pallets and Stacking Devices
- Basic information – PERI UP Flex Modular Scaffolding with UDI/UDG Steel Decks
- PERI Design Tables – Formwork and Shoring
- PERI Components – Scaffolding
- Brochure – PERI UP Flex LGS Weather Protection Roof

Intended use

Product description

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

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

These Instructions for Assembly and Use describe the standard configuration for a Weather Protection Roof as a temporary construction, e.g. enclosure construction, corresponding to the provisions of DIN EN 16508 and DIN EN 12811.

Features

The Weather Protection Roof is based on the PERI UP Flex Modular Working Scaffold with supplementary components.

Technical data

- Span L_{spw} from 21.20 m to 41.50 m. The spans are based on a weather protection construction enclosed on all sides (roof and supporting structure) with max. 10 % openings per wall.
- Width B from 1.50 m to 3.00 m in 25 cm increments
- Wind loads q according to EN 1991-1-4
 - $q_1 = 0.35 \text{ kN/m}^2$
 - $q_2 = 0.56 \text{ kN/m}^2$
 - $q_3 = 0.77 \text{ kN/m}^2$
- Snow loads s are calculated according to DIN EN 1991-1-3 with snow load classes according to DIN EN 16508
 - SL1 = 0.10 kN/m^2
 - SL2a = 0.25 kN/m^2
 - SL2b = 0.60 kN/m^2

Standard configuration

The following is shown in Section A:

- Width of the girder package $B = 2.50 \text{ m}$.
- Span $L_{spw} = 27.00 \text{ m}$ - distance from one centre of support to the other centre of support, see Section B1.1.
- Snow load $SL1 = 0.10 \text{ kN/m}^2$.
- Wind load $q_1 = 0.56 \text{ kN/m}^2$.
- Roof closed on all sides with max. 10 % openings per wall.
- Fix Tension System to the Eave Element.
- Mobile or fixed girder package.
- Assembly
 - with bolts and cotter pins
 - alternatively with bolts and nuts – not shown.

The supporting construction is not part of these Instructions for Assembly and Use.

Project-related details are featured in the project drawings. The supporting structures shown are indicated and incomplete.

The stability of the overall construction consisting of Weather Protection Roof and supporting structure is to be verified for each project – also for assembly conditions.

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.

Tension Belt PTB 12

Ensure that Tension Belts are stored tidily and in dry conditions.

Clean Tension Belts with cold water without any cleaning agent and leave to dry in the air.

Moving parts of the ratchet are to be regularly oiled.

Identification marking of the Tension Belt PTB 12

Belt label

(Fig. 02a + Fig. 02b)



**If the belt label is missing or illegible, do not use the Tension Belt PTB 12!
Use a new Tension Belt!**

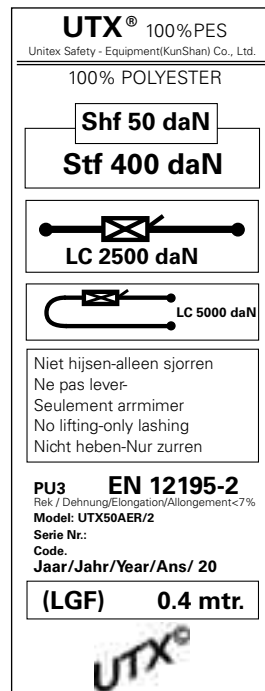


Fig. 02a

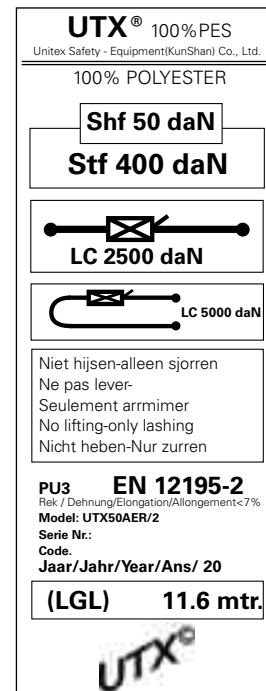


Fig. 02b

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 with all valid construction guidelines and standards. In particular, the following applies if nothing else is specified:

- timber components:
Strength Class C24 for Solid Wood according to EN 338.
- scaffold tubes:
galvanised steel tubes with minimum dimensions of $\varnothing 48.3 \times 3.2$ 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.

On the basis of this risk assessment, determine appropriate measures for working and operational safety as well as stability.

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 scaffolding system, the contractor must immediately

- create an additional risk assessment, with appropriate measures for ensuring the stability of the formwork system being carried out based on the results,
- and arrange for an extraordinary inspection by a qualified 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 technically qualified personnel 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.

The scaffolding must be inspected before the initial use by a qualified person in order to ensure correct and safe functioning. The results of the inspection must be documented in a test report.

The scaffold contractor must ensure that the personal protective equipment required for the assembly, modification or dismantling of the scaffolding 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 operations.
- ensure and prove that all loads are safely transferred.

Utilization

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

Tighten couplings with screw closures with 50 Nm. This corresponds to a force of 20 kg using a lever arm length of 25 cm.

Secure wedges using a 500 g hammer.

Tension Belt PTB 12

- is to be checked during use and, if necessary, re-tensioned,
- is not to be used on sharp edges or cracked surfaces without protection. Use edge protection,
- protect against heat and chemical influences,
- avoid twisting and keep free of knots,
- do not use for pulling or lifting loads.

Do not set down any loads on the Tension Belt.

Ensure that the ratchet is not positioned on an edge when belt is tensioned.

At least 1.5 winds of the belt on the ratchet, maximum 3 winds.

Do not load belt hooks on the tips.

Discard state of Tension Belt PTB 12

Tension Belts are to be replaced if:

- the belt label is illegible or missing,
- the belt has cuts, holes or abrasion marks,
- the Tension Belt shows signs of deformations,
- the hooks or ratchet are twisted or strongly corroded,
- the hook aperture is open by more than 10 %.

Anchoring

Support forces, see Section B2.

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 necessary, take additional measures.

Install anchors continuously with the scaffolding.

Transfer the anchoring forces via the scaffold brackets and fastening means into sufficiently load-bearing anchorage (e.g. building).

The anchoring and its components must be inspected by a competent person chosen by the scaffold contractor.

Inspecting the anchoring

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

Carry out load tests with suitable test equipment.

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

The scope of testing must, however, include a minimum of 5 load tests for all dowels used for concrete anchoring bases (at least 10 %) and for other building materials (at least 30 %).

Storage and transportation

Store and transport components ensuring that no unintentional change in their position is possible. Detach load-bearing devices and lifting gear from the lowered components only if they are in a stable position and no unintentional change of their position is possible.

Do not drop the components.

Use PERI load-bearing devices and lifting gear 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 with a 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 must have sufficient load-bearing capacity.

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

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 scaffold 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.

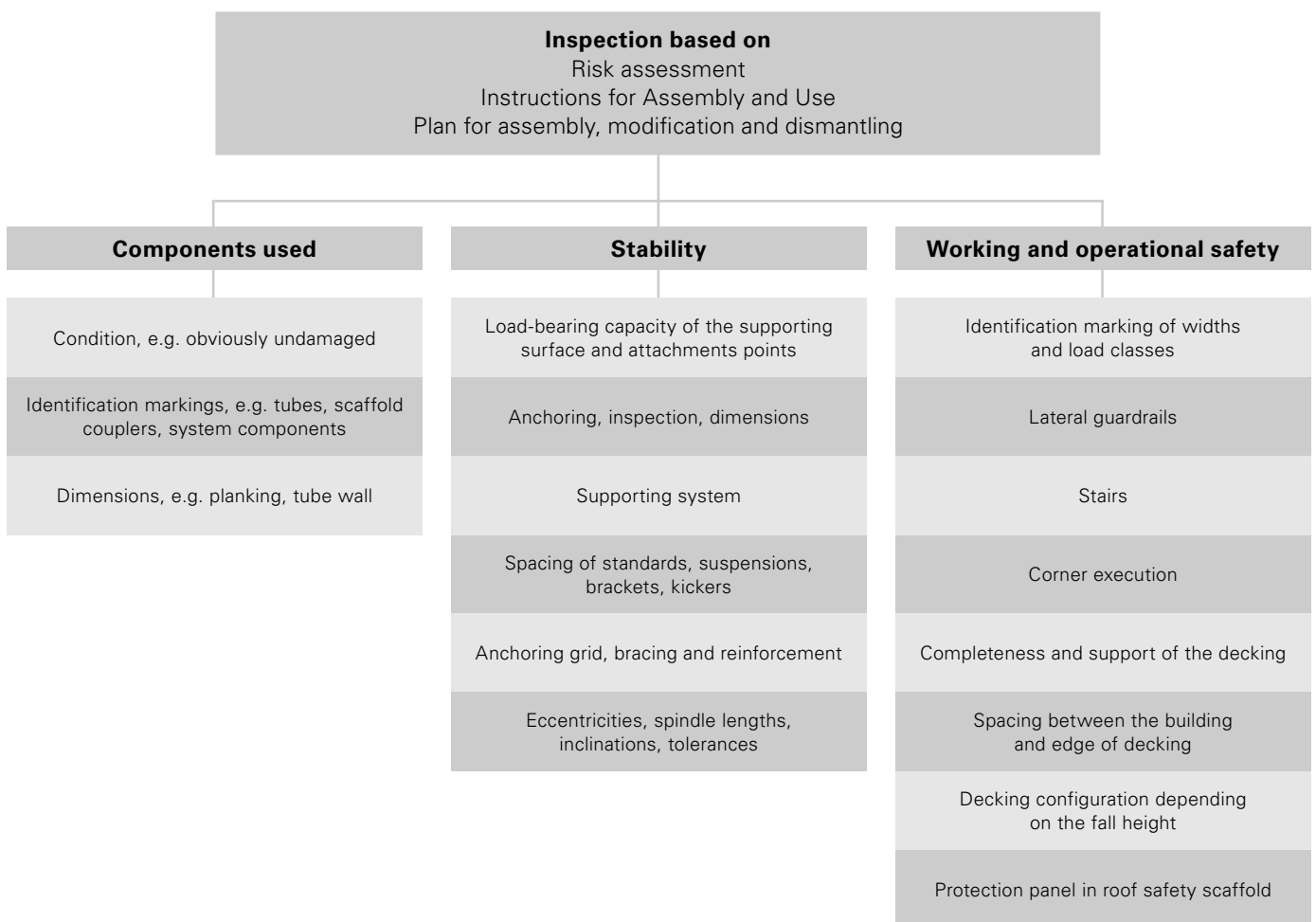


During the hand-over, the scaffold contractor must advise the user of the possible risks involved with non-intended use and his obligation to provide adequate prevention against risk and danger!

- Attachment of safety and warning signs at scaffold entry points.
- 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 is to instruct the technically qualified site personnel that if changes have obviously been made to the scaffolding construction during use, this must be reported to the respective authorized person.



Source: based on TRBS 2121 Part 1

A1.1 Mounting the Eave Elements



- Width "B" is variable
 - in 25 cm increments,
 - from 1.50 m to 3.00 m,
 - shown here is 2.50 m.
- If a Tension System is required, use timbers as a means of support with height "H_{timber}" ≥ 16 cm.

(Fig. A1.01)

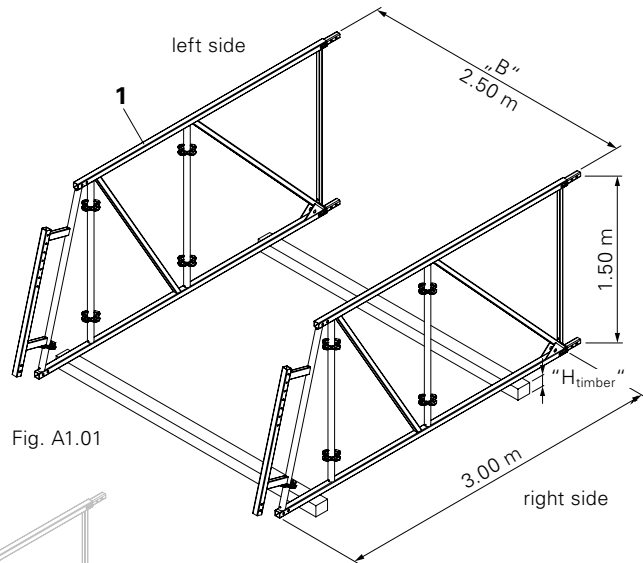


Fig. A1.01

Components

1	LGS Eave Element URB 300/150	2x
2	Ledger UH 250 Plus	4x
3.1	Ledger Brace UBL 250/100	2x
4.1	H-Brace UBH Flex 250/100	2x

Connect Eave Elements

1. Place Eave Element (1) on two crosswise positioned timbers.
 - Timbers are used as support during assembly. (Fig. A1.01)
2. Attach Ledgers (2) on both sides to the rosette (1a) using the ledger heads and wedges (2a). (Fig. A1.02)
3. Securely fix all wedges using a hammer. (Fig. A1.02a)
 - Ledgers are now secured.
4. Install Ledger Brace (3.1):

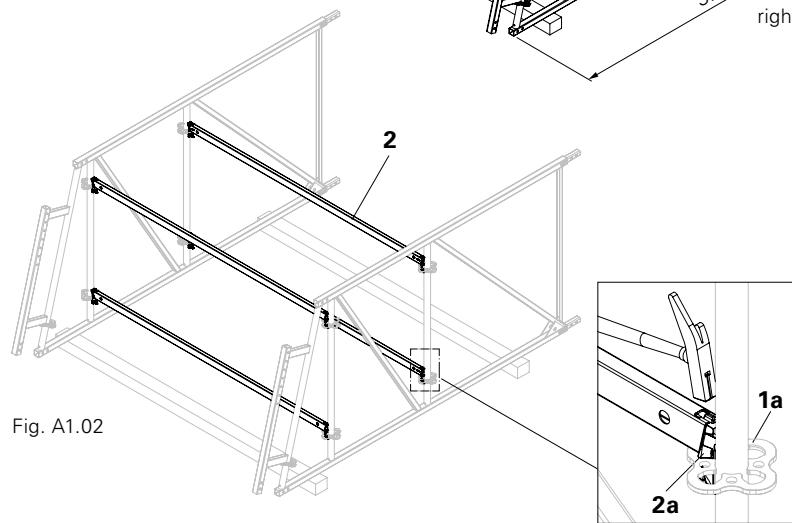


Fig. A1.02

Fig. A1.02a

- Insert finger (3b) at an angle into the hole of the bottom Ledger. (Fig. A1.03c + d)
- Insert gravity pin (3a) through the hole of the top Ledger, and then turn sideways. (Fig. A1.03a + b)
 - Ledger Brace is now secured.

(Fig. A1.03)

Gravity pin – above

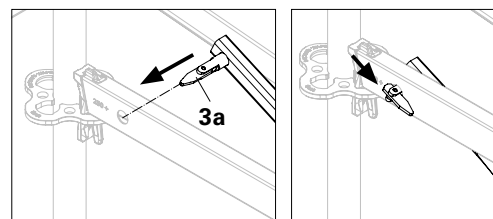


Fig. A1.03a

Fig. A1.03b



Secure all gravity pins, i.e. have all gravity pins been turned sideways? (Fig. A1.03b)



- Instead of beginning with the Eave Element, a girder package can also be started with Basic Elements.
- Install Intermediate Element for length compensation in front of the Ridge Element.
- The Ledger UH Plus can also be used instead of the Ledger UH.

Finger – below

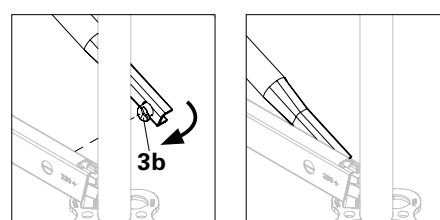


Fig. A1.03c

Fig. A1.03d

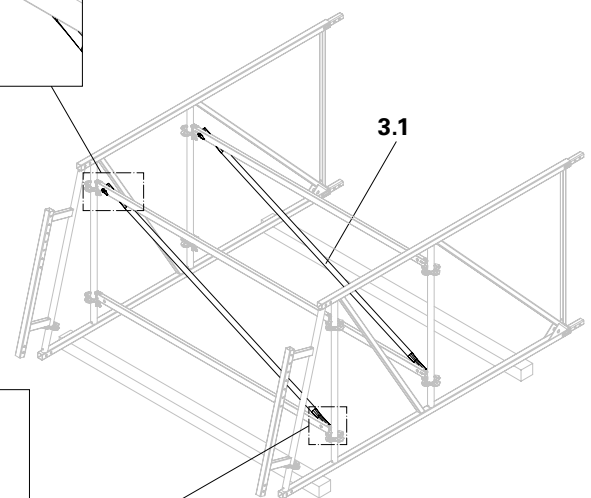


Fig. A1.03

Bracing the Eave Element

Install H-Braces (4.1):

- Install first side: attach hook without slider (4a) in the rosette and push down. (Fig. A1.04a + b)
- Mount second side diagonal to the first side:
 - Attach hook with slider (4b) to the rosette. (Fig. A1.04c)
 - Push the slider towards the rosette until the bolt (4c) falls into the longitudinal groove. (Fig. A1.04d)
 - Slider is secured.

(Fig. A1.04)



Have all sliders been secured, i.e., is each bolt (4c) in the longitudinal groove?



- H-Braces UBH Flex can be mounted from above or below.
- H-Braces UBH can also be used instead of H-Braces UBH Flex. H-Braces UBH can only be mounted from above.

Install first side

Shown without Ledger.

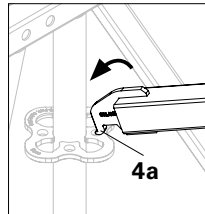


Fig. A1.04a

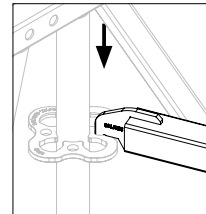


Fig. A1.04b

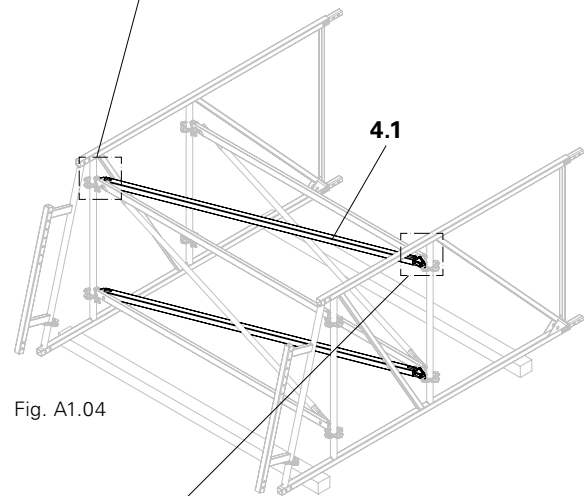


Fig. A1.04

Install second side

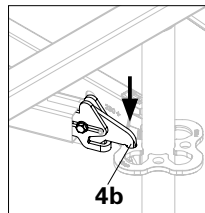


Fig. A1.04c

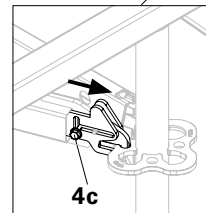


Fig. A1.04d



Slider must be pushed back in order to attach the hook.

→ Securing mechanism is released.

(Fig. A1.04c)

A1.2 Mounting the Basic Element



There are two versions:
 – without Tension System,
 – with Tension System.

Without Tension System Components

5	LGS Basic Element URB 300/150	2x
6.1	Bolts \varnothing 16 x 70	8x
7	Cotter Pin 4/1	8x

Assembly

1. Insert the Basic Element (5) into the spigot of the Eave Element. (Fig. A1.05)
2. Insert Bolts (6.1) – from the outside to the inside – through the holes of the rectangular tube and secure with Cotter Pins (7) – 2x. (Fig. A1.05a)

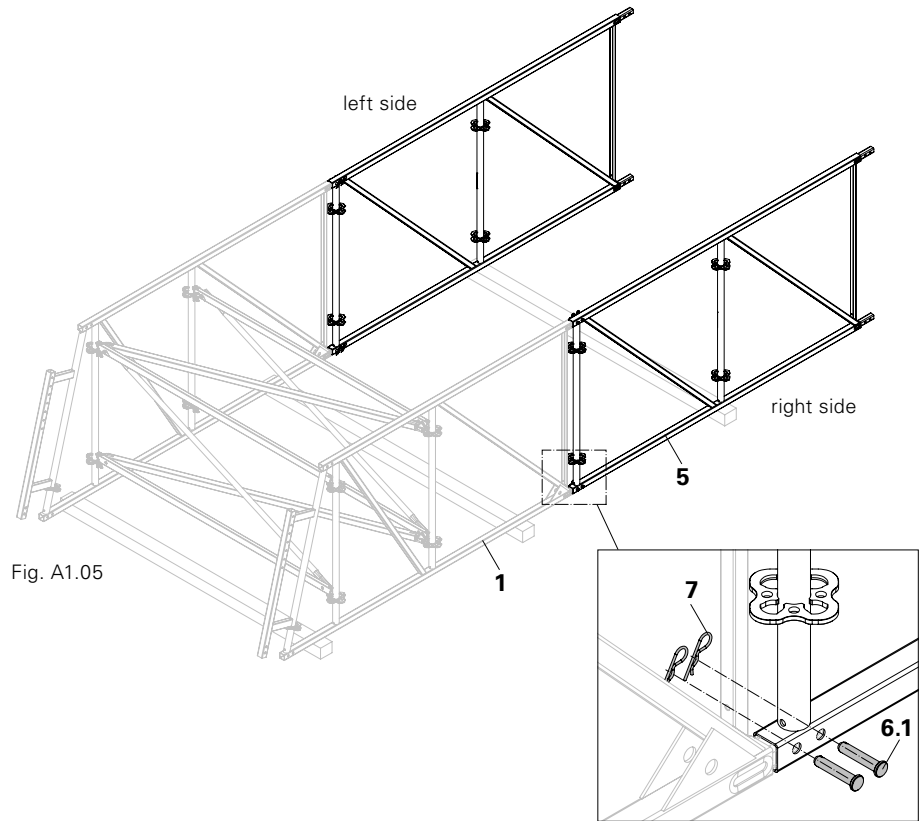


Fig. A1.05

Fig. A1.05a

With Tension System

Installed on the Eave Element.

Components

5	LGS Basic Element URB 300/150	2x
6.1	Bolts \varnothing 16 x 70	8x
7	Cotter Pin 4/1	8x
10.2	Bolts \varnothing 24 x 105	2x
11	Cotter Pin 5/1	2x
50	LGS Suspension Tie Connector URU	2x

Assembly

1. Insert spigot of the Basic Element (5) into the tube of the Eave Element (1). (Fig. A1.06)
2. Push the Suspension Tie Connector (50) over the rectangular tube. (Fig. A1.06a)
3. Secure Bolts (10.2) and Cotter Pins (11) from the outside to the inside. (Fig. A1.06a)
 → Fixing to the Eave Element.
4. Insert Bolts (6) – from the outside to the inside – through the holes of the rectangular tube and secure with Cotter Pins (7) – 2x. (Fig. A1.06a)

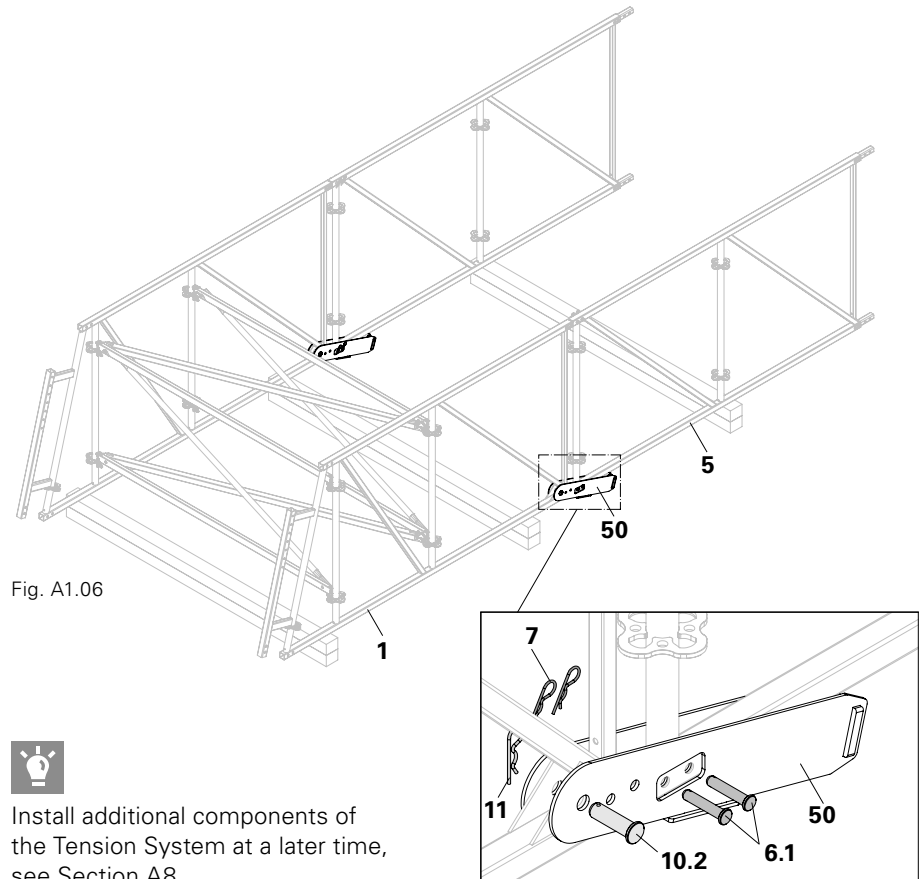


Fig. A1.06

Fig. A1.06a



Install additional components of the Tension System at a later time, see Section A8.



Are all the Bolts and Cotter Pins securely in position – right and left sides?

Bracing the Basic Element

- All other assembly steps up to and including Section A7 are valid for both versions.
- Shown here is without the Suspension Tie Connector.

Components

2	Ledger UH 250 Plus	4x
3.1	Ledger Brace UBL 250/100	2x
4.2	H-Brace UBH Flex 250/150	4x

Assembly

1. Install Ledgers (2).
2. Securely fix all wedges.
→ Ledgers are now secured.
(Fig. A1.07)
3. Install Ledger Braces (3). (Fig. A1.08)
4. Install H-Braces (4.2). (Fig. A1.09)
→ Basic Elements are now braced.



- Secure all gravity pins, i.e. have all gravity pins been turned sideways?
- Have all sliders been secured, i.e., is each Bolt in the longitudinal groove?

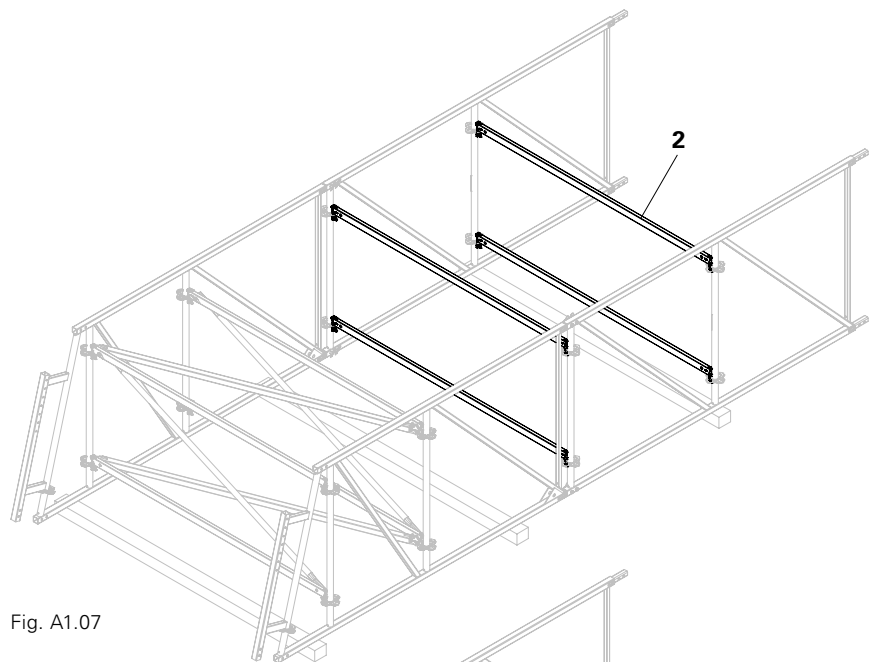


Fig. A1.07

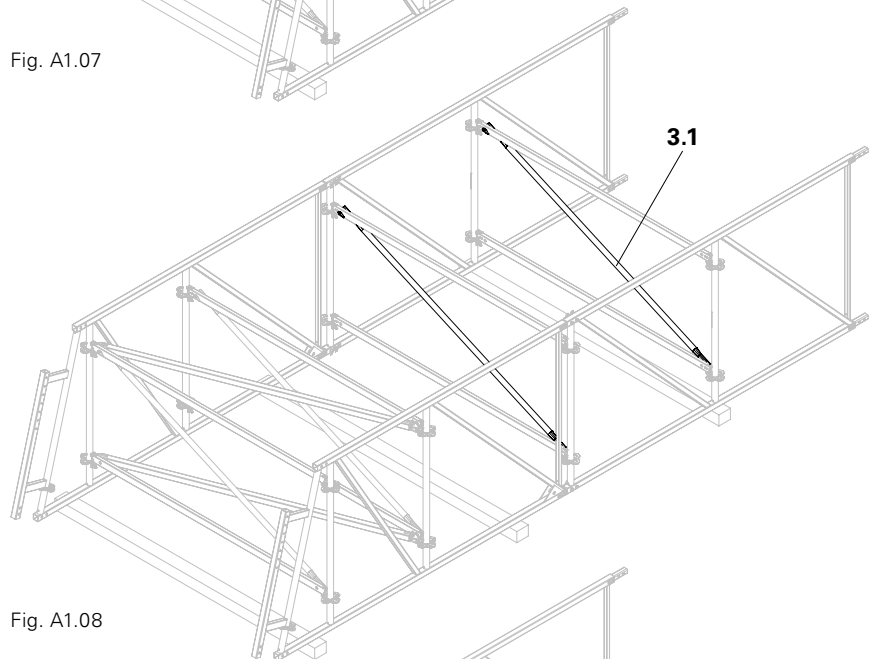


Fig. A1.08

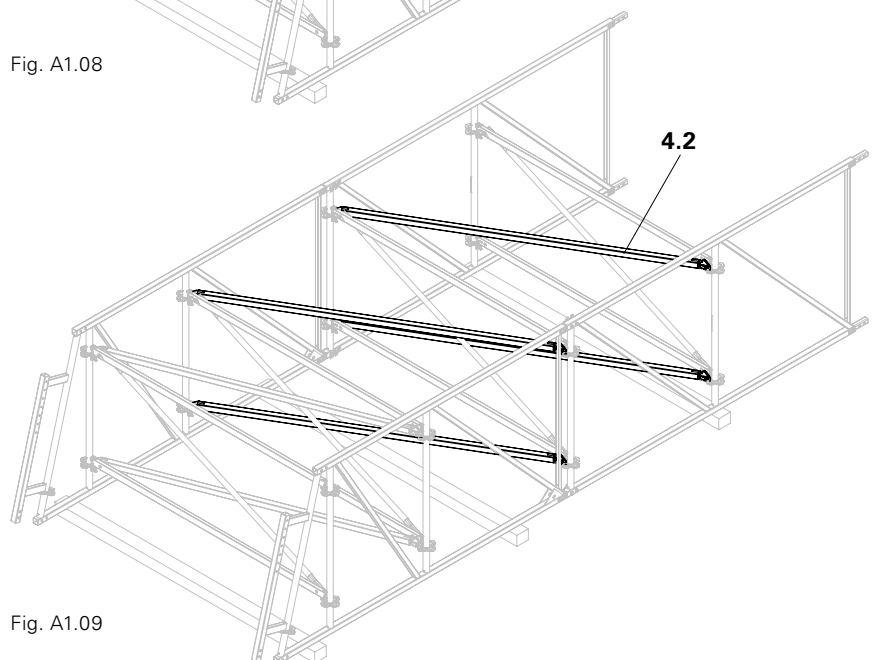


Fig. A1.09

A1.3 Mounting additional Basic Elements

Components

2	Ledger UH 250 Plus	10x
3.1	Ledger Brace UBL 250/100	5x
4.2	H-Brace UBH Flex 250/150	8x
5	LGS Basic Element	
	URB 300/150	4x
6.1	Bolts Ø 16 x 70	24x
7	Cotter Pin 4/1	24x
8	LGS Additional Element	
	URB 150/150	2x

