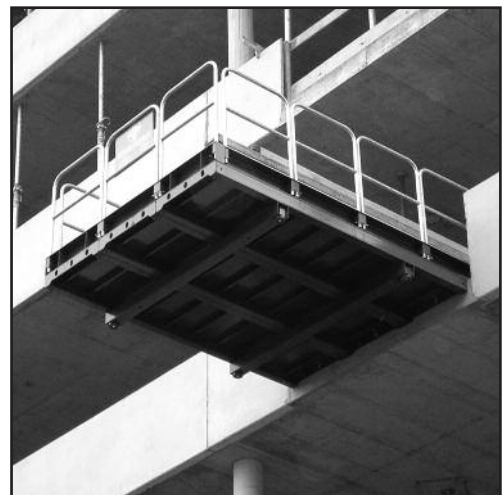


7

TRAPOFLEX-WORKING PLATFORMS for safe material transportation on sites



INSTRUCTIONS FOR ASSEMBLY AND USE



ROBUSTA
GAUKEL



Index

Elementary safety warnings	3
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Key



Important information for special attention



Sight-check

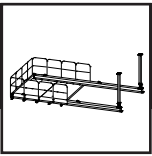


Suspension lugs for transportation by crane



Suspension lugs for transportation near ground





General safety information

This installation- and using instruction contents details for the correct installation and the use according to the regulations of the following described products.

All laws, standards, industrial safety regulations and other safety rules applying to the utilization of our products in the country and/or region in which you are operating must be observed at all times. Besides eventual features during mounting on the spot have to be attended.

Illustrations show the situation during assembly and are therefore not always complete from the safety point of view. In general always the regulations of the UVV have to be attended.

Before using, all parts (especially fixed suspension lugs) have to be examined carefully for damages and have to be replaced if necessary.

This damaged material has to be marked accordingly and being stored in a way that a further use is not possible.

Exclusively original parts of ROBUSTA-GAUKEL may be used as spare parts.

High-handed changes of the mounting parts are not allowed. In case of differences from this instructions our explicit approval is necessary.

In this case please contact the technical department of ROBUSTA-GAUKEL.

All persons working with the product described herein must be familiar with the contents of this instructions and with all the safety instructions it contains.

The entrepreneur has to make sure that a copy of these instructions is placed at the usage location. If needed a copy of this instructions can be loaded from our web site.

Special safety instructions referring to product

While using the platforms point loads are being supposed onto the structure of the building. To ensure the stability of the platform you must consider and examine the local load pressure and also the further reactions of the building respectively structure. These loads are indicated in chapter "Technical Data".

For safe attachment of the platform there has to be at least one slab with a sufficient bearing capacity, as a standard a second slab above is necessary. The end points of the cantilever girders are being supported to the slab above by propping struts which are supplied with the girders. This slab must be stable enough to withstand to the upward support forces.

For each single situation of erection you must consider the vertical clearance, in order to determine the fitting prop with sufficient capacity -> refer to chapter "Technical Data".

In case that there should only be 1 slab, as an alternative the end points of the girders can be fixed down to slab where the girders are placed upon. Instructions for this please refer to page 10.

Basically you have to pay attention to the edge of the slabs: without supporting walls underneath you have to prop these edges of the slab!

When using these platforms for other purposes than described in this manual, you must contact the technical department of ROBUSTA-GAUKEL for consultation. In these cases a detailed examination of the static design is necessary.

It is not allowed to use ladders on the platform, impact forces are not allowed! Stepping onto the narrow girders and climbing onto the edge protection is not allowed.

Product characteristics and use

With the Trapoflex-platforms a safe stop surface with a surrounding side protection outside of the building can be mounted. So the material for casings and scaffolding as well as component parts for the inside construction can be placed without dangerous diagonal pull by crane. The closed flooring made of corrugated metal sheet is flush with the upper edge of the slab, that means the transportation with lift truck or rollers is possible without any difference of level.

The flooring with a complete surrounding setting on edge prevents falling of small parts.

With a few elements the platforms are mountable in different manner. So different standard platform sizes are mountable like an assembly of prefabricated parts. The standard platforms with a width of 2.40 m and 3.00 m are optimized for a transportation by truck.

In general the delivery of this platforms is in a mounted stage. Only the side protection frames have to be mounted on site.

The props for the support are fixed to inclinable base plates.

On request the platforms can be adjusted to special installation situations.

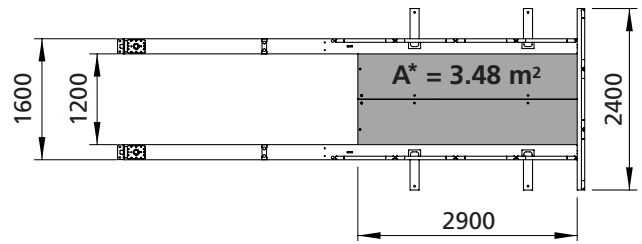
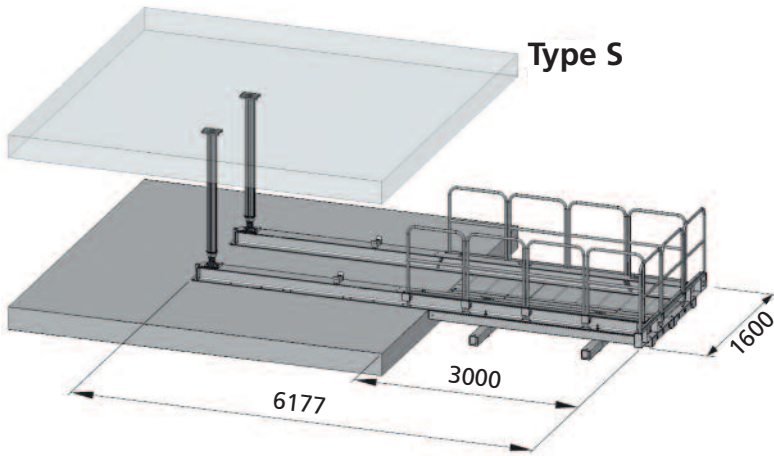
With a few special parts also other platform measurements are possible.

The dimensioning and the proof of the parts are based on DIN EN 12811-1 and -2.

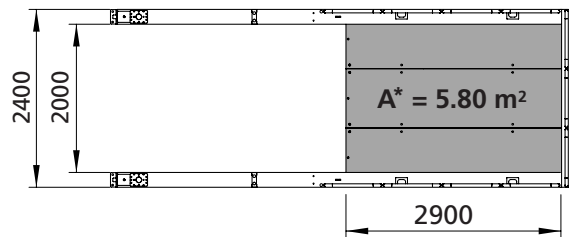
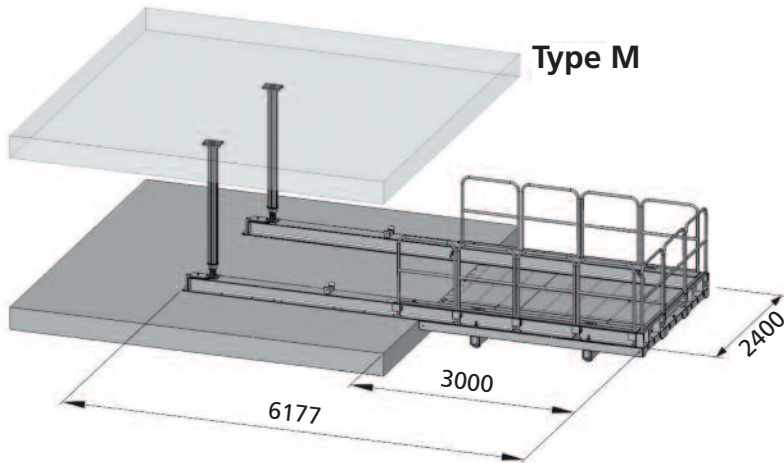




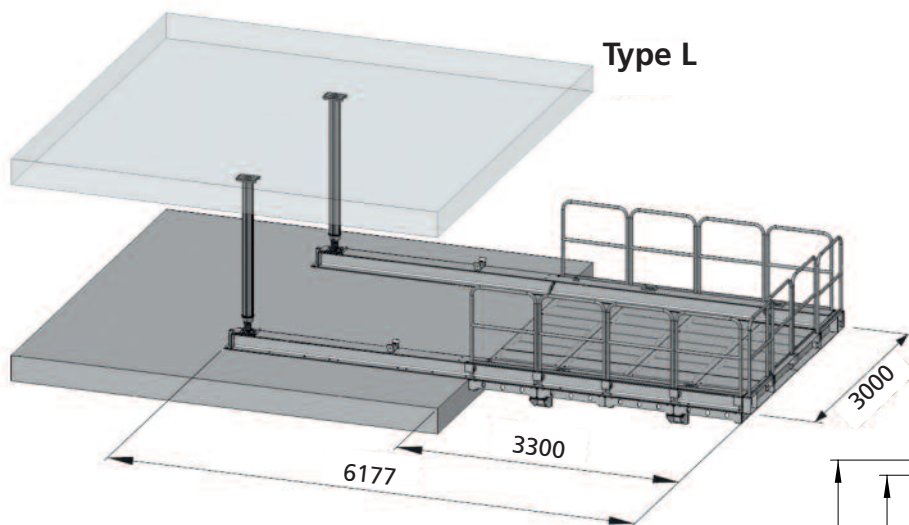
Survey of sizes of the standard Trapoflex-platforms



