BOSTA 100

Frame scaffold

User guide

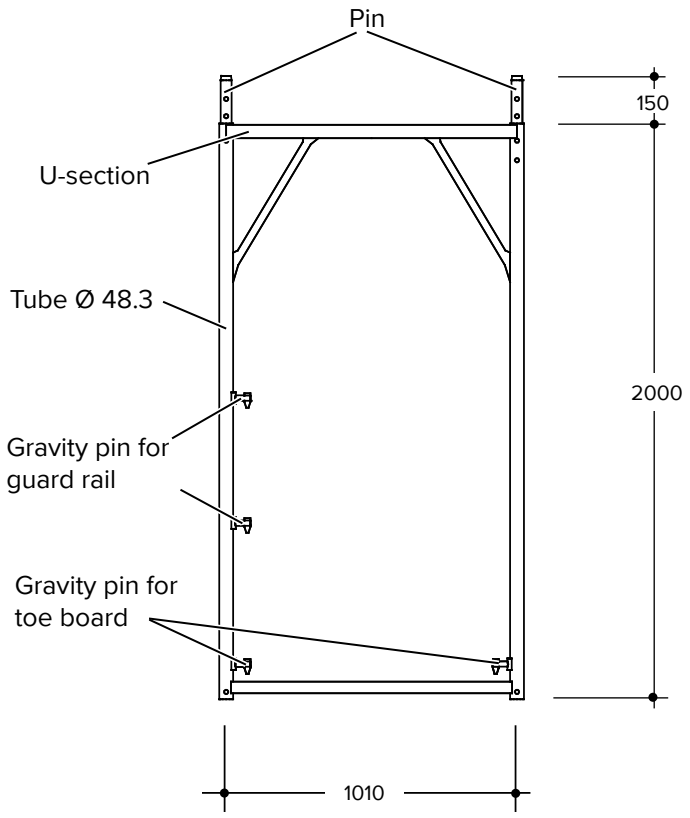
HÜNNEBECK

BY BRANDSAFWAY

Content

1 Product features

Vertical frame 200
Dimensions in [mm]



The BOSTA 100 scaffold system by HÜNNEBECK complies with DIN 4420, DIN EN 12810, as well as DIN EN 12811. The standard model of BOSTA 100 complies with the “Allgemeine bauaufsichtliche Zulassung” Z-8.1-150 [National Technical Approvals].

The scaffold can be used as:

- a working scaffold within the scaffold group VI per DIN 4420 or load category VI per DIN EN 12811 (600 kg/m^2)
- a protective scaffold (for fall height ≤2.00 m)
- a protective roof scaffold

The max. erection height of the standard model is 24 m.

For scaffolds higher than that or exceeding the standard model, static proof must be supplied if necessary.

Using the BOSTA 100 system components, the following scaffold types can be erected:

- mobile scaffold
- bracket scaffold
- supporting roof structures for winter construction and inclement weather halls.

Having five different bay lengths ranging from 1.25 to 3.00 m, the BOSTA 100 scaffold system is very flexible.

The scaffold width is 1.01 m. Using brackets, the scaffold width can be increased and adjusted to meet different requirements for individual cases.

Unless stated otherwise all dimensions are in mm

All steel components are hot-dip galvanized and all timber is weatherproofed.

This ensures a long life cycle combined with high safety standards.

Many components can also be used with BOSTA 70 or MODEX scaffolds by HÜNNEBECK.

Requirements

This user guide must be kept available on site where BOSTA 100 scaffolds are being used.

Only qualified personnel who is familiar with the current BOSTA 100 user guide may assemble, modify, and dismantle, as well as use the scaffold.

The manufacturing and identification of all components is pursuant to National Technical Approval Z-8.1-150.

Only undamaged and original HÜNNEBECK scaffold components may be used.

All components must therefore be visually inspected for their origin and damages prior to installation. If necessary, components must be exchanged for original parts. Repairs may only be performed by qualified HÜNNEBECK personnel. The user may not make any changes whatsoever to the scaffold components.

All figures shown in this user guide should be considered as an example only. In addition, all rules pertaining to occupational safety shall apply. Furthermore, all regulations about industrial health and safety standards must be adhered to.

All technical details described in this user guide, which may be helpful to the erector or user of the scaffold, are not mandatory, if the user complies with the requirements of the industrial health & safety standards act. Based on the requirements of the industrial health & safety standards act, the erector or user of the scaffold is responsible for assessing all hazards and must meet all obligatory preventative measurements at his own discretion.

For this, each case must be considered on its own merits.

The erection, modification, and dismantling of BOSTA 100 scaffolds may only be performed by qualified personnel who has sufficient technical expertise. A qualified supervisor, who is to be determined by the contractor, must oversee the scaffold erection. The scaffold erection must also be supervised by a supervisor, who is responsible for safety issues during the erection, and who himself has sufficient knowledge and experience. This includes material-related instructions, which relate to specific hazardous situations. When using personal protective equipment, it is the supervisor’s responsibility to determine the correct attachment points and ensure that the employee utilizes the safety equipment properly to prevent him from falling.

Within the scope of the following user guide, and based on our own hazard analysis, we are providing the erector and user with options to act in certain installation and usage situations in accordance with the industrial health & safety standards act.

Up to a height of 2.00 m, the scaffold may be used as fall protection or as a protective roof scaffold. All planks mentioned in this user guide may be used with protective and protective roof scaffolds.

However, the standard requirement is that the following erection and usage guidelines are adhered to.

These instructions describe the erection of the standard model. If the scaffold system is being used with components which deviate from the basic system, these deviations must be assessed based on the construction regulations and the specifications of the general inspection license Z-8.1-150. In certain cases these deviations may require proof.

Such proof may be waived if the erection of the scaffold complies with the instructions in this user guide for the basic model. The structural safety of the scaffold must never be compromised.

Product features

The BOSTA 100 scaffold must only be used as described in this user guide. Only those components listed in section three may be used for the erection, modification and dismantling of the scaffold.

Other erection variations are optional; however, they do require a separate certificate, which can be obtained from the manufacturer.

Preparation work

Prior to work start-up, after long periods of downtime, after modifications, and after extreme weather conditions, it is the contractor's responsibility to verify the scaffold's integrity (see also Calculating the Material, page 144 et seq.). The condition of the components, the structural safety, as well as the working and operational safety of the scaffold must be verified.

Damaged scaffold components must not be used. Only the manufacturer may perform any necessary repairs. The scaffold may only be erected on a level surface and ground capable of carrying the load.

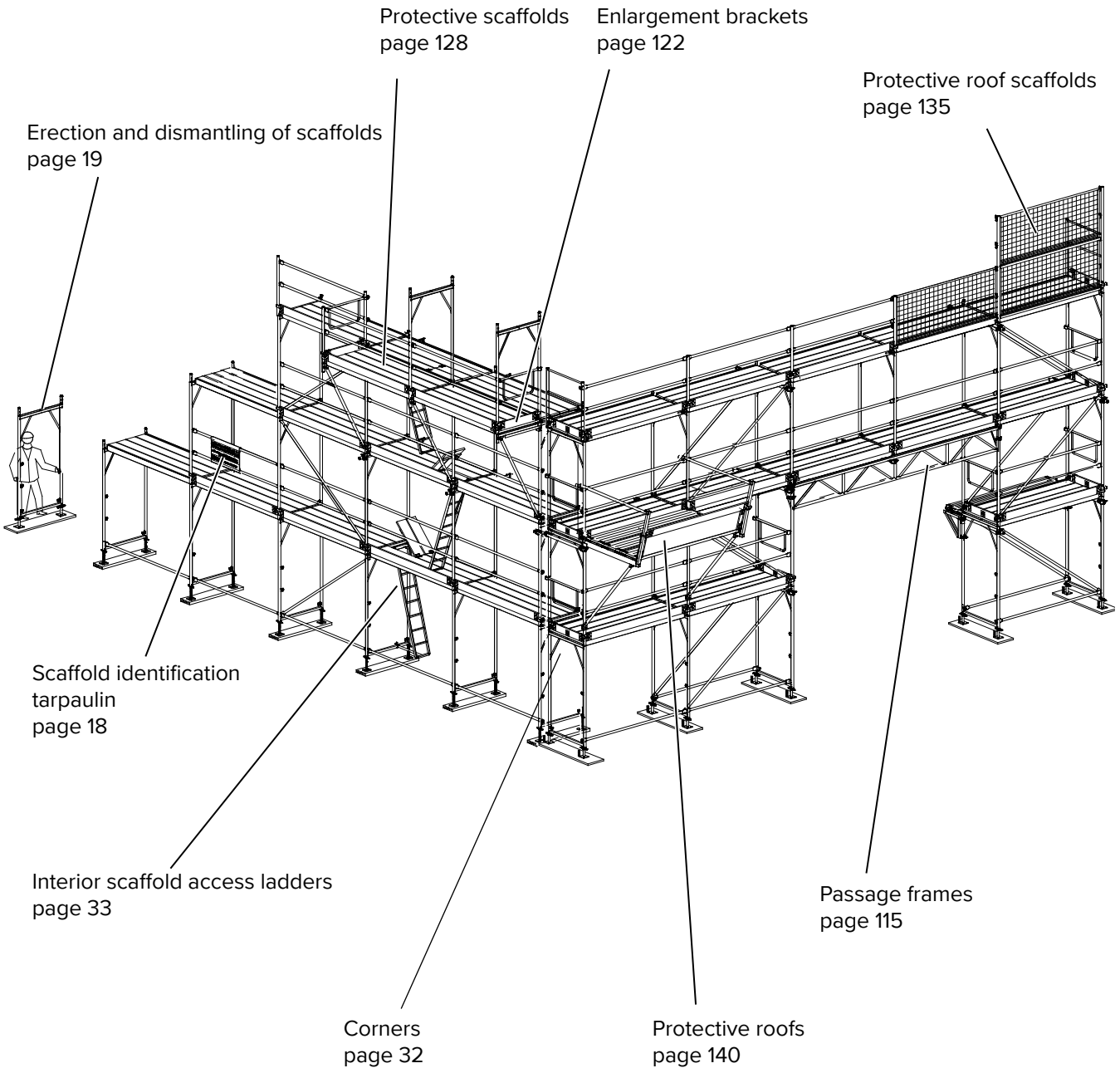
If necessary, the surface on which the scaffold is being erected must be modified.

All base jacks must be placed on a load-bearing plank. A secure load transfer into the building, which is to be scaffolded, must be verified. Furthermore, the arrangement and number of vertical braces must be observed. If the distance between the scaffold and the building exceeds 30 cm, an additional back brace, knee brace, and if necessary, a toe board must be added to the side of the scaffold facing the building. Scaffold access stairways must be firmly secured.

If the corners of a building must be scaffolded, the scaffold's planks must be carried around the corner in full width.

All rules pertaining to occupational safety standards must be adhered to. Furthermore, the regulations of the health and safety standards act must be observed.