Assembly without Tension System

1. Mount additional Basic Elements (5) – until the required length has been reached, see Section A1.2.
2. If required, mount Additional Elements (8) as compensation. (Fig. A1.10)

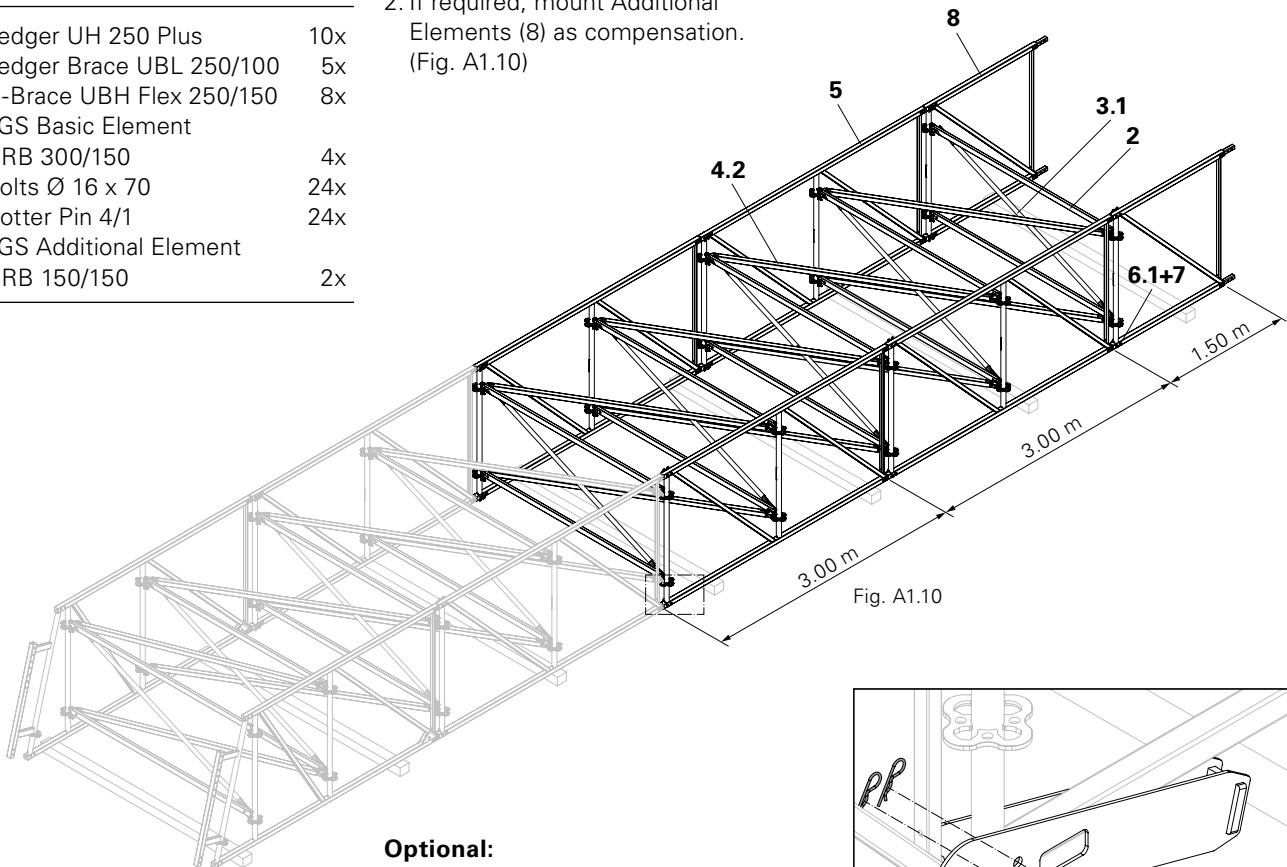


Fig. A1.10

Optional:

assembly with Tension System

Secure the Suspension Tie Connector to the 1st Basic Element. (Fig. A1.10a)

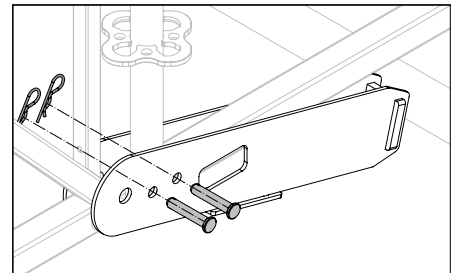


Fig. A1.10a

A1.4 Mounting the Ridge Element and Ridge Bar

Two Ridge Elements (9) together with the Ridge Bar (19) form the ridge, see Section A5.

Components

2	Ledger UH 250 Plus	4x
3.1	Ledger Brace UBL 250/100	1x
3.2	Ledger Brace UBL 250/150	1x
4.2	H-Brace UBH Flex 250/150	1x
6.1	Bolts Ø 16 x 70	8x
7	Cotter Pin 4/1	8x
9	LGS Ridge Element URR 150	2x
19	Ridge Bar HD UR 150°	2x

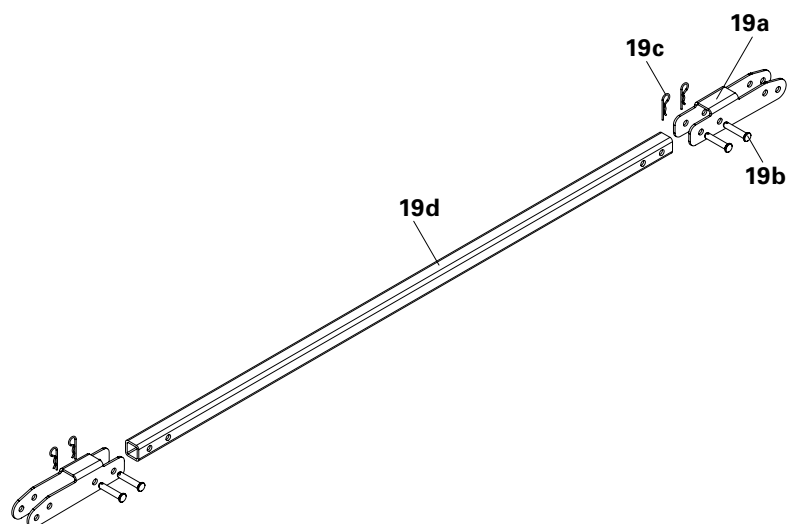


Fig. A1.11

Preparation

1. Remove Cotter Pins (19c) and Bolts (19b) from the rectangular tube (19d).
2. Rectangular tube (19d), Bolts (19b) and Cotter Pins (19c) are put to one side. (Fig. A1.11)



Install rectangular tube (19d) with Bolts (19b) and Cotter Pins (19c), see Section A5.3.

Assembly

1. Insert tube of Ridge Element (9) onto the spigot of the last Element (Basic or Additional Element). (Fig. A1.12)
2. Push lug (19a) over Ridge Element. (Fig. A1.12a)
3. Fix Bolts (6.1) and Cotter Pins (7) – 2x. (Fig. A1.12a)
→ Secured connection.
4. Install lug of the Ridge Bar on the left side, see steps 1 – 3.
5. Install Ledgers (2).
6. Securely fix all wedges using a hammer. (Fig. A1.13)
→ Ledgers are now secured.
7. Install the Ledger Braces (3.1 + 3.2). (Fig. A1.14)
8. Install H-Braces (4.2). (Fig. A1.15)
→ First girder unit is now ready.



- Secure all gravity pins, i.e. have all gravity pins been turned sideways?
- Have all sliders been secured, i.e., is each Bolt in the longitudinal groove?



Rectangular tube (19d) can remain in an articulated position on one side, i.e. mounted to the lug (19a) using a Bolt (not shown).

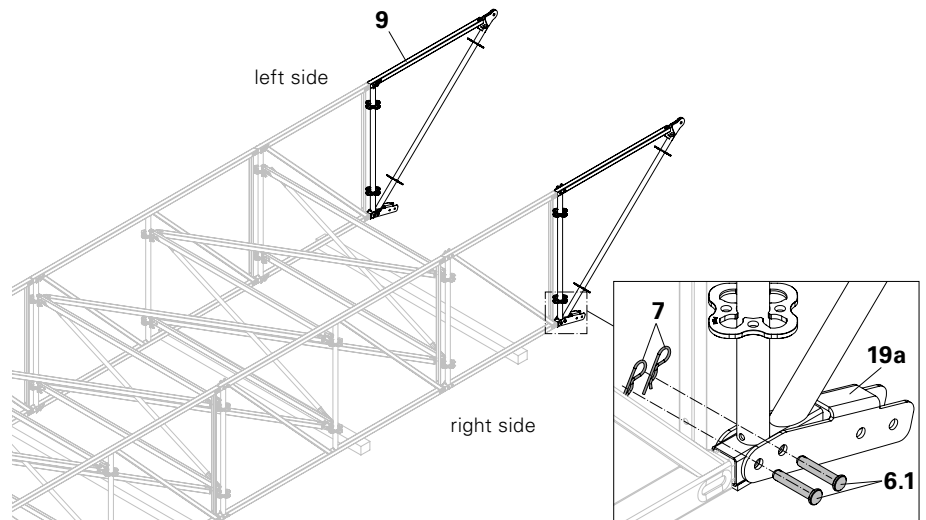


Fig. A1.12a



Fig. A1.12

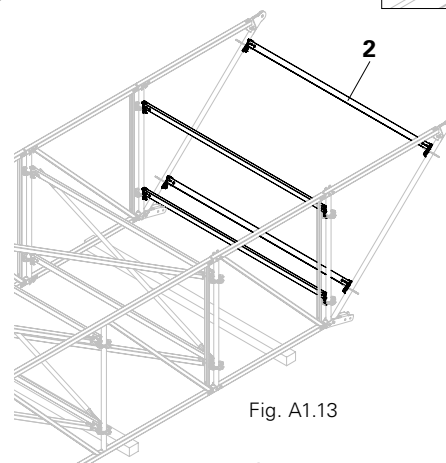


Fig. A1.13

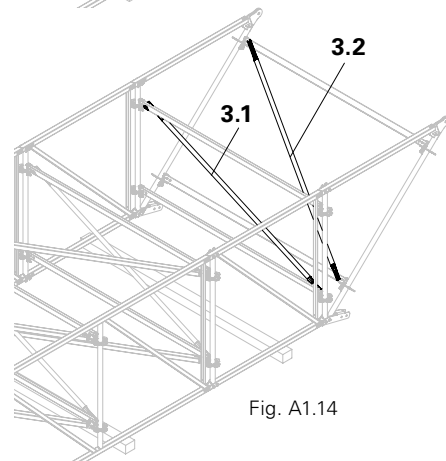


Fig. A1.14

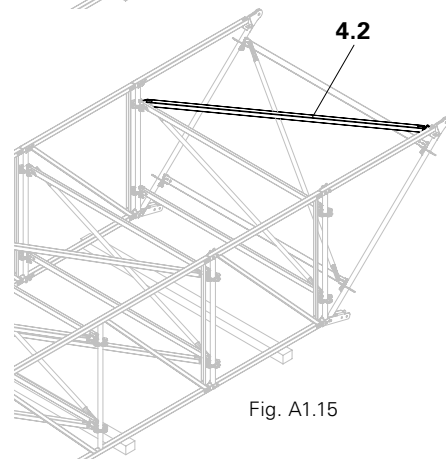
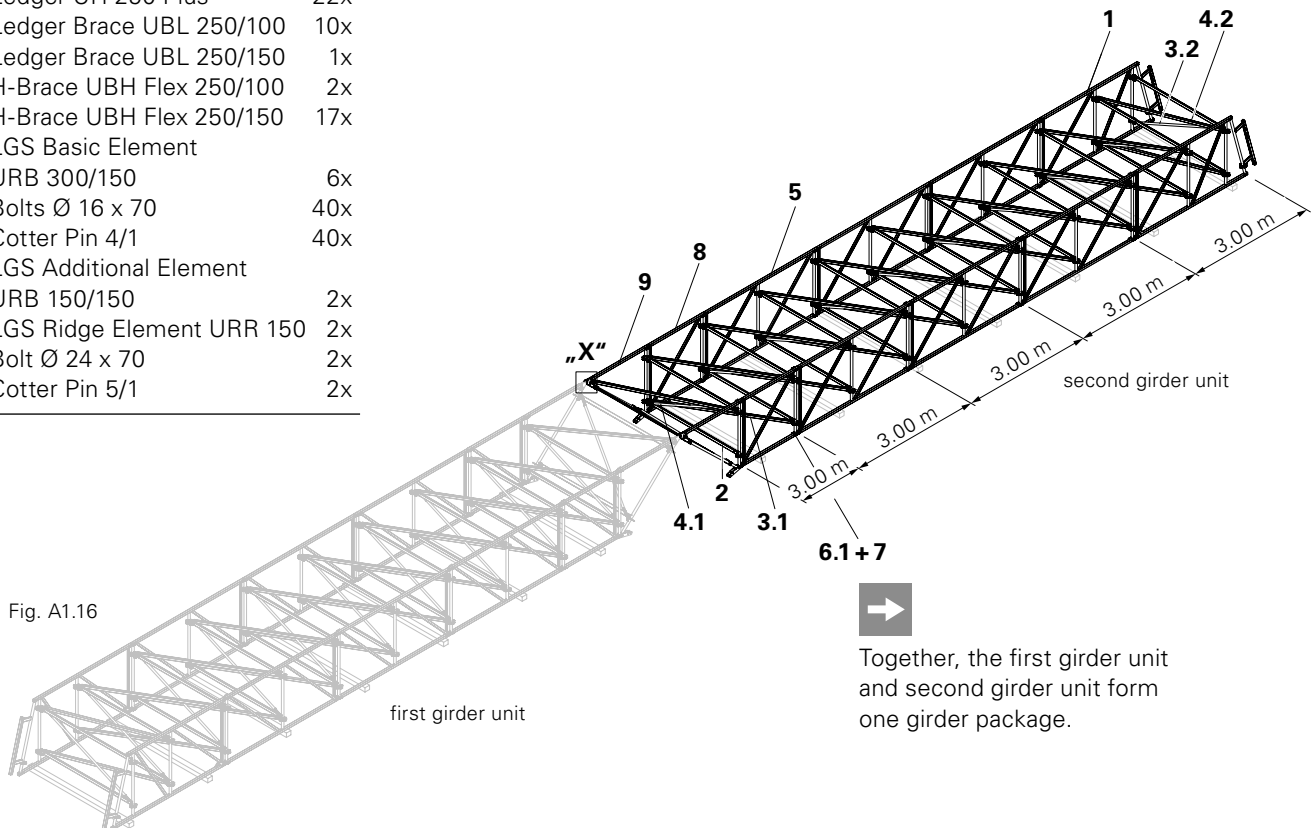


Fig. A1.15

A1.5 Continue building the girder package

Components for second girder unit

1	LGS Eave Element URB 300/150	2x
2	Ledger UH 250 Plus	22x
3.1	Ledger Brace UBL 250/100	10x
3.2	Ledger Brace UBL 250/150	1x
4.1	H-Brace UBH Flex 250/100	2x
4.2	H-Brace UBH Flex 250/150	17x
5	LGS Basic Element URB 300/150	6x
6.1	Bolts \varnothing 16 x 70	40x
7	Cotter Pin 4/1	40x
8	LGS Additional Element URB 150/150	2x
9	LGS Ridge Element URR 150	2x
10.1	Bolt \varnothing 24 x 70	2x
11	Cotter Pin 5/1	2x



Connect first and second girder units

1. Join together the lugs of the Ridge Element. Ensure that the tube (9a) of the first girder unit is aligned with the tube (9b) of the second girder unit. (Fig. A1.16a)
2. Secure Bolts (10.1) and Cotter Pins (11) – from the outside to the inside – in the holes of the head plates. → Secured connection. (Fig. A1.16a)

Mount the second girder unit

1. Mount Ridge Element (9), see Section A1.4.
2. Install another Additional Element (8), see Section A1.3.
3. Install additional Basic Elements, see Section A1.2.
 - Basic Element (5)
 - Ledger (2)
 - Ledger Brace (3.1/3.2)
 - H-Brace (4.1)
4. Mount Eave Element (1), see Section A1.1.

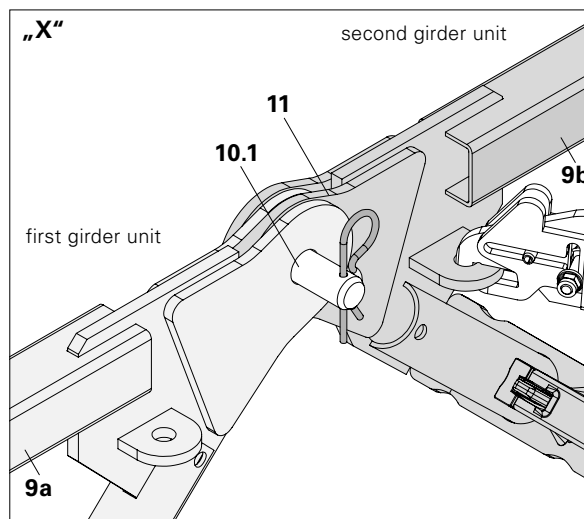


Fig. A1.16a



Areas of rectangular tubes (9a + 9b) aligned?

A2.1 Mounting the Consoles



Perm. weight on the Consoles or access point: 100 kg.

Consoles are used to accommodate:

- Industrial Decks UDI
- Guardrails UPG

Components

12	LGS Ridge Console URH	20x
----	-----------------------	-----



- Access is not compulsory if another secure access, e.g. mobile scaffold, is available. In this case, skip Section 2.
- Do not install any Console in the area of the Suspension Tie Connector.
- Access is exclusively an assembly aid for the roof and is not for use during working operations.

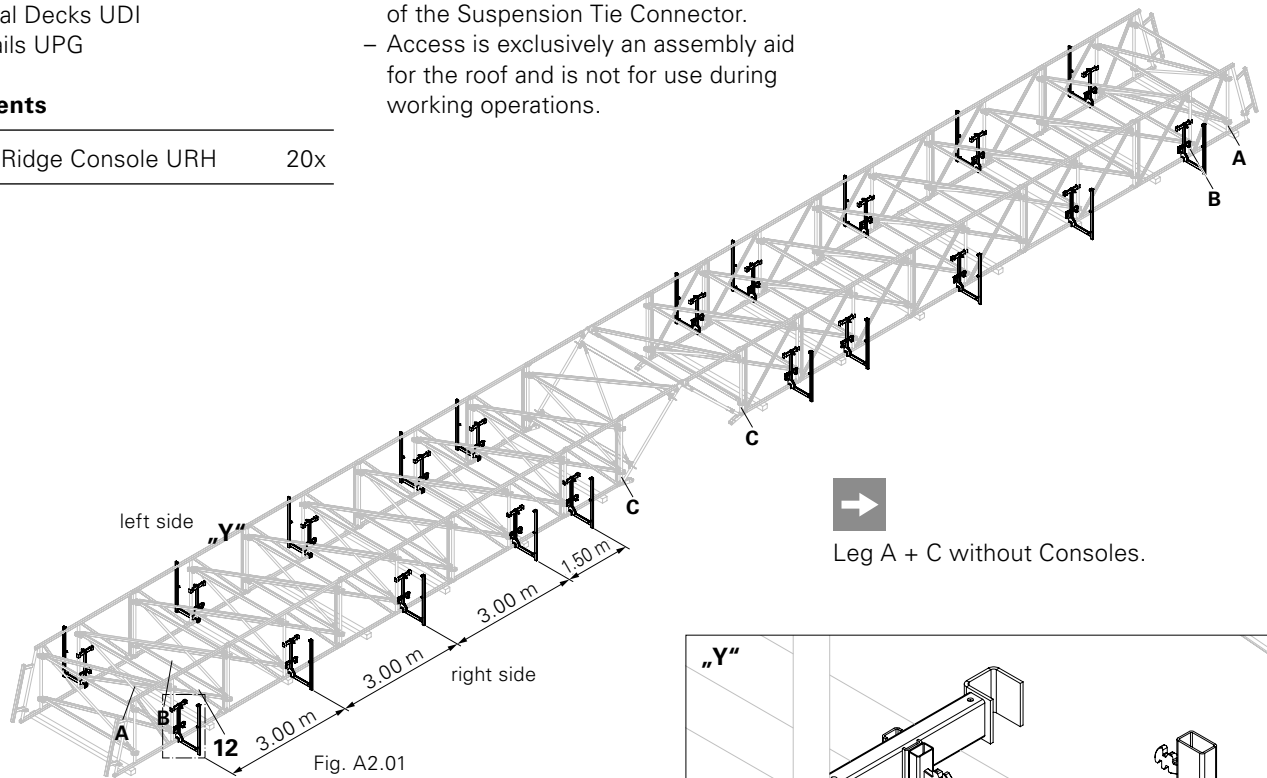


Fig. A2.01



Leg A + C without Consoles.

Assembly per Console

1. Attach lug (12a) of the Console on leg at B.
 2. Attach Ledger Head and wedge (12b) of the Ridge Console with Guardrail to the rosette on one side and simultaneously position the lug (12c) on the rectangular tube of the Element.
 3. Secure the wedge with a hammer.
→ Ridge Guardrail is secured.
- (Fig. A2.01 + A2.01a)

Install additional Consoles

Install Consoles on the first and second girder units as well as right and left of the girder package.

Spacing between the Consoles is 3.00 m, also 1.50 m if Additional Elements are required.
(Fig. A2.01)

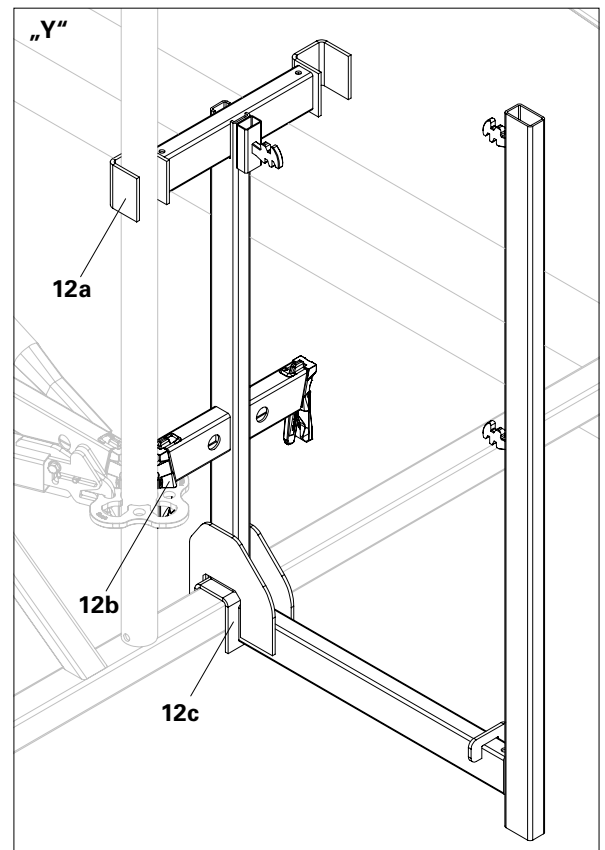


Fig. A2.01a

A2.2 Installing the Industrial Decking

Components

13.1	Industrial Deck Steel UDI 37.5 x 300	12x
13.2	Industrial Deck Steel UDI 37.5 x 150	4x

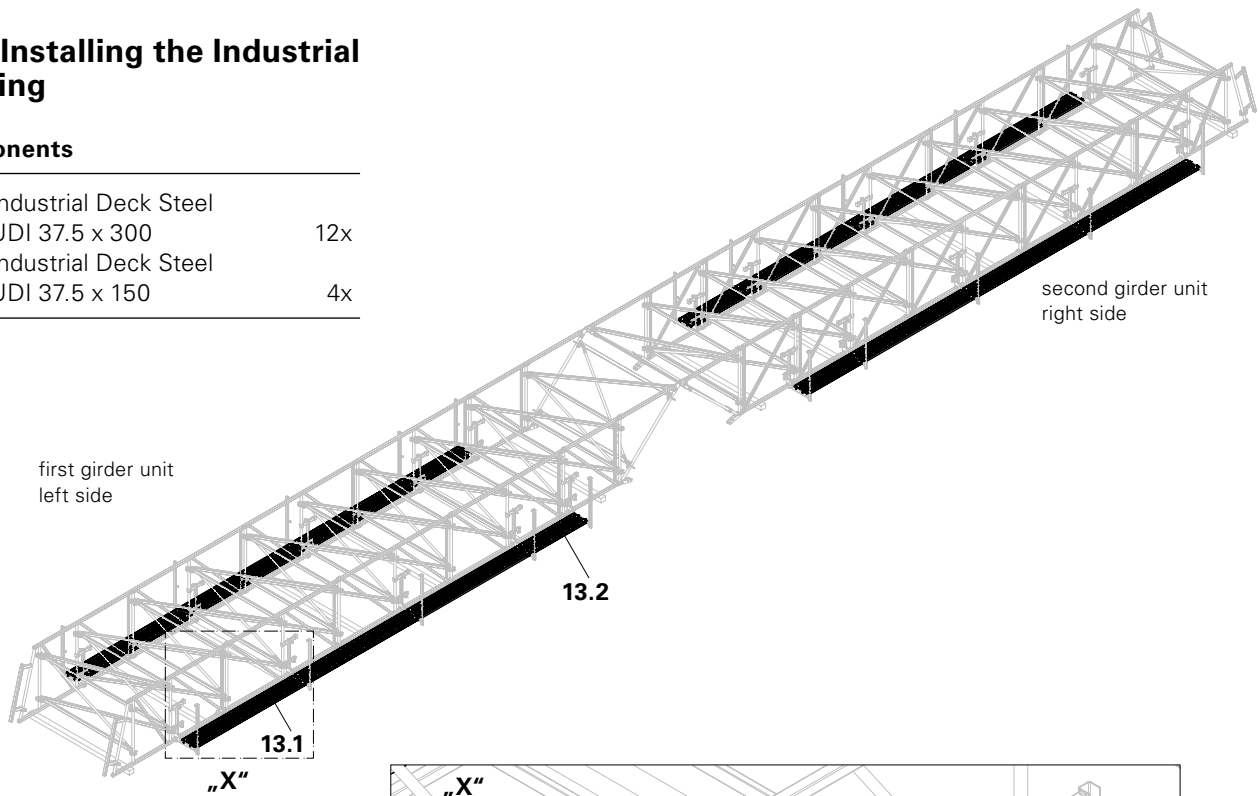


Fig. A2.02

Assembly of decking between the Console Brackets

1. Place both hooks (13a) of one side of the decking over the tube of the Support (12d) of the Console.
2. Allow the other side of the decking to fall on the tube of the Support of the next Console.

→ On both sides, the stirrup (13b) engages under the tube of the Support and secures the decking.

(Fig. A2.02a)



Are the stirrups (13b) flush with the decking surfaces?

Install additional decking.

Install Industrial Decks on the right and left sides of the girder package.

Industrial Decks between the Consoles:

- Basic Element: UDI 37.5 x 300 (13.1).
- Additional Element: UDI 37.5 x 150 (13.2).