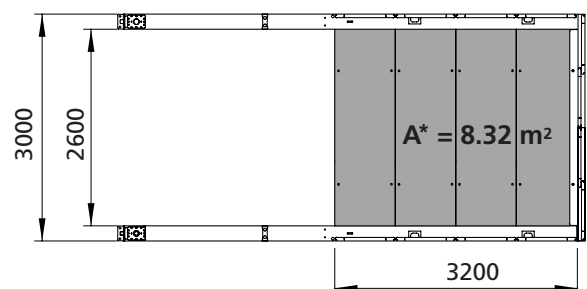
delivery assembled ready for use



delivery assembled ready for use

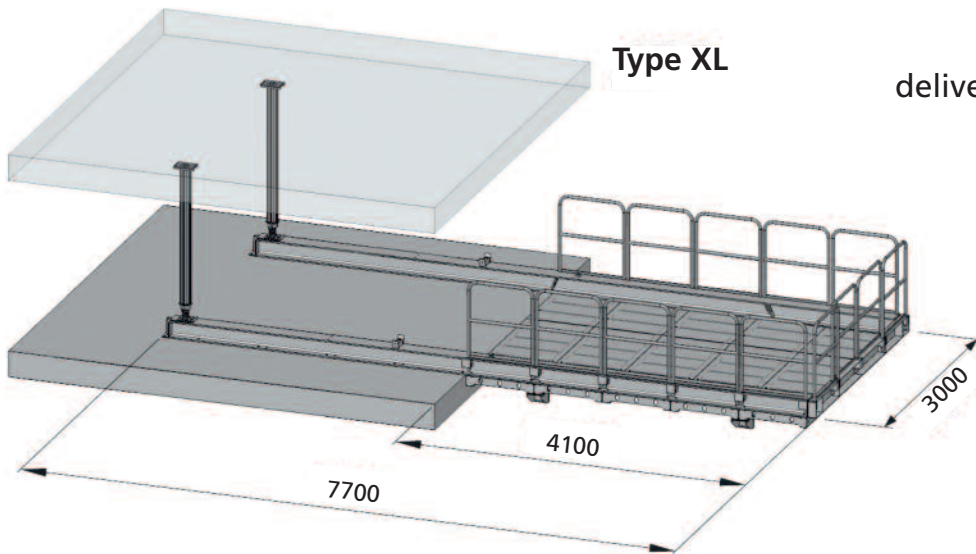


delivery assembled ready for use

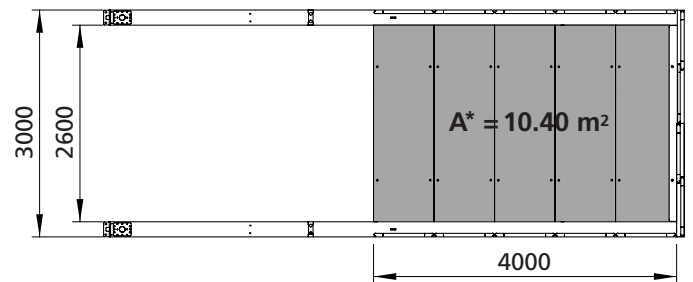




Survey of sizes of the standard Trapoflex-platforms



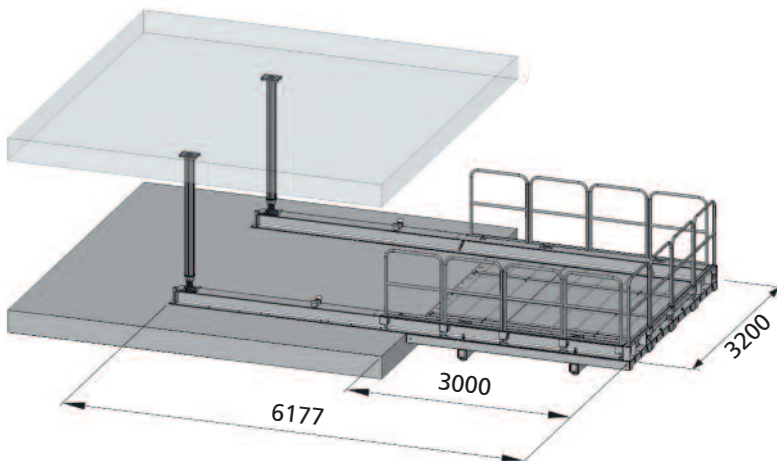
delivery assembled ready for use



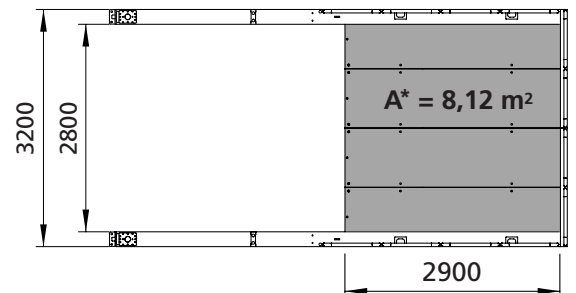
A^* = available flooring area

Survey of sizes of the special Trapoflex-platform

Type XXL 3.20

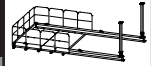


delivery in single parts
assembling on site see page 13



A^* = available flooring area





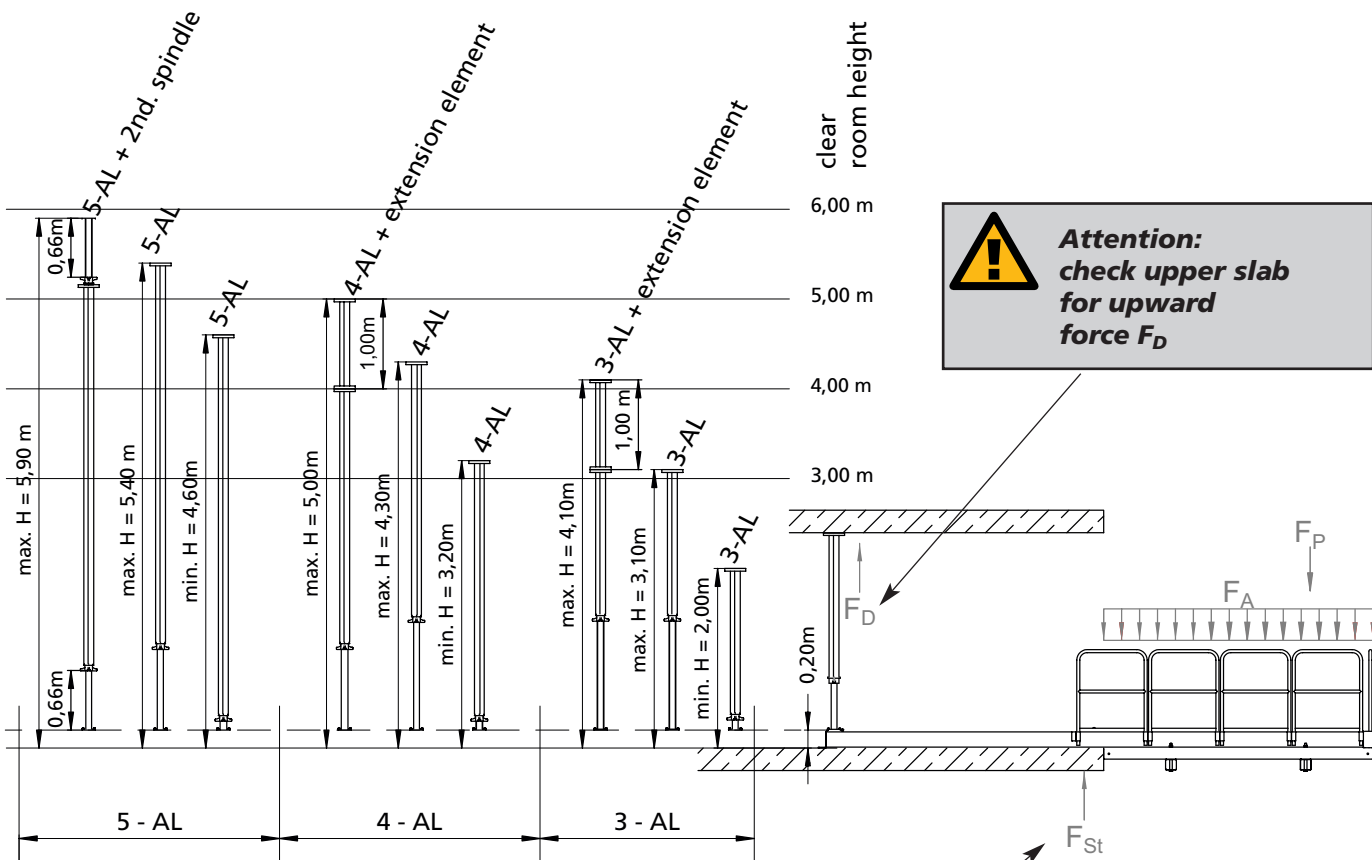
Survey technical data

Trapoflex	Type S	Type M	Type L	Type XL	Type XXL 3,20
platform width*	1.60 m	2.40 m	3.00 m	3,00 m	3,20 m
platform length*	3,00 m	3,00 m	3.20 m	4,10 m	3,00 m
platform area	3.48 m ²	5.80 m ²	8.32 m ²	10.4 m ²	8.12 m ²
net weight	11 kN	13 kN	16 kN	25 kN	18 kN
perm. live load	21 kN	35 kN	37,5 kN	47 kN	36.5 kN
perm. area load	$F_A = 6 \text{ kN/m}^2$			$F_A = 4.5 \text{ kN/m}^2$	
perm. total load	$F_P = 6 \text{ kN}$			$F_P = 6 \text{ kN}$	
Max support load _{F_{St}} each girder	30 kN	45 kN	50 kN	55 kN	45 kN
Max. F_D each prop	17 kN	25 kN	25 kN	21 kN	25 kN

Attention: The stated permissible loads and the supporting loads are real "characteristic" data

*external sizes incl. cantilever girder and girder to frond end.