2 Overview


Protective scaffolds
page 128
Enlargement brackets
page 122
Protective roof scaffolds
page 135
Erection and dismantling of scaffolds
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Scaffold identification
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Interior scaffold access ladders
page 33
Corners
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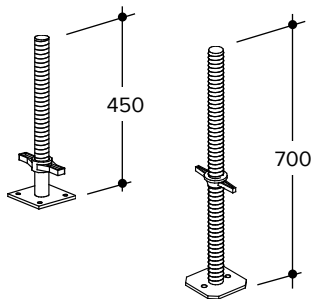
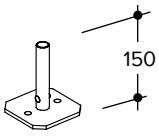
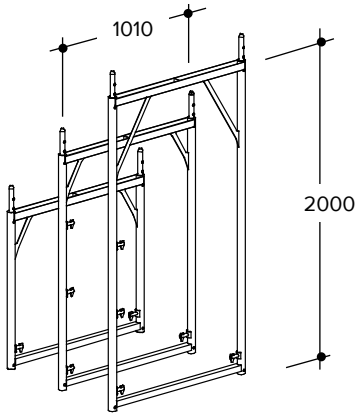
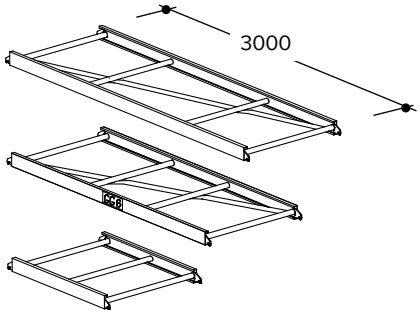
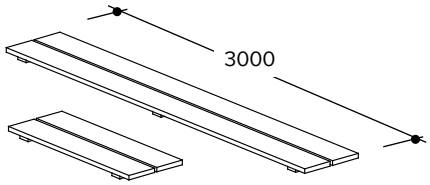
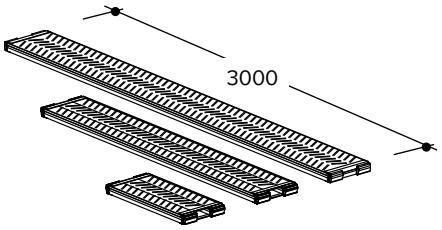
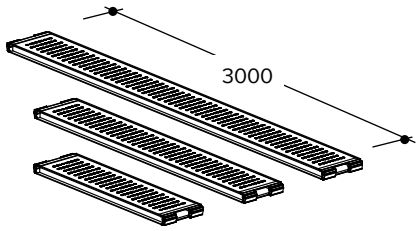
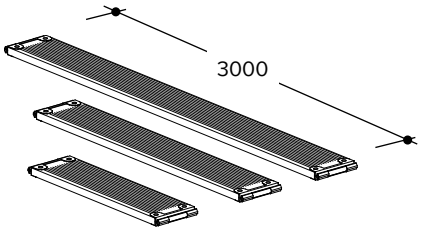
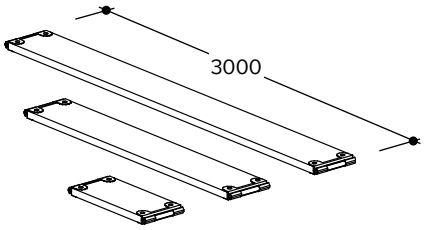
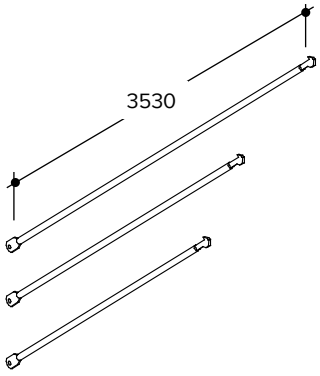
3 Components

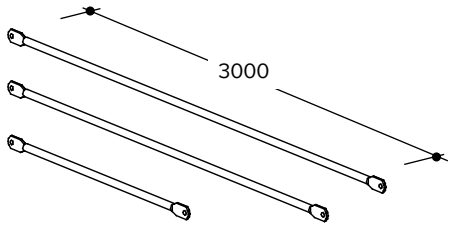
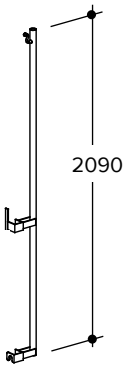
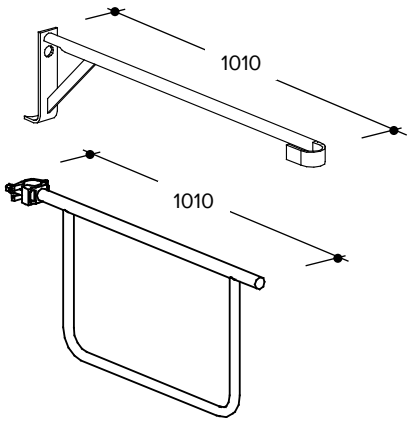
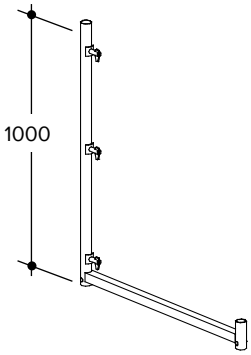
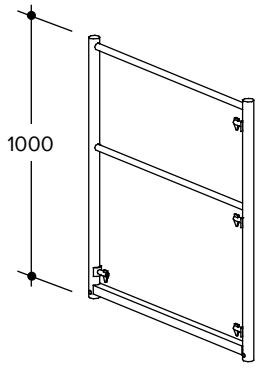
3.1 Basic components

	Component	Product code	Weight [kg]
	**Base jack 45/3.8** **Base jack 70/3.8** To compensate for uneven surfaces. Adjustment from 6.5 to 26.5 cm, or from 6.5 to 50.0 cm (see page 19).	**551234** **540575**	**3,11** **4,03**
	**Base plate rigid** Serves to distribute the vertical loads into the surface below.	**428533**	**1,20**
	**Vertical frame 200/100** **Vertical frame 150/100** **Vertical frame 100/100** Tubular posts Ø48.3 mm. Suitable for story heights 2.0 m, 1.5 m, and 1.0 m. Equipped with optional attachment points between guard rails, toe boards, and diagonals. Note: All following H-frames, planks, and platforms comply with design loads per DIN 4420 (see page 19).	**129429** **129430** **129440**	**26,04** **21,45** **17,48**
	**Horizontal frame 300/100-5** **Horizontal frame 250/100-6** **Horizontal frame 125/100** H-frames are places on top of the U-profile of the vertical frame and the horizontal frame planks are placed inside of it.	**560795** **529437** **138740**	**35,21** **29,12** **14,80**
	**Horizontal frame plank 300** **Horizontal frame plank 250** **Horizontal frame plank 125** Two horizontal frame planks fit into one horizontal frame (see page 21).	**132548** **132537** **138924**	**20,45** **17,30** **8,80**
	**Plank retainer** To secure the horizontal frame planks to the narrow width of the frame.	**139620**	**0,25**

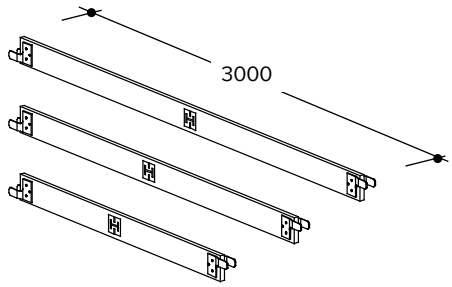
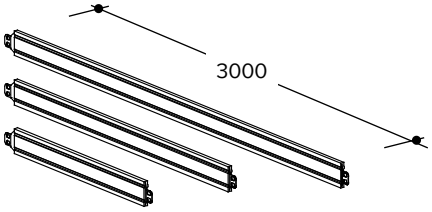
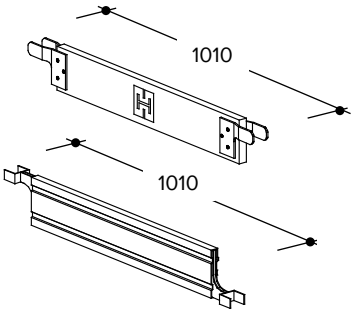
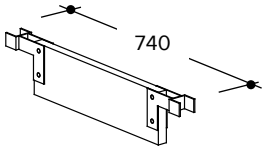
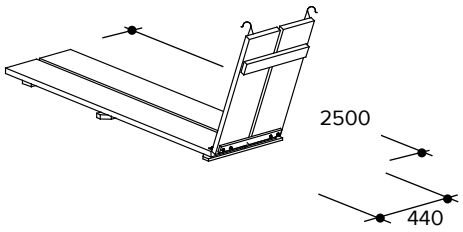
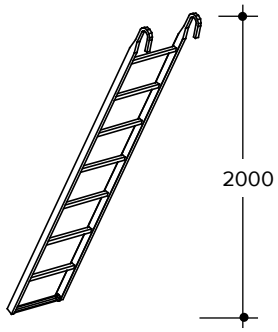
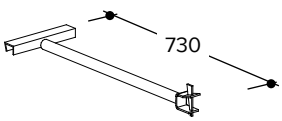
Unless stated otherwise all dimensions are in mm

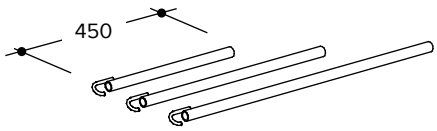
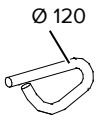
	Component	Product code	Weight [kg]
	**Steel hollow box plank 300/32**	**531323**	**17,77**
	Steel hollow box plank 250/32	**531334**	**15,27**
	Steel hollow box plank 200/32	**531345**	**12,77**
	Steel hollow box plank 150/32	**531356**	**10,27**
	Steel hollow box plank 125/32	**531367**	**8,82**
	Steel hollow box plank 74/32	**531687**	**6,27**
	Steel sheet design with aluminum zinc coating, extremely light and rugged, beading provides for a slip-proof surface. Three planks per single bay.		
	**Steel plank 300/32**	**427984**	**23,50**
	Steel plank 250/32	**427973**	**19,93**
	Steel plank 200/32	**430279**	**16,29**
	Steel plank 150/32	**485858**	**12,20**
	Steel plank 125/32	**430280**	**10,40**
	Three planks cover a single bay. Extremely rugged and slip-proof. Hot-dip galvanized.		
	**Alu plank 300/32**	**479860**	**16,90**
	Alu plank 250/32	**479871**	**14,50**
	Alu plank 200/32	**479882**	**12,00**
	Alu plank 150/32	**479893**	**9,60**
	Alu plank 125/32	**479908**	**8,40**
	Three alu planks cover a single bay. Symmetrical design (can be turned either way) and have a slip-proof surface.		
	**Timber plank 300/32 MS 10 (2.0 kN/m² LC3)**	**566428**	**24,92**
	Timber plank 250/32 (3.0 kN/m² LC4)	**533399**	**21,20**
	Timber plank 200/32 (4.5 kN/m² LC5)	**533403**	**17,40**
	Timber plank 150/32 (6.0 kN/m² LC6)	**458473**	**13,60**
	Timber plank 125/32 (6.0 kN/m² LC6)	**427539**	**11,70**
	Timber plank 74/32 (6.0 kN/m² LC6)	**462612**	**7,80**
	Two timber planks cover the working platform of a single bay. Symmetrical design (can be turned either way).		
	For scaffold bay length x height		
	Diagonal 203 **3.00 m x 2.00 m**	**110167**	**7,90**
	Diagonal 200 **2.50 m x 2.00 m**	**110020**	**6,94**
	Diagonal 150 **2.50 m x 1.50 m**	**119606**	**6,40**
	Diagonal 100 **2.50 m x 1.00 m**	**2054**	**4,60**
	Diagonal 220 **2.00 m x 2.00 m**	**410758**	**6,25**
	Diagonal 215 **1.50 m x 2.00 m**	**410736**	**5,50**
	For longitudinal stiffening of the scaffold. Hook top end into U-section and slide bottom end over gravity pin (see page 21).		