(Fig. A2.02)

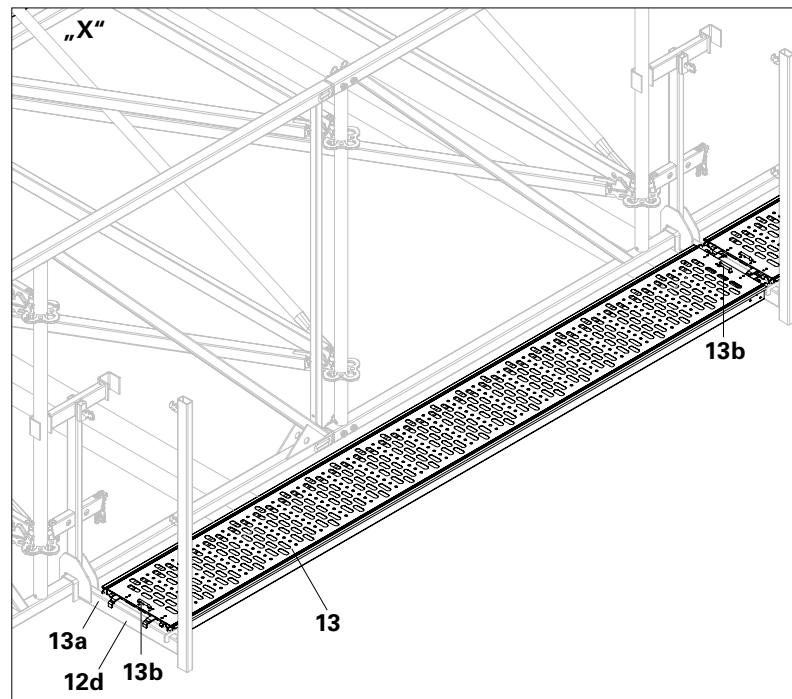


Fig. A2.02a

A2.3 Mounting the Guardrails

Components

14.1	Guardrail UPG 300	36x
14.2	Guardrail UPG 150	12x

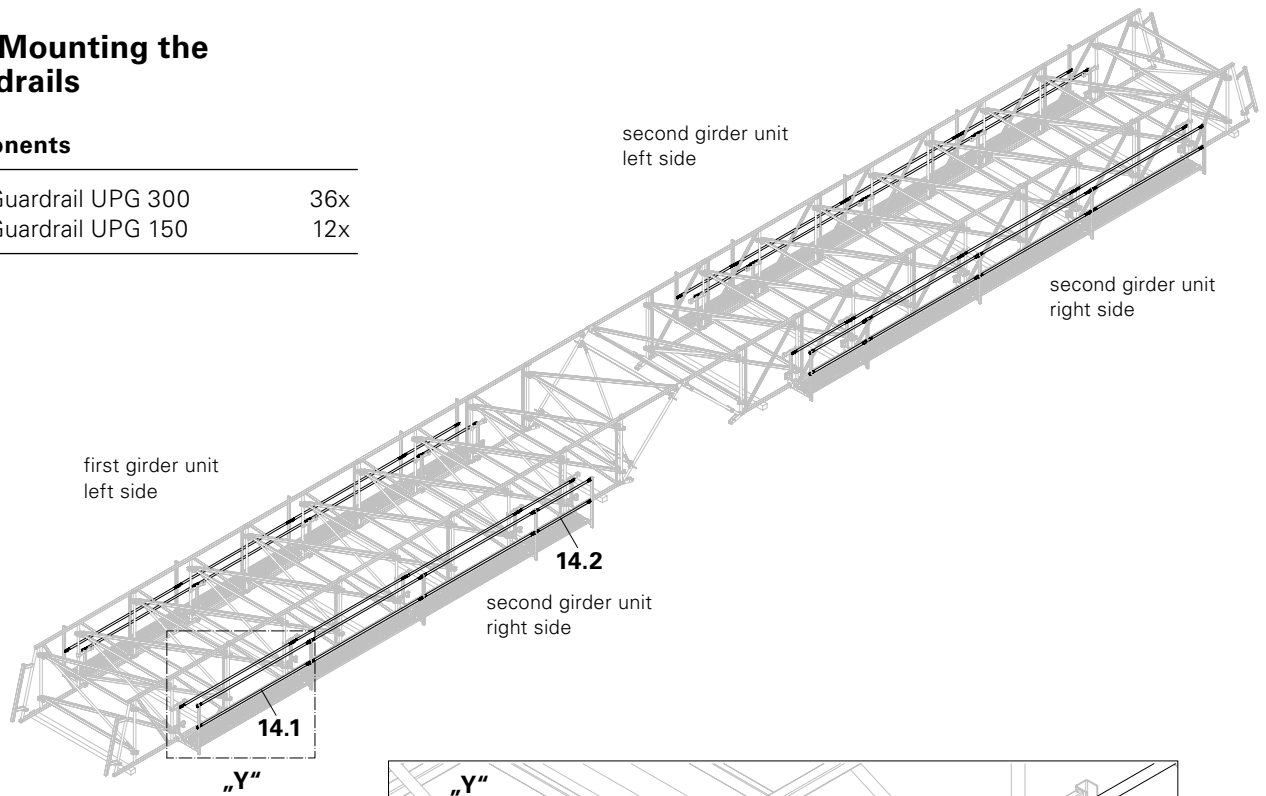


Fig. A2.03

Guardrail assembly

Insert the Guardrail into the labyrinth finger on both sides from underneath and fit to the tube by turning and moving back and forth until it stops. (Fig. A2.03 + A2.04a – e)



Have the Guardrails been installed at A + B + C? (Fig. A2.03a)

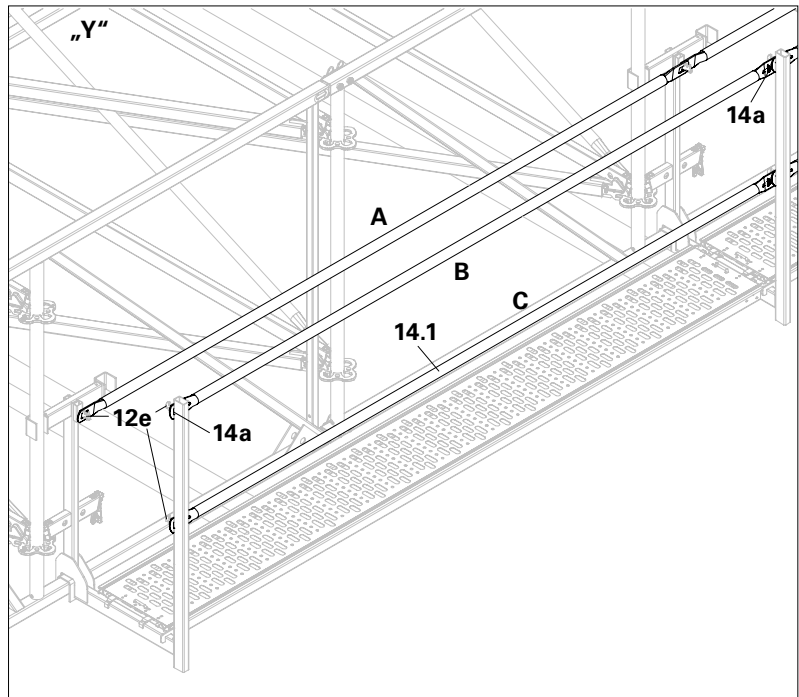


Fig. A2.03a

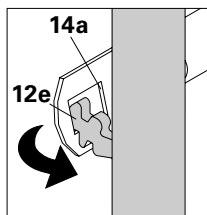


Fig. A2.04a

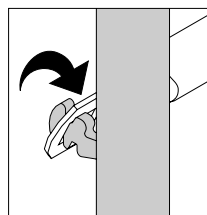


Fig. A2.04b

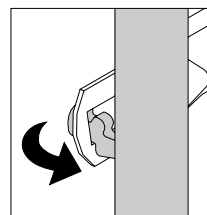


Fig. A2.04c

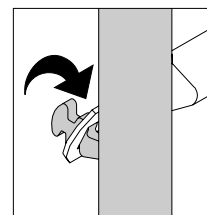


Fig. A2.04d

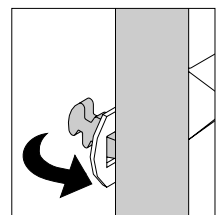


Fig. A2.04e

A3 Mounting the Keder Rails

Components

15	LGS Eave Rail URK	4x
16.1	LGS Keder Rail URK 600	8x
16.2	LGS Keder Rail URK 150	4x
17	LGS Keder Connector URK	44x



Mount Keder Connectors with 1.50 m spacings.
Valid up to wind load $q = 0.77 \text{ kN/m}^2$.

Assembly

1. Position Eave Rail (15) on the Keder tube and topmost outer tube of the Eave Element (1). (Fig. A3.01)
2. Adjust reference dimension 50 cm.
→ Eave Rail projection on the rectangular tube of the Eave Element. (Fig. A3.01a)
3. Place Keder Rail (16.1/16.2) in the connection on the Eave Rail, and secure on the joint using the Keder Connector. (Fig. A3.02 + A3.03)
4. Secure Keder Connector (17) on the Eave Rail – 2x below. (Fig. A3.02a)
5. Adjust reference dimension 60 cm.
→ Spacing of the last Keder Rail at the end of the rectangular tube of the Ridge Element; (Fig. A3.03) reference dimension 60 cm is placeholder for Eave Rail.

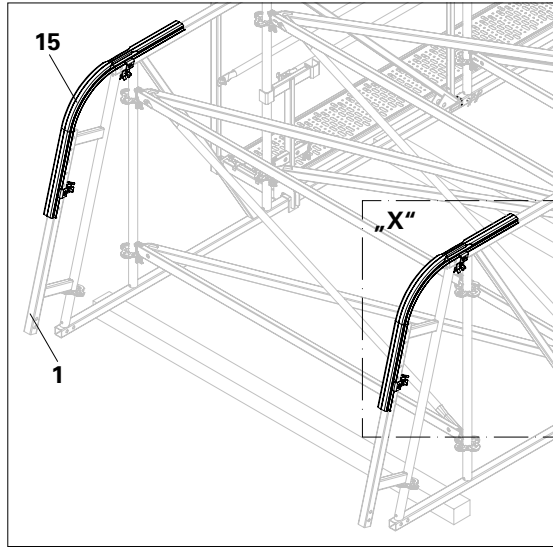


Fig. A3.01

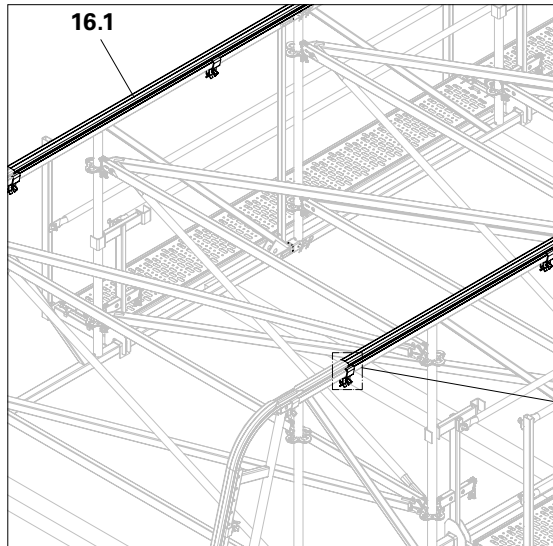


Fig. A3.02

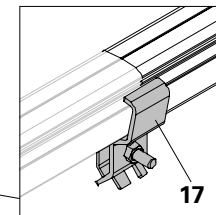


Fig. A3.02a

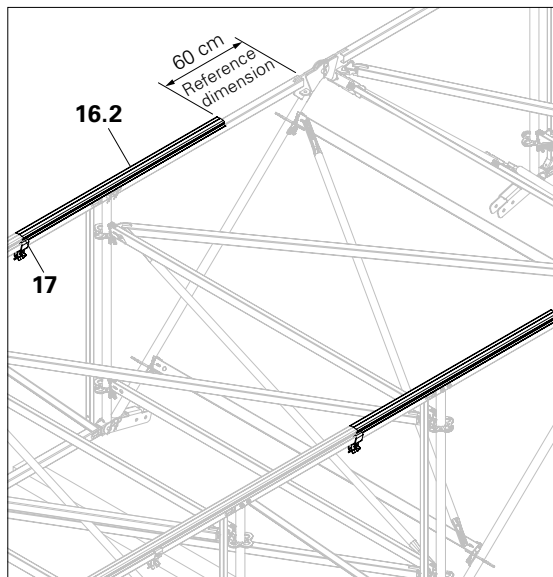


Fig. A3.03

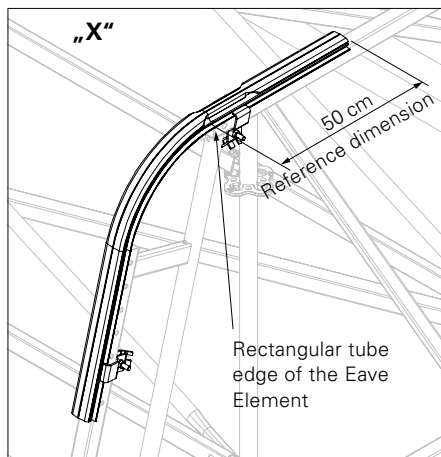


Fig. A3.01a

A4 Mounting the Support Roller

The Support Rollers

- are auxiliary means in order to pull up a girder package for installation of the Ridge Bar,
- mount on Eave Elements, Basic Elements or Additional Elements.

Components

6.1	Bolts Ø 16 x 70	4x
7	Cotter Pin 4/1	4x
18	Support Roller UEW unstopped	4x

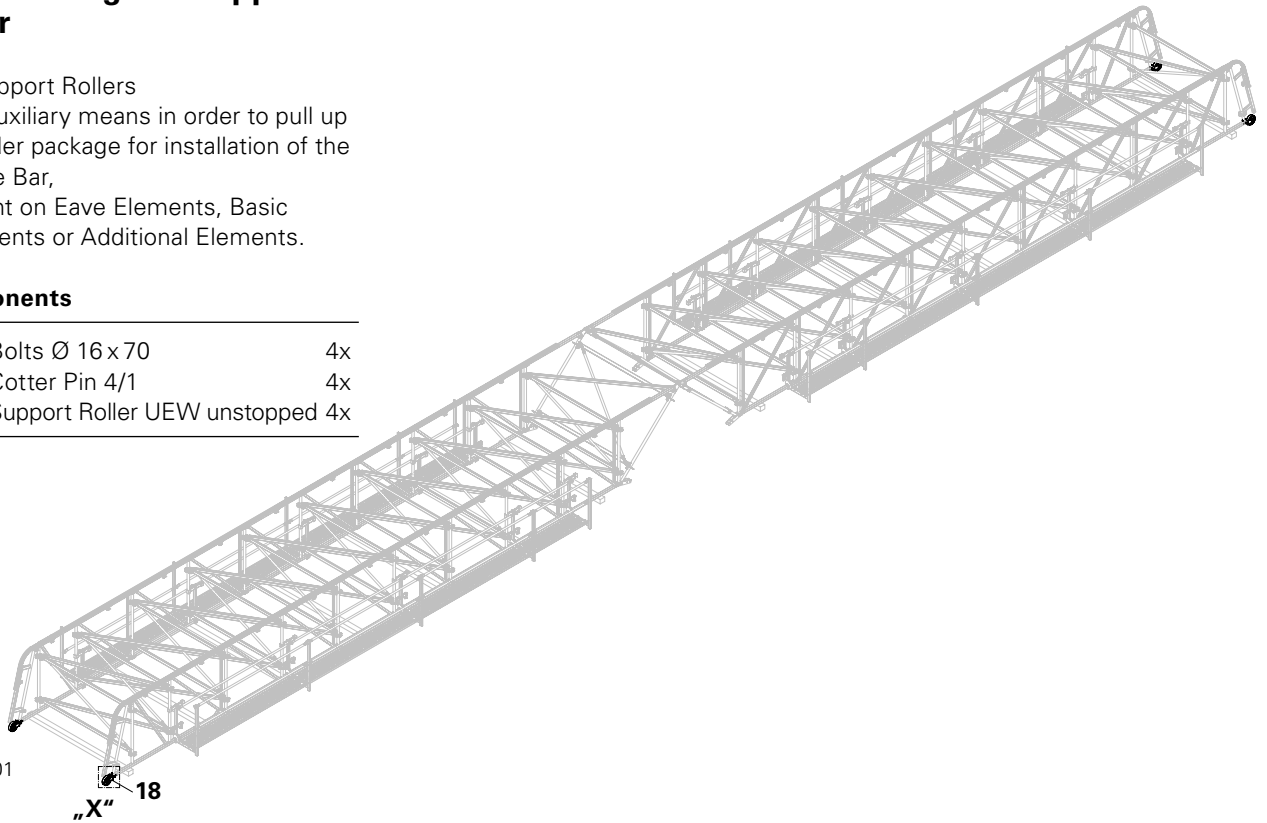


Fig. A4.01

Assembly of Support Roller

1. Insert Support Roller (18) into the rectangular tube of the Eave Element (1.1).
 2. Insert Bolts (6.1) - from the outside to the inside - through the holes of the rectangular tube and secure with Cotter Pins (7).
- (Fig. A4.01a)



Attach two ropes to the girder package. The Keder tarpaulin can now be pulled. Pull Keder tarpaulin, see Section A6.2.

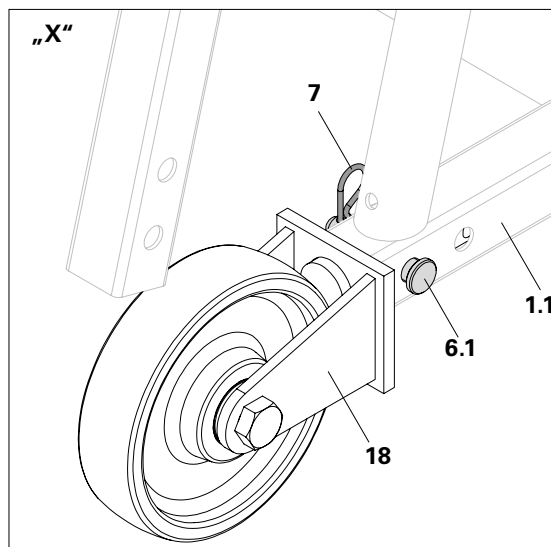


Fig. A4.01a

A5.1 Attaching the girder package to the crane



- Do not wrap the chains of a 4-sling lifting gear unit directly around the girder package! When under load, the chain damages the components of the girder package. When moving with the crane, use textile lifting tackle, e.g. round slings.
- When lifting, no persons are allowed to remain on the girder package or access!
- No persons are allowed to remain under suspended loads!

Complete girder package. (Fig. A5.01)

Wrap the textile lifting tackle around the leg above the top rosette – not around the upper chord of the Basic Element. (Fig. A5.01b)

Attach the 4-sling lifting gear of the crane to textile lifting tackle.

- Support forces, see Section B2.
- Crane attachment points, see Section B1.5.

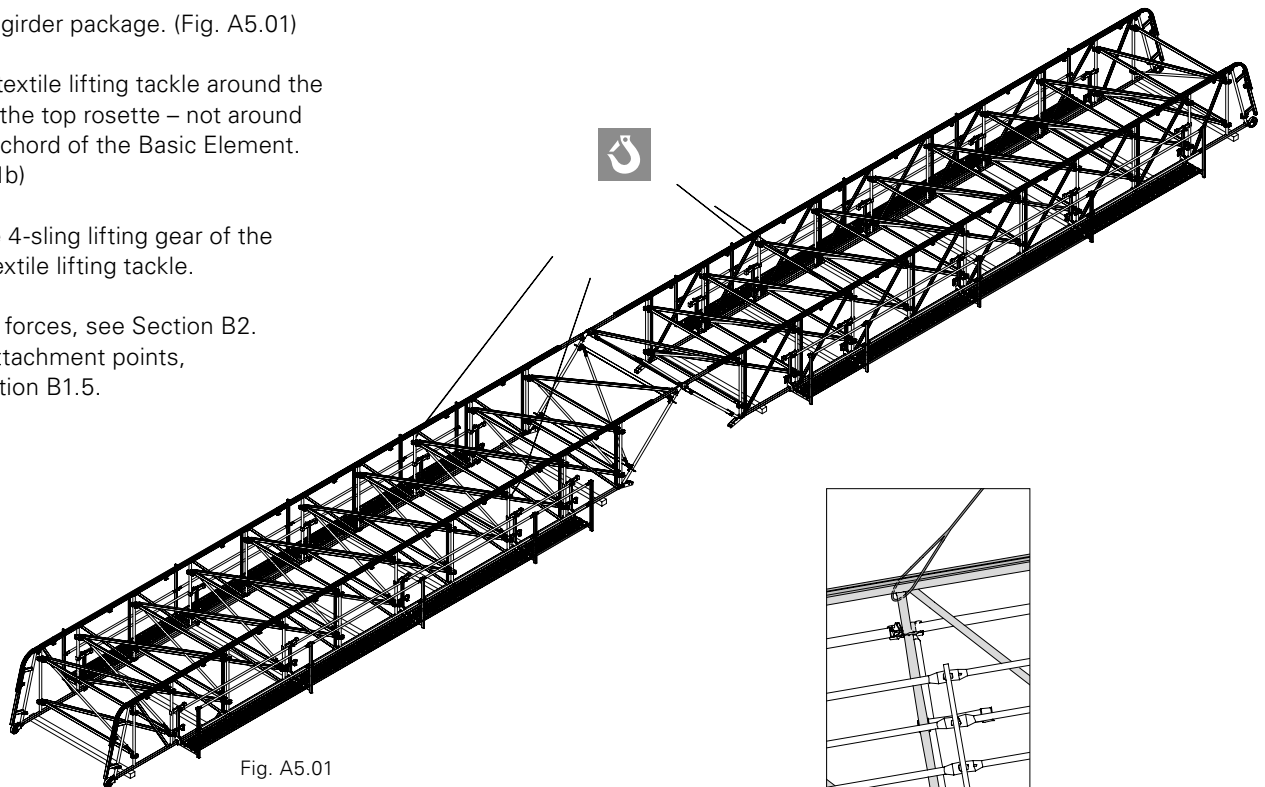


Fig. A5.01

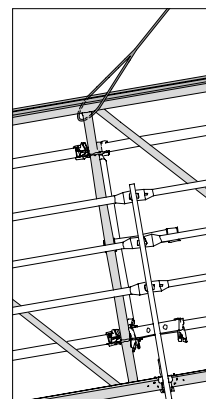


Fig. A5.01b

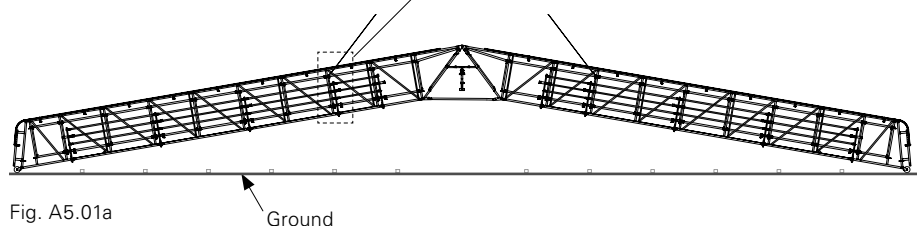


Fig. A5.01a

Ground

A5.2 Mounting the Ridge Console



The Ridge Console

- is only required if the access has been mounted, see Section A2,
- closes the catwalk,
- provides support for the Ridge Guardrail.

Components

20	LGS Ridge Console URH	2x
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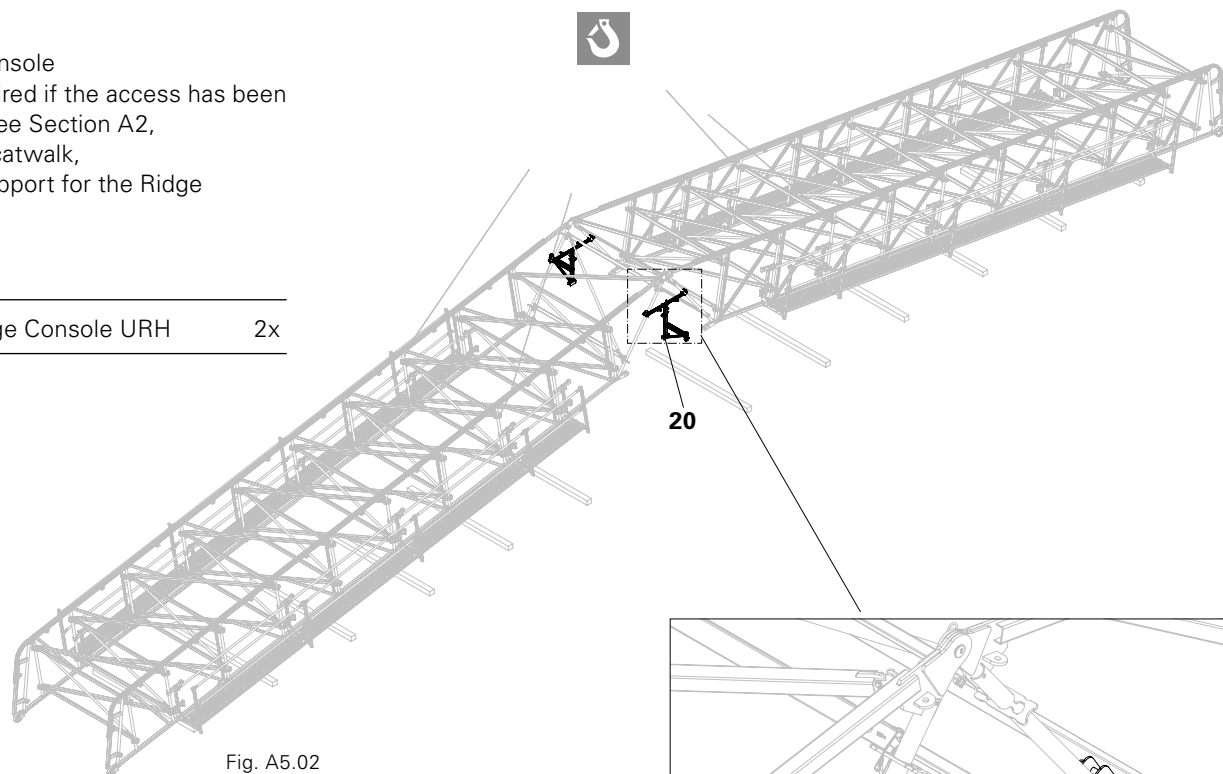


Fig. A5.02

Preparation

1. Remove Cotter Pins (7) and Bolts (6.1) from the lugs (20a) of the Ridge Console.
2. Slightly raise the girder package with the crane.

Assembly of a Ridge Console

1. Insert a lug (20a) across the diagonal tube of the right Ridge Element (9a).
2. Insert Bolts (6.1) through the holes of the lug and secure with Cotter Pins (7).
3. Repeat Steps 1 + 2 on other diagonal tubes. (Fig. A5.02a + Fig. A5.02)

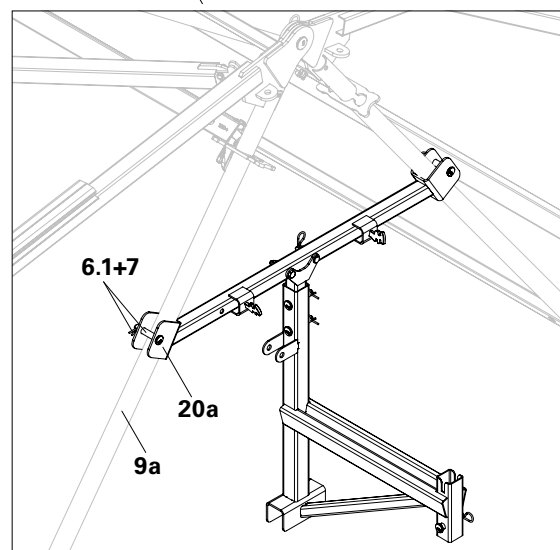


Fig. A5.02a

A5.3 Installing the Ridge Bar



- The Ridge Bar determines the angle of the girder package.
- Attach rectangular tube of the Ridge Bar from Section 1.4 to the lugs.

Assembly

1. Push the rectangular tube (19d) on one side between the lugs (19a) of the Ridge Bar. (Fig. A5.03a)
2. Insert Bolts through the holes and secure with Cotter Pins – 2x.
3. Repeat steps 1 + 2 on the other side.
4. Lift girder package with the crane until the holes at the free end of the rectangular tube are level with the holes in the lugs of the Ridge Bar (19e).
5. Insert Bolts through the holes and secure with Cotter Pins – 2x. (Fig. A5.03 + A5.03a)



The Ridge Bar HD (19) – with the exception of the first girder package on the gable – can be replaced by the Ridge Bar (Item no. 404891).

A5.4 Connecting the Ridge Console and Ridge Bar



This section is only required if access has been mounted, see Sections A2 and A5.2.

Assembly

1. Remove Cotter Pins (19c) and Bolts (19b) from the Ridge Console – 2x.
→ Outer tube with guide plate (20c) slides downwards onto the horizontal rectangular tube of the Ridge Bar.
2. Connect tubes with Bolts and Cotter Pins – 2x.
→ Secured connection.
→ Ridge Console is completely installed. (Fig. A5.04 + A5.04a + A5.04b)

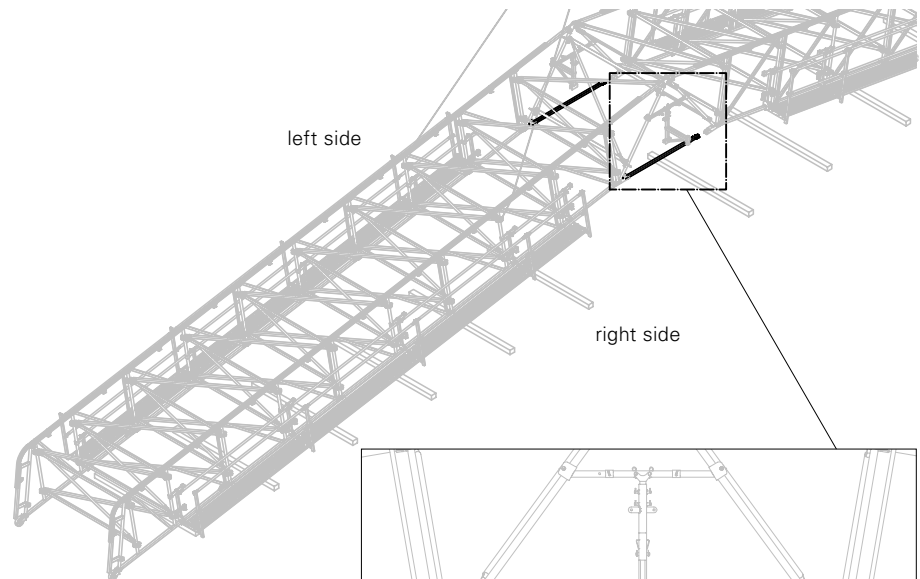


Fig. A5.03

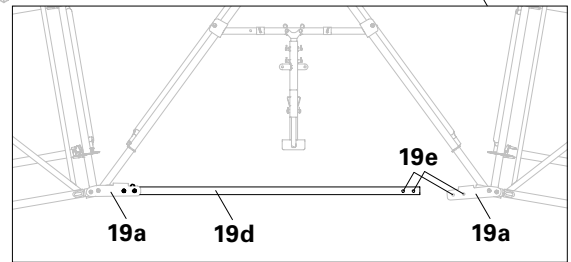


Fig. A5.03a

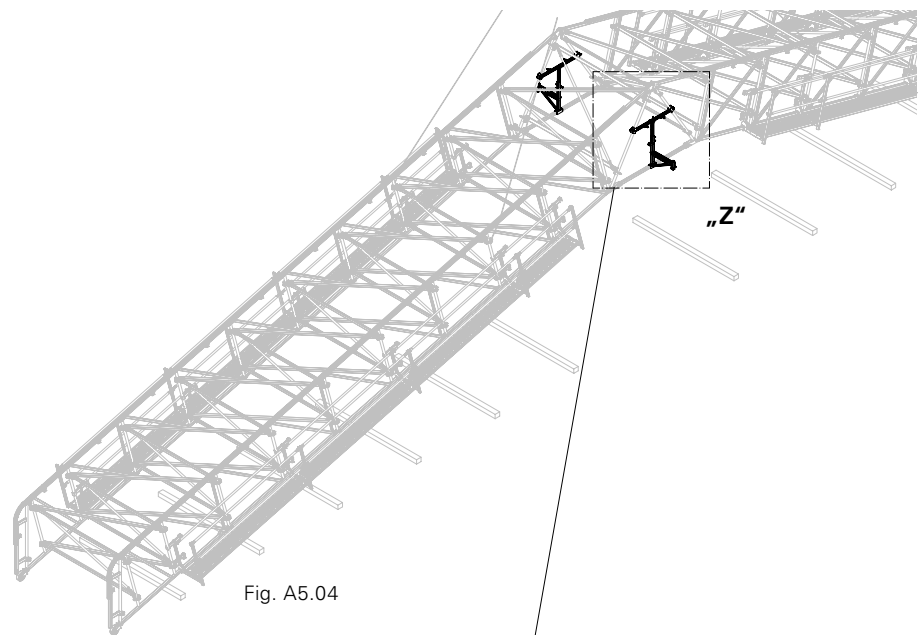


Fig. A5.04

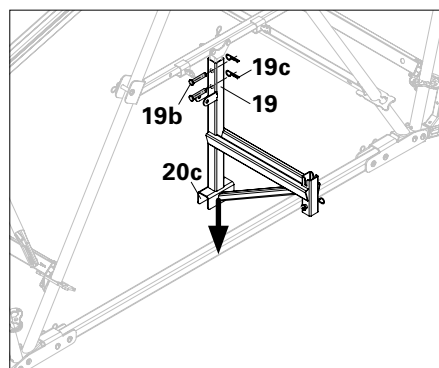


Fig. A5.04a

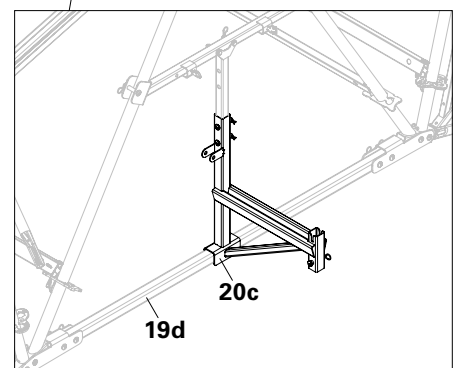


Fig. A5.04b

A5.5 Installing access to the Ridge



This section is only required if the access has been mounted, see Sections A2, A5.2 and A5.4.