Survey of supporting loads and selection of props



Attention: support free edge of slab on behalf of the site





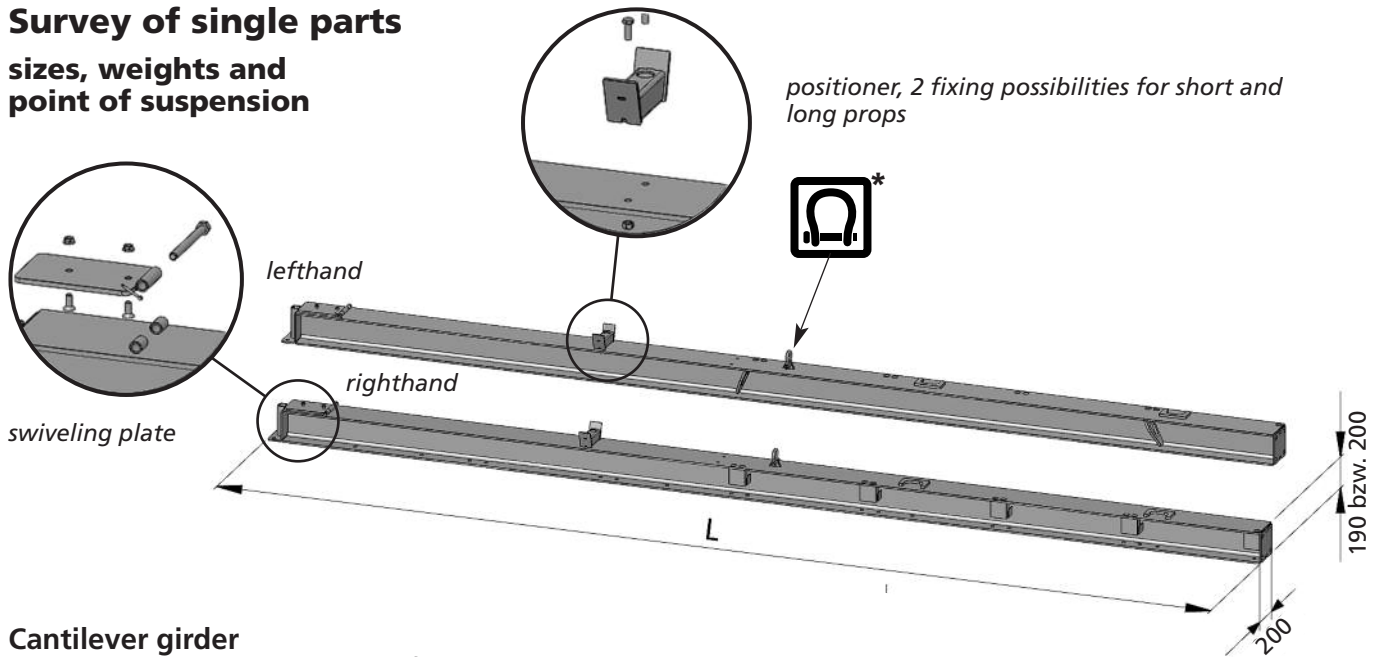
TRAPOFLEX-WORKING PLATFORMS

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INSTRUCTIONS FOR ASSEMBLY AND USE

Survey of single parts

sizes, weights and point of suspension



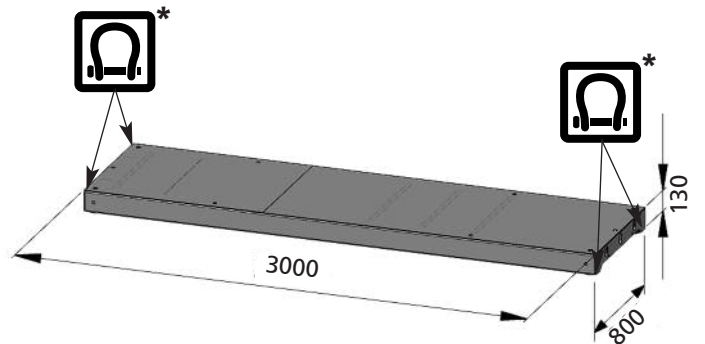
Cantilever girder

included swiveling plate and positioner for layed down props

For Type	Length [mm]	Weight [kg/unit]	Side	Item No.
S / M / L (XXL 3,20)	6180	275.0	lefthand	743063
S / M / L (XXL 3,20)	6180	275.0	righthand	743062
XL	7680	490.0	lefthand	744077
XL	7680	490.0	righthand	744076

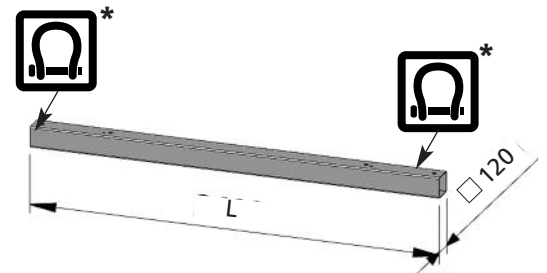
Flooring frame

Sizes L x W x H [mm]	Weight [kg/unit]	Item No.
3000 x 800 x 130	184.0	740008



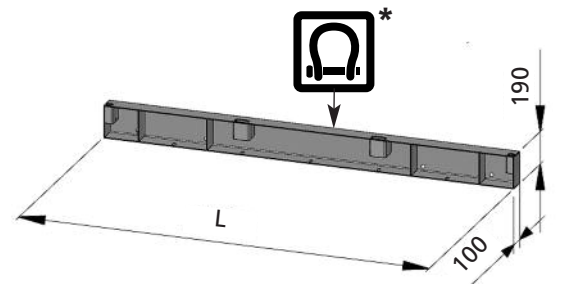
Traverse

For Type	Length [mm]	Weight [kg/unit]	Item No.
S / M	2400	41.0	740025
(XXL 3.20)	3200	69.0	740033



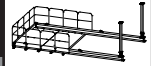
Cantilever for front end

For Type	Length [mm]	Weight [kg/unit]	Item No.
S / M	2400	36.5	740024
L / XL	3000	57.0	740030
(XXL 3.20)	3200	48.0	740032



* only for transportation of the single parts near ground!





Survey of single parts

Single props with 1 spindle

Type	Extension length L [m]	Length L 1 [m]	Weight [kg/unit]	Item No.
3-AL	1.70 – 2.90	1.62	17.0	621329
4-AL	2.90 – 4.10	2.82	21.0	621441
5-AL	4.30 – 5.50	4.22	28.0	621555

Additional spindle with protection against unscrewing

Type	Length [m]	Extension length [m]	Weight [kg/unit]	Item No.
lang	1.60	1.20	10.40	621012

Extension elements

Length L [m]	Weight [kg/unit]	Item No.
1,00	5,70	621010

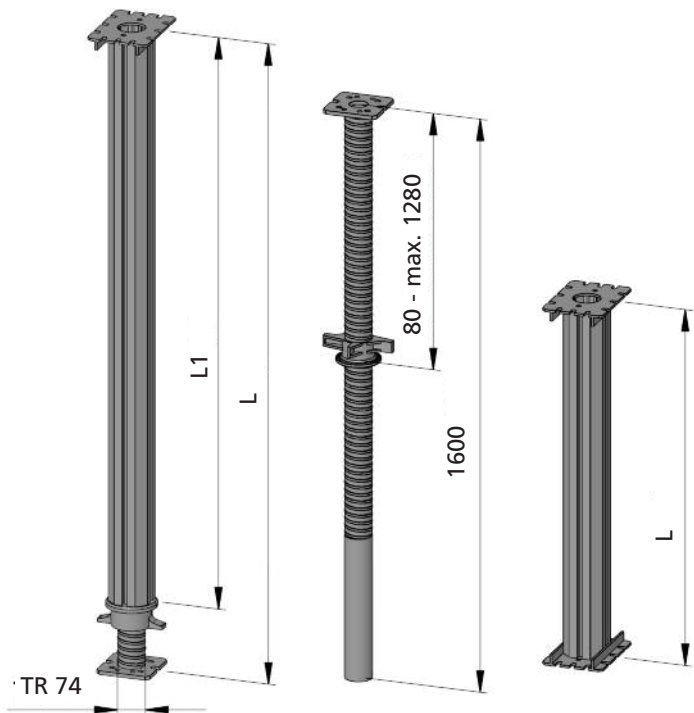
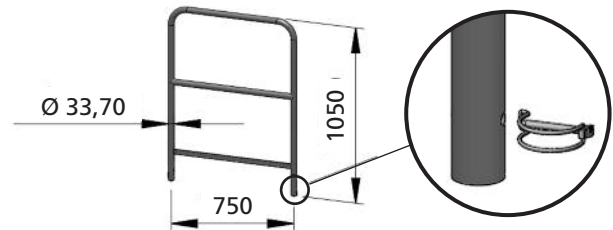


table for fixing of the room height see page 6

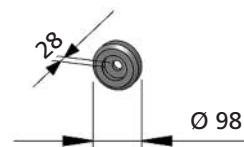
Side protection frame

Weight [kg/unit]	Item No.
9.0	419510



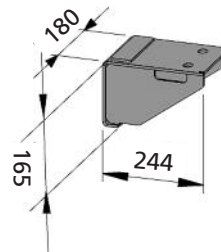
Stacking ring

Weight [kg/unit]	Item No.
1.3	740031



Stacking spacer

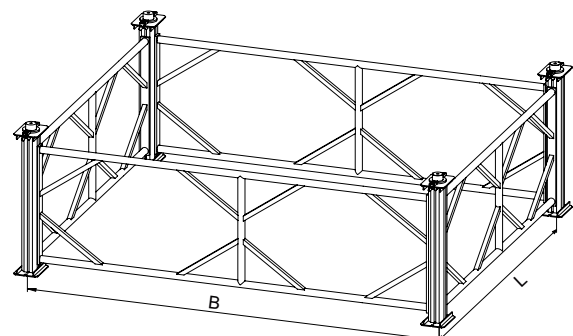
Weight [kg/unit]	Item No.
6.0	740034



Supporting tower for balustrades

for Type	Size of axis W x L [m]	Weight* [kg/unit]	Item No.
S	1.5 x 2.9	82.0	743110
M	2.3 x 2.9	92.0	743120
L	2.9 x 2.3	92.0	743130
XL	2.9 x 2.9	97.0	743140