Components

	Component	Product code	Weight [kg]
	**Guard rail 300** **Guard rail 250** **Guard rail 200** **Guard rail 150** **Guard rail 125** Slide both ends over gravity pin. (see page 20).	**138957** **2113** **154080** **407683** **2102**	**5,20** **4,20** **3,44** **2,70** **2,10**
	**Single post 100 MGR Bosta** The next higher scaffold level is secured using this installation guard rail.	**651772**	**6,64**
	**Double rail 100 trans** **Double rail 100 trans** To secure the narrow end of the scaffold plank (see page 28).	**129716** **534441**	**2,26** **4,62**
	**Single post 100** Guard rail and toe boards at the uppermost scaffold platform are attached to this post. Use Ø 12 mm frame pin to secure against lift-off.	**129392**	**8,40**
	**Twin single post 100 trans** End unit at the uppermost scaffold platform (see page 29).	**452969**	**15,40**

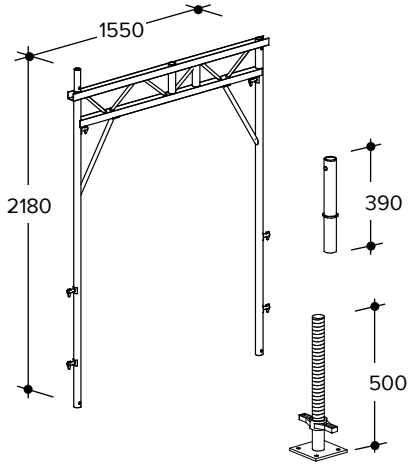
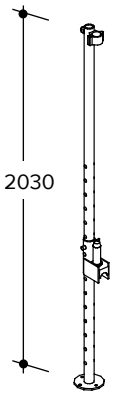
Unless stated otherwise all dimensions are in mm

	Component	Product code	Weight [kg]
	**Toe board 300** **Toe board 250** **Toe board 200** **Toe board 150** **Toe board 125** Secures the scaffold plank at plank level. Simply insert between the tubular posts of the vertical frame. 15 cm high by 3 cm thick (see page 30).	**135520** **135519** **434965** **492633** **135508**	**8,98** **7,86** **6,74** **5,61** **5,05**
	**Steel toe board 300/15** **Steel toe board 250/15** **Steel toe board 200/15** **Steel toe board 150/15** **Steel toe board 125/15** Steel sheet hollow box design with aluminum zinc coating. 15 cm high by 3 cm thick. Attach to the lower gravity pin of the vertical frame.	**531437** **531448** **531459** **531460** **531470**	**8,99** **6,64** **5,44** **4,24** **3,64**
	**Transverse toe board 100 h = 17 cm** **Steel toe board 100 trans. h = 15 cm** To secure the scaffold plank at the narrow end of the plank 17 or 15 cm high by 3 cm thick (see page 30).	**545512** **534279**	**3,36** **2,53**
	**Toe board 70 trans** To secure the scaffold to the narrow side of the B-Enlargement bracket 70. 16 cm high by 3 cm thick (see page 132).	**454854**	**2,42**
	**Ladder plank 250** Used with ladder 200 A. Secure opened flap with safety hook to guard rail (see page 34).	**143090**	**18,50**
	**Ladder 200 A** For the interior ascents at plank heights 2.0 m (see page 34).	**136318**	**9,80**
	**Ladder lock** Use the ladder lock to secure the lower ladder 200 A to the bottom crossbar of the vertical frame (see page 34).	**422753**	**2,28**

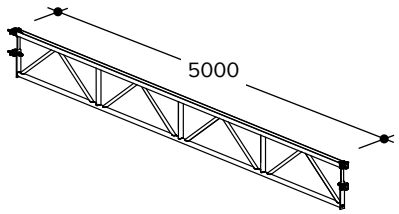
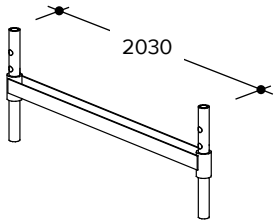
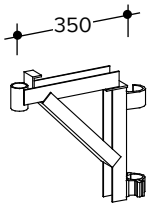
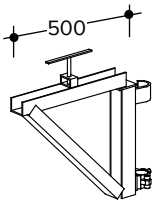
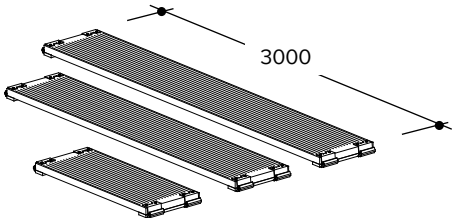
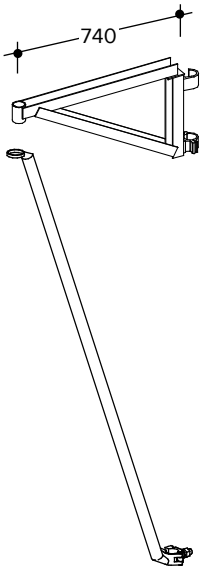
	Component	Product code	Weight [kg]
	**Scaffold retainer 350** **Scaffold retainer 250** **Scaffold retainer 223** **Scaffold retainer 180** **Scaffold retainer 140** **Scaffold retainer 110** **Scaffold retainer 75** **Scaffold retainer 45** Ø 48.3 steel pipe with Ø 20 mm hook. To tie down the scaffold. Use couplers to connect retainer to vertical posts (see page 49).	**467063** **467041** **467085** **116820** **116793** **116808** **78940** **78939**	**11,73** **8,50** **7,53** **6,10** **4,97** **3,61** **2,54** **1,65**
	**Frame pin 12** Secures single post 100 100 and double guard rail post 100 Q at the uppermost scaffold plank. When using a crane to move scaffold segments, the frame pin must be used to tightly secure the vertical frames (see page 128).	**129473**	**0,26**

3.2 Auxiliary components

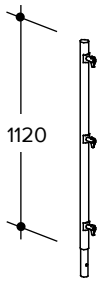
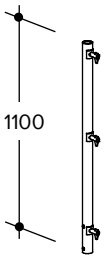
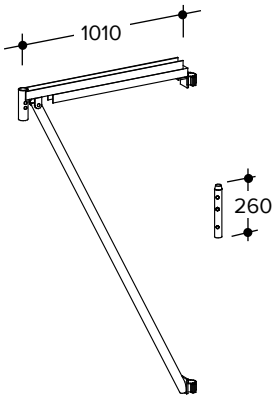
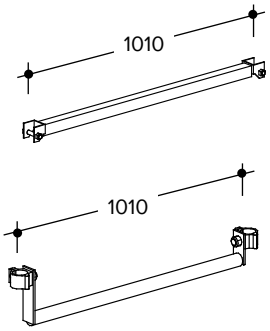
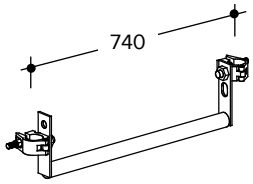
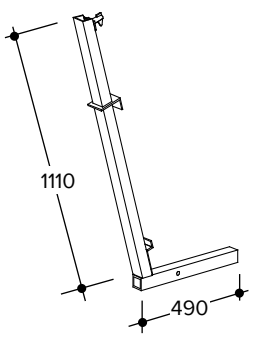
Auxiliary components increase the application range of the scaffold and increase its utilization ratio.

	Component	Product code	Weight [kg]
	**Passage frame 150 1.55 m wide** For the construction of a pedestrian's passageway (see also assembly instructions on page 115 et seq.). **Tubular joint 150 cpl.** When erecting a BOSTA scaffold 100, a frame connector must be used with each passage frame 150 (see page 115). **Base jack 50/3.3** See page 115.	**409340** **417977** **144131**	**36,04** **1,10** **3,00**
	**Adjustment stand 100** Ø 48 mm steel pipe. To compensate for major surface unevenness. Height adjustments from 13 cm to 130 cm (see page 20 & 118).	**132401**	**13,32**

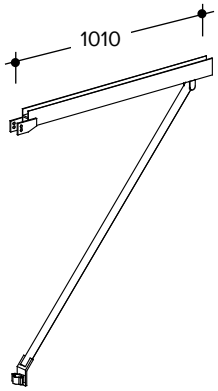
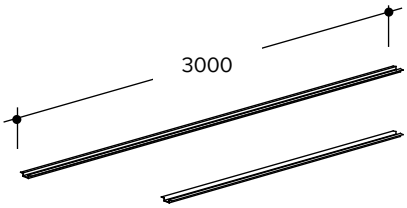
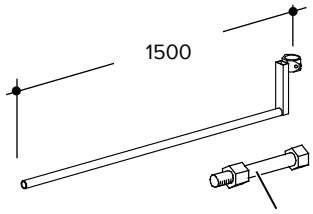
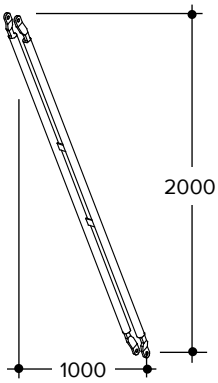
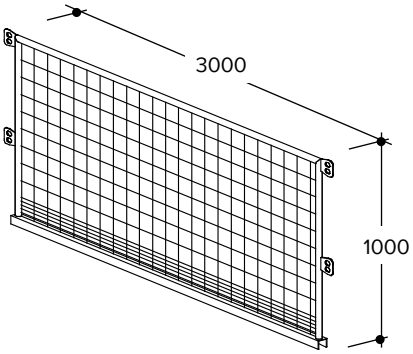
Unless stated otherwise all dimensions are in mm

	Component	Product code	Weight [kg]
	**Bridge girder 500** Bottom chord Ø 48 mm tubing, upper chord U-profile. For bridging spans up to 5.00 m. Bolt to V-frame with weld-on half-coupling. Only to be used in connection with cross beam, item no.: 135850 (see page 120).	**135780**	**53,02**
	**Cross beam 100** For attachment to V-frames between two bridge girders (see page 120).	**135850**	**6,90**
	**Enlargement bracket 35** To widen the plank by 35 mm. Cover with plank 32 cm wide (see page 126).	**402599**	**6,15**
	**Enlargement bracket 50** To widen the plank by 50 cm. Use alu planks, 32 cm wide as surface (see page 126).	**402989**	**6,60**
	**Alu plank 300/50** **Alu plank 250/50** **Alu plank 200/50** **Alu plank 125/50** Covered with slip-proof surface.	**540299** **540303** **540314** **540325**	**25,40** **21,40** **18,00** **12,50**
	**Enlargement bracket 70** To widen the scaffold by 70 cm, use two scaffold planks, each 32 cm wide (see page 132). **Diagonal EB 70 cpl.** Acts as stabilizer of B-enlargement bracket 70 (see page 132).	**424226** **554959**	**8,75** **8,20**

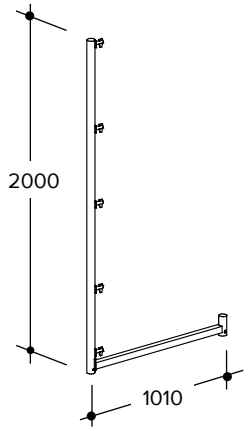
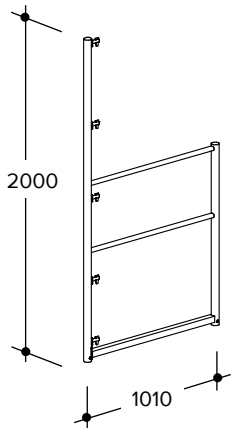
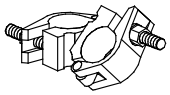
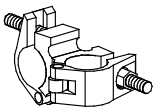
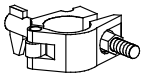
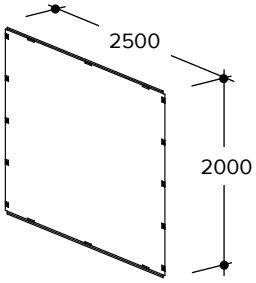
Components