Components

13	Industrial Deck Steel UDI 37.5 x 250	4x
14	Guardrail UPG 250	12x
21	LGS Ridge Guardrail URH	2x

Preparation

Remove Cotter Pins (20f) and Bolts (20e) from the rectangular tube of the Ridge Console. (Fig. A5.06a)

Assembly

1. Install Industrial Decks (13), see Section A2.2. (Fig. A5.05)
2. Insert Ridge Guardrail (21) into the connection (20d) of the Ridge Console. (Fig. A5.06 + A5.06a)
3. Secure Bolts (20e) and Cotter Pins (20f). (Fig. A5.06a)
→ Ridge Guardrail is secured.
4. Mount Guardrails (14), see Section A2.3. (Fig. A5.07)

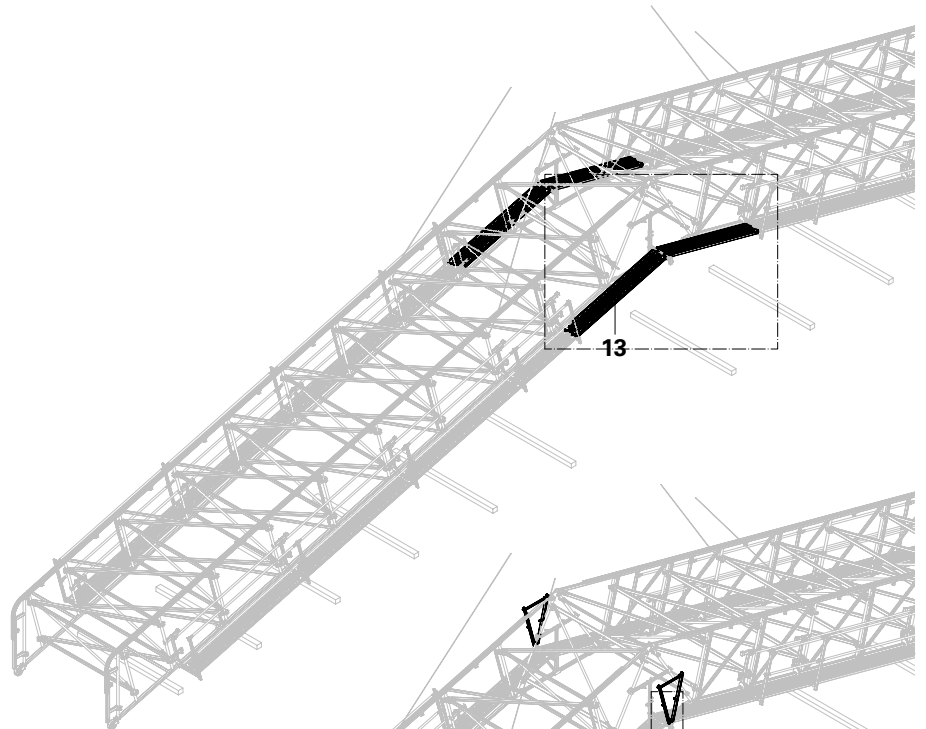


Fig. A5.05

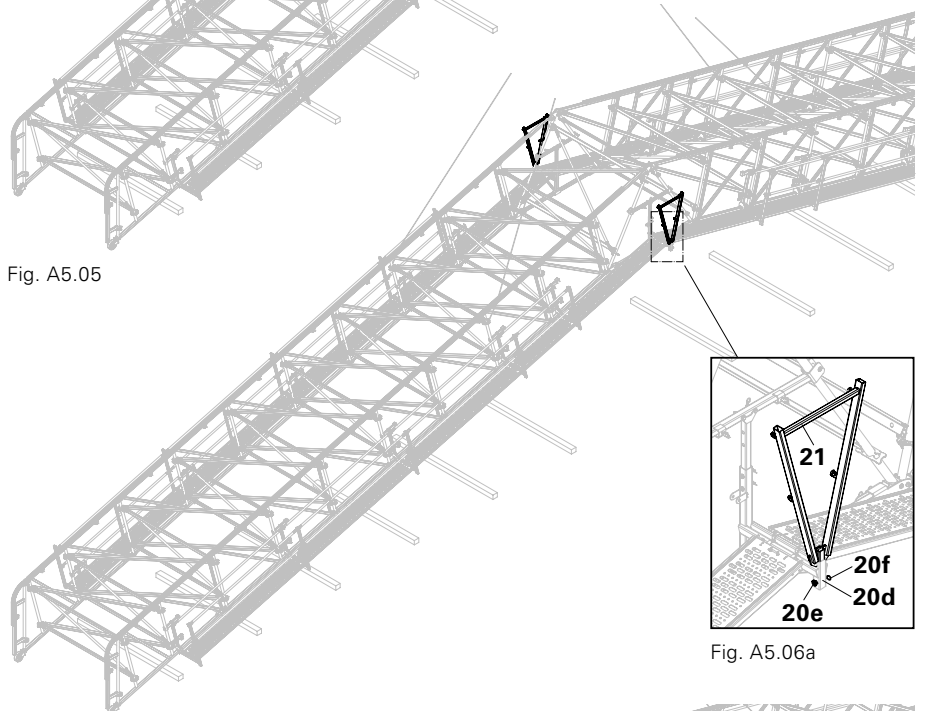


Fig. A5.06a

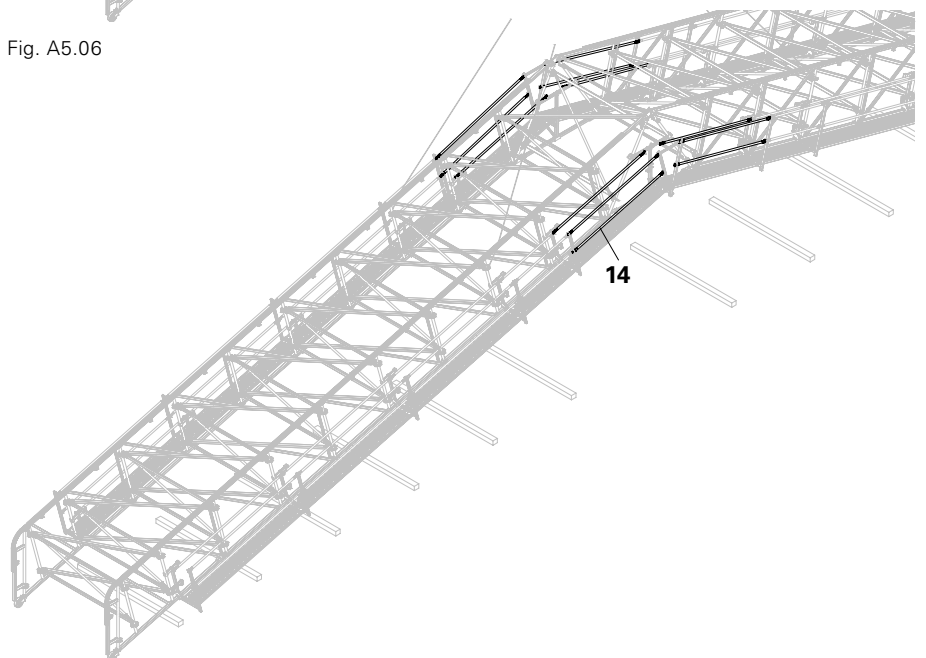


Fig. A5.07

A5.6 Mounting the Ridge Rail

Components

17	LGS Keder Connector URK	8x
22	LGS Ridge Rail URK 150	2x

Assembly

1. Place Ridge Rail (22) on the outer tube of the Ridge Element.
 2. Secure Keder Connector (17) at the joint of the Ridge Rail and Keder Rail – 2x. (Fig. A5.08a)
- (Fig. A5.08)

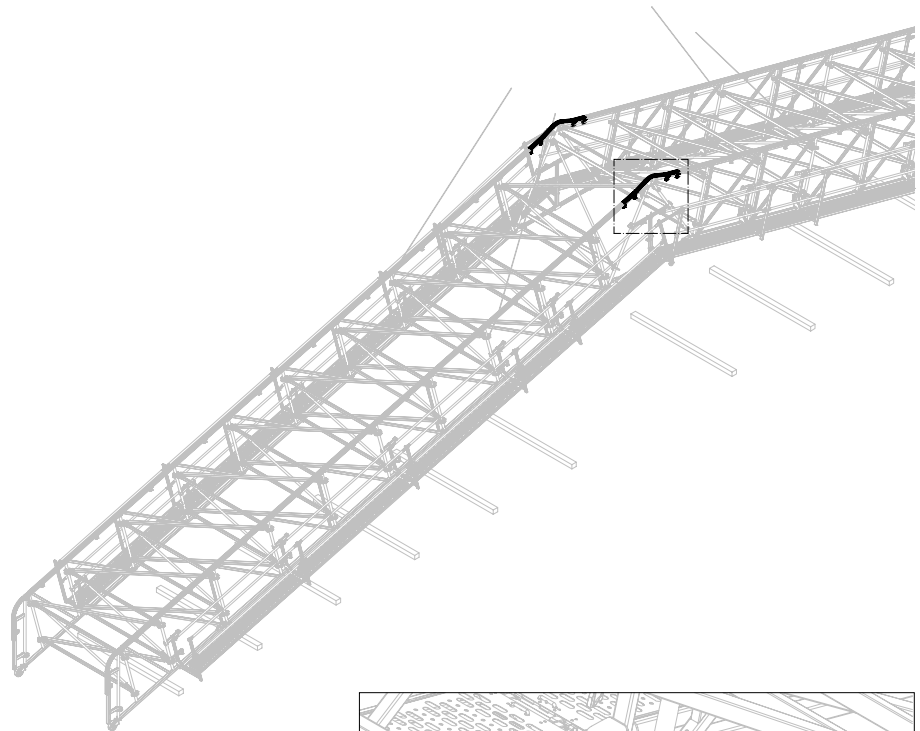


Fig. A5.08

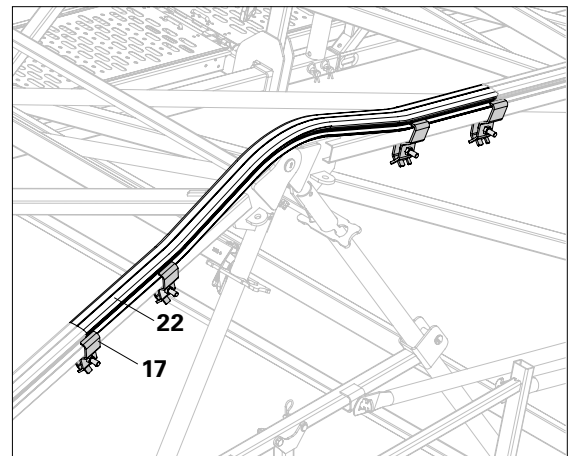


Fig. A5.08a

A6.1 Mounting the Reel Connector

Components

23	LGS Reel Connector URG	2x
-----------	------------------------	----

Preparation

Remove Nuts from the Bolts of the Reel Connector (23).

Assembly

Secure the Reel Connector (23) to the Eave Rail with Bolts and Cotter Pins – 2x.
(Fig. A6.01 + A6.01a)



Secure the Reel Connector to the top holes. As a result, the tarpaulin can be pulled linearly in the guide rails.

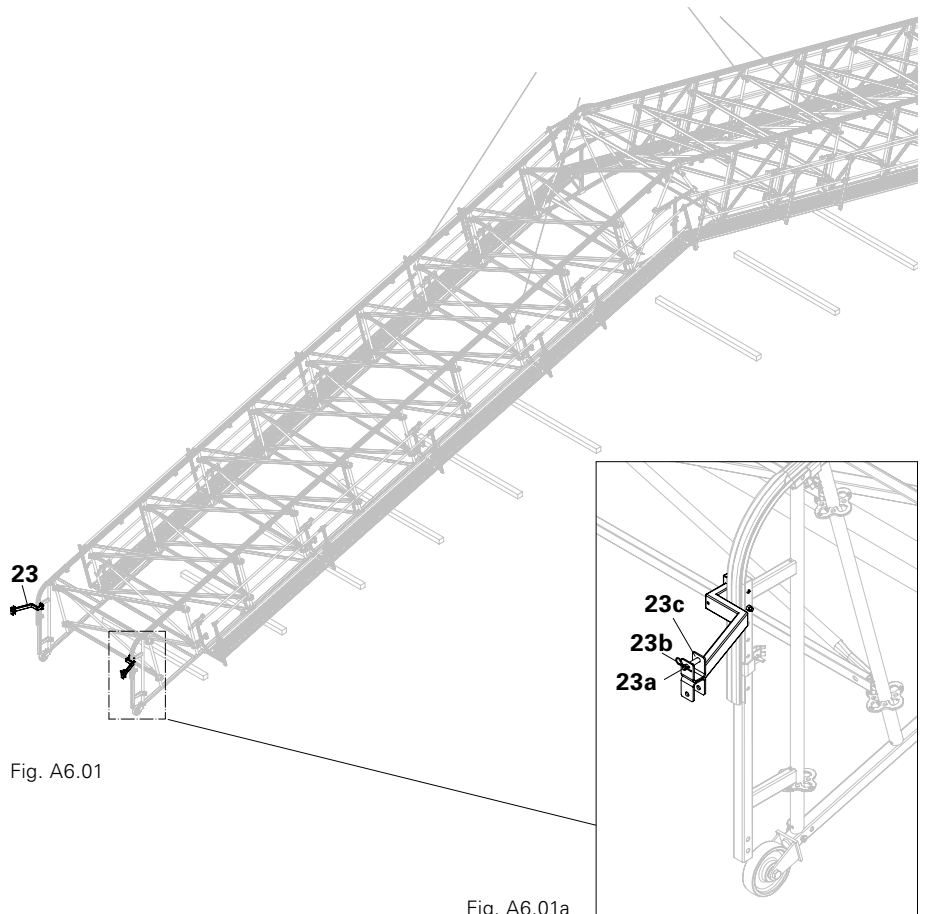


Fig. A6.01

Fig. A6.01a

A6.2 Installing the Keder tarpaulin



The tarpaulin can be obtained through the purchasing department at PERI or directly from a supplier.

Components

24	LGS Tarpaulin Reel URG 250	1x
25	LGS Handle	2x

Preparation

1. Remove Cotter Pins (23b) and Bolts (23a) from the Reel Connector (23).
(Fig. A6.01a)
2. Mount the Handle (25) on the Tarpaulin Reel (24).

Assembly

1. Place the Tarpaulin Reel with the Handles on both sides in the bearing plates (23c) of the Reel Connector.
(Fig. A6.01a + Fig. A6.02)
2. Secure Bolts (23a) and Cotter Pins (23b).
→ Tarpaulin Reel is secured.
3. Insert Keder cord into the groove of the Ridge Rails (15.1).
(Fig. A6.02)

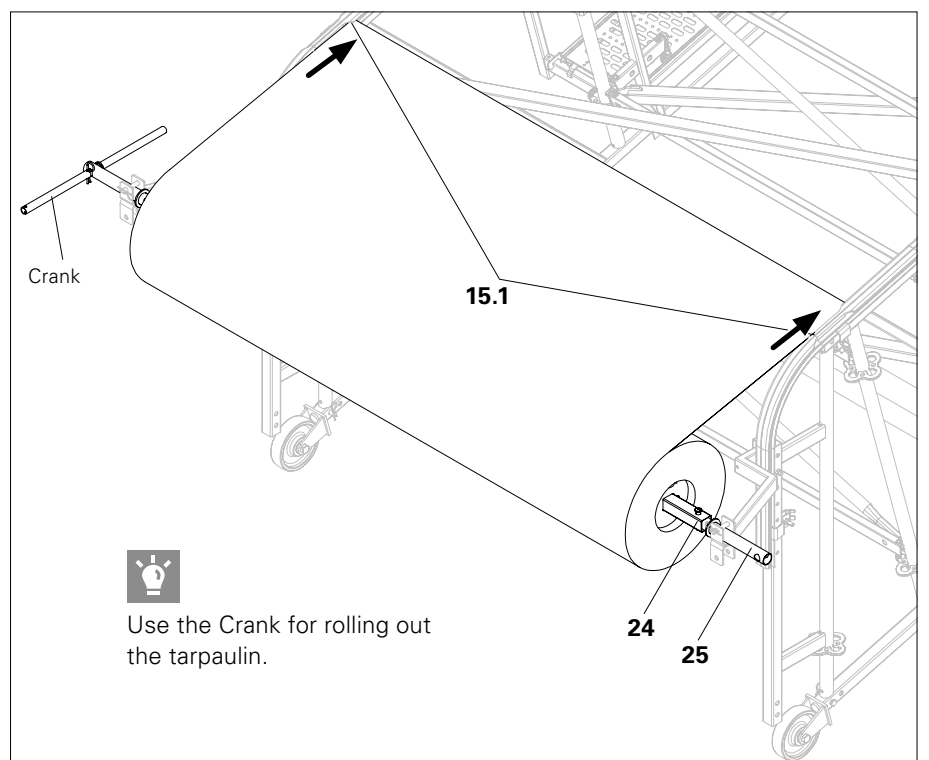


Fig. A6.02

4. Pull Keder tarpaulin smoothly and evenly over the girder package and allow tarpaulin to hang loosely.
5. Unhook rope.
6. Insert ends of Keder tarpaulin on the Eave Element into the grooves of the Eaves Rails.
7. Pull tarpaulin downwards.
8. Unwind last piece of the Keder tarpaulin from the roller.
9. Remove Handle and Tarpaulin Reel.
10. Insert Keder cord into the groove.
11. Pull tarpaulin downwards.
(Fig. A6.04)



Place tube on the Keder Rails, and connect to the D-Ring with the Keder tarpaulin. Attach ropes to the tube. As a result, the Keder tarpaulin can then be easily pulled over the girder package. Keep Keder tarpaulin tensioned on the roller thus allowing the tarpaulin to be pulled straight.
(Fig. A6.03)

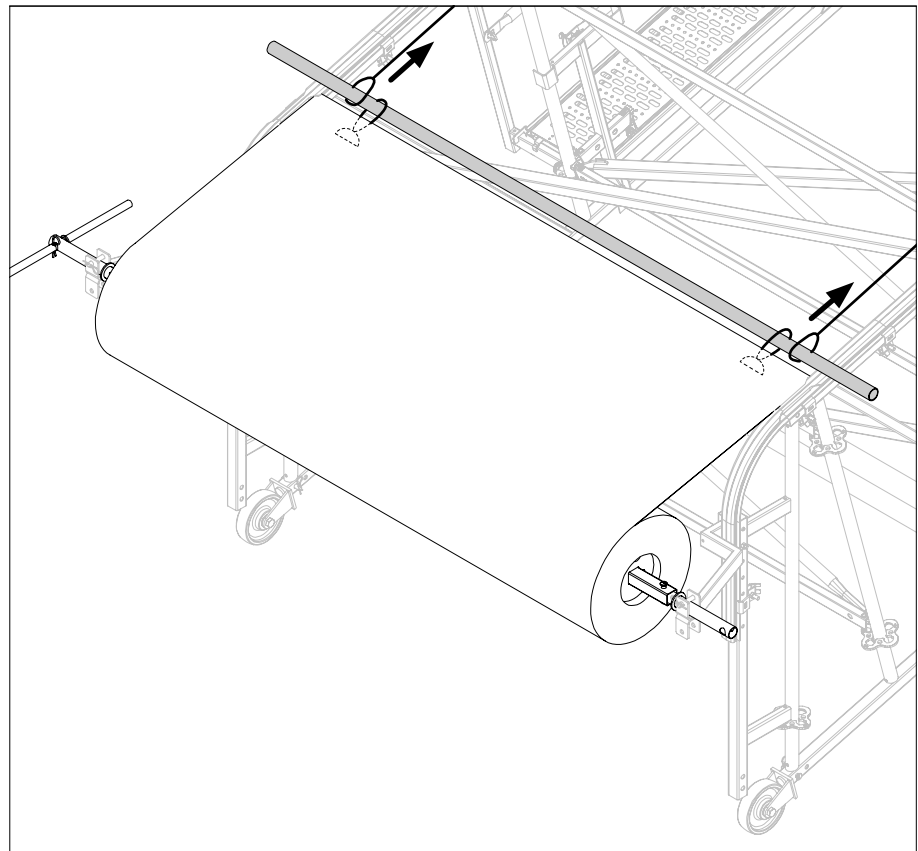


Fig. A6.03

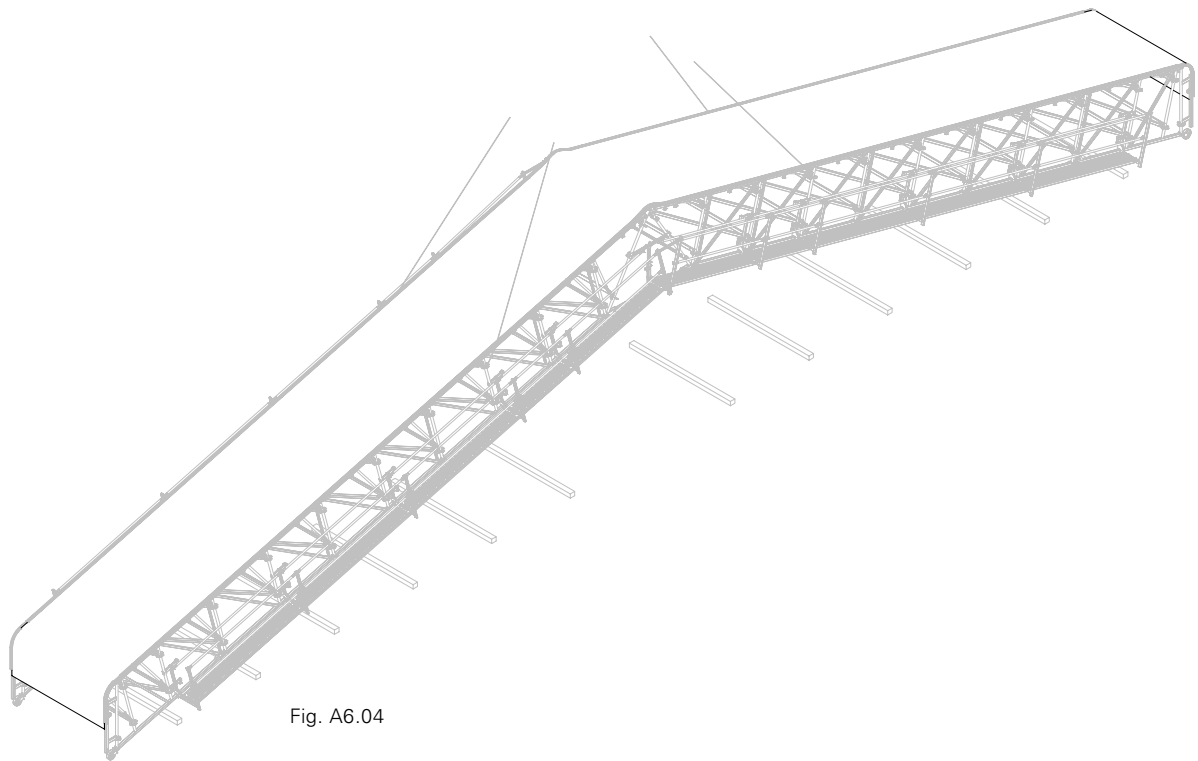


Fig. A6.04

A7 Mounting the Support

The Support is designed for roofs with a 15° angle of inclination. (Fig. A7.01)

Components

6.1	Bolts Ø 16 x 70	12x
7	Cotter Pin 4/1	12x
26	LGS Support URS 15°	4x

Preparation

1. Continue to raise the girder package with the crane.
2. Dismantle Support Rollers – 4x.

Assembly of a Support

Attach Support (26) to the Eave Element with Bolts (6.1) and secure with Cotter Pins (7).

- 2x below on the side of the leg through the holes of the Support and Eave Element,
- 1x above the rectangular tube of the Eave Element.

(Fig. A7.01a)

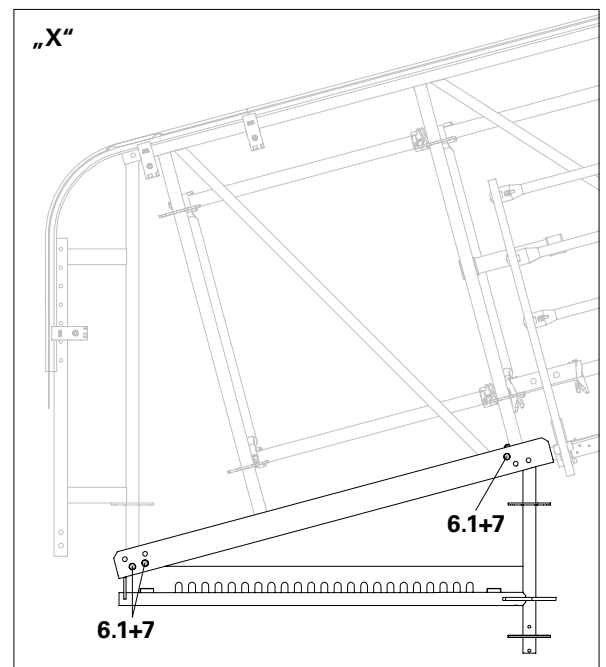
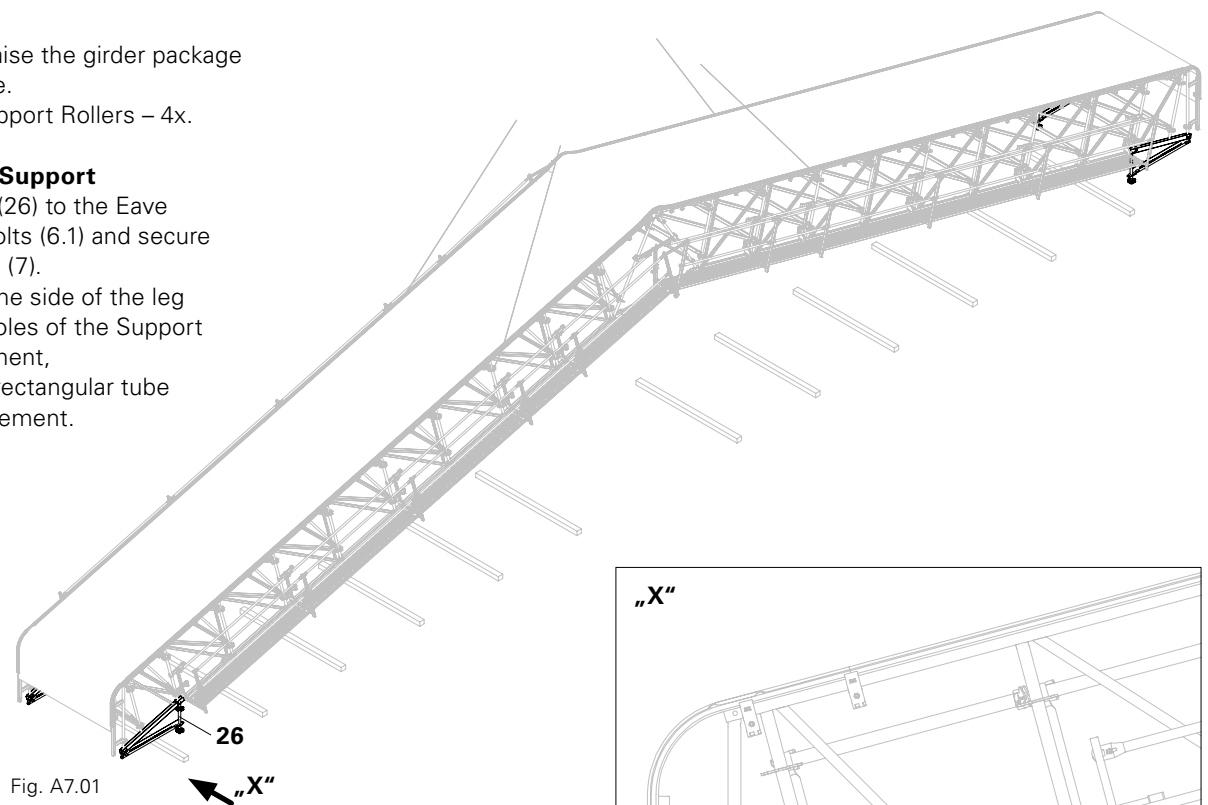


Fig. A7.01a

A8.1 Instructions and preparations

Larger spans are possible though the use of the Tension System. (Fig. A8.02)



Girder package must be placed on the ground for installing the Tension System, and must not be suspended on the crane.

Variants for the installation of the Suspension Tie Connector

- on the Eave Element, (Fig. A8.01a)
- on the 1st Basic Element. (Fig. A8.01b)

Preparation

- Girder package is placed on timbers with height $H_{\text{timber}} \geq 16$ cm.
- Suspension Tie Connector URU is pre-mounted for the Tension System.
 - on the Eave Element, see Section A1.2.
 - on the Basic Element, see Section A1.3.

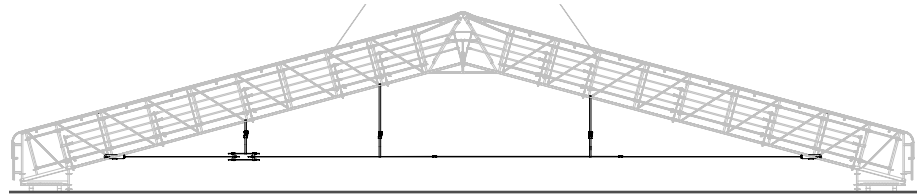


Fig. A8.01a

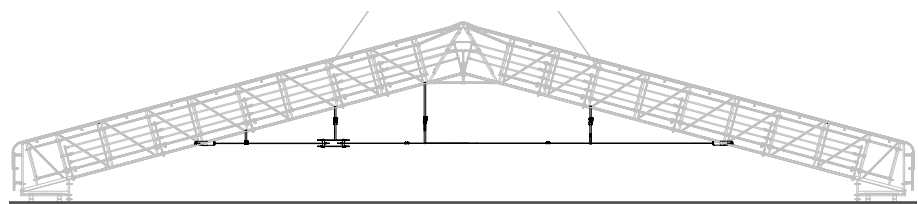


Fig. A8.01b



- Do not install any Console for the access in the area of the Suspension Tie Connector.
- Compliance with the order of the following instructions is mandatory!
- The Suspension Tie Connector on the Eave Element is shown in Sections A8.2 to A8.4.

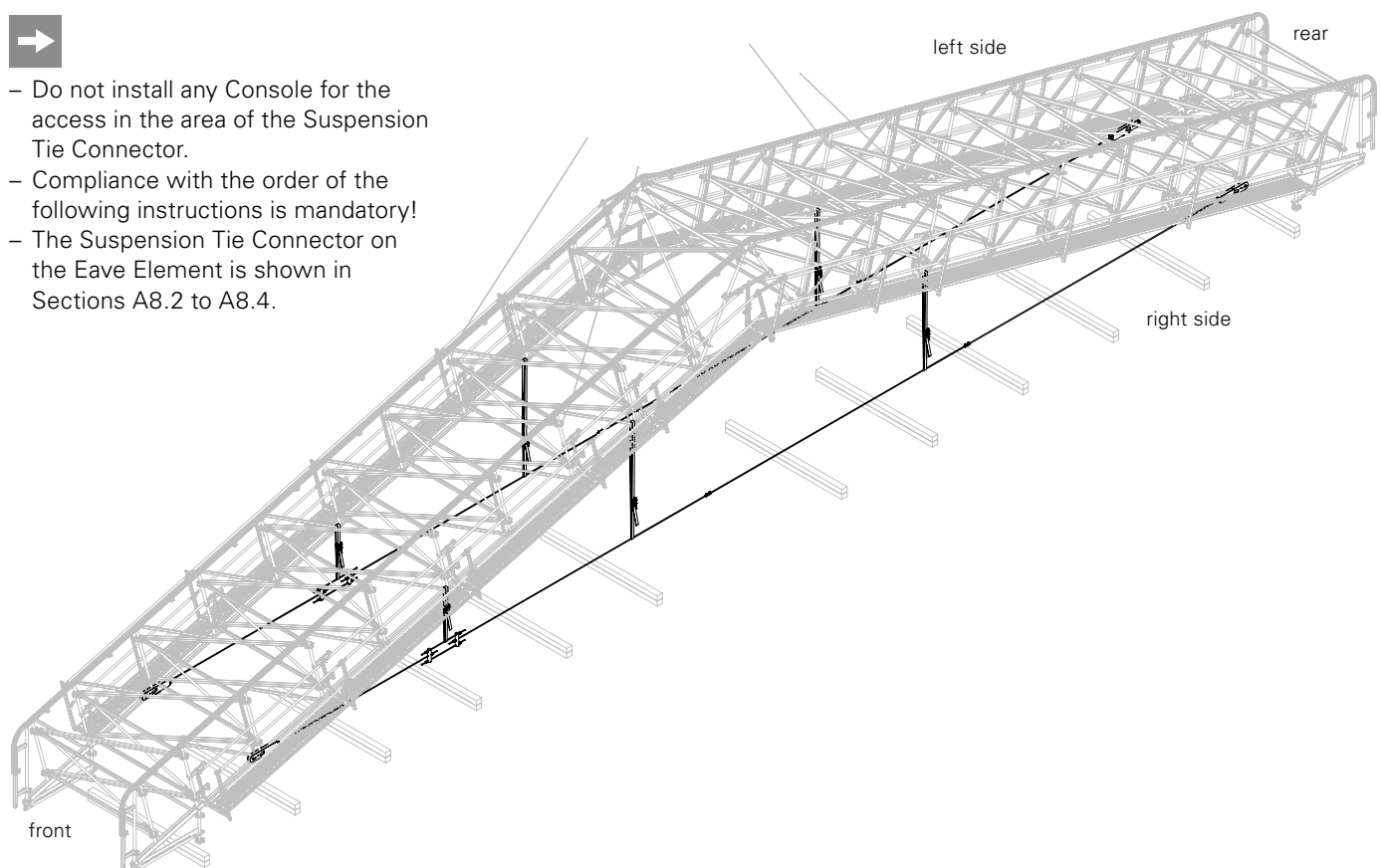


Fig. A8.02

A8.2 Tie rods on both sides

Components

27.1	Tie Rod DW 15, L = 6 m	4x
51	Tension Belt	6x

Assembly

1. Turn Tie Rod DW 15 (27.1) in the hole of the Suspension Tie Connector (50) – 2x, front and rear. Allow projection > 100 mm! (Fig. A8.01a)
2. Wrap Tension Belt (51) around the rectangular tubes of the Basic Element.