* weight only for tower





TRAPOFLEX-WORKING PLATFORMS

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INSTRUCTIONS FOR ASSEMBLY AND USE

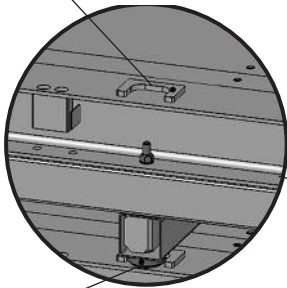
Stacked Trapoflex-platform for storing and transportation



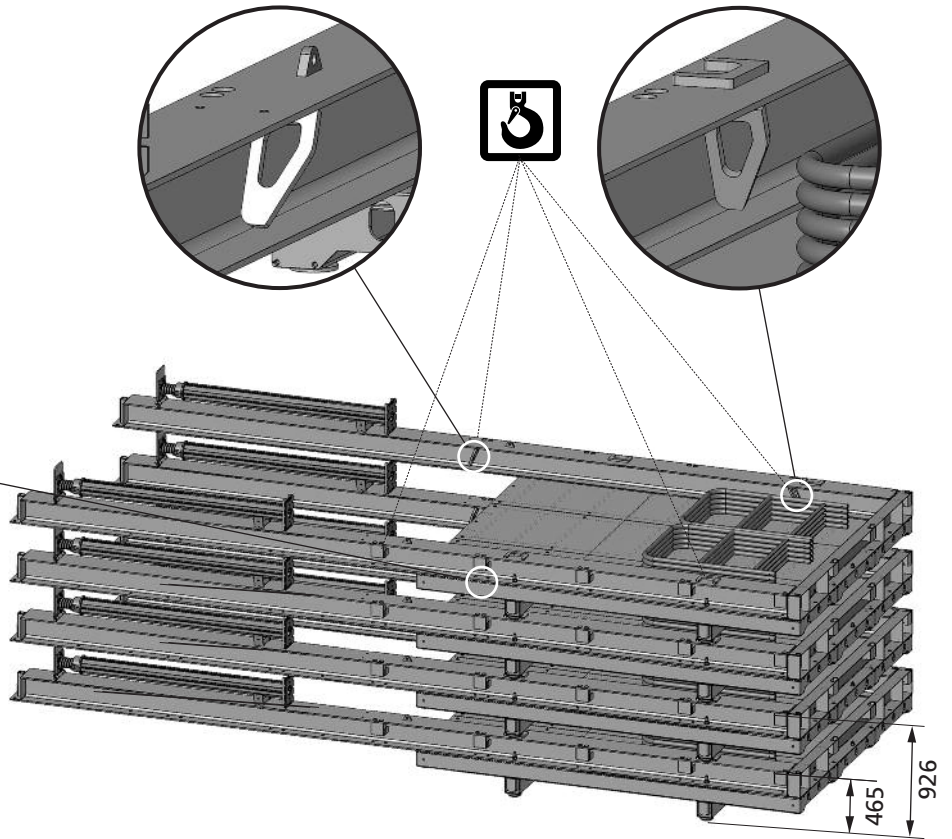
Attention: when transporting with fork lift mind the position of the center of gravity!

Types S – M – (XXL 3.20)
with stacking ring at the lower side of the traverse

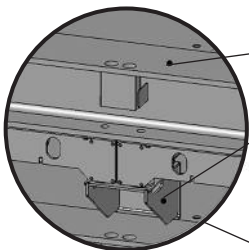
Stacking positioner metal sheet



Stacking ring is being caught in the metal sheet

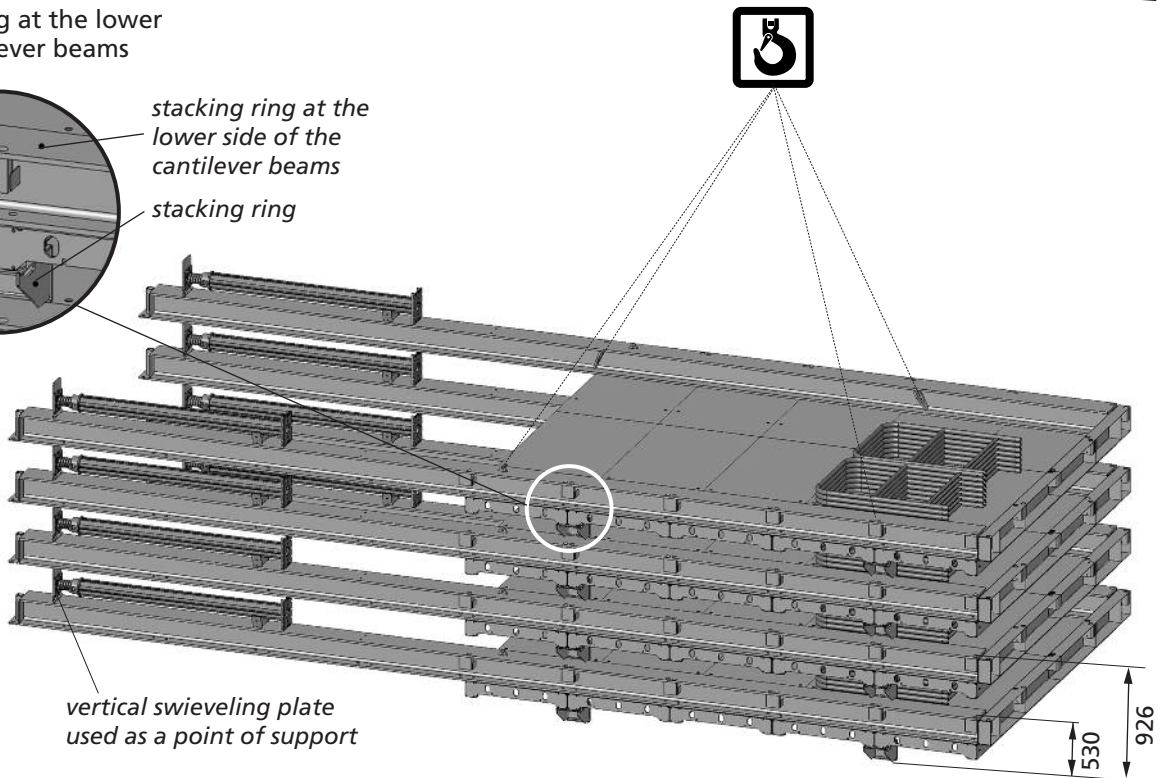


Types L and XL
with stacking ring at the lower side of the cantilever beams



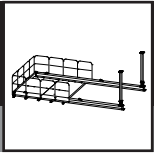
stacking ring at the lower side of the cantilever beams