	Component	Product code	Weight [kg]
	**Single post 70** Used with enlargement bracket 35 or 70. Used to attach the side protection (see page 129).	**133120**	**4,79**
	**Single post 100** Can be inserted into the frame connector of the vertical frame or when using enlargement bracket 100 in connection with frame connector item no.: 462921 (see page 138).	**136410**	**3,90**
	**Enlargement bracket 100** **Tubular joint 100** Tubular joint 150 cpl. for widening the scaffold plank by 1.0 m. Allowable load capacity per LC4. Use half couplers to attach above and below. The single post 100 and lifting retainer are attached to the frame connector (see page 138).	**462689** **462921**	**16,80** **0,84**
	**Lift-off retainer 100 cpl.** **Plank retainer 100 cpl.** To secure the horizontal frames or the scaffold planks placed on the enlargement bracket 100 or vertical frame (see page 132).	**434932** **462656**	**3,50** **4,70**
	**Plank retainer 74 cpl.** To secure the horizontal frames or the scaffold planks placed on the enlargement bracket 70 (see page 132).	**417348**	**4,26**
	**Bracket post** To install safety roofs in connection with working bracket. Attach with frame pin Ø 12 mm. Use an alu plank 50 and a toeboard to create the side wall (see page 141 & 143).	**429468**	**8,40**

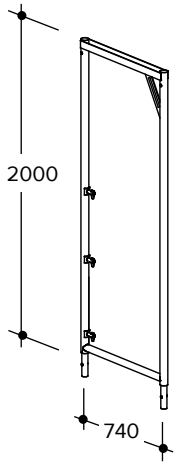
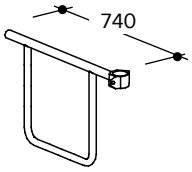
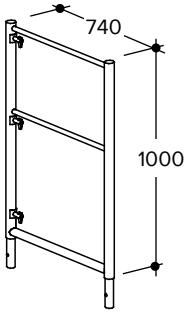
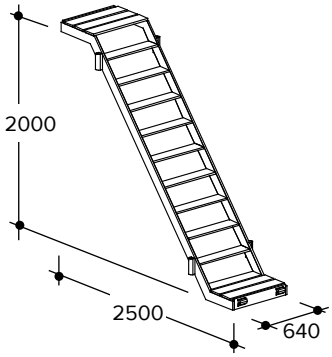
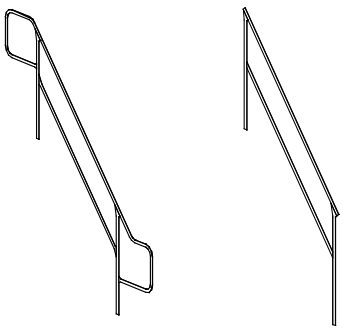
Unless stated otherwise all dimensions are in mm

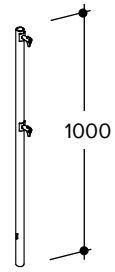
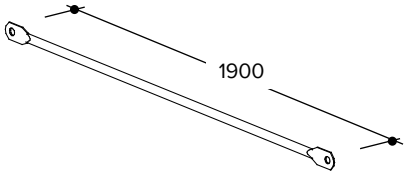
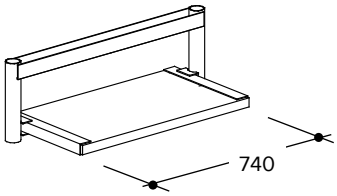
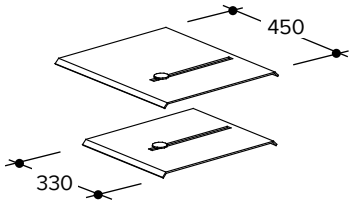
	Component	Product code	Weight [kg]
	**Working bracket 1.8** Hinged, for cantilevered safety roof, 1.65 m wide. Use M8 x 80 bolt & nut to fasten on top and use half coupler to attach to vertical frame below. Use in connection with bracket post, alu plank 50, gap plate, plank retainer, frame pin, and bolt (see page 142).	**427907**	**23,40**
	**Gap plate 300** **Gap plate 250** To cover the gap between scaffold plank and protective roof plank (see page 142).	**138990** **138980**	**6,90** **5,80**
 Only for plank bracket	**Plank retainer** Prevents alu plank 50 from lifting off. Slide tube end onto pin of bracket post. Attach half coupler to V-frame (see page 142). **Bolt M8x80 MUZ with nut** To attach the plank bracket to the V-frame (see page 142).	**427664** **411638**	**4,98** **0,04**
	**Diagonal brace 200 N** Stiffens the vertical frame in diagonal direction.	**435797**	**13,50**
	**Roofer's safety grate 300** **Roofer's safety grate 250** **Roofer's safety grate 200** **Roofer's safety grate 150** **Roofer's safety grate 125** Replaces the three-sectional side guard. Two roofer's safety grates installed one above the other, together with roofer's safety post 100, form a roofer's protective wall according to safety regulations (see page 138).	**543329** **543330** **543340** **543351** **543362**	**21,80** **19,00** **15,90** **12,90** **11,50**

Components

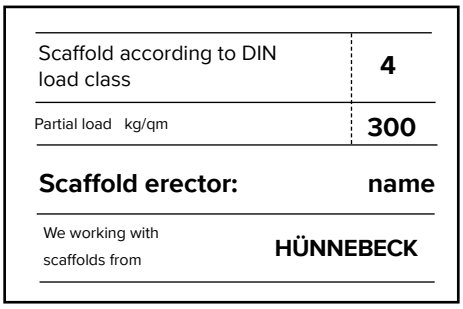
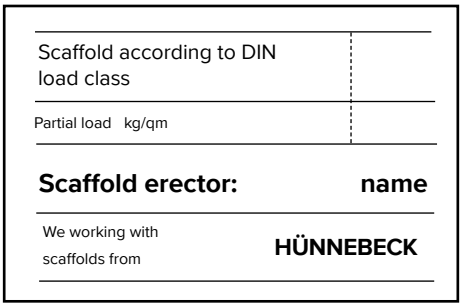
	Component		Product code	Weight [kg]
	**Roofer's safety post 100** For roofer's protective wall, 2.0 m high. Suitable for two roofer's safety grates, 1.0 m high, stacked one above the other (see page 138).		**542666**	**13,73**
	**Roofer's safety post 100 trans** Completes the roof protection along the narrow side of the scaffold (see page 138).		**544687**	**20,77**
	**Swivel coupler 48/48**	**W.A.F. 22**	**2525**	**1,37**
	Swivel coupler 48/48	**W.A.F. 19**	**801146**	**1.40**
	**Rigid coupler 48/48**	**W.A.F. 22**	**2514**	**1,18**
	Rigid coupler 48/48	**W.A.F. 19**	**801135**	**1.20**
	To attach scaffold tube or ties to vertical posts (see page 32).			
	**Half coupler 48/FB**	**W.A.F. 22**	**116370**	**0,84**
	To attach guard rails to vertical posts (see page 132).			
	**Wall curtain 2.5 m x 2.0 m** **Wall curtain 2.5 m x 1.0 m** Including cable ties. Canvas curtain to cover the scaffold; dimensioned to suit the system's measurements. Plastic sliders are integrated into the horizontal sides. Slits along the sides allow for attachment using the cable ties.		**63712** **80160**	**3,50** **2,50**

Unless stated otherwise all dimensions are in mm

	Component	Product code	Weight [kg]
	**Vertical frame 200/70** For the erection of single slope BOSTA stairway in front of BOSTA 100 scaffold. For attaching alu stairway 250 (see page 35 et seq.).	**119000**	**22,08**
	**Double rail 70 trans** To secure the narrow ends of a scaffold plank (see page 35 et seq.).	**534419**	**3,77**
	**Twin single post 100 70 trans.** Used at the uppermost scaffold plank, at the narrow end of the plank (see page 35 et seq.).	**452970**	**14,21**
	**Alu stairway 250** With landing platforms for the exterior ascent. Suitable for vertical frame 200/70 of BOSTA 70 scaffold (see page 35 et seq.).	**464633**	**23,42**
	**Exterior railing** **Interior railing** Hot-dip galvanized steel (see page 35 et seq.).	**464655** **464644**	**16,90** **11,90**

	Component	Product code	Weight [kg]
	**Handrail post** Secures the stair egress on the uppermost scaffold plank (see page 35 et seq.).	**547669**	**3,60**
	**Guard rail 190** Secures the stair egress on the uppermost scaffold plank (see page 35 et seq.).	**547658**	**3,30**
	**Stairway access** Bottom riser, serves also as attachment to first access stairway. Hook to the lower transverse tube of the first vertical frame (see page 35 et seq.).	**553656**	**10,15**
	**Gap plate top** **Gap plate bottom** To bridge the gaps between the upper and lower stairway landing platforms and the scaffold planks (see page 35 et seq.).	**467670** **467626**	**2,10** **1,60**

3.3 Scaffold identification tarpaulin

	Component	Product code	Weight [kg]
	**Scaffold identification tarpaulin** for class 4 scaffold / load capacity class	**544654**	**0,36**
	Scaffold identification tarpaulin LC4 for class 4 scaffold / load capacity class 4 with additional company logo (see page 7).	**544768**	**0,36**
	**Scaffold identification tarpaulin, neutral**	**544643**	**0,36**
	Scaffold identification tarpaulin w. info information about scaffold group / load capacity, live load and manufacturer. All identification tarpaulins have loops along the top and bottom to accommodate guard rails.	**544757**	**0,36**

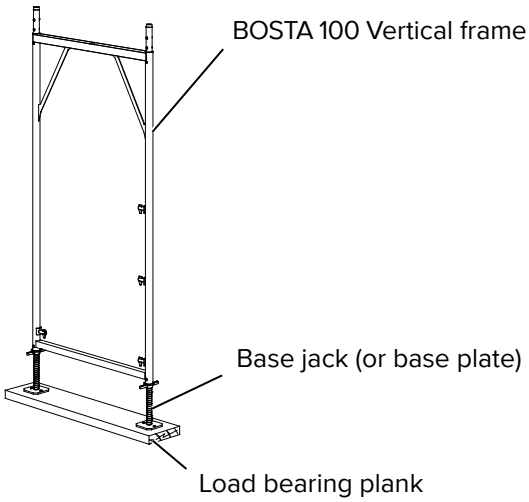
Unless stated otherwise all dimensions are in mm

4 Erection

The scaffold erection must follow the step-by-step instructions described below. Dismantling follows the same steps in reverse order.