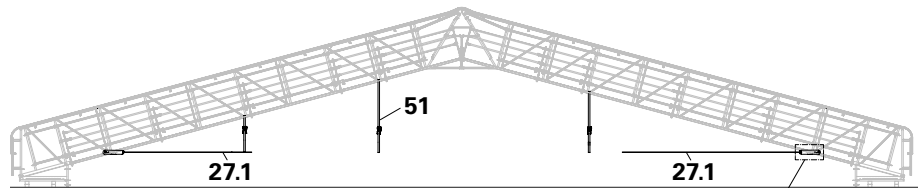


Fig. A8.03

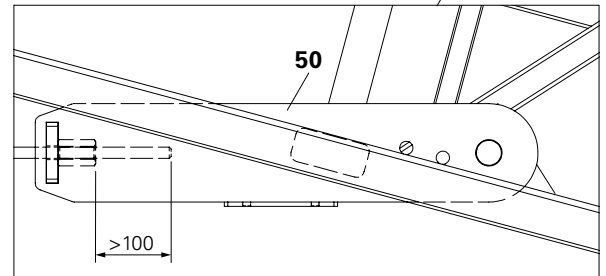


Fig. A8.03a – Suspension Tie Connector on the Eave Element.

A8.3 Tie Rod Extension

Components

27.1	Tie Rod DW 15, L = 6 m	4x
27.2	Tie Rod DW 15, L = 4 m	2x
52	Tie Rod Extension URU	4x

Assembly

1. Turn Tie Rod Extension (52) with Hex. Nut (52) on the free end of a Tie Rod as far as possible.
2. Screw back Hex. Nut (52a) until the flat side of the Tie Rod is visible.
3. Hand-tighten* Bolt (52b) on screwed-in Tie Rod.
4. Screw-in additional Tie Rod (27.1 / 27.2) into the other end of the Hex. Nut of the Tie Rod Extension as far as possible. (Fig. A8.04a) → Tie Rods are coupled.
5. Screw back Tie Rod until the flat side is visible on the hole of the Tie Rod Extension. (Fig. A8.04c + d)
6. Hand-tighten* second Hex. Bolt (52b). (Fig. A8.04c + d) → Coupled Tie Rods are secured.
7. Fix Tension Belt (51) to the freely suspended Tie Rod.
8. Install additional Tie Rods with Tie Rod Extension (52) according to the span, as described in steps 1 to 4. (Fig. A8.04b)

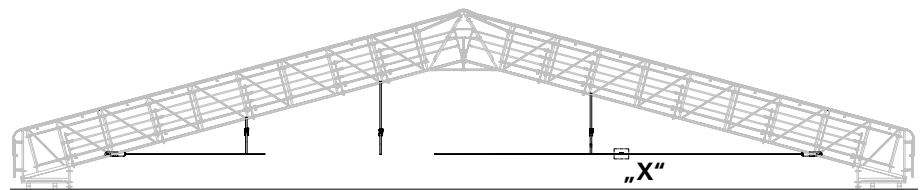


Fig. A8.04a

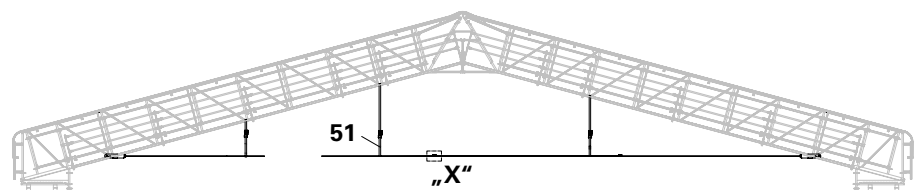


Fig. A8.04b

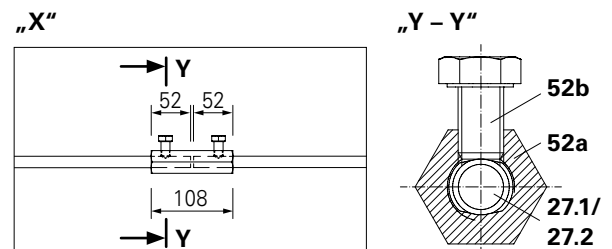


Fig. A8.04c

Fig. A8.04d

* hand-tightened = approx. 20 – 30 Nm

A8.4 Tension System Connector



Girder package must be placed on the ground for tensioning the Tension System, and must not be suspended on the crane.

Components

27.3	Tie Rod DW 15, L = 1 m	4x
53	Tie Yoke URU	4x
54	Hex. Nut DW 15 SW 30/50	12x

Assembly

1. Push the middle hole of the Tie Yoke (53) over the end of the Tie Rod (27.1/27.2).
2. Loosely screw Hex. Nut (54) on the Tie Rod (27.1/27.2).
Allow projection > 100 mm!
3. Repeat steps 2 + 3 on the other Tie Rod.
4. Push two Tie Rods (27.3) through the outer holes of both Tie Yokes.
5. Screw on Hex. Nut (54) onto each of the projecting ends of the Tie Rods (27.3) – 4x. Allow projection > 100 mm! (Fig. A8.05a)
6. Fix Tension Belt (51) to one of the short Tie Rods.
7. Tighten middle Hex. Nut (54) until reference dimension of the respective span is reached – 2x. Reference dimension, see Section B1.2 – B1.4. (Fig. A8.05)

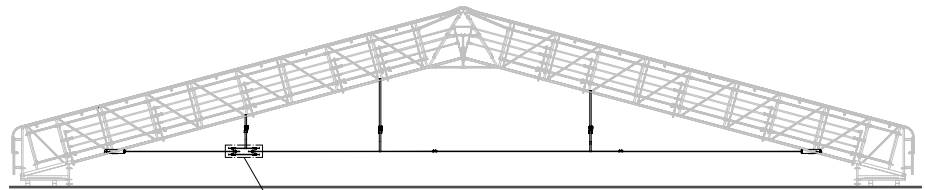


Fig. A8.05

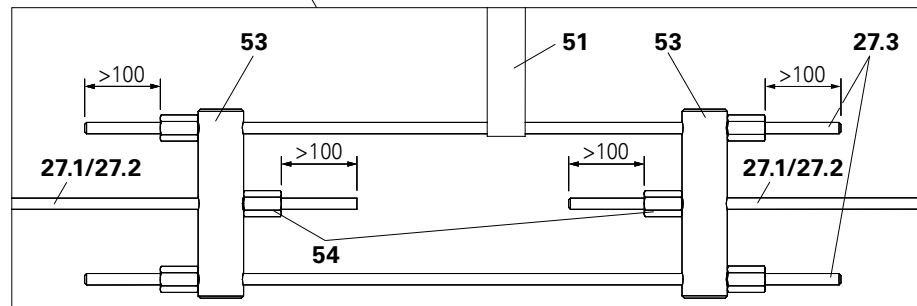


Fig. A8.05a



- Check projecting Tie Rod (27.1) – dimension 100 mm – in the Suspension Tie Connector. (Fig. A8.03a)
- Check tightness of Bolts M12 x 20 of Tie Rod Extension. (Fig. A8.04c + d)
- Check projecting Tie Rod (27.2) – dimension 100 mm, 6x – in the Tension System Connector. (Fig. A8.05a)
- Check reference dimension and adjust if necessary. (Fig. A8.06)

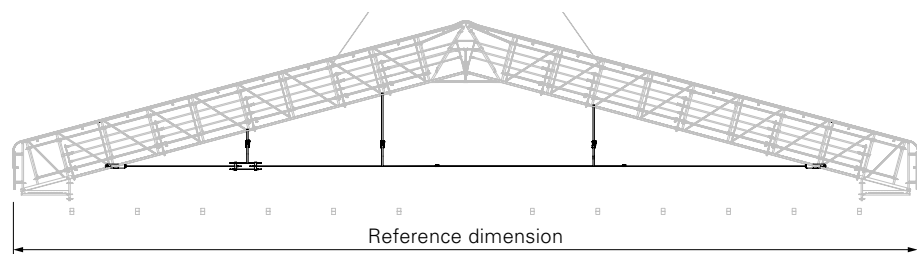


Fig. A8.06

A9 Mounting the Ledger



- The supporting construction is not part of these Instructions for Assembly and Use.
- The Ledger length "X" is possible in four sizes.
 - URL 72/14
 - URL 100/14
 - URL 104/14
 - URL 150/14 – shown here

Components

28	Ledger URL 150/14	3x
29	Bolt ISO 4014-M10x100	6x
30	Nut ISO 4032-M10	6x

Assembly

1. Insert Ledger (28) on the ends of the Standard – 3x. Ensure that the row of holes is at the top. (Fig. A9.01 + A9.01a)
2. Mount Bolt (29) and Nut (30) on the Ledger and leg – per Ledger – 2x. (Fig. A9.01b)



Is the row of holes at the top?



During further assembly, please note that there are two variants:

- Moveable unit – with Wheel.
- Fixed unit – with Bearer.



During assembly of the supporting structure, consider how the legs are aligned.

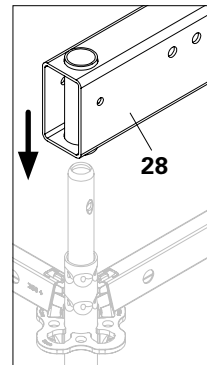


Fig. A9.01a

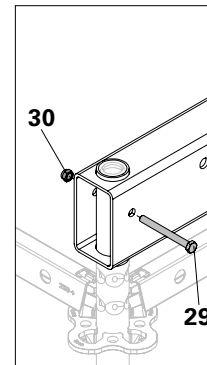


Fig. A9.01b

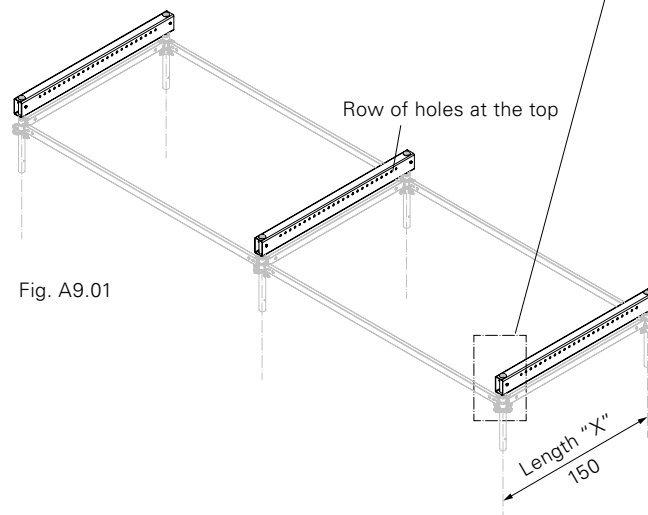


Fig. A9.01

A10.1 Mounting the Rail Support

Connects the Alu Rails with the Ledger.

Components

6.2	Bolt Ø 16 x 150	3x
7	Cotter Pin 4/1	3x
31	Rail Support URF	3x

Assembly of a Rail Support

1. Place the Rail Support (31) on the Ledger (28).
2. Secure the Rail Support on the Ledger by means of Bolts (6.1) and Cotter Pins (7).
→ Secured connection.

(Fig. A10.01 + A10.01a)



The exact position of the Rail Support (31) with the hole to be used is project-related and provided in the project drawing.

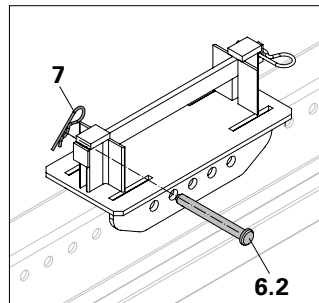


Fig. A10.01a

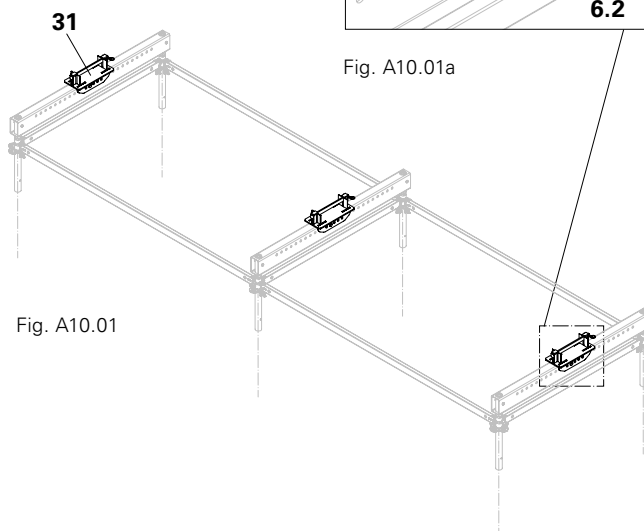


Fig. A10.01

A10.2 Mounting the Alu Rails

The girder package is moved on the Alu Rails.



The length "Y" of the Alu Rail URT has four different sizes:

- URT 150
- URT 200
- URT 250 – shown here
- URT 300

Components

32 Alu Rail URT 250	2x
33 Rail End Element URD	1x

Preparation

1. Remove Cotter Pin (31a) on the Holder (31b).
 2. Pull out Holder (31b).
- (Fig. A10.02b)

Assembly

1. Place one Alu Rail (32) between two Rail Supports (31). (Fig. A10.02)
2. Push one Holder (31b) through the guide of the Rail Support above the bottom profile tube (32a). (Fig. 10.02a)
3. Insert Cotter Pin (31a) into the hole of the Holder. (Fig. A10.02a)
→ Alu Rail is securely locked.
4. Insert additional Alu Rail with the spigots (32a) into the profile tube of the first Alu Rail. (Fig. A10.02)
5. Repeat steps 2 + 3.
6. On the last Alu Rail, push the two spigots of the Rail End Element (33) into the two lower holes of the profile tube. (Fig. A10.02b)
7. Firstly, push Holder (31b) through the guide of the Rail Support – at A – then between the lugs of the End Element – at B – and again through the guide of the Rail Support – at C. (Fig. A10.02b)
8. Insert Cotter Pin (31a) into the hole of the Holder. (Fig. A10.02c)
→ Holder is secured.



Fig. A10.02

Fig. A10.02a

„X“ - view rotated

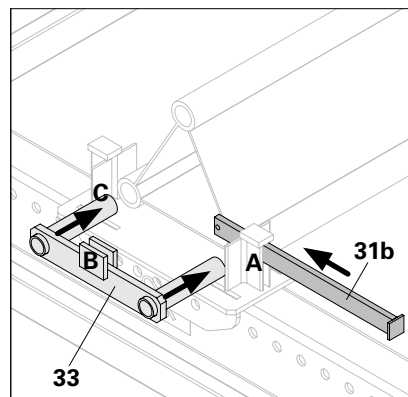


Fig. A10.02b

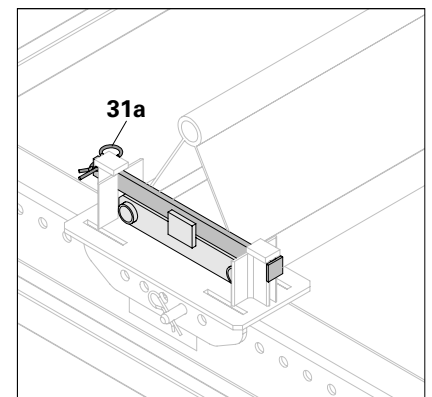


Fig. A10.02c

A10.3 Mounting the Stopper

The Stopper limits the distance moved and is mounted on the open ends of the Alu Rails.

Components

34 Stopper URA-2	2x
-------------------------	----

Assembly

1. Place Stopper (34) with contour plate (34a) and clamping piece (34b) on the upper tube (32b) of the Alu Rail. Take into consideration dimension > 100 mm. (Fig. A10.03a)

2. Secure the wedge (34c) with a hammer.

→ Stopper is securely locked in position.

(Fig. A10.03)

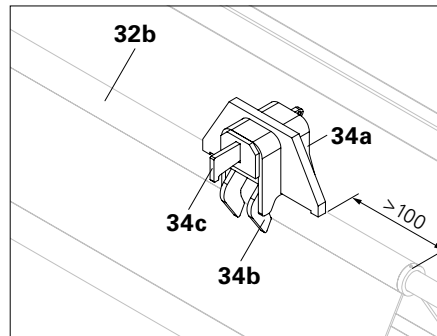


Fig. A10.03a

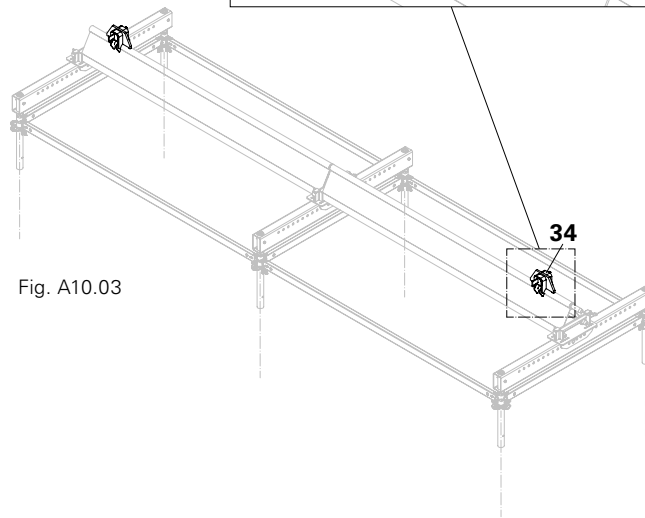


Fig. A10.03

A10.4 Mounting the Wheel

The Wheel

- connects the Support with the Alu Rail,
- can be moved in a longitudinal direction.

Components

35 Wheel URW	4x
---------------------	----

Preparation

1. Release Bolts M12 x 30 (35a) – per block 2x – and remove blocks (35b).

2. Remove Cotter Pins (35c) and Bolts (35b).

3. Remove protection against lifting (35f).

4. Place all components to one side.

Assembly

1. Place Wheel (35) with the rollers (35e) on the tube (32b) of the Alu Rail (32b).

2. Install protection against lifting (35f). → Wheel is secured against lifting.

(Fig. A10.04 – A10.04a)

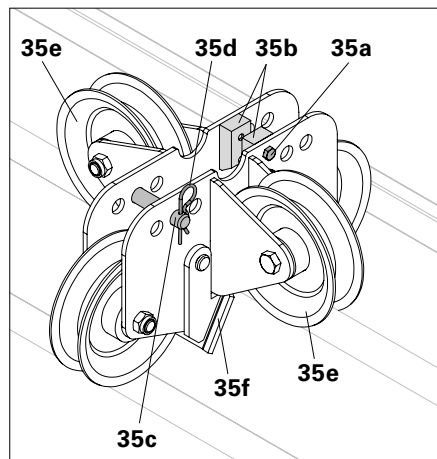


Fig. A10.04a

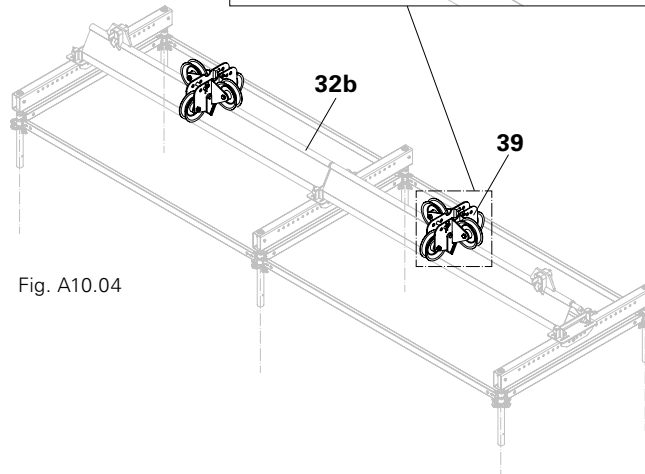


Fig. A10.04



Does the protection against lifting (35f) lie on the side surfaces of the Alu Rail?

A10.5 Positioning the girder package on the Wheel



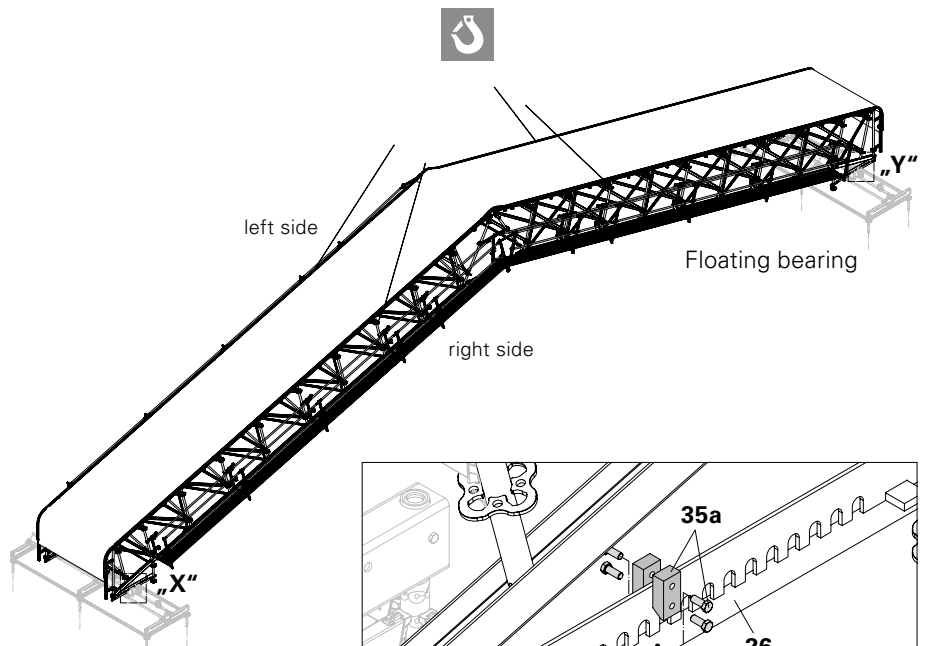
When in parking position, secure the girder package with additional means along with the Stoppers to prevent moving!



- The exact position of the Support recesses (26) with the hole to be used on the Wheel (35) is project-related and is provided in the project drawing.
- Take into consideration the fixed and floating bearings.

Assembly of a girder package

1. Raise the girder package with the crane and place on the Wheels.
2. Secure blocks with 2 Bolts M12 x 30 (35a) respectively – 2x. (Fig. A10.05a)
3. Insert Bolts through the designated recess of the Wheel (35) and hole of the Support (26), and secure with Cotter Pins. (Fig. A10.05a)
→ Fixed bearing. (Fig. A10.05b)
4. Install second side, as described in steps 1 + 2. Do not secure Bolts and Cotter Pins.
→ Floating bearing. (Fig. A10.05c)
(Fig. A10.05)



Fixed bearing
Fig. A10.05

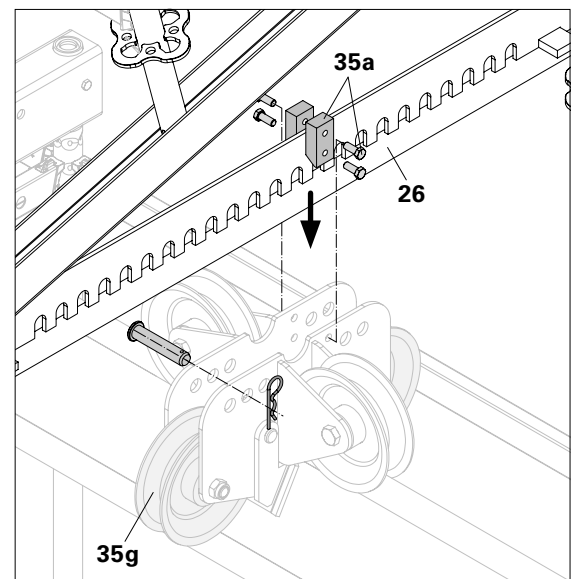


Fig. A10.05a – Bolts and Cotter Pins only on fixed bearing.



Are the right and left sides of the girder package bolted in the same recess?



Guide the girder package with ropes.

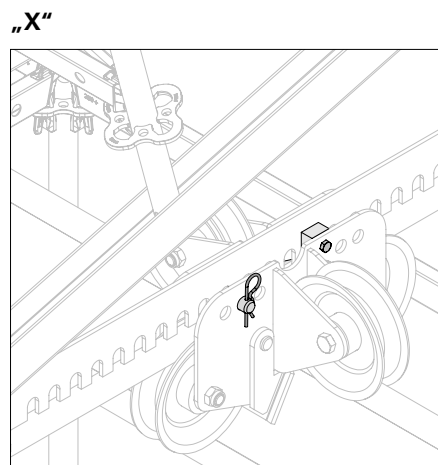


Fig. A10.05b – Fixed bearing
with Bolts on the Support.

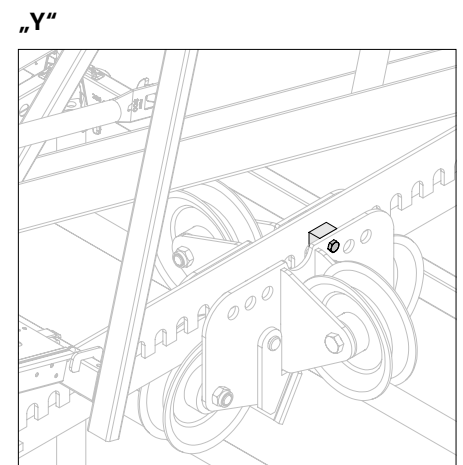


Fig. A10.05c – Floating bearing
without Bolts on the Support.

A11.1 Mounting the Bearer



- The exact position of the Bearer (36) in the Rail Support (31) with the hole to be used is project-related and provided in the project drawing.
- Hole positions of the Bearer are not mirrored. Therefore, always immediately install the Bearer.

Components

36	LGS Bearer URS	4x*
3.3	Ledger Brace UBL 250/50	4x*

* per girder package

Preparation

Release Cotter Pins (36b) and Bolts (36a) on the Bearer (36) – 3x per Bearer. (Fig. A11.01a)

Assembly

1. Place Bearer (36) on the Ledger (27).
2. Install one Bolt (36a) and Cotter Pin (36b) respectively in A + B + C – 3x. → Fixed bearing. (Fig. A11.02a)
3. Secure one Bolt (36c) and Cotter Pin (36d) each in B + C – 2x. → Floating bearing. (Fig. A11.02b)
4. Install Ledger Braces crosswise on the Bearer (3.3). (Fig. A11.01)



Have the Bearers

- been installed in the same way?
- bolted in the same hole?

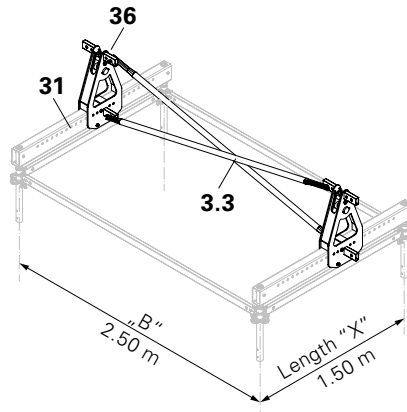


Fig. A11.01 – Fixed bearing or floating bearing.

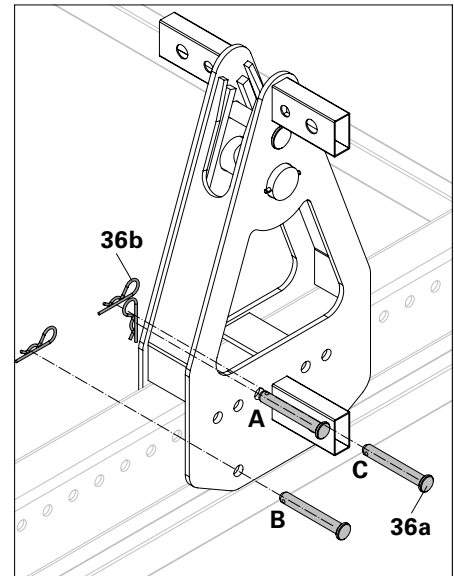


Fig. A11.01a

„X“

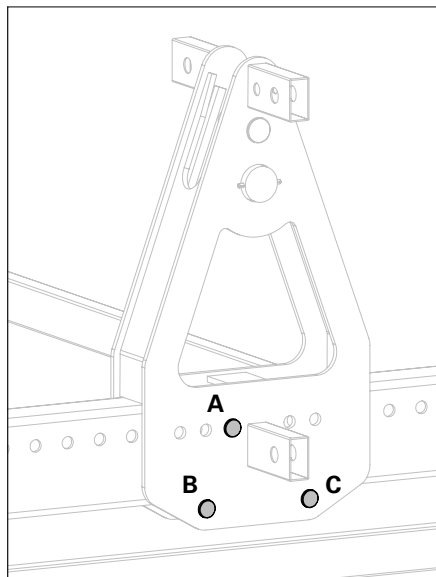


Fig. A11.02a – Fixed bearing – bolted to the Ledger.

„Y“

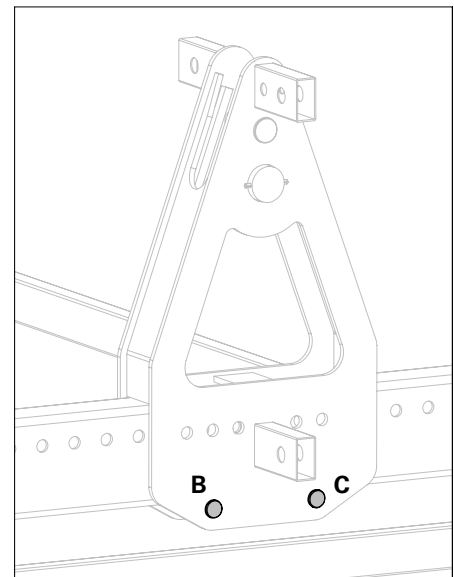


Fig. A11.02b – Floating bearing – not bolted to the Ledger.

A11.2 Positioning the girder package on the Bearer

Preparation

Remove Cotter Pins (36d) and Bolts (36c) at the top on the Bearer (36).
(Fig. A11.03b)

Assembly

1. Raise the girder package with the crane and place in the lugs of the Bearer (36e).
2. Secure Bolts (36c) and Cotter Pins (36d). (Fig. A11.03b)
→ Bearer and girder package are now securely connected. (Fig. A11.03c)
(Fig. A11.03 + A11.03a)



Are the right and left sides of the girder package bolted in the same recess?