stacking ring

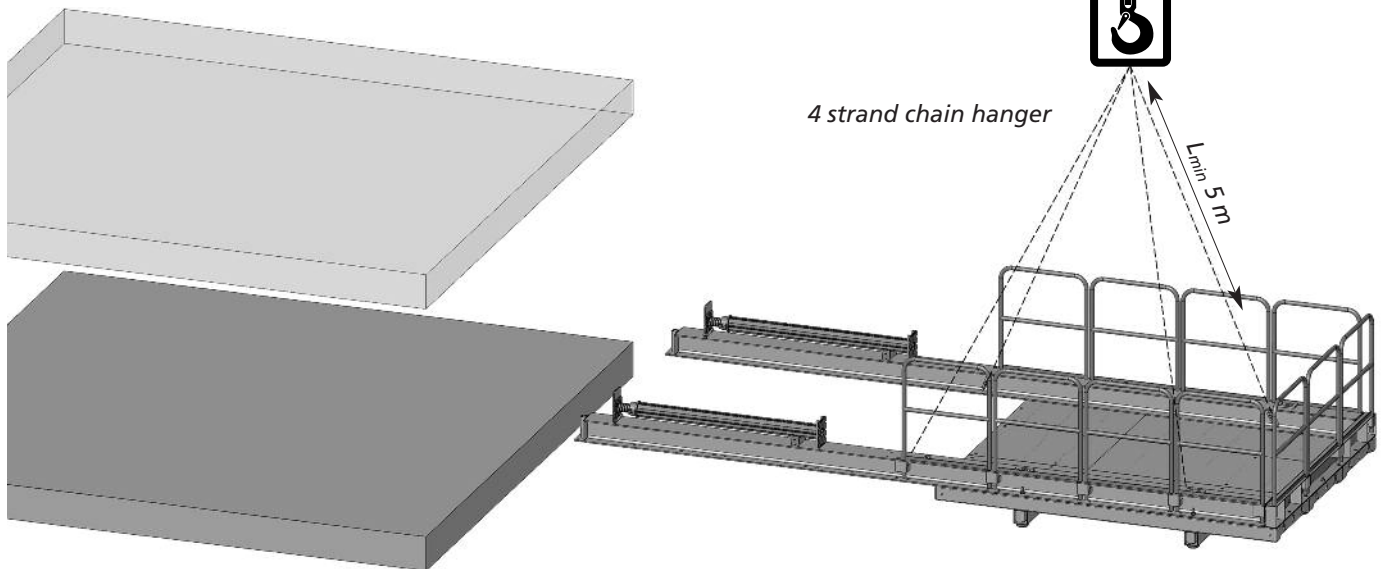


vertical swiveling plate used as a point of support



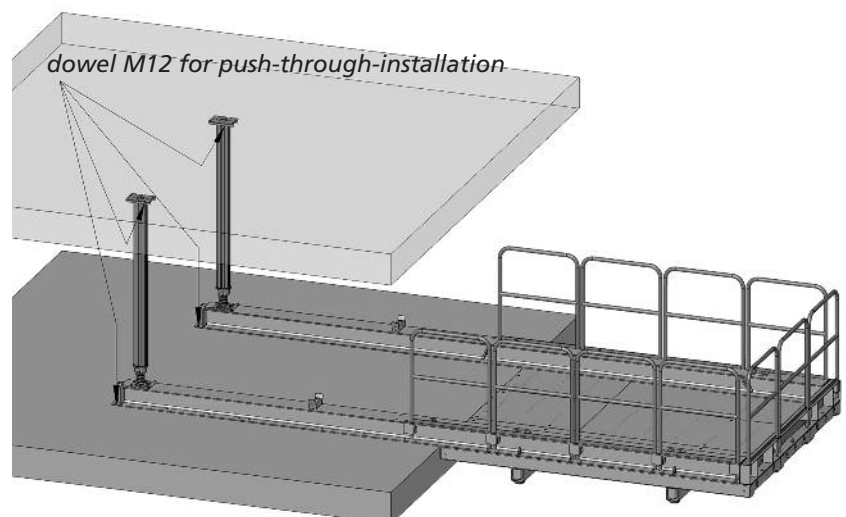
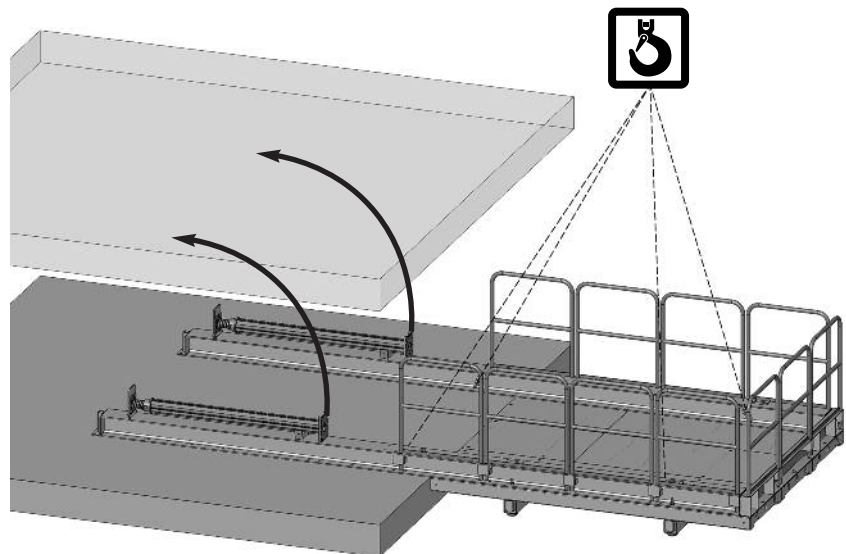


Final mounting at the building



1. Insert side protection railings and secure each with 1 Linch pin
2. Bring in complete mounted platform with crane and place on top of the slab. Platform flooring has to be flush with edge of slab
3. Erect both alu-props and support the platform against the slab above
4. Secure the cantilever girders, which are placed on the slab, with a dowel M12 against shifting. Subsequent secure the two alu-props with a dowel M12 against shifting.

5. Only after that it is allowed to remove platform from the crane!





TRAPOFLEX-WORKING PLATFORMS

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INSTRUCTIONS FOR ASSEMBLY AND USE

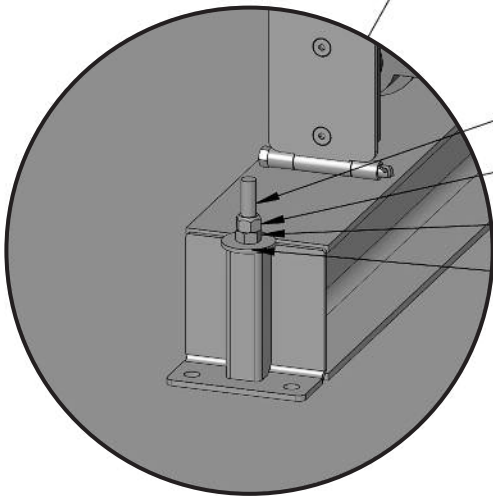
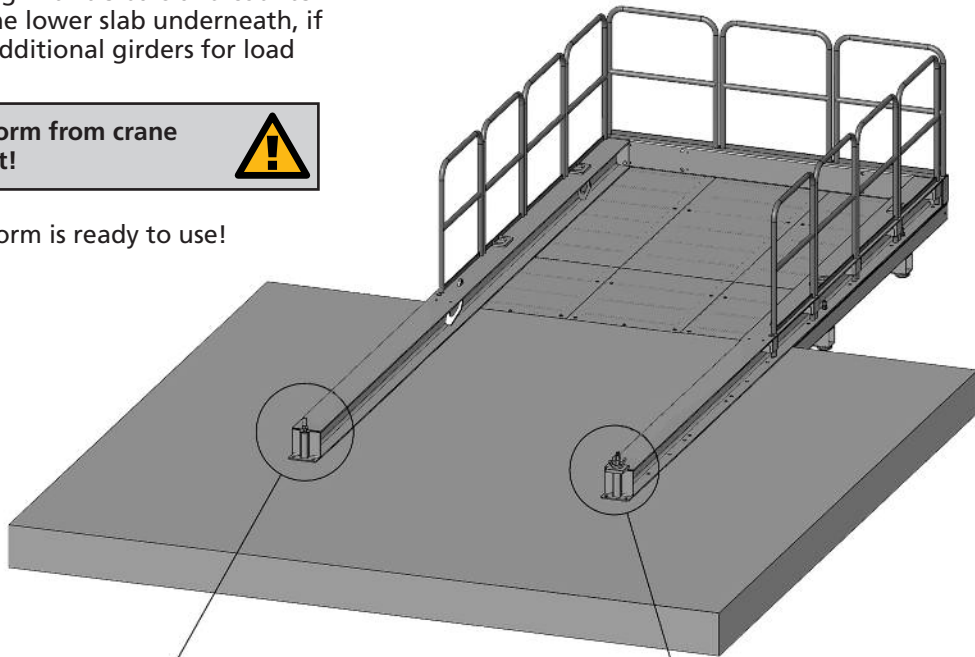
3 A: alternative fixing:

Direct anchoring with tie bars and counter anchoring to the lower slab underneath, if necessary use additional girders for load distribution.

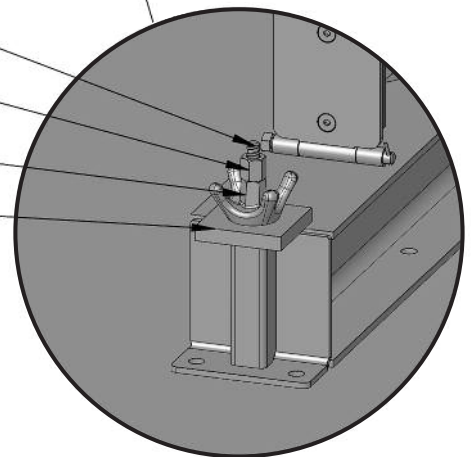
4 A: Remove platform from crane only after that!



After that the platform is ready to use!



- tie bar M20, grade 4.6 or higher
- DIN985-M20 for countering and securing
- DIN934-M20
- DIN440-22-72-6



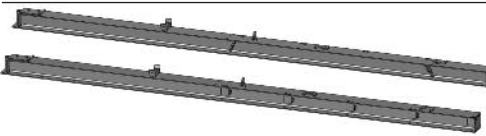







- tie bar cold rolled DW 15 mm
- hexagonal nut D&W15-30 for countering and securing
- wing nut
- washer
















Attention: when dismantling the platform please secure first the platform to the 4 crane hooks with the crane before loosening the supports or anchorings!




Summary: components standard Trapoflex-Platforms S – M – (special-XXL 3,20)

	Part	Item No.	S	M	XXL 3.20
	cantilever girder leftside cantilever girder rightside included swivel plate and positioner	743063 743062	1 x L = 6.00 m 1 x L = 6.00 m	1 x L = 6.00 m 1 x L = 6.00 m	1 x L = 6.00 m 1 x L = 6.00 m
	platform 3000 x 800 mm	74008	2	3	4
	traverse girder	740025 740033	2 x L = 2.40 m	2 x L = 2.40 m	2 x L = 3.20 m
	front end girder	740024 740032	L = 2,40 m	L = 2,40 m	L = 3,20 m
	aluminium prop according to room height	3-AL: 621329 4-AL: 621441 5-AL: 621555	2	2	2
	guard-rail frame	419510	11	11	12
	directions board	740080	1	1	1
	stacking-ring	740031	4	4	4

Components connection parts for standard Trapoflex-working platforms S – M – (Sonder-XXL 3,20)

	Part	Item No.	S	M	XXL 3,20
	hexagonal bolt DIN931-M20 x 300 8.8. Zn4	971092	4	4	4
	hexagonal bolt DIN931-M16 x 180 8.8. Zn	971078	2	4	6
	hexagonal bolt DIN933-M16 x 40 8.8. Zn	971123	6	7	6
	counter sunk screw DIN7991-M12 x 30 Zn	971033	4	4	4
	hexagonal nut, self locking, DIN985-M20 8. Zn	973037	4	4	4
	hexagonal bolt, selbtsichernd, DIN965-M16 8. Zn	973036	8	11	12
	hexagonal bolt with flange "Verbus-Ripp" M12	973004	4	4	4
	washer DIN125-21 Zn	974010	4	4	4
	washer DIN125-17 Zn	974008	10	11	12
	linch pin DIN94-4 x 40 Zn	972026	2	2	2
	dowel M12	149213	4	4	4
	linch pinr	970029	11	11	12
	shackle 1 to. for assembling	119921	4	4	4