4.1 Load-distributing substructure and base jacks

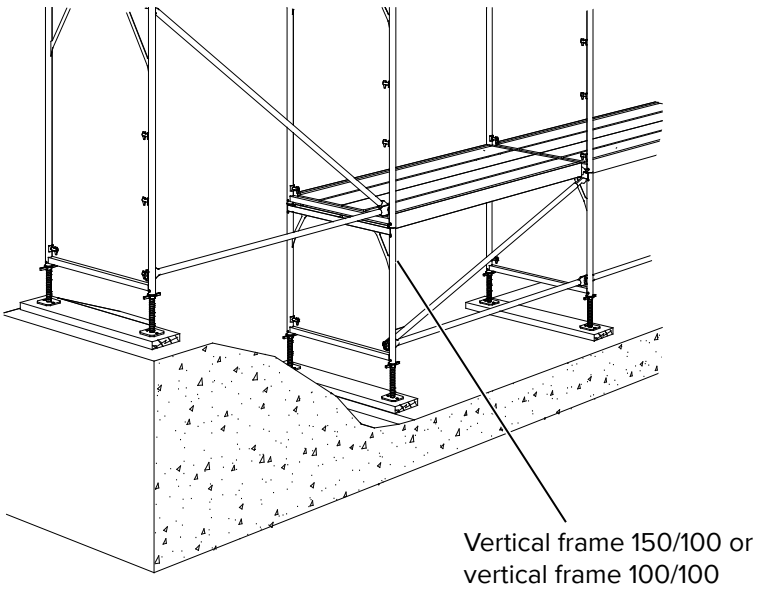
The scaffold may only be erected on a surface capable of bearing the load. Otherwise, a load-distributing substructure must be provided. (e.g. timber planks). Erection should start at the highest elevation of the erection site. Base jacks or base plates must be placed under each post of a vertical frame.



NOTE	**Note** A vertical frame having 3 gravity pins is always on the outside face of the scaffold.

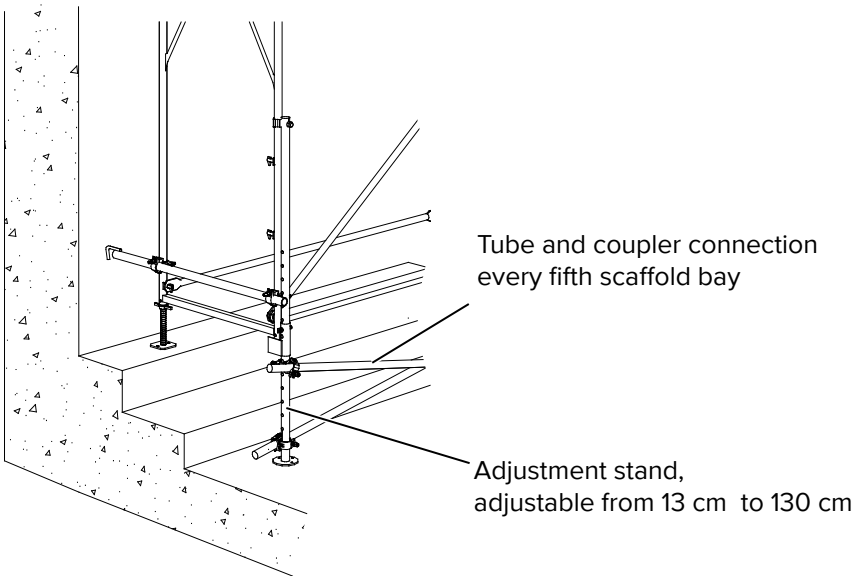
4.2 Adjustment frame

Vertical adjustment frames, type 100 or 150, may be used in case of sloping erection sites and varying elevations. Adjustment frames may also be used for reaching higher scaffold levels.



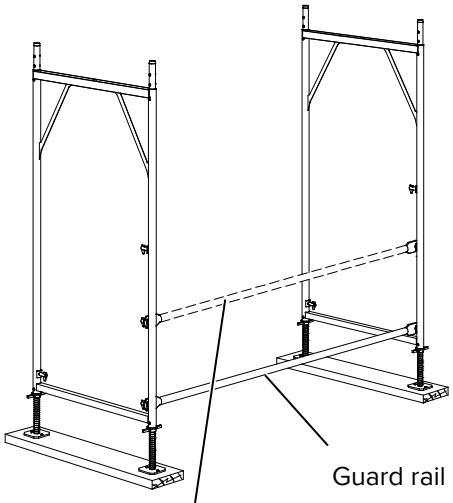
4.3 Adjustment stands

Adjustment stands are used to bridge varying elevations. They are connected to the post of the vertical frame using the rigid couplers. Use the hole pattern in the attachment rail to roughly level the structure with the erection site. Use the base jacks to do the final adjustments. See page 118 for further instructions.



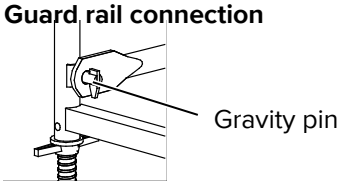
4.4 Vertical frame and passage frame

Frames must be erected vertically using base jacks or base plates, while maintaining the appropriate distance from the building's wall. The vertical frames are connected to each other using the guard rails, which are inserted into the gravity pins. For the use of passage frames, see page 115 et seq.



This guard rail serves only as an aid during the installation of the first bay. It may be removed after installation of the diagonals and the planks (see section 4.6).

Guard rail connection



NOTE	**Note**
	When components with gravity pins are installed, which are intended for the installation of protective side components, these gravity pins must always be in a vertical position and point in the longitudinal direction of the planks.

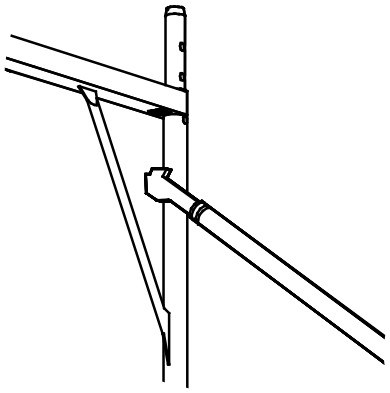
Unless stated otherwise all dimensions are in mm

4.5 Diagonals and planks

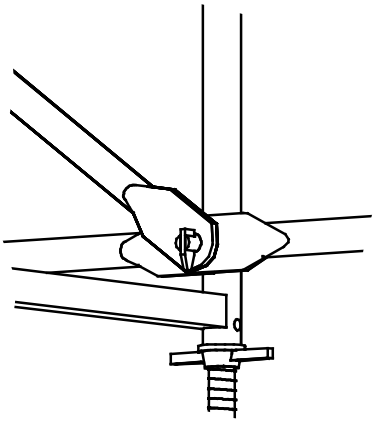
Diagonals are attached to the outside face of the scaffold, serving as longitudinal stiffeners. Lock the diagonal hook in one of the cut-outs of the U-section above and attach the lower portion to the gravity pin of the other vertical frame. Diagonals and planks must be installed continuously with the erection of the scaffold.

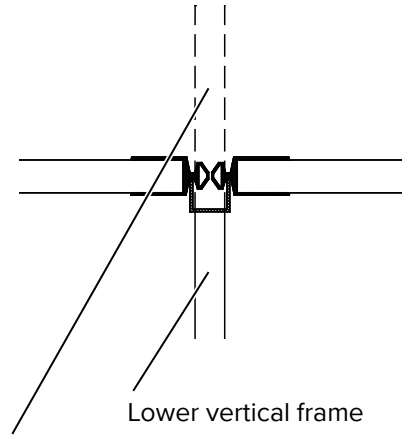
Cover planks, steel and timber planks, and alu planks are placed with their support profiles on top of the U-section of the vertical frame, ensuring the legs of the U-profile fit firmly into the beads of the plank support.

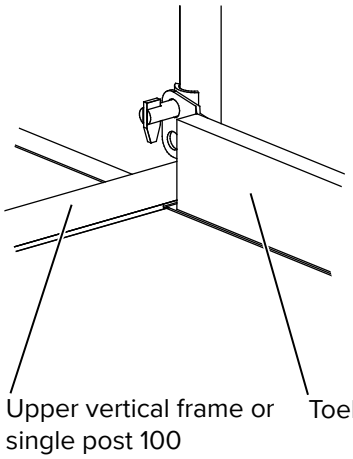
Attachment of diagonal – top



Attachment of diagonal – bottom





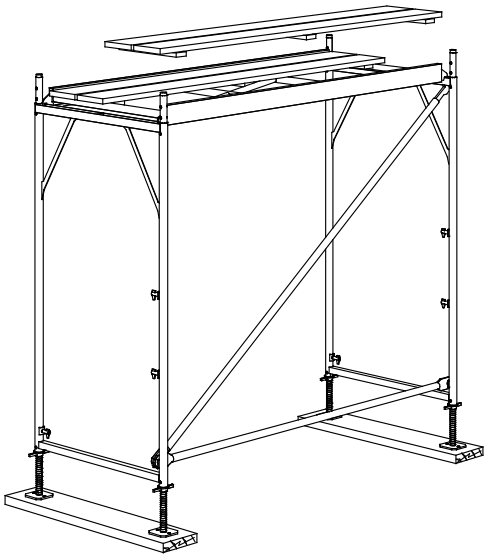


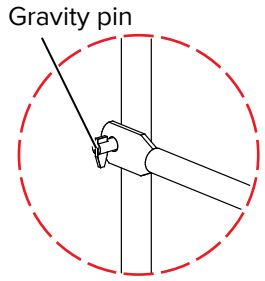
CAUTION

Caution!

Planks act as stiffening components and must span the entire width of the scaffold.

In addition, the horizontal frame must be placed with its support claws resting on the U-cross section of the vertical frame, and the legs of the U-profile must create a positive lock with the beads of the plank support. Subsequently, the horizontal frame planks must be placed into the horizontal frame. To prevent lift-off, the horizontal frame planks must be firmly secured, using the plank retainers. The erected scaffold bay must now be adjusted vertically and horizontally, using the base jacks. Please verify the distance from the building's wall.





Ensure the gravity pin is in the correct orientation

NOTE

Note

When installing components with gravity pins, which are intended for the installation of protective side components, these gravity pins must always point in the longitudinal direction of the planks.

CAUTION

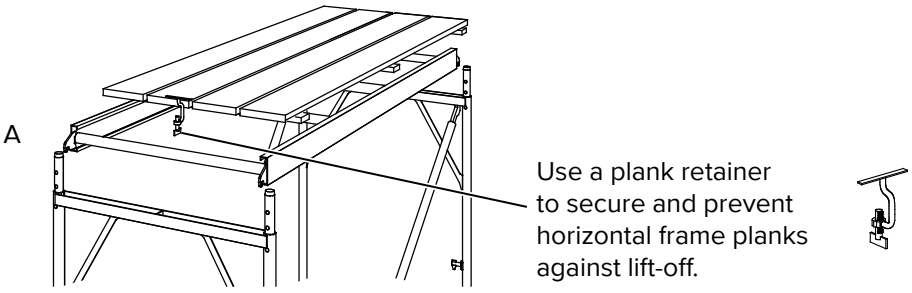
Caution!

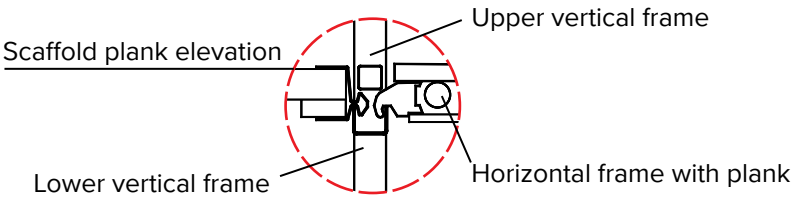
Planks act as stiffening components and must span the entire width of the scaffold.

Based on the requirements, the following types of planks can be selected for the BOSTA 100 scaffold system:

A = single horizontal frame with 2 horizontal planks each.