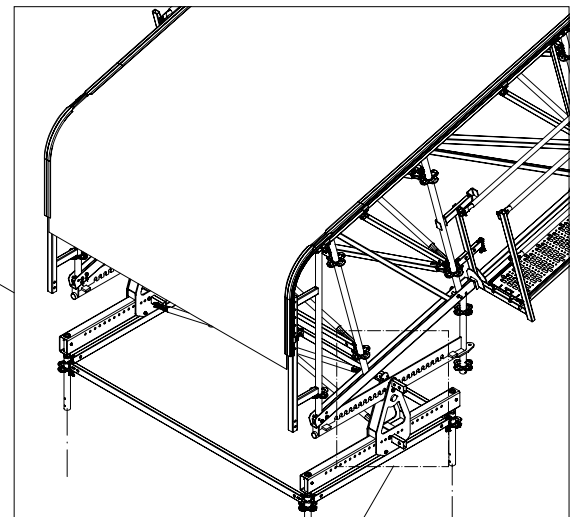
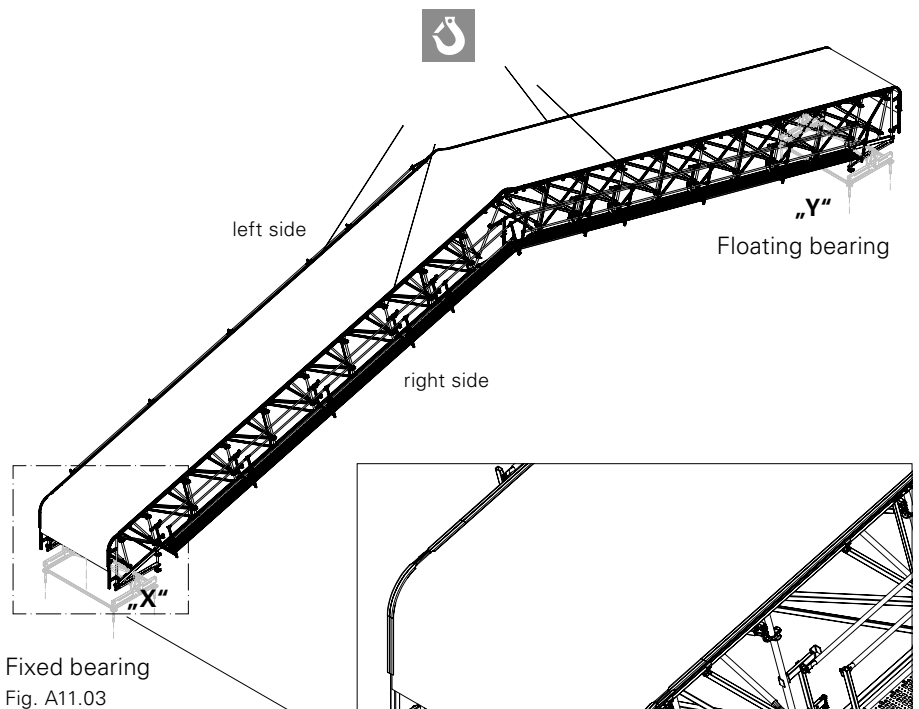


Fig. A11.03a

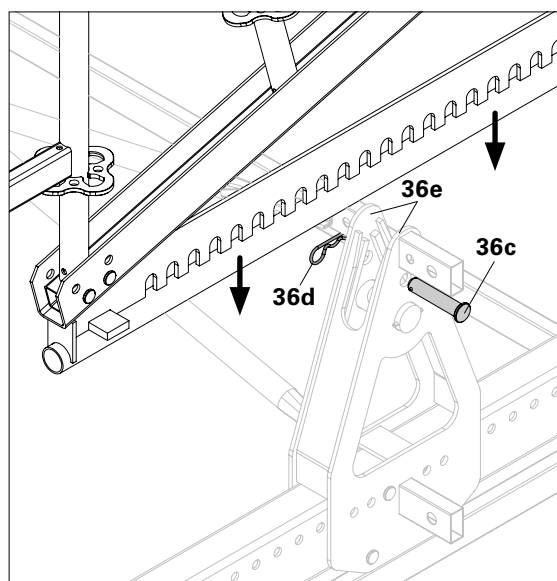


Fig. A11.03b

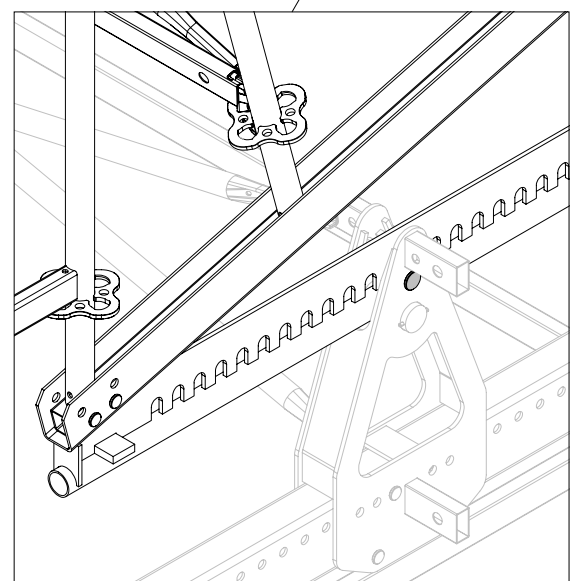


Fig. A11.03c



Dismantle the LGS Weather Protection Roof in the reverse order of the assembly procedure.

Dismantling

1. Release the Bearer (fixed girder package) or Wheel (mobile girder package), and lift girder package above the ground.
 2. Dismantle Ledgers.
 3. Dismantle Supports 15°.
 4. Mount Support Rollers.
 5. Place girder package on ground.
 6. Dismantle Keder tarpaulin with roller and crank.
 7. Dismantle girder package.
- (Fig. A12.01)

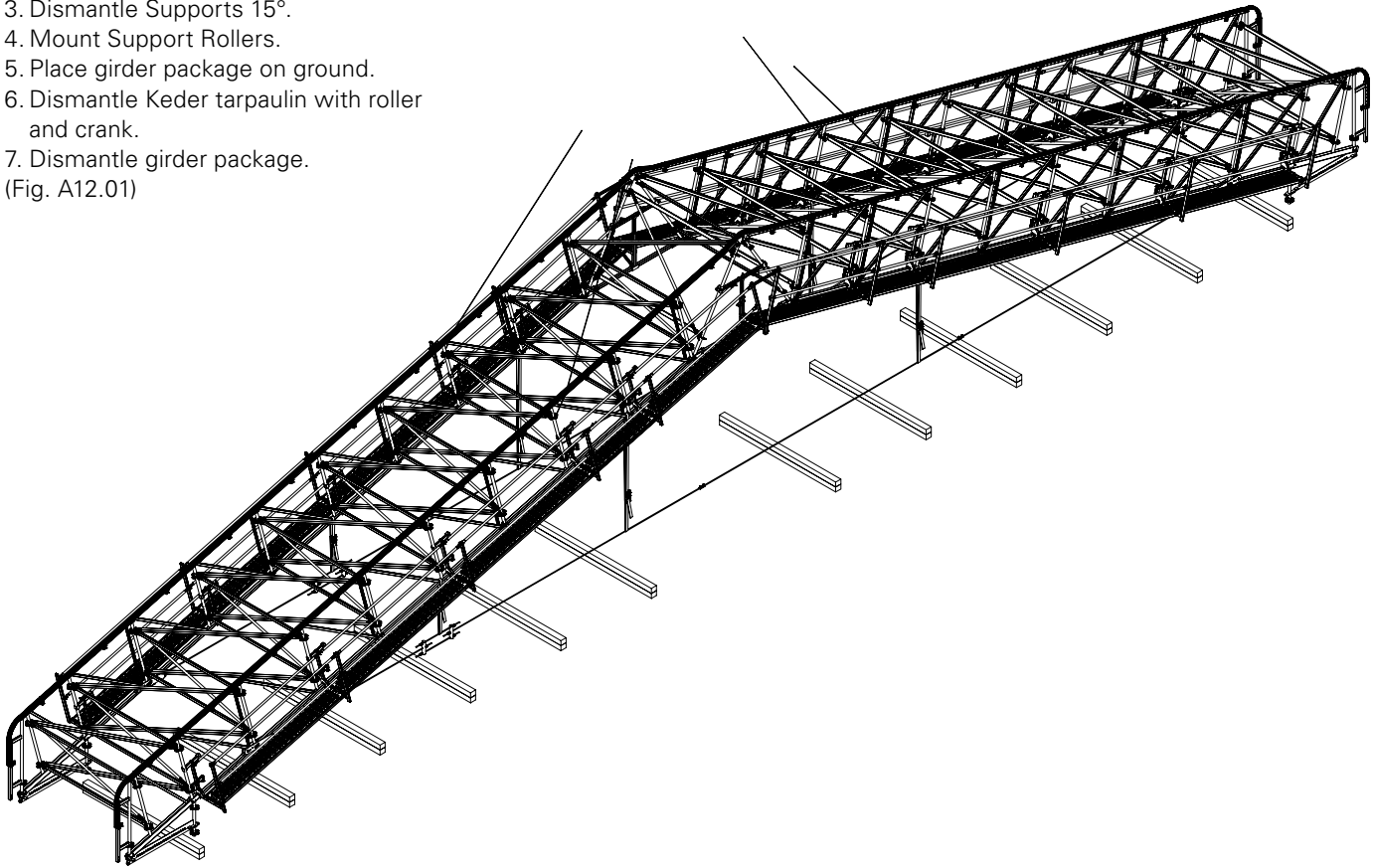


Fig. A12.01 – without Keder tarpaulin.

B1.1 Span 27.0 m

Girder package permissible
 – with Tension System,
 – without Tension System.

With Tension System

Tension System depends on application, e.g. geometry of the building, connection to

- Eave Element (Fig. B1.01a)
- 1st Basic Element (Fig. B1.01b)

Intermediate bays

Connect the single girder package with

- Ledgers,
- Ledger Braces and
- H-Braces.

(Fig. B1.02)

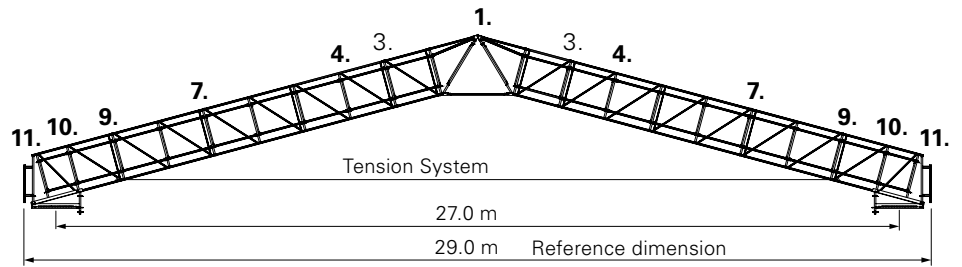


Fig. B1.01a

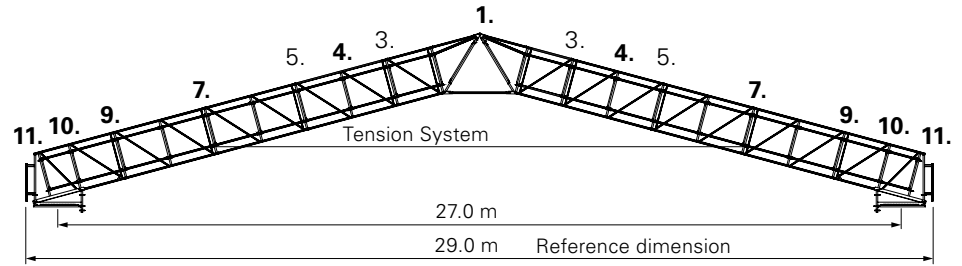


Fig. B1.01b

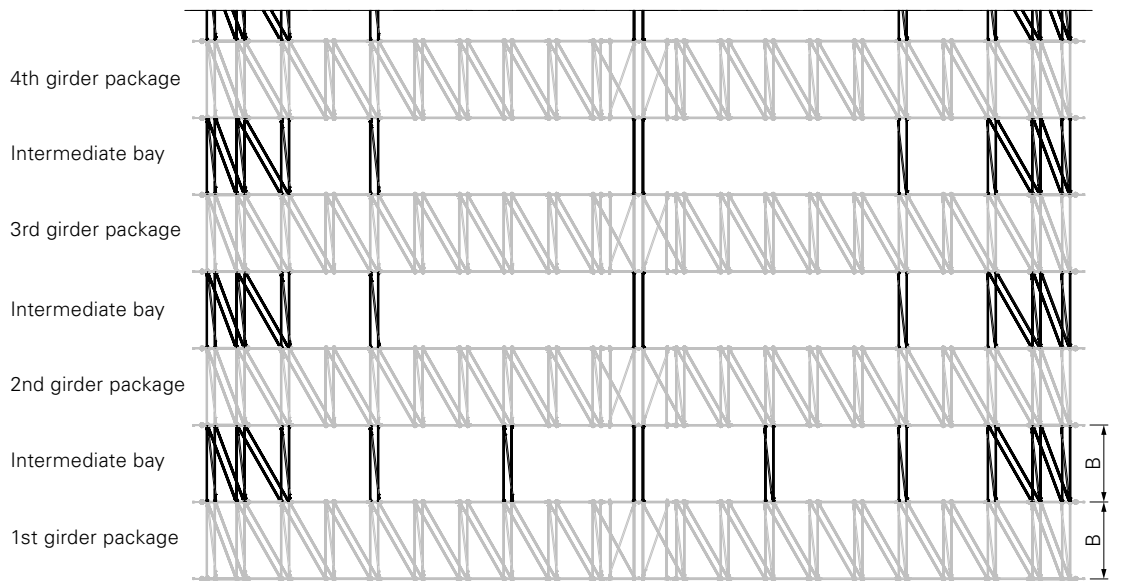


Fig. B1.02

Snow load s [kN/m ²]		0.1			0.25			0.6		
Wind load q [kN/m ²]		0.35	0.56	0.77	0.35	0.56	0.77	0.35	0.56	0.77
with TS*	Eave Element	3.00	3.00	3.00	3.00	3.00	3.00	2.50	2.50	2.50
	1st Basic Element	3.00	2.50	2.00	3.00	2.50	2.00	1.50	1.50	–
without Tension System		2.50	2.50	2.00	1.50	1.50	–			

*TS – Tension System

B1.2 Span 35.5 m

- Girder package permissible
- with Tension System,
 - without Tension System.

With Tension System

Tension System depends on application, e.g. geometry of the building, connection to

- Eave Element (Fig. B1.03a)
- 1st Basic Element (Fig. B1.03b)

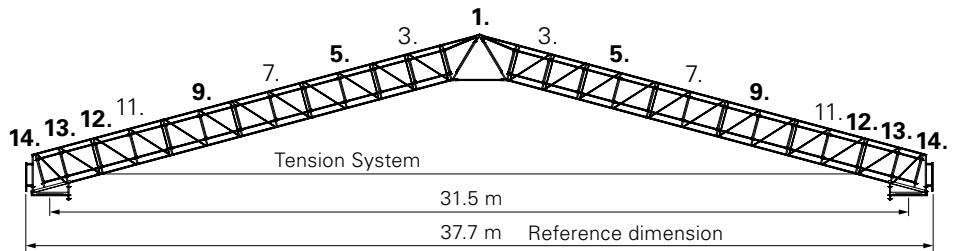


Fig. B1.03a

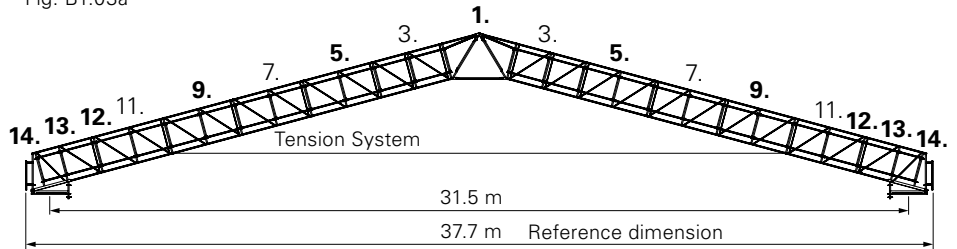


Fig. B1.03b

Intermediate bays

- Connect the single girder package with
 - Ledgers,
 - Ledger Braces and
 - H-Braces.
- In the process, differentiate in the edge area between
 - 1st girder package, single (Fig. B1.04a)
 - double girder package (Fig. B1.04b)

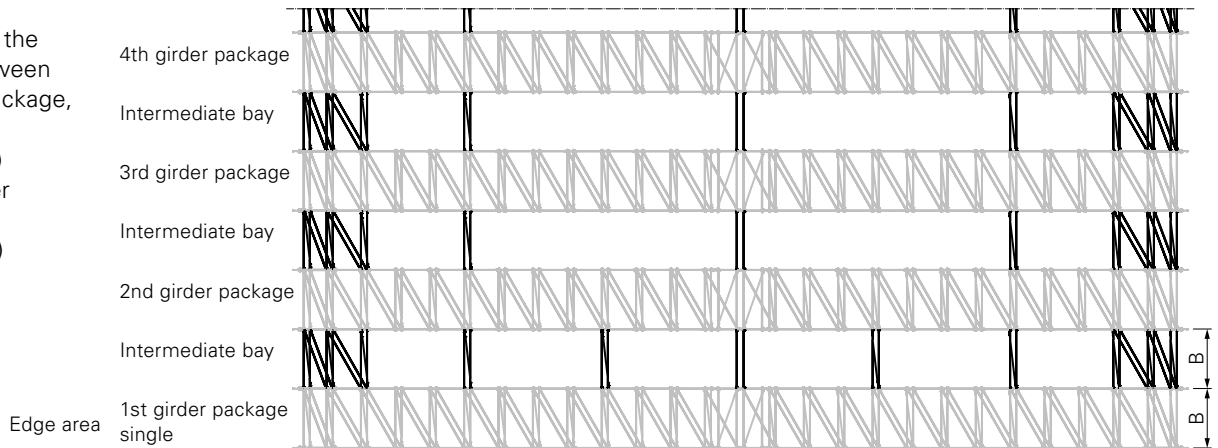


Fig. B1.04a

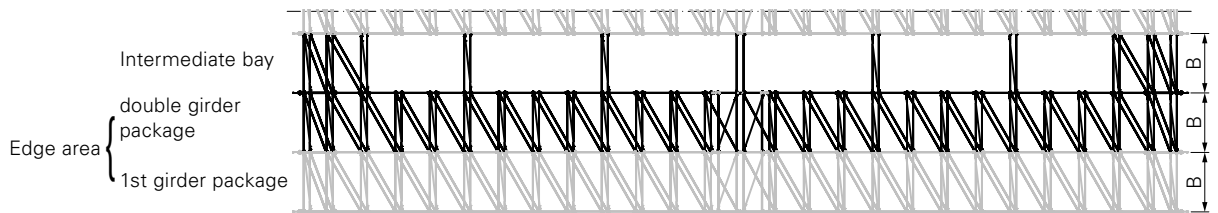


Fig. B1.04b

Snow load s [kN/m ²]		0.1			0.25			0.6				
Wind load q [kN/m ²]		0.35	0.56	0.77	0.35	0.56	0.77	0.35	0.56	0.77		
with Tension System	Eave Element	max. width B [m]		3.00	3.00	2.50	3.00	3.00	2.50	2.00	2.00	2.00
		Girder package for edge area		single	single	double	single	single	double	single	single	double
	1st Basic Element	Max. width B [m]		2.50	2.00	2.00	2.00	2.00	2.00			
		Girder package for edge area		single	single	double	single	single	double			
without TS*	max. width B [m]		1.50	1.50	1.50							
	Girder package for edge area		single	single	double							

*TS – Tension System

B1.3 Span 41.5 m



For spans of 41.5 m, the girder package is only permissible with a Tension System.

With Tension System

Tension System depends on application, e.g. geometry of the building, connection to

- Eave Element (Fig. B1.05a)
- 1st Basic Element (Fig. B1.05b)

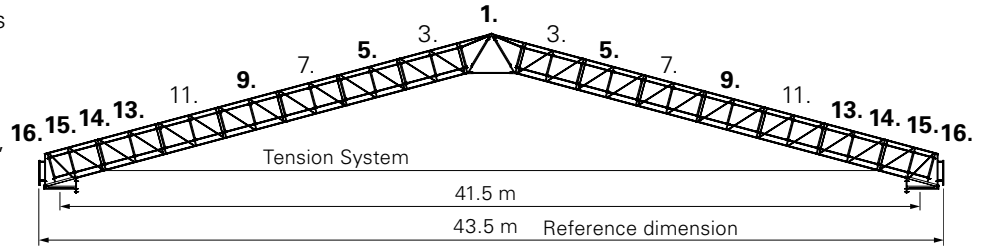


Fig. B1.05a

Intermediate bays

- Connect the individual girder packages with
 - Ledgers,
 - Ledger Braces and
 - H-Braces.
- In the process, differentiate in the edge area between
 - 1. Single girder package (Fig. B1.06a)
 - double girder package (Fig. B1.06b)

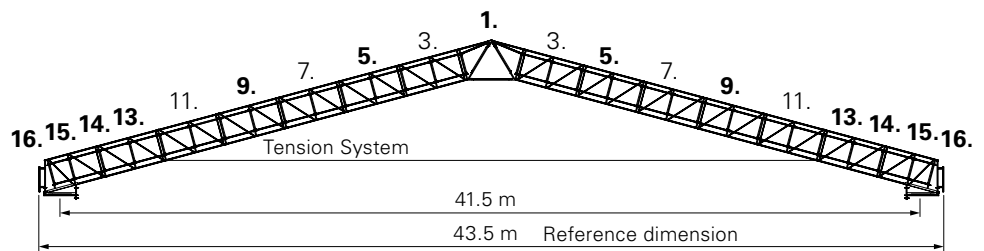


Fig. B1.05b

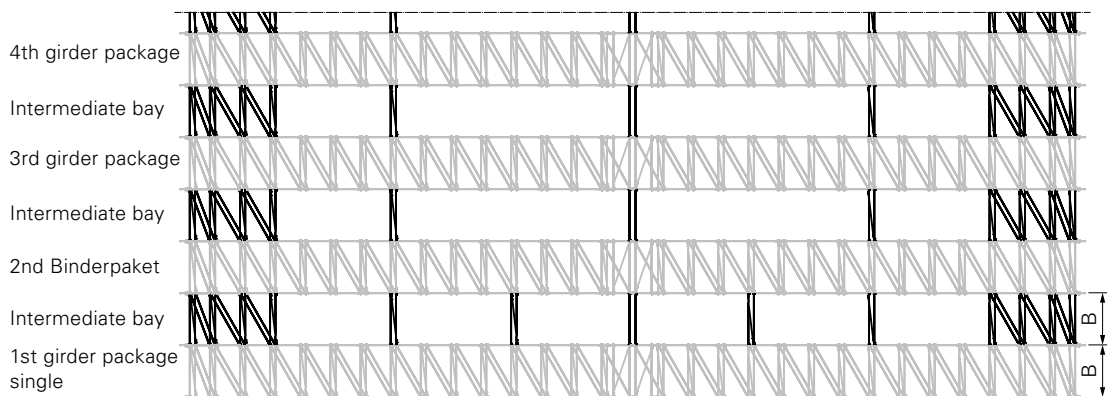


Fig. B1.06a

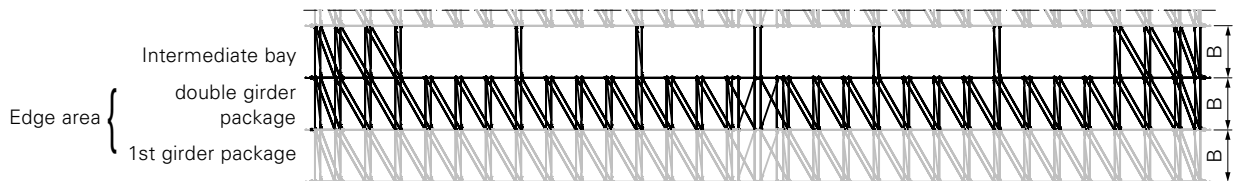


Fig. B1.06b

Snow load s [kN/m ²]		0.1			0.25			0.6			
Wind load q [kN/m ²]		0.35	0.56	0.77	0.35	0.56	0.77	0.35	0.56	0.77	
with Tension System	Eave Element	max. width B [m]		3.00	2.50	1.50	3.00	2.50	1.50	1.50	–
		Girder package for edge area		single	single	double	single	single	double	single	single
	1st Basic Element	max. width B [m]		2.50	2.00	–	1.50	1.50	–		
		Girder package for edge area		single	single	–	single	single	–		

B1.4 Weights



The weight is dependent on the

- Width B of the girder package
- Span L_{spw}
- Configuration of the girder package in the edge area

Weights are including tarpaulin
Tarpaulin 650 g/m².

Girder package	Weight								Catwalk on one side	
	single				double (edge area)					
Width B [m]	1.50	2.00	2.50	3.00	1.50	2.00	2.50	3.00		
Span [m]	21.2	1750 kg	1850 kg	1950 kg	2100 kg	2850 kg	3050 kg	3250 kg	3500 kg	250 kg
	24.0	1950 kg	2050 kg	2150 kg	2300 kg	3150 kg	3350 kg	3600 kg	3900 kg	280 kg
	27.0	2150 kg	2250 kg	2400 kg	2500 kg	3450 kg	3700 kg	4000 kg	4200 kg	320 kg
	29.9	2300 kg	2450 kg	2600 kg	2700 kg	3700 kg	4000 kg	4300 kg	4500 kg	350 kg
	32.8	2500 kg	2650 kg	2800 kg	3000 kg	4050 kg	4350 kg	4700 kg	5000 kg	390 kg
	35.5	2700 kg	2850 kg	2900 kg	3200 kg	4350 kg	4650 kg	5000 kg	5400 kg	430 kg
	38.6	2900 kg	3050 kg	3250 kg	3500 kg	4700 kg	5000 kg	5400 kg	5800 kg	470 kg
	41.5	3100 kg	3250 kg	3450 kg	3700 kg	4950 kg	5300 kg	5700 kg	6100 kg	500 kg

B1.5 Crane attachment points

Span 27.0 m
(Fig. B1.07)

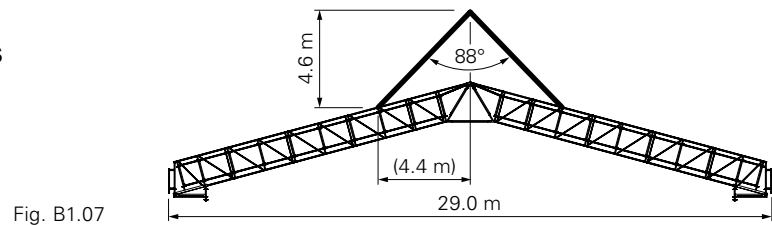


Fig. B1.07

Span 35.5 m
(Fig. B1.08)

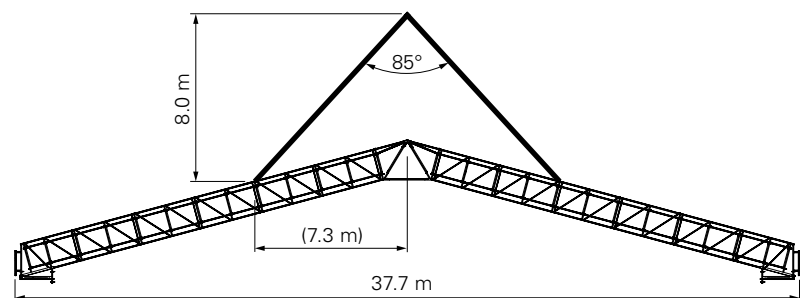


Fig. B1.08

Span 41.5 m
(Fig. B1.09)

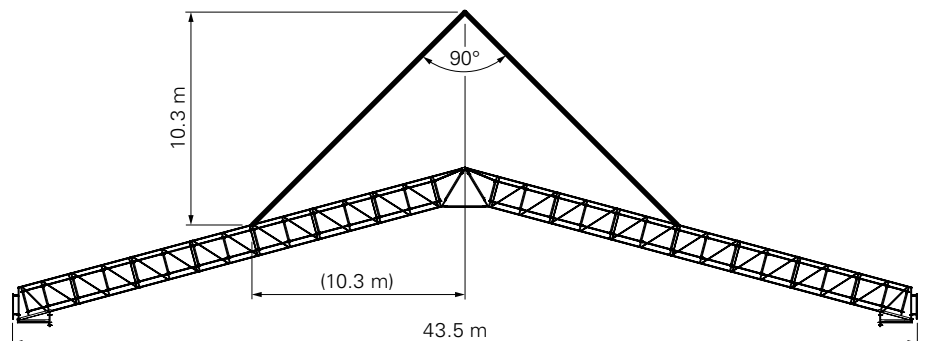


Fig. B1.09



- Support forces are dependent on
 - L_{spw} = span
 - q = wind load
 - s = snow load
 - B = width
 - L = total length of the roof
 - n = total number of supports
- Calculate the supporting structure in each case.
- Verification required for the load transfer from roof and scaffolding to the ground.

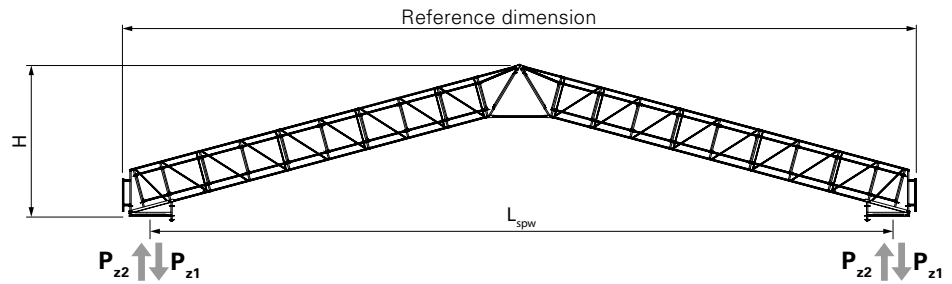


Fig. B1.10a

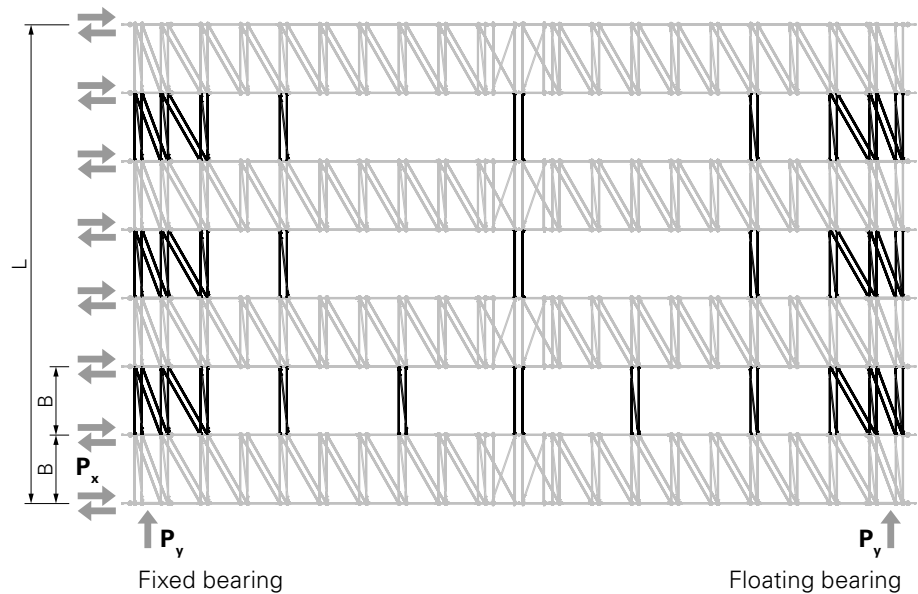


Fig. B1.10b

B2.1 Span 27.0 m

Horizontal force [kN]	in girder direction	P_x	$3.0 * q * B$
	in gable direction	P_y	$41.8 * q / n$
Vertical force [kN]	downwards	P_{z1}	$12.8 * s * B + 3.2 * q * B + 143.7 * q / L + 9.8$
	upwards	P_{z2}	$8.0 * q * B + 27.5 * q / L - 7.3$

B2.2 Span 35.5 m

Horizontal force [kN]	in girder direction	P_x	$3.6 * q * B$
	in gable direction	P_y	$49.4 * q / n$
Vertical force [kN]	downwards	P_{z1}	$15.2 * s * B + 3.8 * q * B + 203.3 * q / L + 11.2$
	upwards	P_{z2}	$9.5 * q * B + 32.4 * q / L - 8.3$

B2.3 Span 41.5 m

Horizontal force [kN]	in girder direction	P_x	$4.1 * q * B$
	in gable direction	P_y	$57.0 * q / n$
Vertical force [kN]	downwards	P_{z1}	$17.5 * s * B + 4.4 * q * B + 258.6 * q / L + 12.7$
	upwards	P_{z2}	$11.0 * q * B + 37.4 * q / L - 9.4$

PERI UP Flex Weather Protection Roof LGS



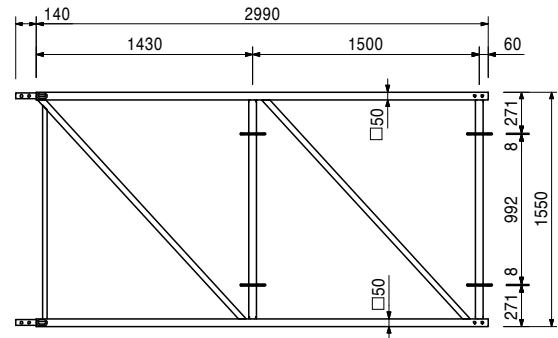
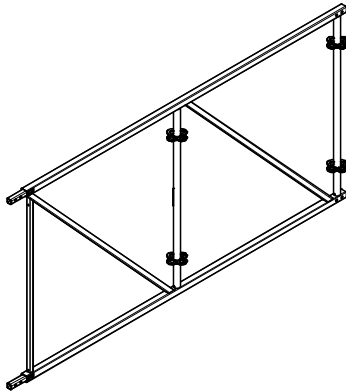
Item no.	Weight kg
104768	55.400

LGS Basic Element URB 150/300

Basic element for the PERI LGS Lattice Girder System.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



Accessories

106031	0.142
018060	0.030

Bolt Ø 16 x 70, galv.