TRAPOFLEX-WORKING PLATFORMS

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INSTRUCTIONS FOR ASSEMBLY AND USE

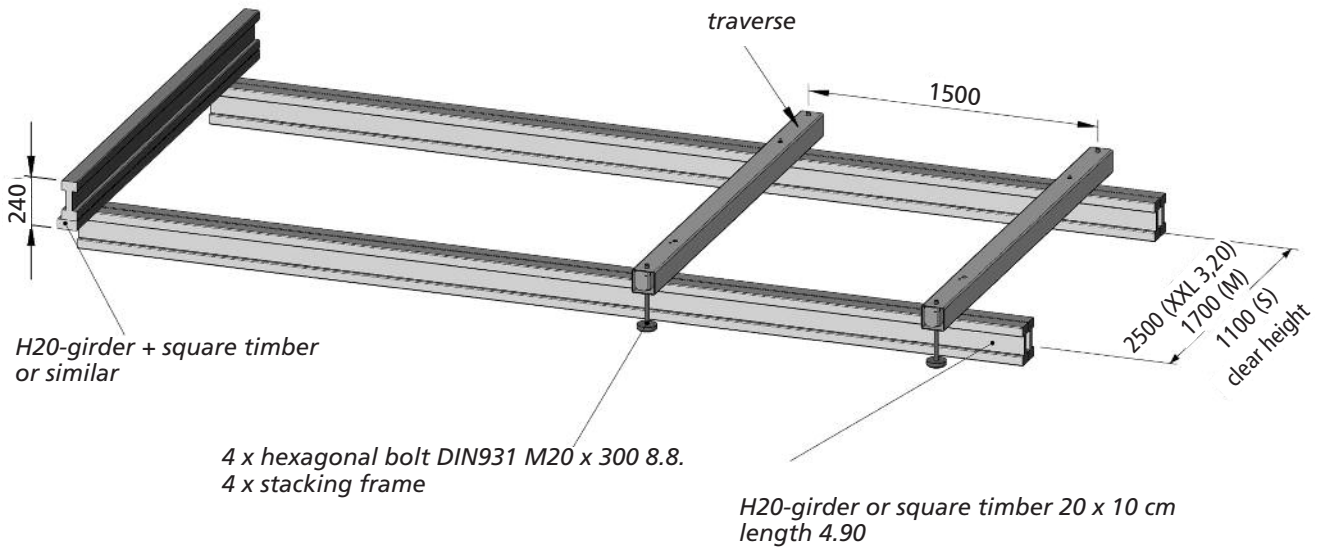
Assembling Trapoflex-working platforms Types S – M – (special XXL 3,20)

The types S and M are delivered already assembled.

For easier mounting we recommend to use square timbers or girders as a helping construction.

Also other supports are recommended such as steel girders or rectangular tubes.

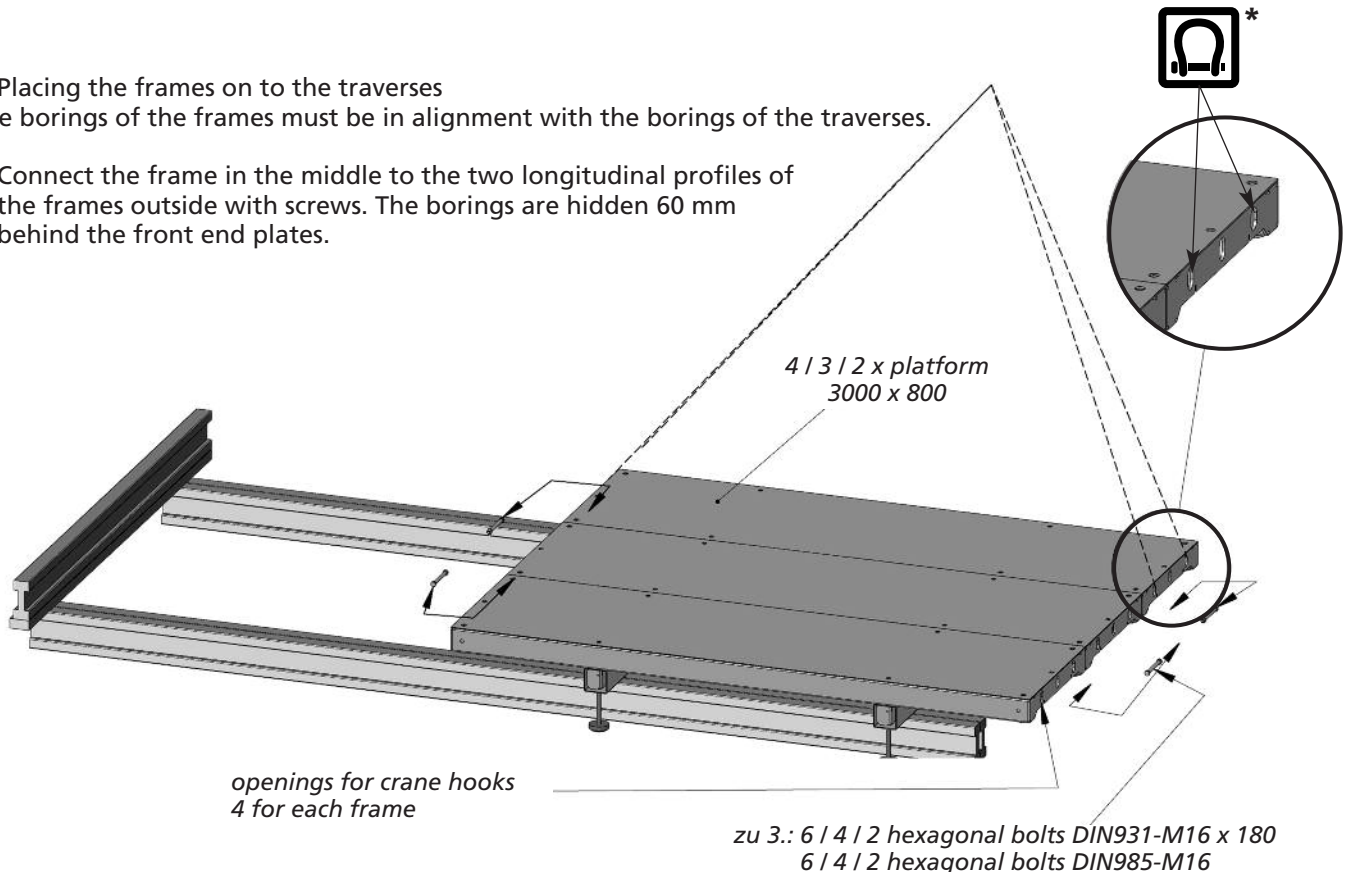
1. Place the traverses on to the square timbers 20 x 10 cm or H20-girders



2. Placing the frames on to the traverses

The borings of the frames must be in alignment with the borings of the traverses.

3. Connect the frame in the middle to the two longitudinal profiles of the frames outside with screws. The borings are hidden 60 mm behind the front end plates.



***only for transportation of the single parts near ground!**



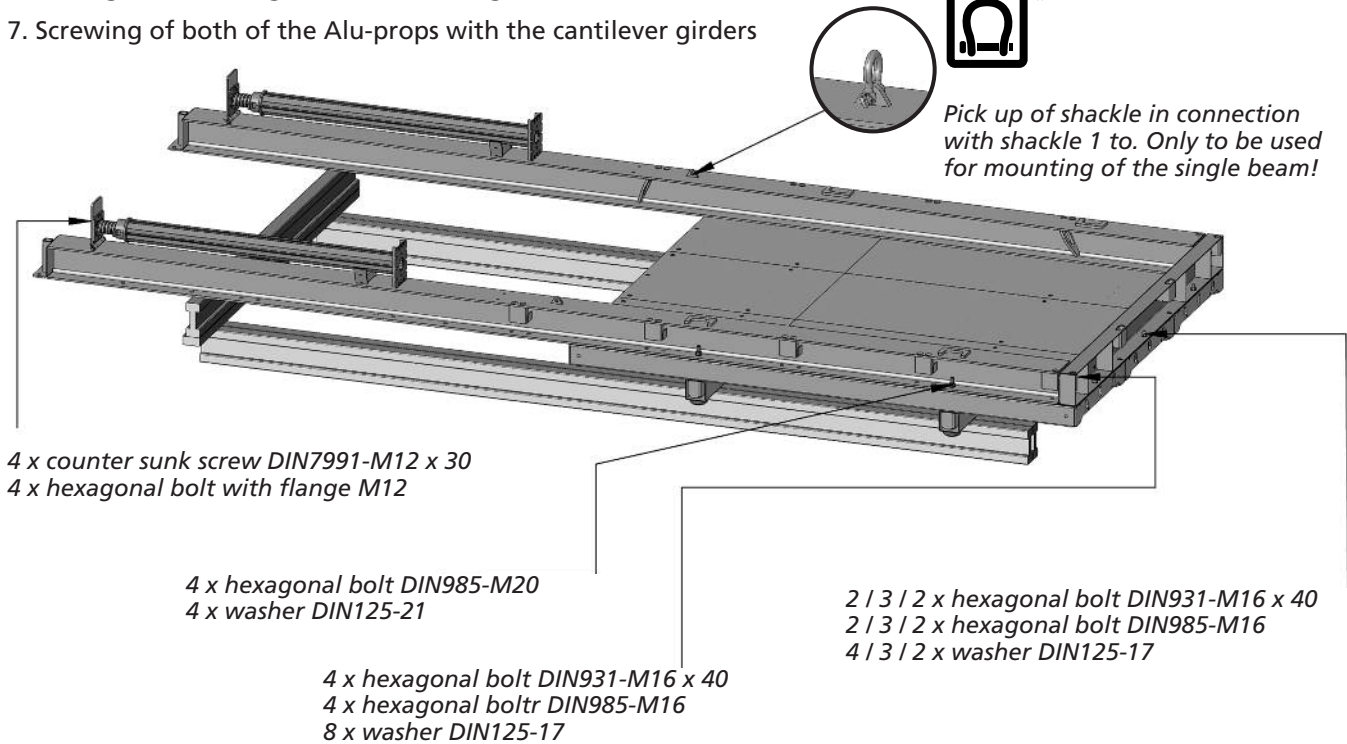


Assembling Trapoflex-working platforms Types S – M – (XXL 3,20)