B = three scaffold planks, approx. 32 cm wide, made from either timber, aluminum or steel.

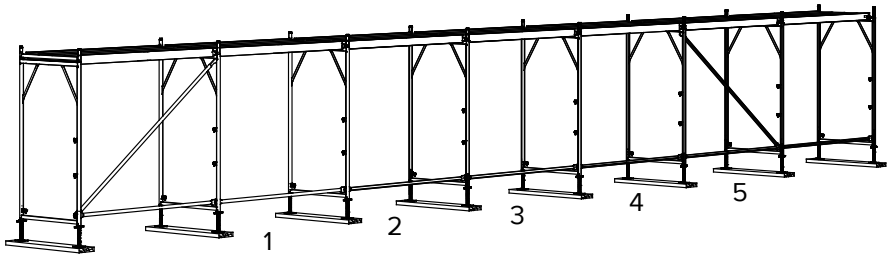




Unless stated otherwise all dimensions are in mm

4.6 Erection of additional scaffold bays

The erection of additional scaffold bays is carried out in the same way as described above. One diagonal brace must be used after each fifth bay. Additional diagonals may be necessary for some types of erection methods.



4.7 Erection of additional scaffold levels

There is an inherent danger of falling, when erecting, modifying or dismantling a scaffold. Work on a scaffold must be properly planned and carried out to either completely prevent, or at least minimize the danger of falling. Based on his own judgment, the scaffold worker must be able to assess each individual case or his respective action to prevent dangerous situations. Possible options are the use of “Montage-Sicherungs-Geländer, MSG” [installation guard rails] or the use of appropriate “Persönliche Schutzausrichtungen, PSA” [personal fall protection equipment] to prevent falling.

The following options or a combination thereof can be used when erecting a BOSTA 100 scaffold system:

- - Installation guard rails on the entire upper level of the scaffold;
- - In addition to installation guard rails, attachment points for personal protective gear;
- - The use of skilled and informed personnel, supplemented by attachment points for personal protective gear;
- - The use of skilled and informed personnel.

4.7.1 Use of installation guard rails [MSG]

MSG consists of posts and standard guard rails. The guard rail remains a part of the completed scaffold. First, the first post is hooked into the vertical frame (Fig. 1); subsequently, the standard guard rail is attached to the post (Fig. 2). The second post is hooked to the guard rail (Fig. 3), pivoted upward, and hooked to the next vertical frame. Only then is the worker permitted to access the next higher and secured scaffold level (Fig. 4).

Fig. 1

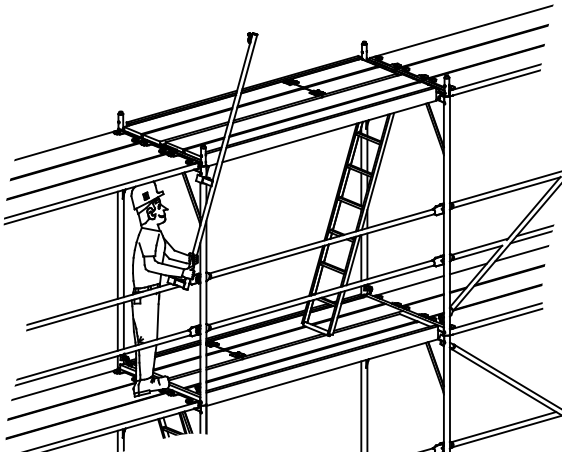


Fig. 2

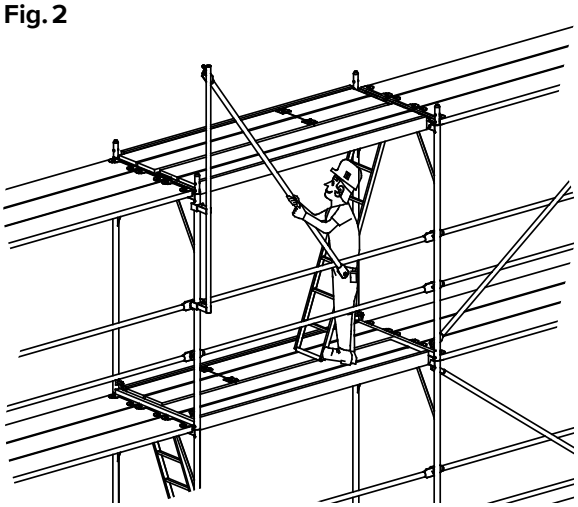


Fig. 3

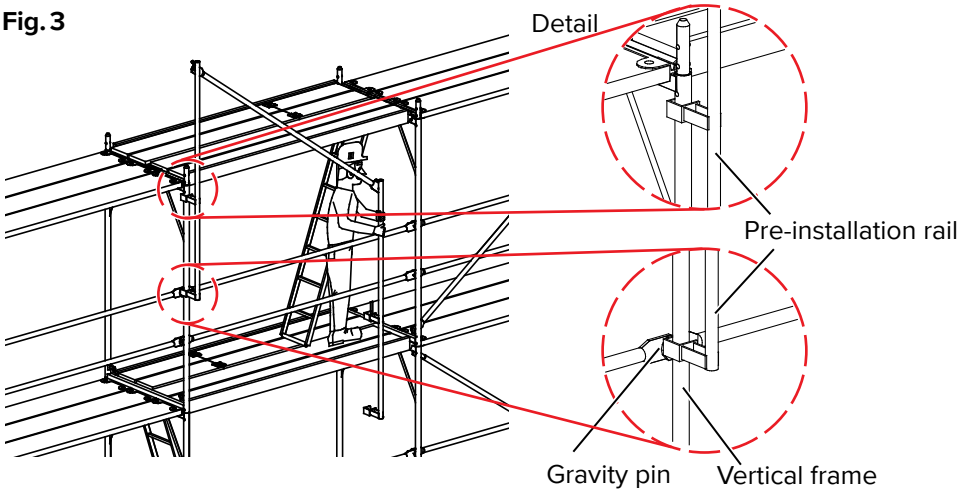
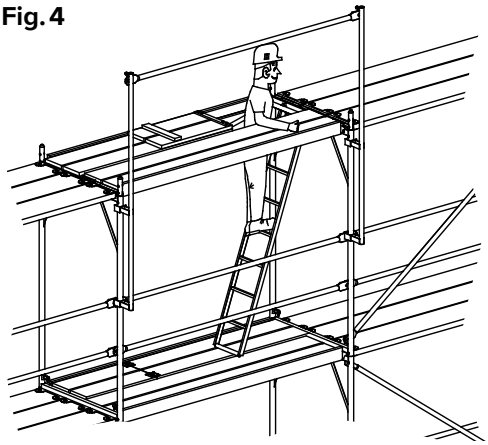


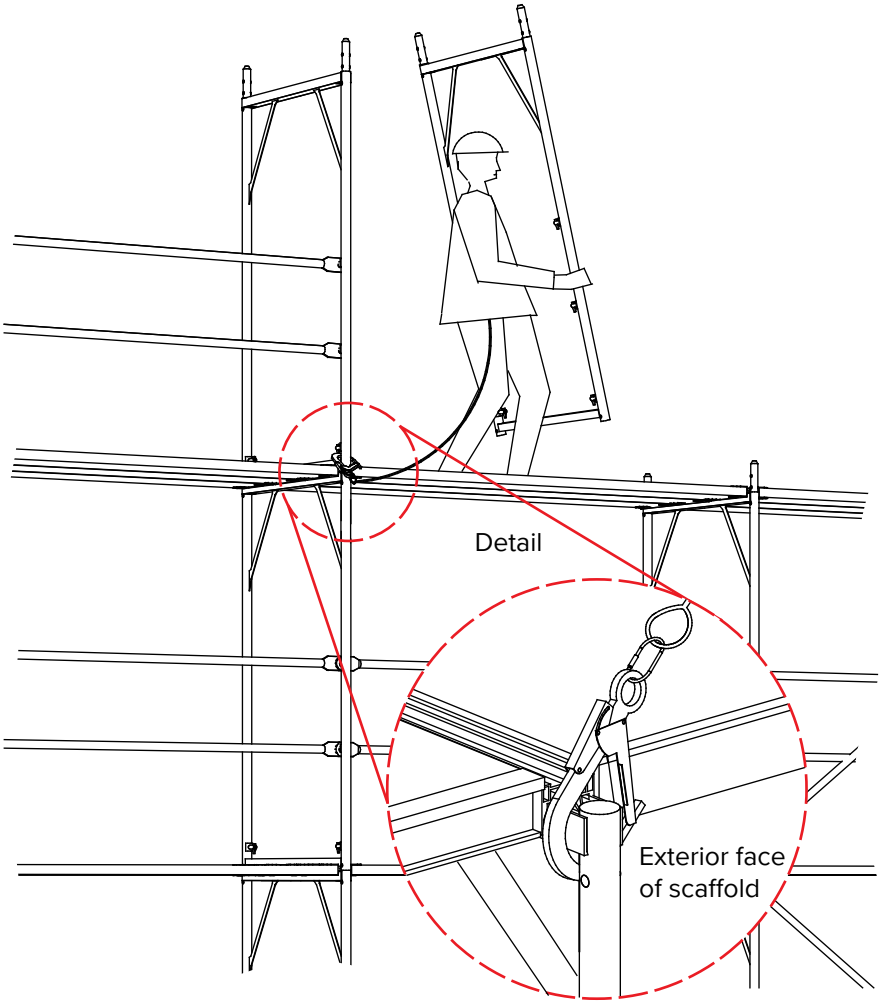
Fig. 4



NOTE	**Note** When in the installed position, the MSG post must firmly fit onto the gravity pin.

4.7.2 Using personal fall protection equipment (PSA)

Before the worker accesses the unsecured top scaffold level, he must hook his fall protection equipment to an appropriate attachment point. An appropriate location is always below the top scaffold level, which has already been covered with planks. The attachment point must always form the outermost corner of a vertical frame (see detail). Only after the fall protection equipment has been attached may the worker access the unsecured upper scaffold level and continue to assemble the scaffold components. After the vertical frames are in place, the attachment of the longitudinal and front protective mesh guards is completed.



CAUTION

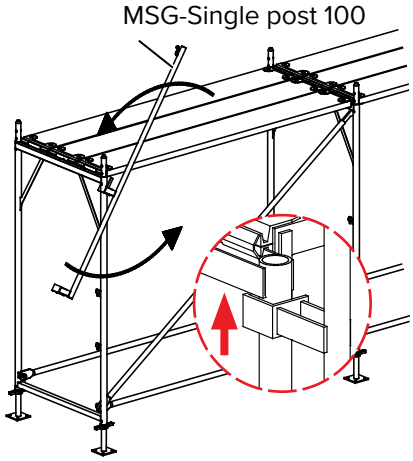
Caution!