Cotter Pin 4/1, galv.

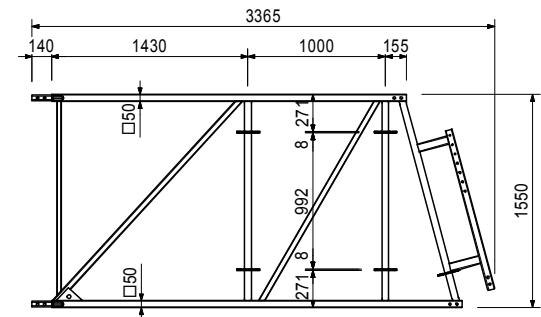
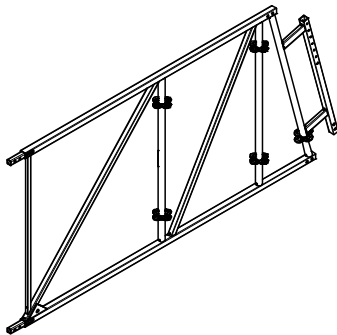
126483	65.900
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LGS Eave Element URB 300/150

Eave element for the PERI Lattice Girder System.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



Accessories

106031	0.142
018060	0.030

Bolt Ø 16 x 70, galv.

Cotter Pin 4/1, galv.

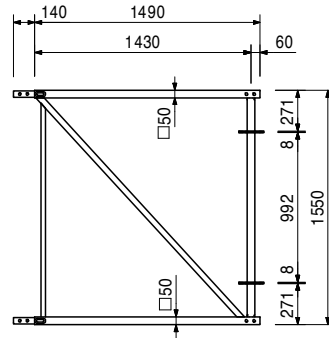
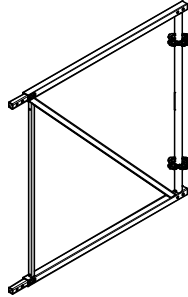
PERI UP Flex Weather Protection Roof LGS



Item no.	Weight kg
104792	29.600

LGS Additional Element URB 150/150
 Filler element for the LGS Lattice Girder System.

Note
 Alternative accessories:
 070890 Nut ISO 7042 M16-8, galv.
 721729 Bolt ISO 4014 M16 x 90-8.8, galv.



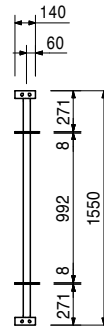
Accessories
Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

106031	0.142
018060	0.030

105334	7.380
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LGS End Element URB 150
 For assembly on the last LGS Basic or Additional Element.

Note
 Alternative accessories:
 070890 Nut ISO 7042 M16-8, galv.
 721729 Bolt ISO 4014 M16 x 90-8.8, galv.

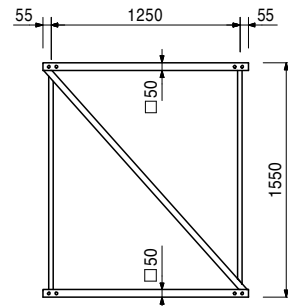
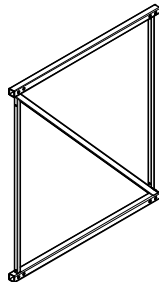


Accessories
Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

106031	0.142
018060	0.030

116122	22.800
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LGS Middle Element URB 150/150
 Goes between two Basic Elements, which adjoin with their standards (with rosettes), e.g. with double pitched roofs.

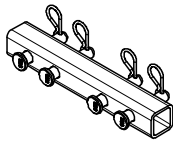


Accessories
LGS Connector URC

115978	1.760
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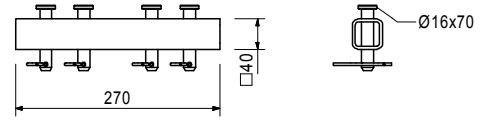
Item no.	Weight kg
115978	1.760

LGS Connector URC



Complete with

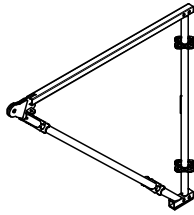
- 4 pc. 106031 Bolt Ø 16 x 70, galv.
- 4 pc. 018060 Cotter Pin 4/1, galv.



104769	25.700
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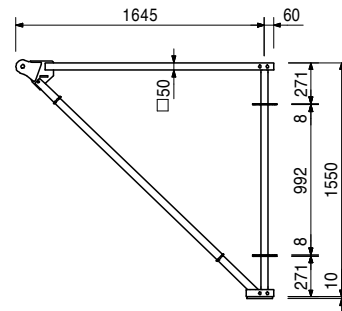
LGS Ridge Element URR 150

Two LGS Ridge Elements form the ridge together with Ridge Bar UR.



Note

- Alternative accessories:
- 105032 Nut ISO 7042 M24-8, galv.
 - 026220 Bolt ISO 4014 M24 x 80-10.9, galv.



Accessories

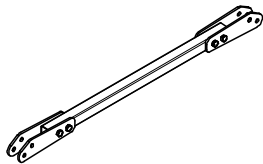
127468	0.325
022230	0.033

- Bolt Ø 24 x 55, galv.**
- Cotter Pin 5/1, galv.**

104778	10.400
104891	14.700

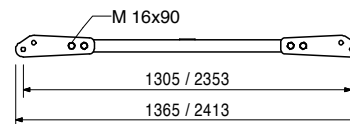
LGS Ridge Bars UR LGS Ridge Bar UR 120° LGS Ridge Bar UR 150°

Connects two Ridge Elements URR 150 to an ridge angle of 120° or 150°.



Note

- Alternative accessories:
- 070890 Nut ISO 7042 M16-8, galv.
 - 721729 Bolt ISO 4014 M16 x 90-8.8, galv.



Accessories

106031	0.142
018060	0.030

- Bolt Ø 16 x 70, galv.**
- Cotter Pin 4/1, galv.**

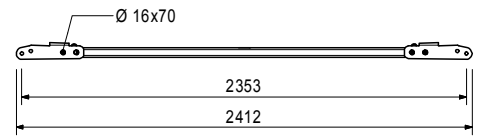
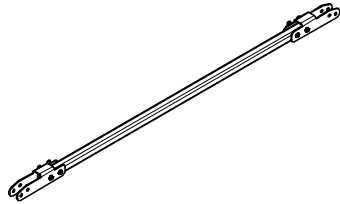
Item no.	Weight kg
128334	21.800

Ridge Bar HD UR 150°

Connects two LGS Ridge Elements to a ridge angle of 150°.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



106031	0.142
018060	0.030

Accessories

Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

104854	5.220
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Support Roller UEW unstopped

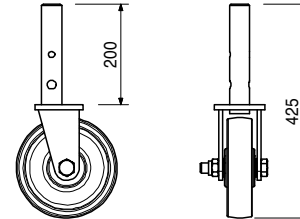
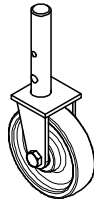
Mounted on standard or intermediate element for hoisting binder for installation of the main connection.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.

Technical Data

Permissible load to 12 kN.



106031	0.142
018060	0.030

Accessories

Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

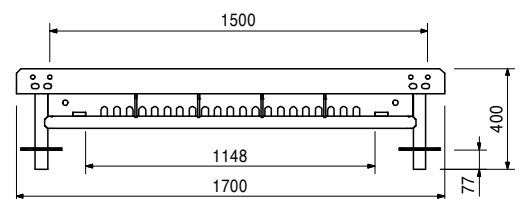
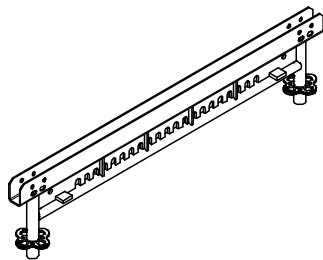
105399	37.700
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LGS Support URS 0°

For platforms or bridges.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



106031	0.142
018060	0.030

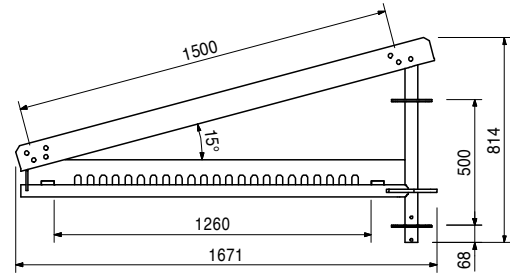
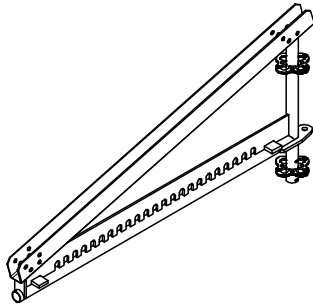
Accessories

Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

Item no.	Weight kg
104771	35.400

LGS Support URS 15°
For roofs with a pitch of 15°.

Note
Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



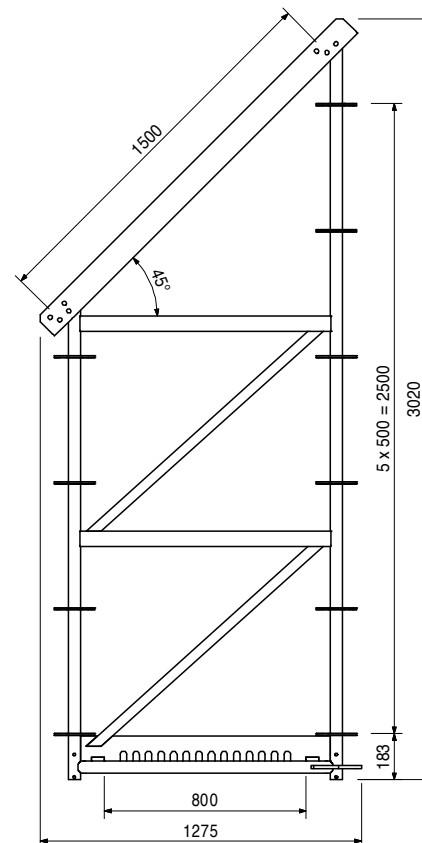
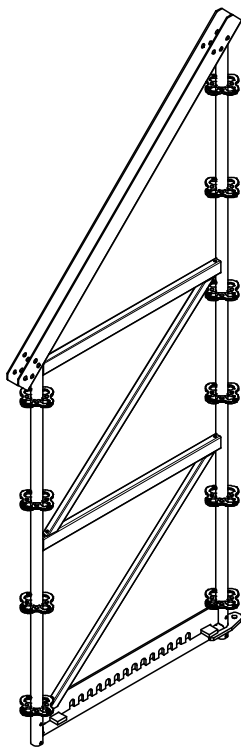
106031	0.142
018060	0.030

Accessories
Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

104770	58.100
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LGS Support URS 45°
For roofs with a pitch of 45°.

Note
Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
721729 Bolt ISO 4014 M16 x 90-8.8, galv.



106031	0.142
018060	0.030

Accessories
Bolt Ø 16 x 70, galv.
Cotter Pin 4/1, galv.

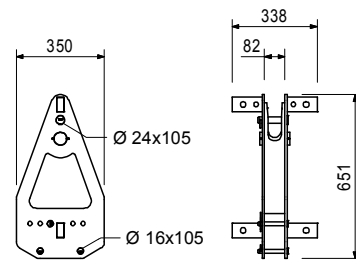
Item no.	Weight kg
105398	23.600

LGS Bearer URS

Connects the LGS Support with the LGS Ledger URL.

Complete with

- 1 pc. 106191 Bolt Ø 24 x 105, galv.
- 3 pc. 106194 Bolt Ø 16 x 105, galv.
- 1 pc. 022230 Cotter Pin 5/1, galv.
- 3 pc. 018060 Cotter Pin 4/1, galv.



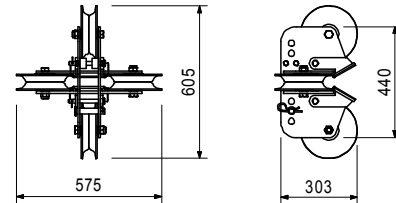
104777	42.800
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Wheel URW

Connects the Support with the Rail URT.
Allows moving in a longitudinal direction and an horizontally moveable support at the truss level.

Complete with

- 1 pc. 106191 Bolt Ø 24 x 105, galv.
- 1 pc. 022230 Cotter Pin 5/1, galv.



104790	20.600
104791	27.300
104796	33.900
104797	40.500

Alu Rails URT

Alu Rail URT 150

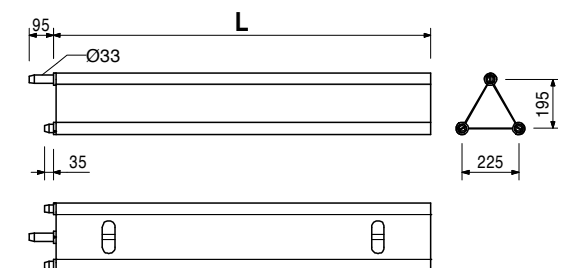
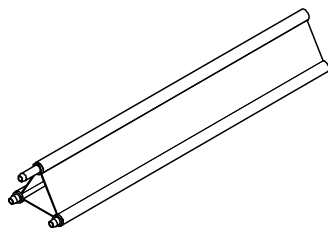
Alu Rail URT 200

Alu Rail URT 250

Alu Rail URT 300

For moving LGS units. Mounted on the Rail Support URF.

L
1500
2000
2500
3000



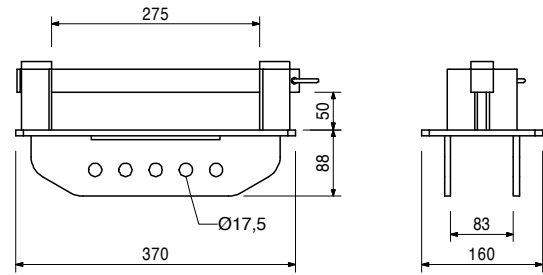
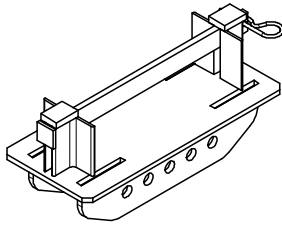
Item no.	Weight kg
104853	8.190

Rail Support URF

Connects the Alu Rail URT to the LGS Ledger URL.

Note

Alternative accessories:
070890 Nut ISO 7042 M16-8, galv.
105402 Bolt ISO 4014 M16 x 120-8.8, galv.



715357	0.238
018060	0.030

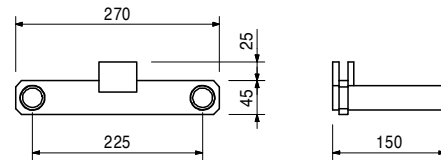
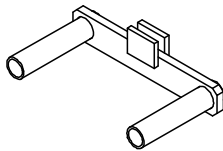
Accessories

Pin Ø 16 x 150, galv.
Cotter Pin 4/1, galv.

104852	1.870
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Rail End Element URD

For securing the Alu Rail URT. Assembly on the last Rail Support URF.



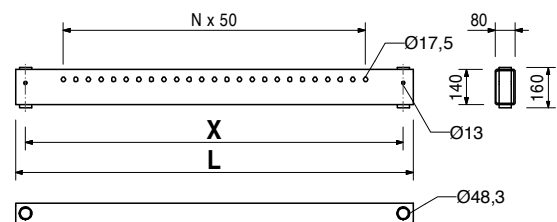
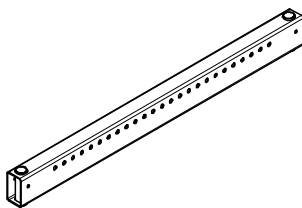
105394	13.500
115018	17.800
105390	18.500
105386	25.700

LGS Ledgers URL

LGS Ledger URL 72/14
LGS Ledger URL 100/14
LGS Ledger URL 104/14
LGS Ledger URL 150/14

Connects the LGS unit with the PERI UP substructure.

L	X
800	720
1080	1000
1120	1040
1580	1500



780356	0.011
710242	0.063

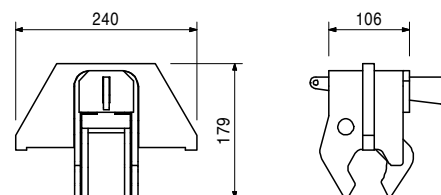
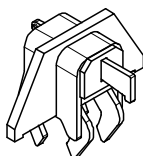
Accessories

Nut ISO 7042 M10-8, galv.
Bolt ISO 4014 M10 x 100-8.8, galv.

118022	5.130
--------	-------

Stopper URA-2

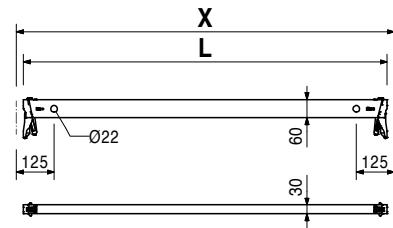
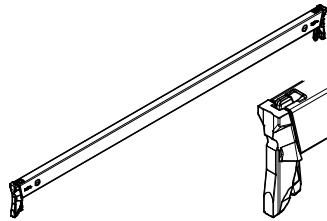
End stop for the Wheel URW on the Alu Rail URT.



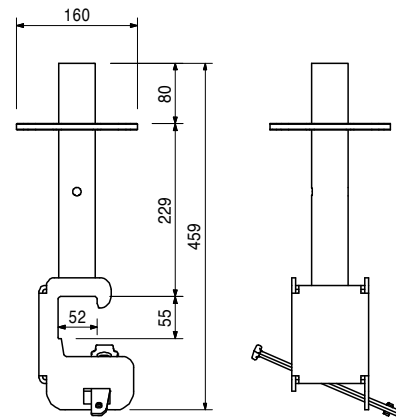
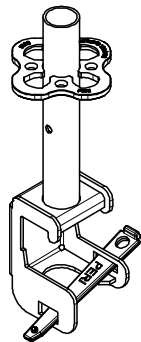
Item no.	Weight kg		L	X	Sticker
		Ledgers UH Plus			
114613	1.420	Ledger UH 25 Plus	204	250	
114595	2.070	Ledger UH 50 Plus	454	500	
114629	2.730	Ledger UH 75 Plus	704	750	White
114632	4.460	Ledger UH 100 Plus	954	1000	White
114638	5.430	Ledger UH 125 Plus	1204	1250	
114641	4.710	Ledger UH 150 Plus	1454	1500	
117032	5.380	Ledger UH 175 Plus	1704	1750	
114645	6.040	Ledger UH 200 Plus	1954	2000	
116356	6.700	Ledger UH 225 Plus	2204	2250	
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.



105366	3.680	LGS Collar URP Base for further scaffold assembly on LGS elements.
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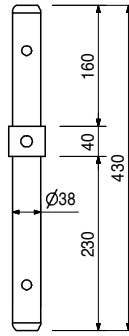


105372	1.340	Accessories Spigot w. Spacer URE 4/42
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Item no.	Weight kg
105372	1.340

Spigot w. Spacer URE 4/42

For attaching to Collar URP and Connector ULS Flex; spacer allows assembly in grid system.



Accessories

780356	0.011
100719	0.060

Nut ISO 7042 M10-8, galv.

Bolt ISO 4014 M10 x 70-8.8 MU

		Ledgers UH
404780	1.390	Ledger UH 25
404779	2.040	Ledger UH 50
400017	2.710	Ledger UH 75
401159	3.370	Ledger UH 100
410347	4.020	Ledger UH 125
400021	4.690	Ledger UH 150
400023	6.020	Ledger UH 200
400025	7.340	Ledger UH 250
400027	8.670	Ledger UH 300

Ledgers UH

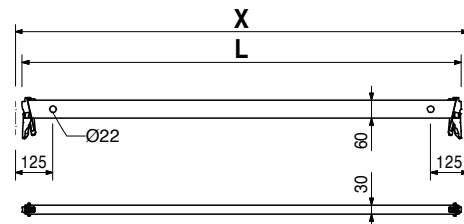
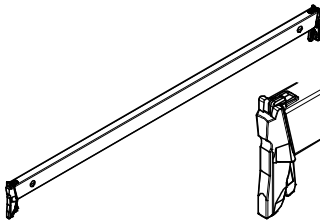
Ledger UH 25
Ledger UH 50
Ledger UH 75
Ledger UH 100
Ledger UH 125
Ledger UH 150
Ledger UH 200
Ledger UH 250
Ledger UH 300

L	X	Sticker
204	250	
454	500	
704	750	White
954	1000	White
1204	1250	
1454	1500	
1954	2000	White
2454	2500	Red
2954	3000	Black

Note

Longitudinally-stamped and with coloured label for easier identification.

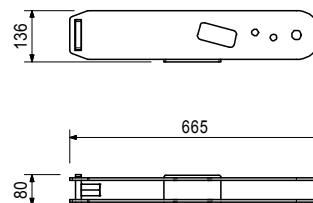
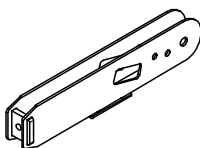
Ledgers UH can be replaced by Ledgers UH Plus.



128823	8.750
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Suspension Tie Connector URU

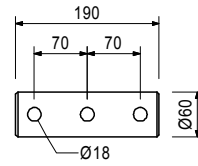
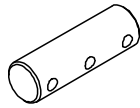
Connection to Eave or Standard Element URB 300/150.



Item no.	Weight kg
128817	3.850

Tie Yoke URU

For closing and tensioning of the suspension.



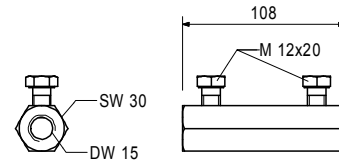
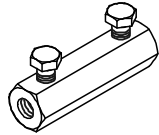
129435	0.444
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Tie Rod Extension URU

For coupling and securing Tie Rod DW 15.

Technical Data

Permissible tension force 90 kN.



030030	1.440
030050	0.000
030005	0.720
030010	1.230
030480	1.440
030490	1.730
030170	2.160
030020	2.450
030180	2.880
030710	3.600
030720	4.320
030730	5.040
030160	8.640

Tie Rods DW 15

Tie Rod DW 15, spec. length

Cutting Cost Tie Rod DW 15, B 15

Tie Rod DW 15, l = 0.50 m

Tie Rod DW 15, l = 0.85 m

Tie Rod DW 15, l = 1.00 m

Tie Rod DW 15, l = 1.20 m

Tie Rod DW 15, l = 1.50 m

Tie Rod DW 15, l = 1.70 m

Tie Rod DW 15, l = 2.00 m

Tie Rod DW 15, l = 2.50 m

Tie Rod DW 15, l = 3.00 m

Tie Rod DW 15, l = 3.50 m

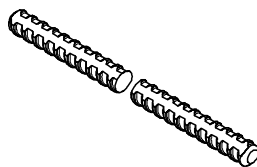
Tie Rod DW 15, l = 6.00 m

Note

Non-weldable! Take official approval into consideration!

Technical Data

Permissible tension force 90 kN.



PERI UP Flex Weather Protection Roof LGS



Item no.	Weight kg
107867	3.790
100055	4.440
104391	5.000
100059	5.500
100063	6.640
104762	7.490
100067	7.830

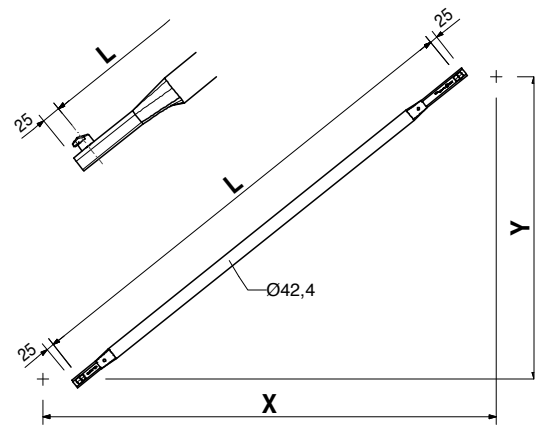
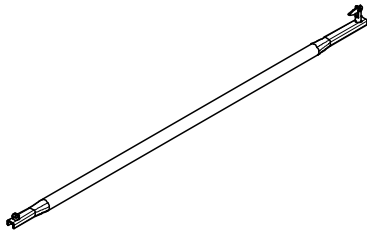
- Ledger Braces UBL**
- Ledger Brace UBL 150/50**
- Ledger Brace UBL 150/100**
- Ledger Brace UBL 200/50**
- Ledger Brace UBL 200/100**
- Ledger Brace UBL 250/100**
- Ledger Brace UBL 300/50**
- Ledger Brace UBL 300/100**

Mounted in the holes of the Ledgers.

L	X	Y
1347	1500	500
1601	1500	1000
1820	2000	500
2016	2000	1000
2462	2500	1000
2795	3000	500
2926	3000	1000

Note

Longitudinally-stamped for easier identification.
 UBL 150/250 identical to UBL 300/50,
 UBL 100/100 identical to Diagonal Strut ST 100
 (Item no. 019940).

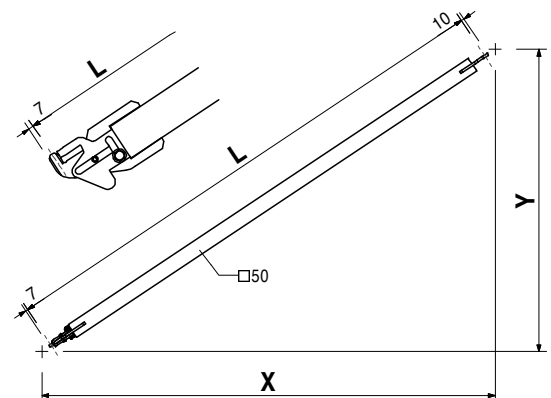
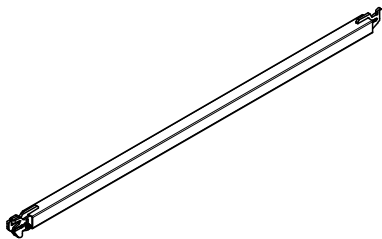


114818	4.580
114821	5.720
114912	6.650
114820	7.000
124097	7.770
114819	8.350
124101	8.990
114892	9.730
124105	10.300

- H-Braces UBH Flex**
- H-Brace UBH Flex 100/100**
- H-Brace UBH Flex 150/100**
- H-Brace UBH Flex 150/150**
- H-Brace UBH Flex 200/100**
- H-Brace UBH Flex 200/150**
- H-Brace UBH Flex 250/100**
- H-Brace UBH Flex 250/150**
- H-Brace UBH Flex 300/100**
- H-Brace UBH Flex 300/150**

For horizontal bracing of towers. Also useable underneath deckings UDI and UDG.

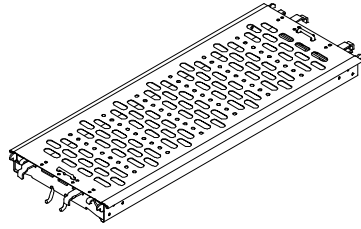
L	X	Y
1335	1000	1000
1725	1500	1000
2042	1500	1500
2161	2000	1000
2422	2000	1500
2620	2500	1000
2838	2500	1500
3092	3000	1000
3279	3000	1500



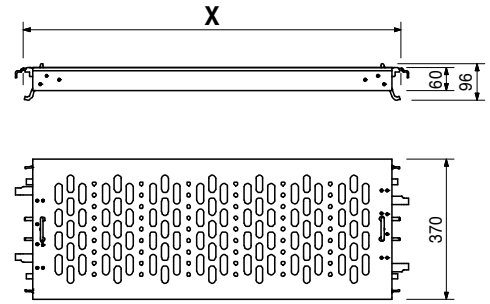
Item no. Weight kg

		Industrial Decks UDI 37.5
111863	11.800	Industrial Deck UDI 37.5 x 150
111865	18.500	Industrial Deck UDI 37.5 x 250
111969	21.900	Industrial Deck UDI 37.5 x 300

Mounted on Ledgers UH.



X	perm. p [kN/m ²]	max. p [kN/m ²]
1500	6.0	13.3
2500	4.5	7.5
3000	3.0	5.2

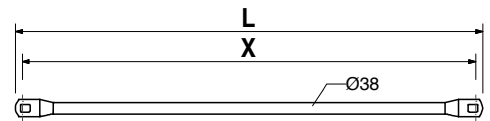
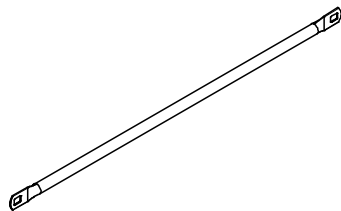


		Guardrails UPG
100265	2.410	Guardrail UPG 150
100267	4.020	Guardrail UPG 250
100268	4.820	Guardrail UPG 300

L	X	Sticker
1546	1500	
2546	2500	Red
3046	3000	Black

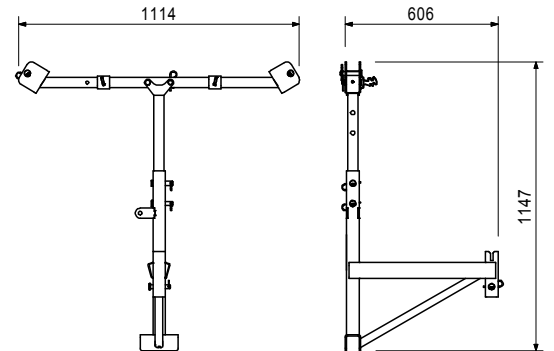
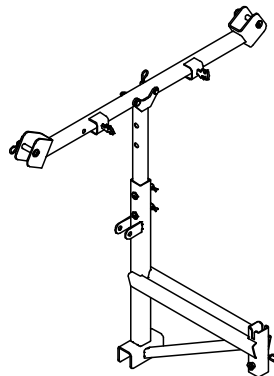
Note

Longitudinally-stamped and with coloured label for easier identification.