4. Placing of both cantilever girders "left-side" and "right-side", borings must be in alignment
5. Screwing of the frames with the traverses and both of the steel beams
6. Placing and screwing of the front end girder
7. Screwing of both of the Alu-props with the cantilever girders



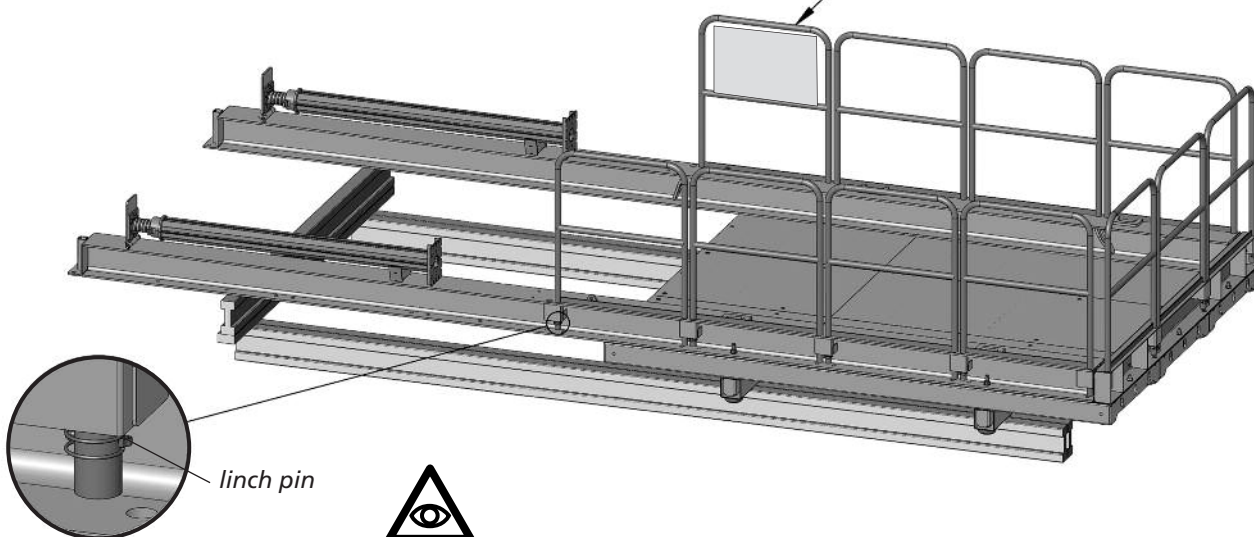
Pick up of shackle in connection with shackle 1 to. Only to be used for mounting of the single beam!



***only for transportation of the single parts near ground!**

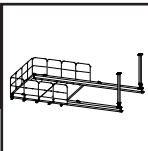
8. Inserting of the railing frames and securing with linch pin (1 x per frame)

1 frame with directions board necessary!



Fixing to building see page 10 and 11












TRAPOFLEX-WORKING PLATFORMS














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INSTRUCTIONS FOR ASSEMBLY AND USE

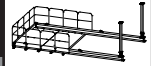
Components standard Trapoflex-working platforms L und XL

	Part	Item No.	L	XL
	cantilever girder leftside cantilever girder rightside included swivel plate and positioner	lefthand 743063 righthand 743062 lefthand 744077 righthand 744076	1 x L = 6.00 m 1 x L = 6.00 m	1 x L = 7.50 m 1 x L = 7.50 m
	platform	74008	4	5
	front end girder	740030	L = 3.00 m	L = 3.00 m
	aluminium prop according to room hight	3-AL: 621329 4-AL: 621441 5-AL: 621555	2	2
	guard-rail frame	419510	12	14
	directions board	740080	1	1
	stacking-ring	740034	4	4

Components connection parts for standard Trapoflex-working platforms L und XL

	Part	Item No.	L	XL
	hexagonal bolt DIN931-M20 x 160 8.8. Zn4	971092	2	2
	hexagonal bolt DIN931-M20 x 180 8.8. Zn	971078	16	20
	hexagonal bolt DIN933-M16 x 40 8.8. Zn	971123	4	4
	counter sunk screw DIN7991-M12 x 30 Zn	971033	4	4
	hexagonal bolt, self-locking, DIN985-M20 8. Zn	973037	18	22
	hexagonal bolt, self locking, DIN965-M16 8. Zn	973036	4	4
	hexagonal bolt with flange "Verbus-Ripp" M12	973004	4	4
	washer DIN125-21 Zn	974010	18	22
	washer DIN125-17 Zn	974008	8	8
	splint pin DIN94-4 x 40 Zn	972026	2	2
	dowel M12	149213	4	4 4
	linch pin	970029	12	14
	shackle 1 to for assembling	119921	4	4



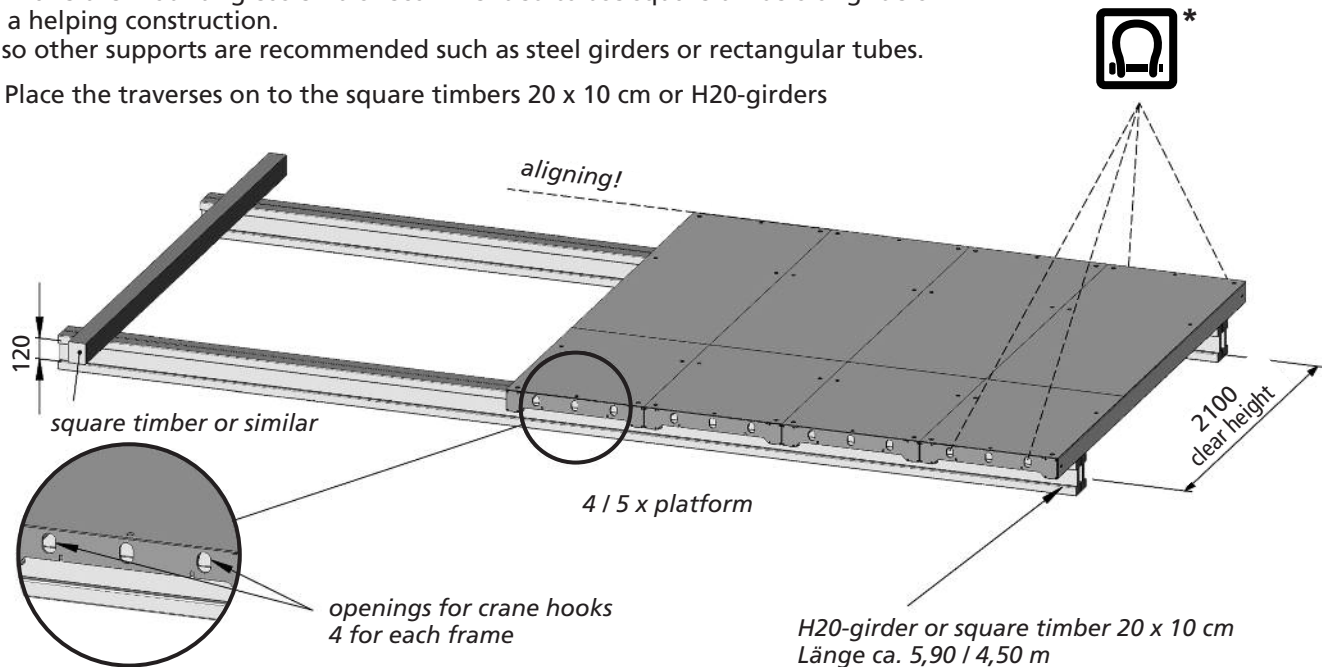


Assembling Trapoflex-working platforms L und XL

The types L and XL are delivered already assembled (3 m special width)
To make the mounting easier it is recommended to use square timbers or girders as a helping construction.