If personal fall protection equipment (PSA) is being used, the following steps must be observed:

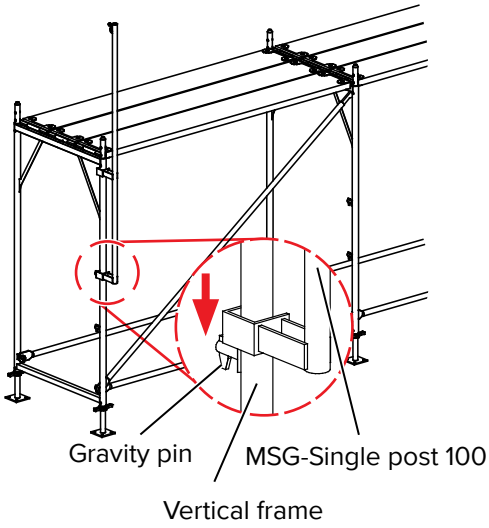
- Within the scope of the danger assessment, wherever PSA is being used organizational and technical measures must be in place, if necessary, to rescue any person who has fallen and has been caught by the PSA.
- Subject to the PSA equipment being used, an unobstructed height below the working elevation of the PSA's user must be considered.
- Only PSA suitable for the intended purpose may be used (e.g use only when moving on a horizontal level, edge stress, required unobstructed height and consideration of the max. drop).
- PSA equipment using a steel cable as lanyard may only use such lanyards if the cables are proven to withstand forces generated by edge stresses during a fall.
- Based on the use of the PSA, a type-approval in accordance with European standards and tested by an accredited test center. must be provided (CE symbol, verify the certificate of conformity by the manufacturer).
- Only a location at the scaffold similar to the detail shown above may be used as an attachment point.
- The responsible supervisor must determine suitable attachment points prior to start of work.
- The supervisor is responsible for the appropriate use of all PSA equipment.
- Only one PSA may be attached to one attachment point.
- The PSA equipment must be used in accordance with the manufacturer's operating manual.
- Should a fall occur, the scaffold may only be entered again after repairs have been made, e.g. to initiate any rescue action.

4.7.3 Installation Procedure

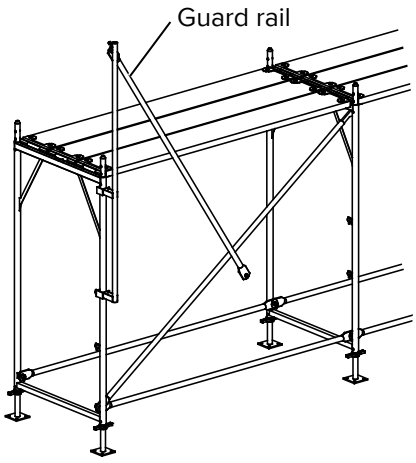
Step 1 Hook the MSG-Single post 100 to the top of the vertical frame and rotate counterclockwise.



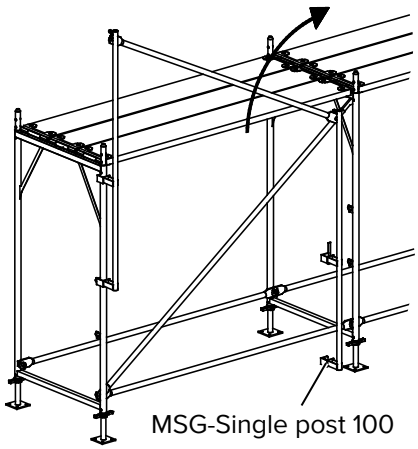
Step 2 The lower attachment point of the MSG-Single post 100 must sit on the gravity pin of the vertical frame.



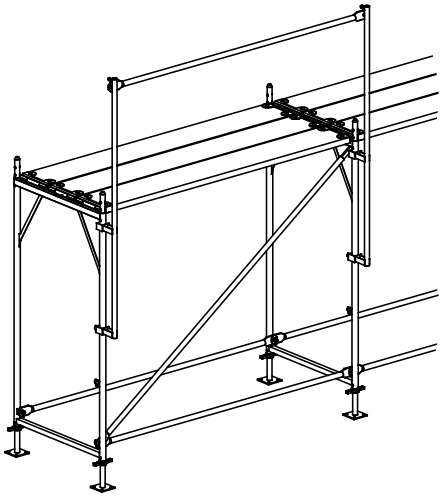
Step 3 Insert the guard rail into the uppermost hook of the MSG-Single post 100.



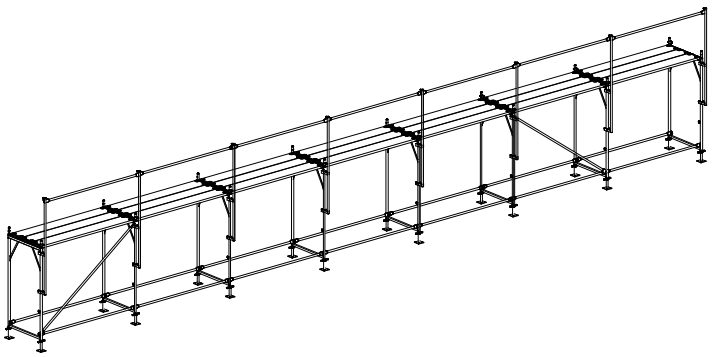
Step 4 Connect the second MSG post to the guard rail and attach to the vertical frame as described in the first step above.



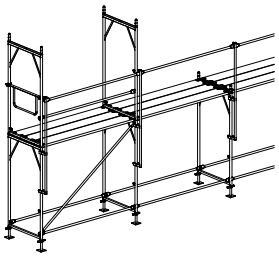
Step 5 Now, the uppermost level of the scaffold is secured.



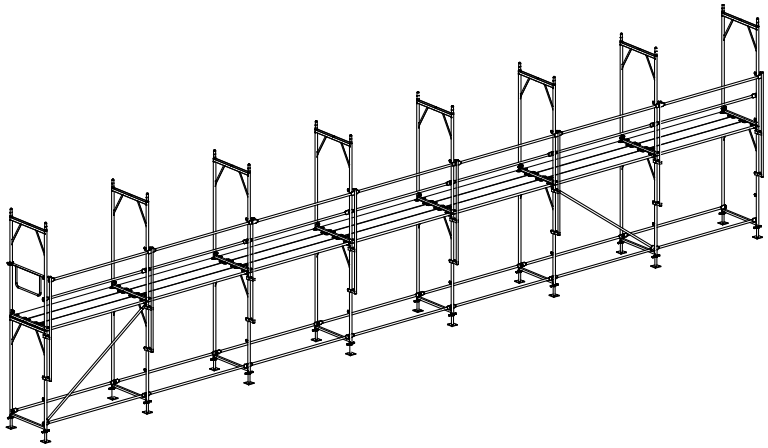
Step 6 All following scaffold bays are secured in the same way as described above.



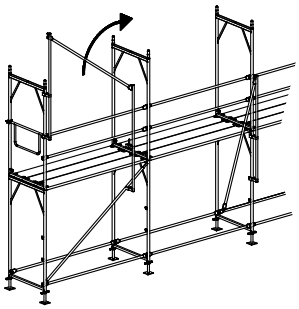
Step 7 Subsequently, the vertical frames are installed on the uppermost scaffold level. While using the personal fall protection equipment, the vertical frames and the protective mesh guards can be attached to the scaffold's front.



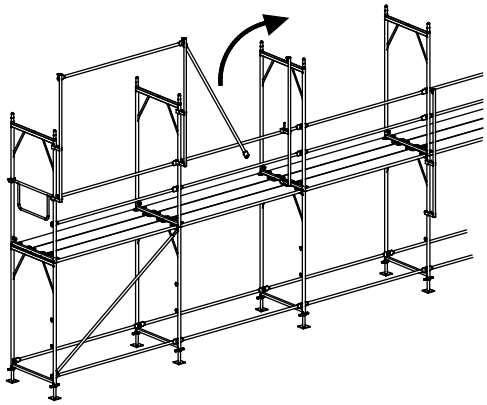
Step 8 The side protection is installed.



Step 9 Transfer the MSG-Single post 100 to the vertical frame of the next scaffold bay.

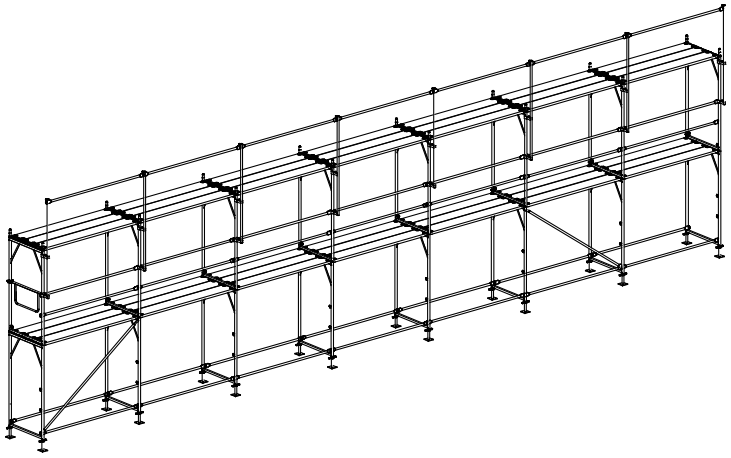


Step 10 The MSG-Single post 100 is transferred to the next bays of the second scaffold level. Then, the planks are inserted into the vertical frame.



Unless stated otherwise all dimensions are in mm

Step 11 Complete the installation of the guard rails on the uppermost level of the scaffold.

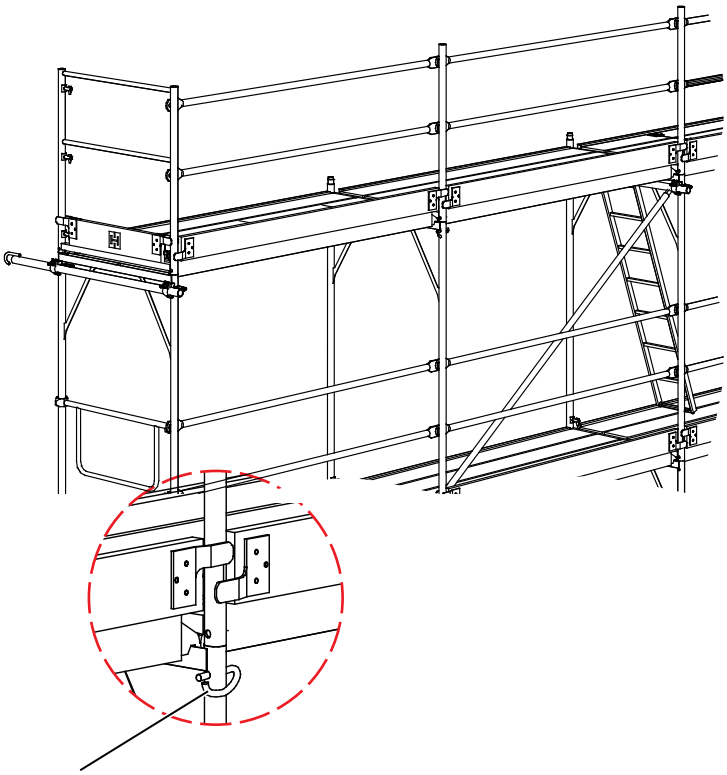


4.8 Scaffold tying point

Simultaneously with its erection, the scaffold must be tied to the building. Tie-down directions must be observed! (See pages 51 et seq.).

4.9 Uppermost scaffold level

Single post 100s along the longitudinal side, and double Single post 100 Q at the narrow side of the scaffold receive the side protection. At the same time, they prevent lift-off of the planks. Use 2 frame pins Ø 12 mm each to secure the posts.



NOTE	**Note** When components with gravity pins are installed, which are intended for the installation of protective side components, these gravity pins must always be in a vertical position and point in the longitudinal direction of the planks.