126489	18.600	LGS Ridge Console URH For connection to Ridge Element and Ridge Bar to access the roof.
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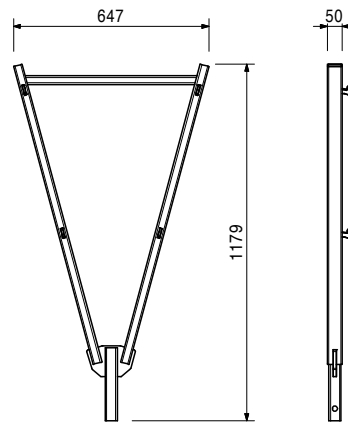
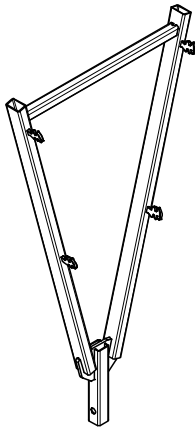
Complete with
 1 pc. 126962 Collar Type Pin Ø 12 x 74, galv.
 5 pc. 106031 Bolt Ø 16 x 70, galv.
 6 pc. 018060 Cotter Pin 4/1, galv.



Item no. Weight kg

126466 10.100

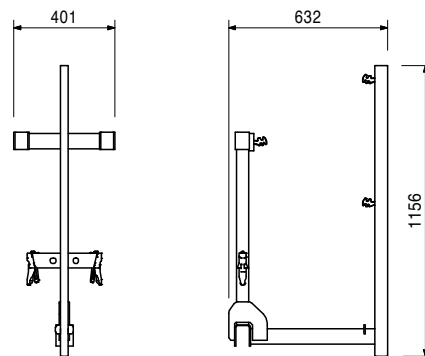
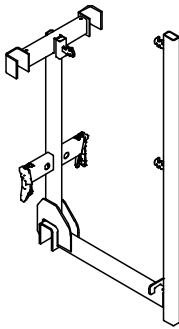
LGS Ridge Guardrail URH



126490 14.200

LGS Console URH

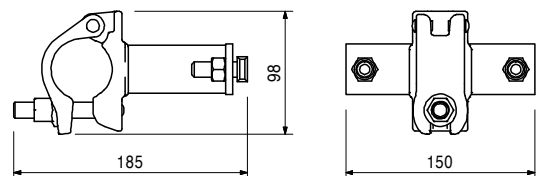
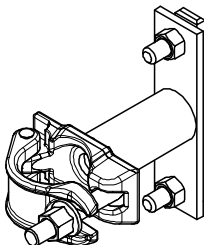
For connection to Basic and Additional Element to access the roof.



126009 1.310

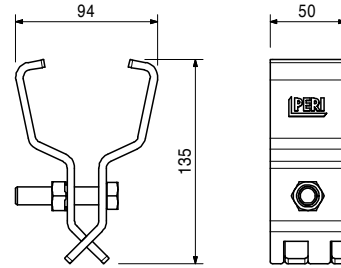
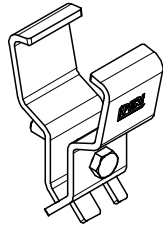
LGS Keder Connector URV

For mounting Keder Rails URK at scaffold components with Tube \varnothing 48.3 mm.



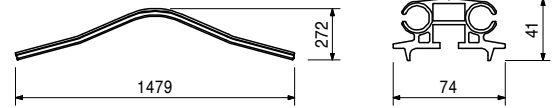
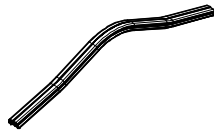
Item no.	Weight kg
125166	0.674

LGS Keder Connector URK
 For mounting Keder Rails URK at LGS Elements.



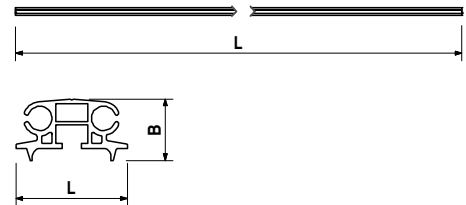
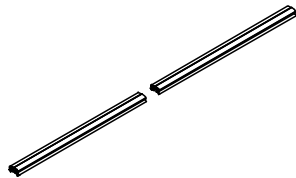
126051	3.640
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LGS Ridge Rail URK 150
 As transition of Keder sheetings over LGS Ridge Element URR.



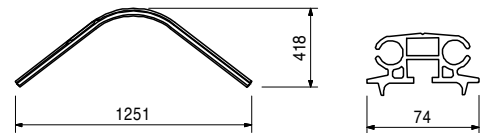
127501	3.530
127500	7.050
126071	14.100

LGS Keder Rails URK
LGS Keder Rail URK 150
LGS Keder Rail URK 300
LGS Keder Rail URK 600
 Rail for rolling up keder sheetings in scaffold constructions.



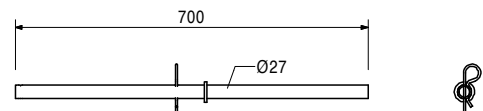
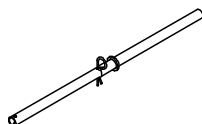
126491	3.370
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LGS Eave Rail URK
 As transition of keder sheetings over the LGS Eave Element.



126487	1.150
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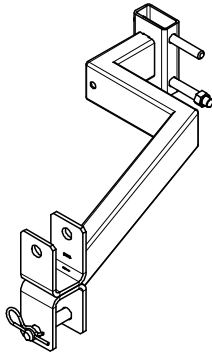
LGS Crank URG
 For winding the keder sheetings onto the LGS Tarpaulin Reels URG.



Item no.	Weight kg
126486	3.560

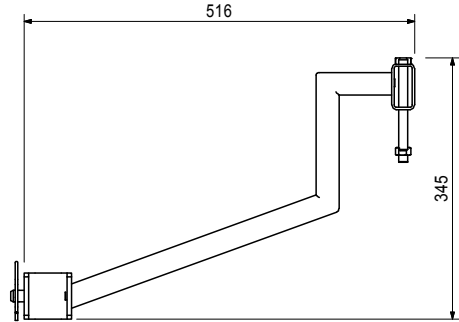
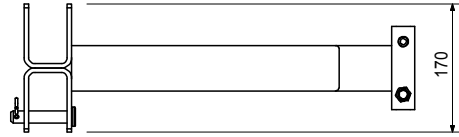
LGS Reel Connector URG

For attaching LGS Tarpauling Reel URG on Eave Element URB to assemble the keder sheetings.



Complete with

- 1 pc. 126924 Bolt ISO 4014 M12 x 130-8.8, galv.
- 1 pc. 710330 Nut ISO 4032 M12-8, galv.
- 1 pc. 106031 Bolt Ø 16 x 70, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.



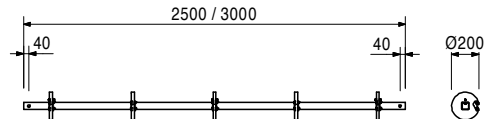
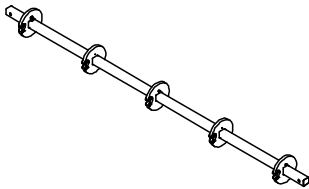
126484	10.500
126485	11.900

LGS Tarpaulin Reels URG

LGS Tarpaulin Reel URG 250

LGS Tarpaulin Reel URG 300

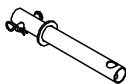
For transportation and installation / removing of keder sheetings.



126488	1.250
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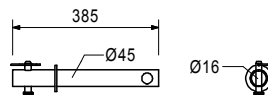
LGS Handle URG

Extension for LGS Tarpaulin Reel URG.



Complete with

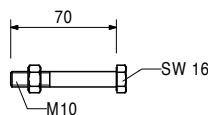
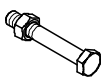
- 1 pc. 106031 Bolt Ø 16 x 70, galv.
- 1 pc. 018060 Cotter Pin 4/1, galv.



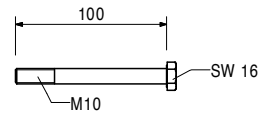
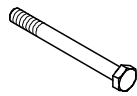
100719	0.060
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Bolt ISO 4014 M10 x 70-8.8 MU

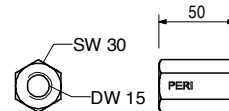
As tension-proof connection of standards for suspended scaffolds or lattice girders.



Item no.	Weight kg	
710242	0.063	Bolt ISO 4014 M10 x 100-8.8, galv.



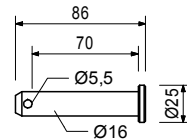
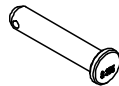
030070	0.222	Hex. Nut DW 15 SW 30/50, galv. For anchoring with Tie Rod DW 15 and B 15.	Technical Data Permissible load 90 kN.
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780356	0.011	Nuts ISO 7042-8, verz.	Note Wrench size SW 16, 24, 36.
070890	0.030	Nut ISO 7042 M10-8, galv.	
105032	0.070	Nut ISO 7042 M16-8, galv. Self-locking.	



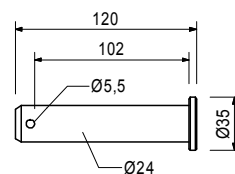
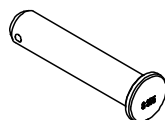
106031	0.142	Bolt Ø 16 x 70, galv.
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018060	0.030	Cotter Pin 4/1, galv.
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106191	0.438	Bolt Ø 24 x 105, galv.
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PERI UP Flex Weather Protection Roof LGS

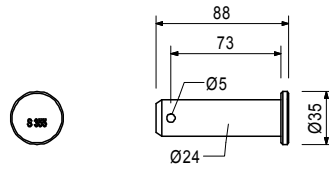
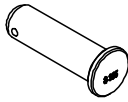


Item no. Weight kg

127468

0.325

Bolt Ø 24 x 55, galv.



022230

0.033

Cotter Pin 5/1, galv.



118349

3.530

Tension Belt PTB 12

Two parts.

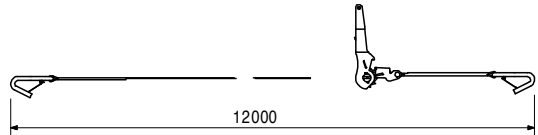
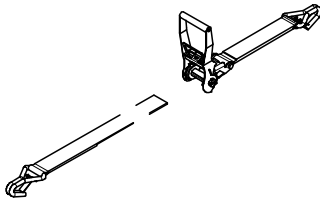
Note

Consider information on the belt Label!

Technical Data

Total length 12 m, max. span 8 m.

Permissible tension force 2.5 t.



Comparison of components

As part of ongoing product optimisation, the following components have been replaced by 2nd generation components.

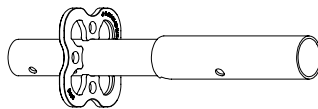
The following comparison tables describe the features of the 1st and 2nd generation.



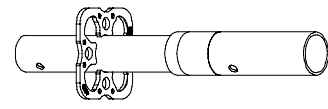
1st and 2nd generation components can be combined.

- The previous components are no longer available as new components.
- The optimised components are available under a new article number.
- There may be a difference between the load-bearing capacity of the individual components in the previous version and the new version.

Base Standard UVB 24 / 49

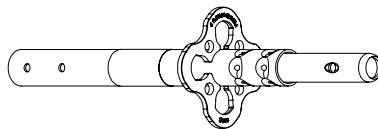


Base Standard UVB 25 / 50

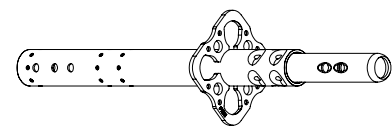


Tube	RO 48.3 mm x 3.6 mm	RO 48.3 mm x 3.6 mm
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
System height	24 / 49 cm	25 / 50 cm
Combinability	Geometrically and statically combinable in the system.	

Standard UVR

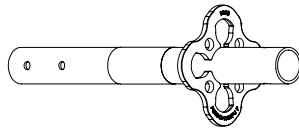


Standard UVR-2

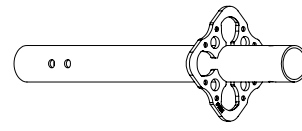


Tube	RO 48.3 mm x 3.2 mm	RO 48.3 mm x 2.7 mm , embossed points on the bottom standard.
Tube-pin connection	2 rows, with 5 pinch points each	2 rows, with 4 pinch points each
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold (see "PERI UP components")	1 hole perm. F up to 20 kN when fixed 1x	2 holes perm. F up to 15 kN when fixed 1x perm. F up to 31 kN when fixed 2x
Marking	none	striped band at the top and bottom
Combinability	Geometrically and statically* combinable in the system. * The standard configurations in the Instructions for Assembly and Use only apply in conjunction with Horizontal Ledgers UH Plus / UH-2 and UHV Plus / UHV-2. * The load tables shown in the Instructions for Assembly and Use for the Heavy-Duty Prop HD and Shoring Tower Plus systems do not apply to use of the Standard UVR-2. Check the statics beforehand!	

Top Standard UVH

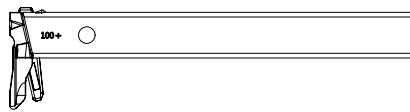


Top Standard UVH-2

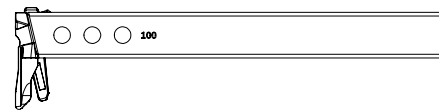


Tube	RO 48.3 mm x 3.2 mm	RO 48.3 mm x 3.2 mm
Rosette	160 mm x 130 mm x 8 mm	152 mm x 120 mm x 6 mm
Hole for suspended scaffold (see "PERI UP components")	1 hole perm. F up to 20 kN when fixed 1x	2 holes perm. F up to 15 kN when fixed 1x perm. F up to 31 kN when fixed 2x
Combinability	Geometrically and statically combinable in the system.	

Horizontal Ledger UH Plus

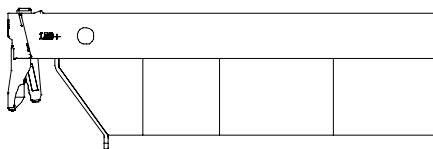


Horizontal Ledger UH-2

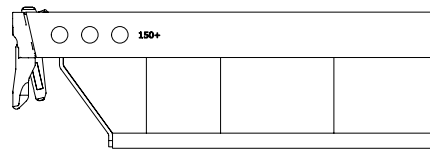


UBL assembly points	2 x 1, for assembly of a Ledger Brace UBL	2 x 3, for assembly of up to three Ledger Braces UBL When installing only one ledger brace preferably use the middle assembly point. Ledger Braces UBL can be mounted at very flat installation angles using the middle assembly point only. Check the geometry beforehand!
Combinability	Geometrically and statically combinable in the system.	

Horizontal Ledger UHV Plus

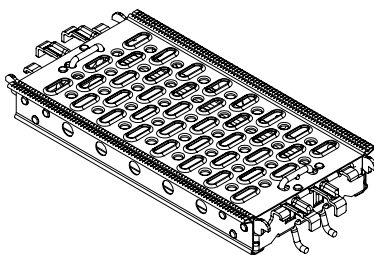


Horizontal Ledger UHV-2

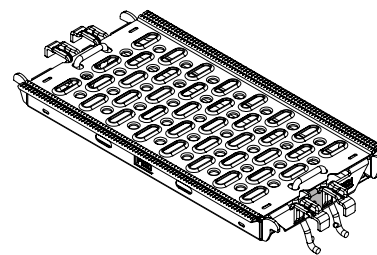


UBL assembly points	2 x 1, for assembly of a Ledger Brace UBL	2 x 3, for assembly of up to three Ledger Braces UBL When installing only one ledger brace preferably use the middle assembly point. Ledger Braces UBL can be mounted at very flat installation angles using the middle assembly point only. Check the geometry beforehand!
Combinability	Geometrically and statically combinable in the system.	

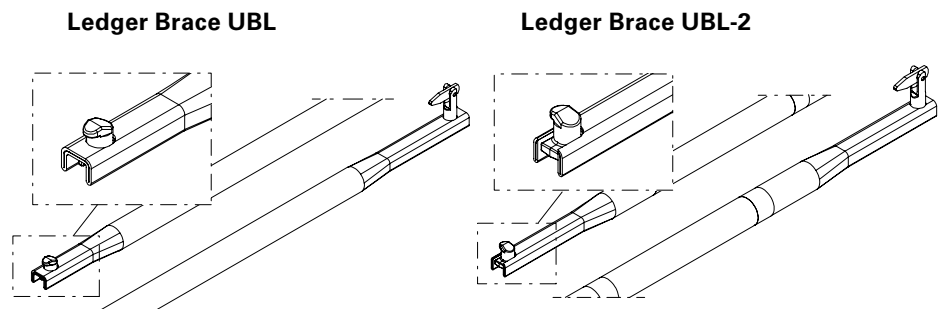
Steel Deck UDG



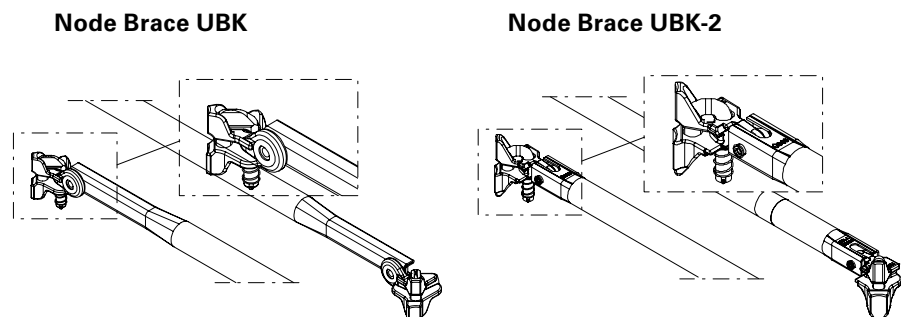
Steel Deck UDG-2



Deck assembly	riveted and welded	welded
Profile height	65 mm, uniform	L 50 – 150: 45 mm L 200 – 250: 60 mm L 300: 70 mm
Marking	without	coloured clip on the front side
Combinability	Geometrically and statically combinable in the system.	



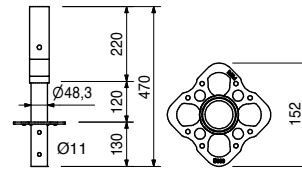
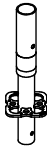
UBL Mounting Lug	points in the longitudinal direction	points in the transverse direction
Combinability	Geometrically and statically combinable in the system.	
Marking	none	Band at the top and bottom
Handling	Tilt in to install.	Swivel in to install (less lateral space required for installation).



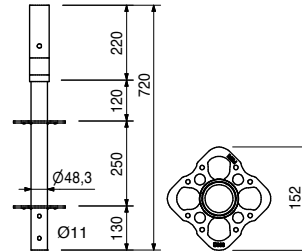
Head piece connected to the diagonal tube	riveted to crimped tube	bolted to cast shaped component
Combinability	Geometrically and statically combinable in the system.	
Marking	none	Band at the top and bottom
Features	Galvanised heads	Yellow-coated heads

Article no. Weight kg

133499 2.270 **Base Standard UVB 25**

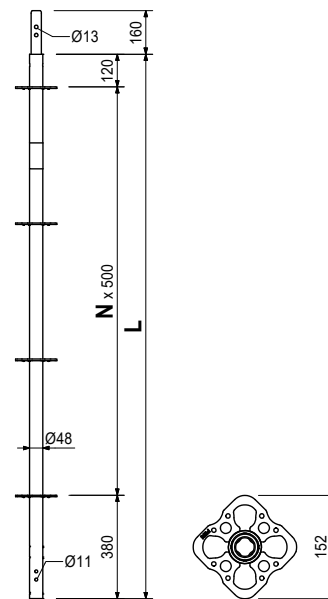
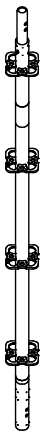


135187 3.590 **Base Standard UVB 50**

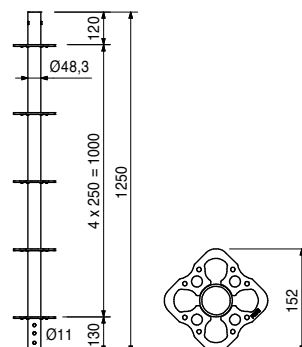
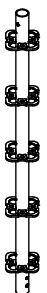


132219	2.480	Standard UVR-2
132224	4.340	Standard UVR-2 50
132229	6.180	Standard UVR-2 100
132234	8.030	Standard UVR-2 150
132239	11.700	Standard UVR-2 200
		Standard UVR-2 300

L
500
1,000
1,500
2,000
3,000



132196 6.060 **Top Standard UVH-2 125**
Without pin for supporting head spindles. Reduces necessary spindle extensions with 25 cm rosette spacing.



Article no. Weight kg

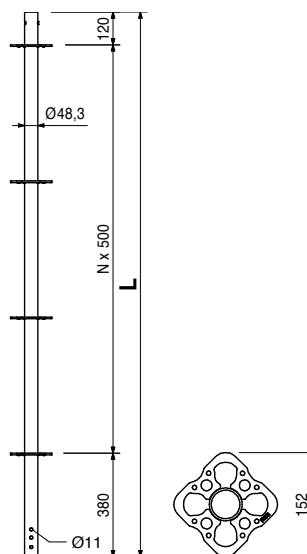
132123	2.090
132194	4.210
132198	6.310
132200	8.420
100002	10.500

Top Standards UVH-2
Top Standard UVH-2 50
Top Standard UVH-2 100
Top Standard UVH-2 150
Top Standard UVH-2 200
Top Standard UVH-2 250

Without pin for supporting head spindles.



L
500
1,000
1,500
2,000
2,500



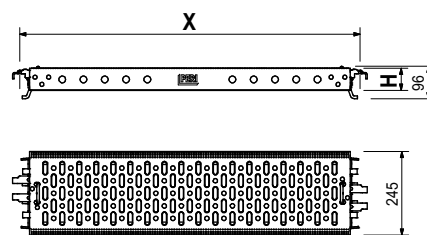
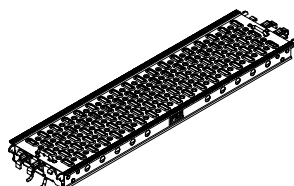
132479	3.340
132483	4.100
132488	4.470
132492	5.590
132502	6.730
132505	7.870
132508	10.500
132511	12.900
132515	15.800

Steel Decks UDG-2 25
Steel Deck UDG-2 25X 50
Steel Deck UDG-2 25X 67
Steel Deck UDG-2 25X 75
Steel Deck UDG-2 25X100
Steel Deck UDG-2 25X125
Steel Deck UDG-2 25X150
Steel Deck UDG-2 25X200
Steel Deck UDG-2 25X250
Steel Deck UDG-2 25X300

X	perm. p [kN/m ²]	H
500	6.0	45
670	6.0	45
750	6.0	45
1,000	6.0	45
1,250	6.0	45
1,500	6.0	45
2,000	6.0	60
2,500	4.5	60
3,000	3.0	70

Note

Values correspond with EN 12811-1

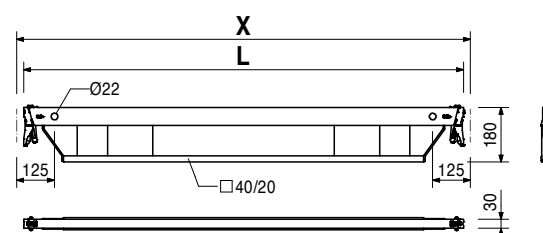
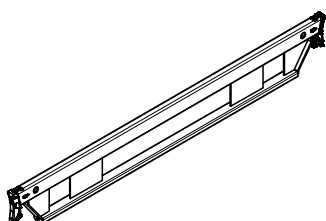


137020	9.410
137025	12.700
137030	15.200
137035	18.500

Horizontal Ledger UHV-2
Horizontal Ledger UHV-2 150
Horizontal Ledger UHV-2 200
Horizontal Ledger UHV-2 250
Horizontal Ledger UHV-2 300

For high loads, e.g. in the case of material storage.

L	X
1,454	1,500
1,954	2,000
2,454	2,500
2,954	3,000



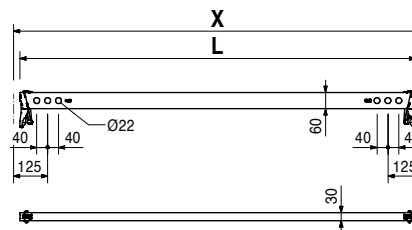
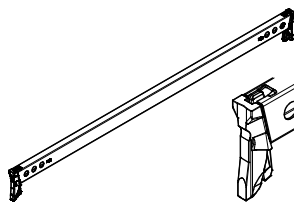
Article no. Weight kg

Article no.	Weight kg	Horizontal Ledger UH-2
131995	1.40	Horizontal Ledger UH-2 25
133900	1.50	Horizontal Ledger UH-2 33
131998	2.03	Horizontal Ledger UH-2 50
133903	2.48	Horizontal Ledger UH-2 67
132213	2.69	Horizontal Ledger UH-2 75
132004	3.79	Horizontal Ledger UH-2 100
132007	4.58	Horizontal Ledger UH-2 125
132010	4.68	Horizontal Ledger UH-2 150
132013	5.34	Horizontal Ledger UH-2 175
132016	6.00	Horizontal Ledger UH-2 200
132019	6.66	Horizontal Ledger UH-2 225
132025	7.32	Horizontal Ledger UH-2 250
132022	8.65	Horizontal Ledger UH-2 300

L	X
204	250
284	330
454	500
624	670
704	750
954	1,000
1,204	1,250
1,454	1,500
1,704	1,750
1,954	2,000
2,204	2,250
2,454	2,500
2,954	3,000

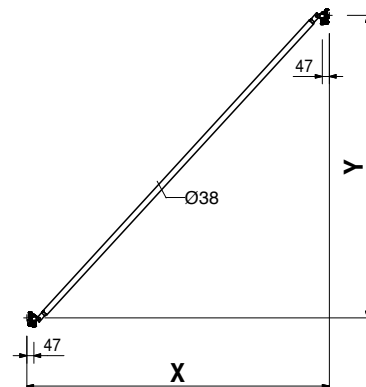
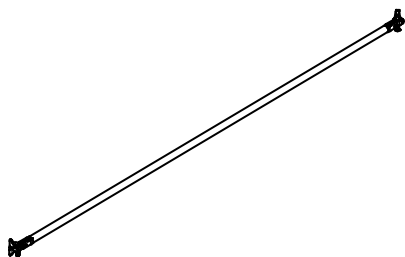
Note

With length marking for easier identification.



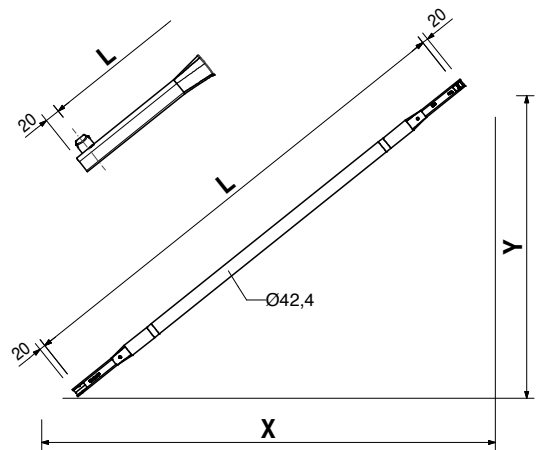
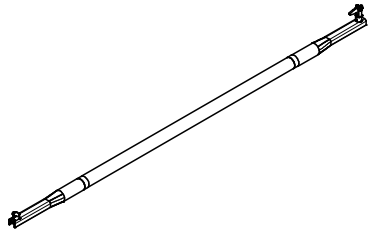
Article no.	Weight kg	Node Brace UBK-2
133418	4.96	Node Brace UBK-2 75/200
133421	5.11	Node Brace UBK-2 100/200
133424	3.88	Node Brace UBK-2 125/100
133427	5.30	Node Brace UBK-2 125/200
133430	4.22	Node Brace UBK-2 150/100
133433	4.82	Node Brace UBK-2 150/150
133436	5.53	Node Brace UBK-2 150/200
133439	4.97	Node Brace UBK-2 200/100
133442	5.47	Node Brace UBK-2 200/150
133445	6.08	Node Brace UBK-2 200/200
133448	5.77	Node Brace UBK-2 250/100
133451	6.19	Node Brace UBK-2 250/150
133454	6.72	Node Brace UBK-2 250/200
133457	6.60	Node Brace UBK-2 300/100
133460	6.96	Node Brace UBK-2 300/150
133463	7.42	Node Brace UBK-2 300/200

L	X	Y
2,190	750	2,000
2,285	1,000	2,000
1,625	1,250	1,000
2,401	1,250	2,000
1,821	1,500	1,000
2,152	1,500	1,500
2,539	1,500	2,000
2,246	2,000	1,000
2,521	2,000	1,500
2,860	2,000	2,000
2,696	2,500	1,000
2,930	2,500	1,500
3,226	2,500	2,000
3,131	3,000	1,000
3,356	3,000	1,500
3,625	3,000	2,000



Article no. Weight kg

Article no.	Weight kg		L	X	Y
		Ledger Braces UBL-2			
132771	2.12	Ledger Brace UBL-2 100/ 50	901	1,000	500
132773	2.81	Ledger Brace UBL-2 100/100	1,250	1,000	1,000
132775	3.66	Ledger Brace UBL-2 100/150	1,677	1,000	1,500
132777	4.58	Ledger Brace UBL-2 100/200	2,136	1,000	2,000
132779	3.01	Ledger Brace UBL-2 150/ 50	1,347	1,500	500
132781	3.51	Ledger Brace UBL-2 150/100	1,601	1,500	1,000
132783	4.21	Ledger Brace UBL-2 150/150	1,953	1,500	1,500
132785	5.02	Ledger Brace UBL-2 150/200	2,358	1,500	2,000
132787	5.31	Ledger Brace UBL-2 175/200	2,500	1,750	2,000
132789	3.95	Ledger Brace UBL-2 200/ 50	1,820	2,000	500
132791	4.34	Ledger Brace UBL-2 200/100	2,016	2,000	1,000
132793	4.92	Ledger Brace UBL-2 200/150	2,305	2,000	1,500
132795	5.62	Ledger Brace UBL-2 200/200	2,658	2,000	2,000
132797	4.43	Ledger Brace UBL-2 225/ 50	2,062	2,250	500
132808	4.78	Ledger Brace UBL-2 225/100	2,236	2,250	1,000
132810	5.96	Ledger Brace UBL-2 225/200	2,829	2,250	2,000
132812	5.23	Ledger Brace UBL-2 250/100	2,462	2,500	1,000
132814	5.71	Ledger Brace UBL-2 250/150	2,705	2,500	1,500
132816	6.32	Ledger Brace UBL-2 250/200	3,010	2,500	2,000
132827	5.90	Ledger Brace UBL-2 300/ 50	2,795	3,000	500
132829	6.16	Ledger Brace UBL-2 300/100	2,926	3,000	1,000
132831	6.57	Ledger Brace UBL-2 300/150	3,133	3,000	1,500
132833	7.10	Ledger Brace UBL-2 300/200	3,400	3,000	2,000



The optimal System for every Project and every Requirement



Wall Formwork



Column Formwork



Slab Formwork



Climbing Systems



Tunnel Formwork



Bridge Formwork



Shoring Systems



Construction Scaffold



Facade Scaffold



Industrial Scaffold



Access



Protection Scaffold



System-Independent Accessories



Services



PERI GmbH
Formwork Scaffolding Engineering
 Rudolf-Diesel-Strasse 19
 89264 Weissenhorn
 Germany
 Tel. +49 (0)7309.950-0
 Fax +49 (0)7309.951-0
 info@peri.com
 www.peri.com