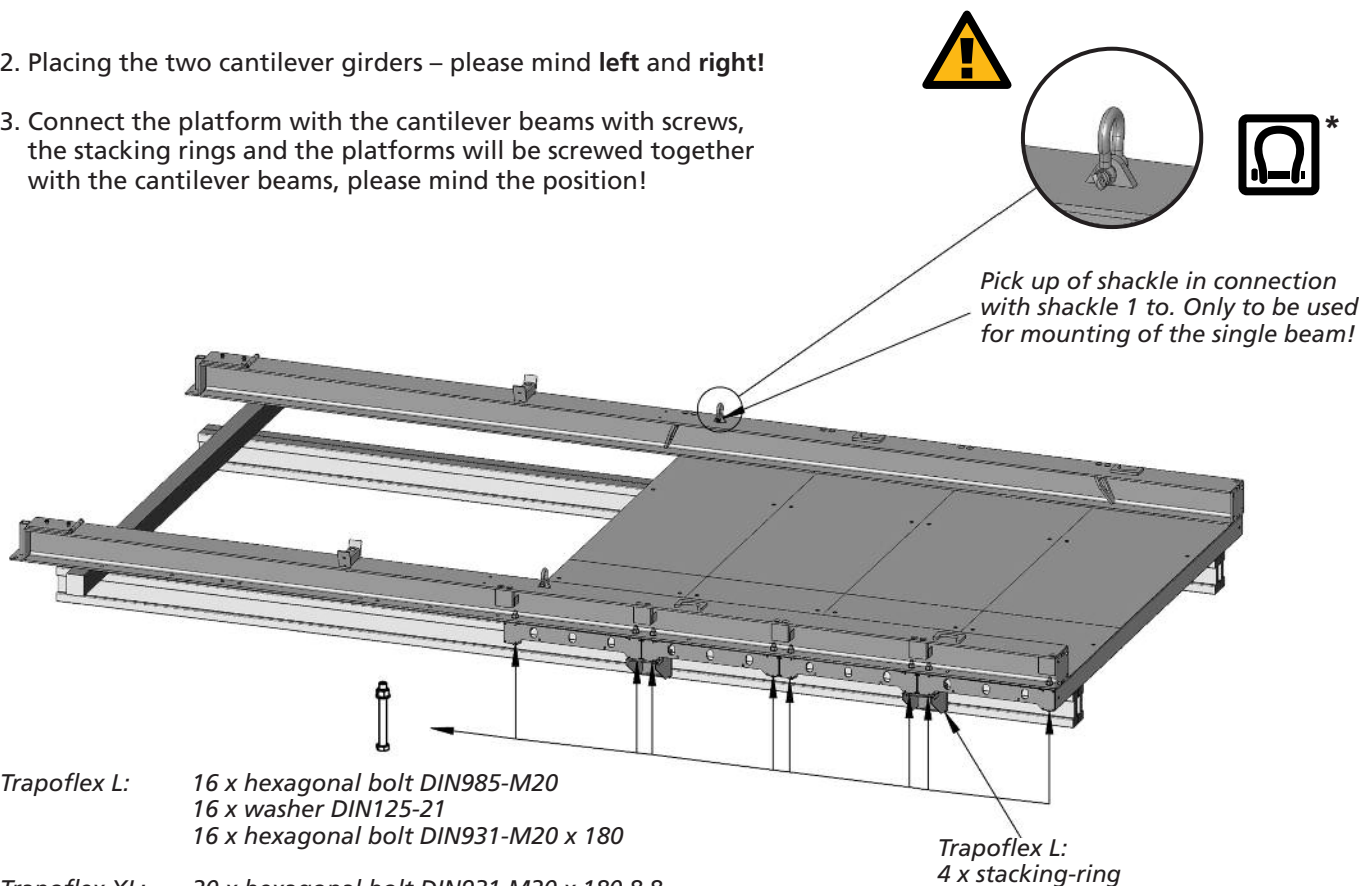
Also other supports are recommended such as steel girders or rectangular tubes.

1. Place the traverses on to the square timbers 20 x 10 cm or H20-girders



2. Placing the two cantilever girders – please mind **left** and **right**!

3. Connect the platform with the cantilever beams with screws,
the stacking rings and the platforms will be screwed together
with the cantilever beams, please mind the position!



Trapoflex L:
16 x hexagonal bolt DIN985-M20
16 x washer DIN125-21
16 x hexagonal bolt DIN931-M20 x 180

Trapoflex XL:
20 x hexagonal bolt DIN931 M20 x 180 8.8.
20 x washer DIN125-21
20 x hexagonal bolt DIN985 8., self locking

*only for transportation of the single parts near ground!

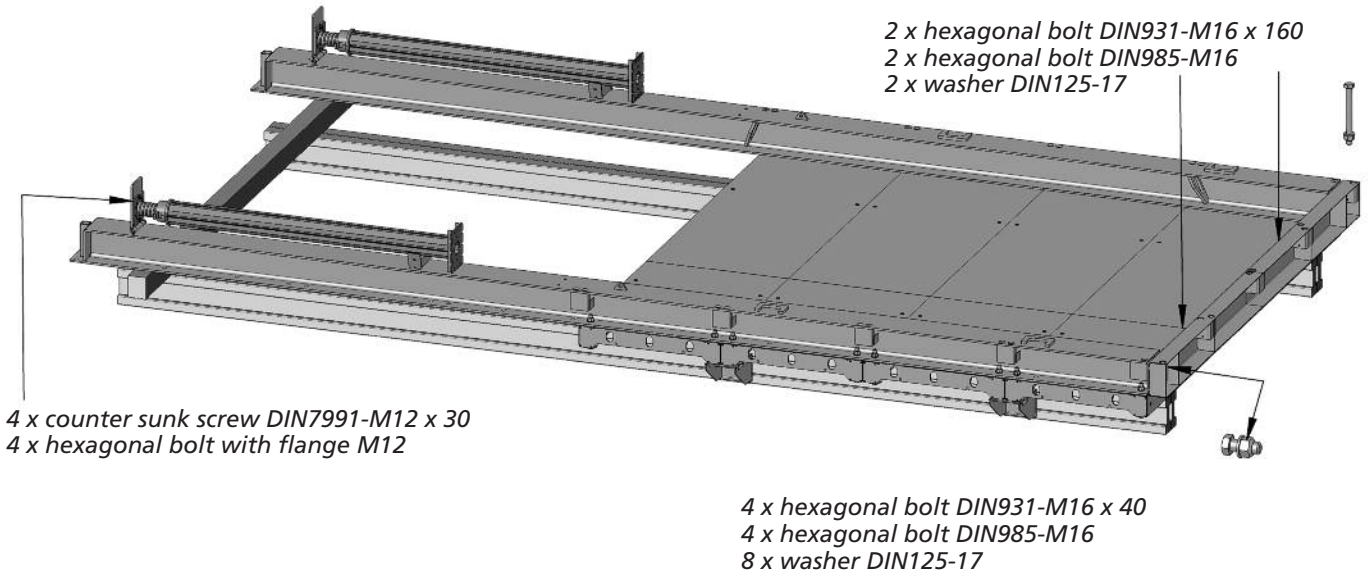




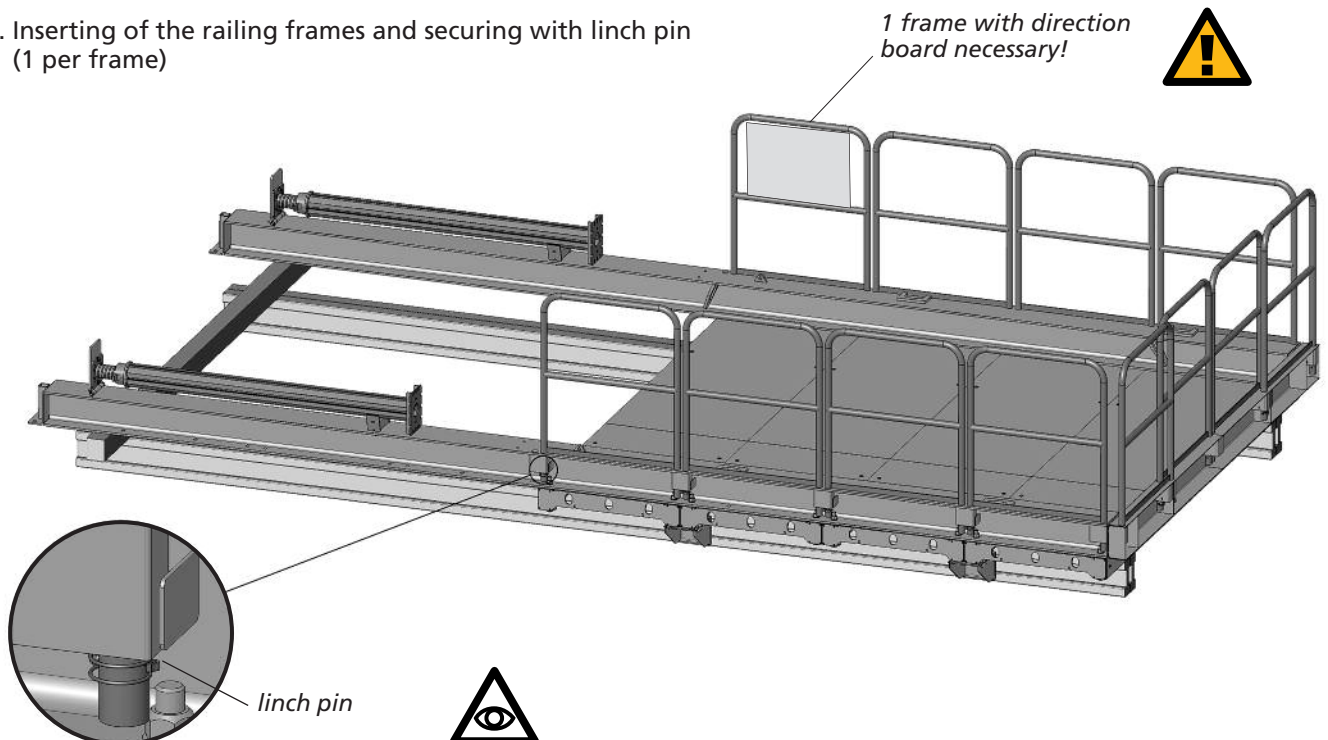
Assembling Trapoflex-working platforms L – XL

4. Placing and screwing of the front end girder
5. Screwing of both of the aluminium props with the cantilever girders

Trapoflex L



6. Inserting of the railing frames and securing with linch pin (1 per frame)



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