4.10 Completing the side protection

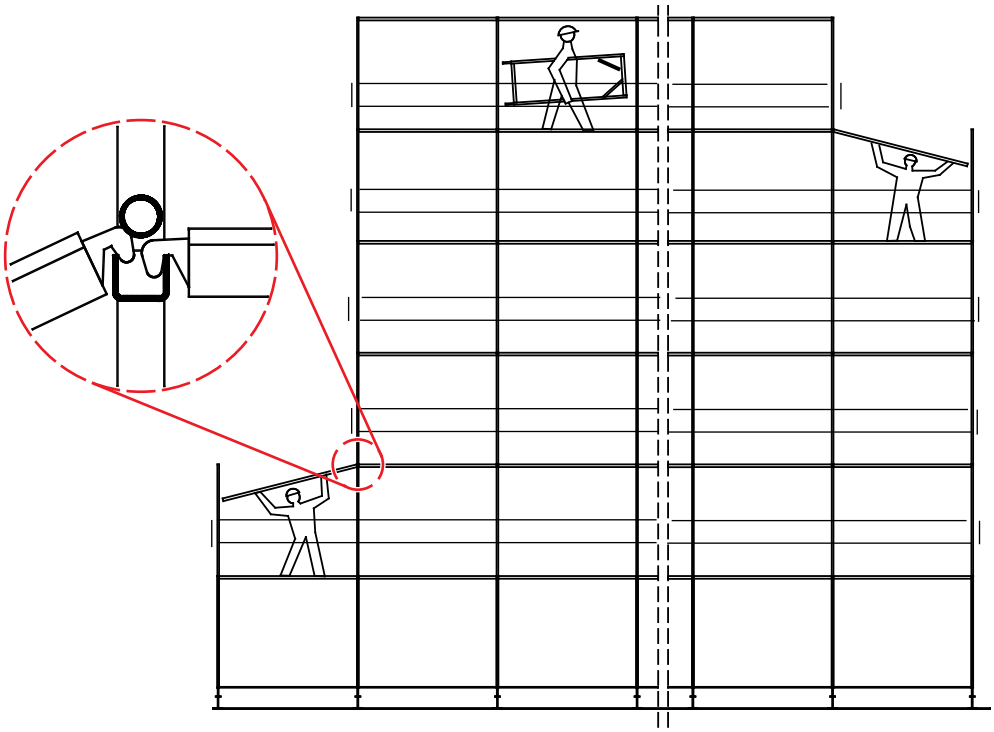
Missing guard rails and toe board, as well as the complete side protection must be installed in all scaffold bays.

NOTE	**Note**
	Please check the correct orientation of the gravity pin. Under consideration of the hazard assessment and the applicable regulations pertaining to safety at work, as well as the industrial health & safety standards act, certain parts of the side protection may be omitted.

4.11 Erecting and dismantling of scaffold bays (“Wandering”)

The rounded support claws of the planks allow for the vertical dismantling of a bay at one end and erecting a new bay at the opposite end. This way, the scaffold can “wander” as the work progresses and material and inventory can be saved.

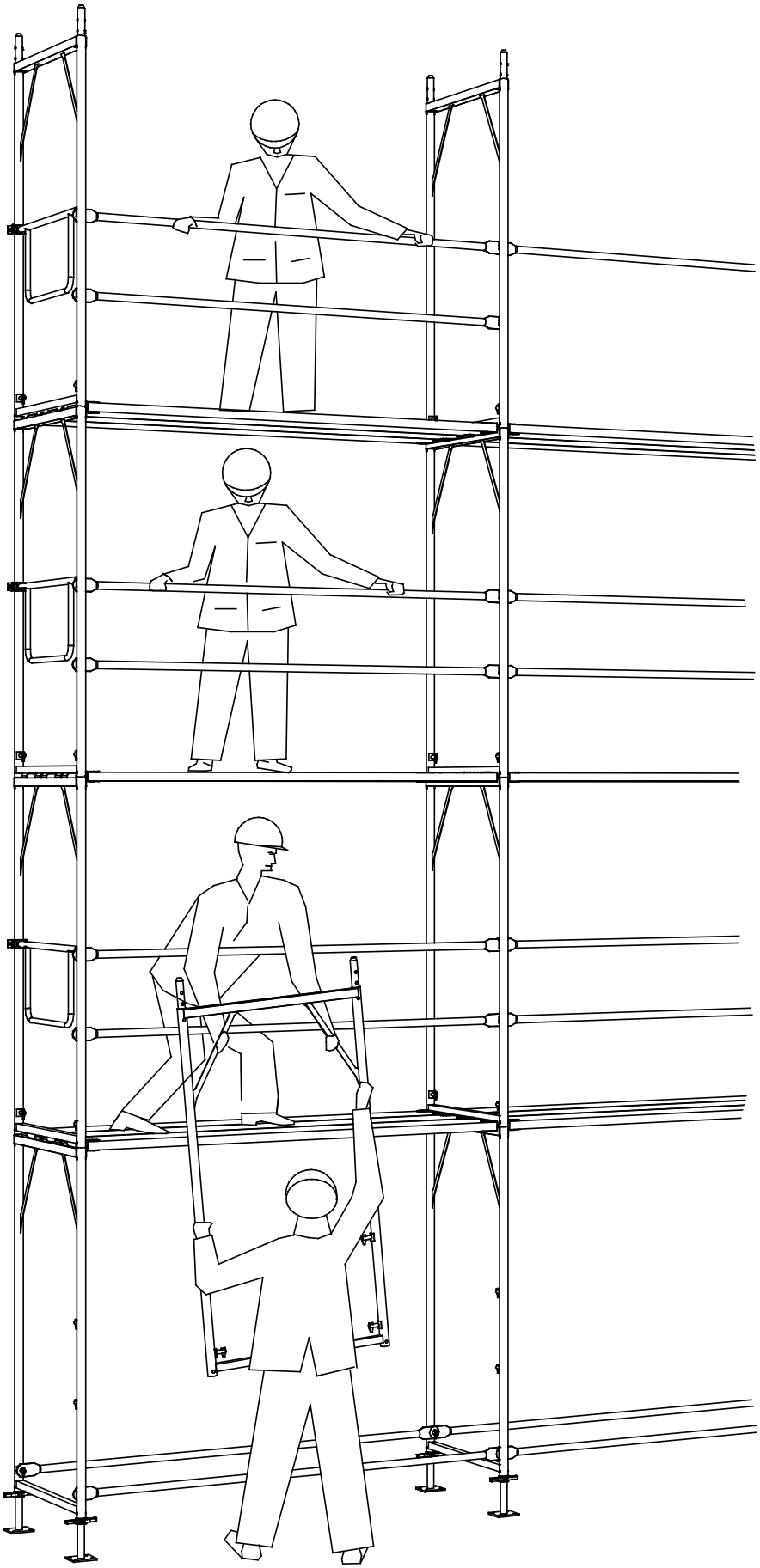
CAUTION	**Caution!**
	Danger of falling during installation! Appropriate safety precautions must be taken.



NOTE	**Note**
	These steps can be applied to all system components except for the vertical frames.

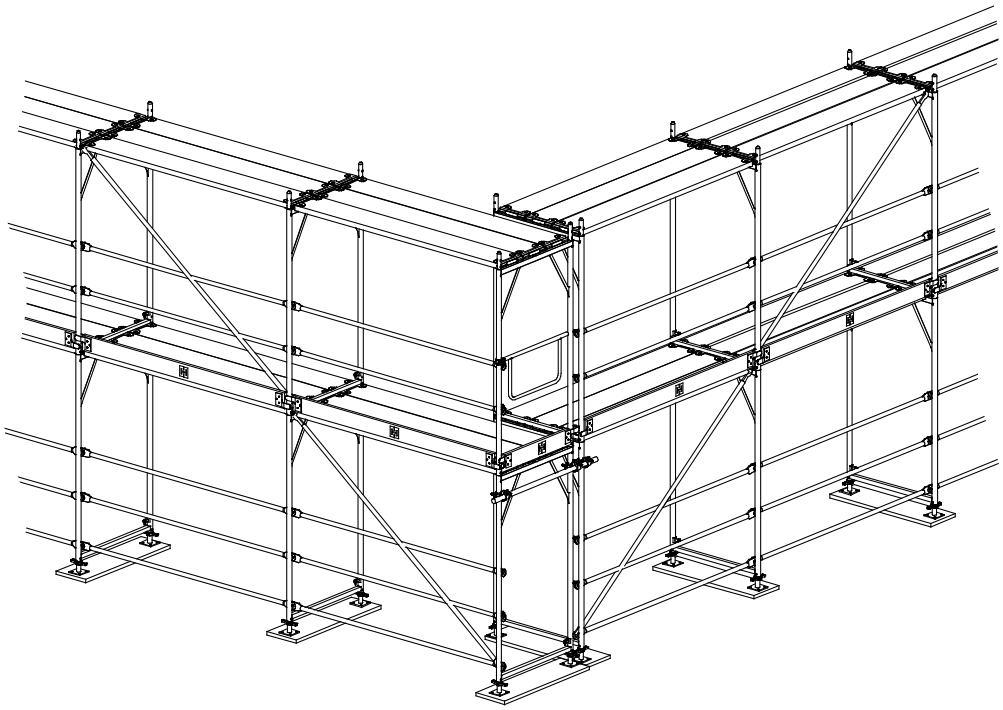
5 Handling Scaffold Components

When erecting scaffolds higher than 8 m (height of planks above the erection surface), a builder’s hoists must be used for the erection and dismantling of the scaffold. Manual pulleys may be considered as builder’s hoists as well. Deviating from this rule, builder’s hoists may be omitted if the scaffold height does not exceed 14 m and its length does not exceed 10 m overall. If the vertical handling of components inside the scaffold must be performed manually, top and center rail must be installed. The toe board may be omitted. If scaffold bays are used exclusively for the horizontal transportation of components during the erection and dismantling, the center rail and the toe board may be omitted. During this manual handling of components, at least one person must be present on each scaffold level.

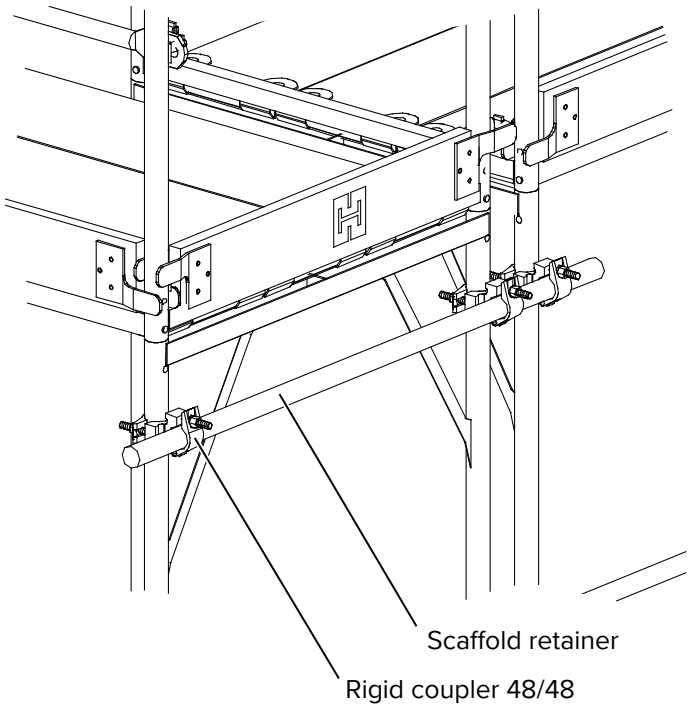


6 Corners

Corners must have the full width of the scaffold's walkway. Ensure the joining planks are at the same elevation. At every second scaffold level (every 4.0 m), both abutting scaffold bays are connected with 3 couplers at their respective scaffold tubes.



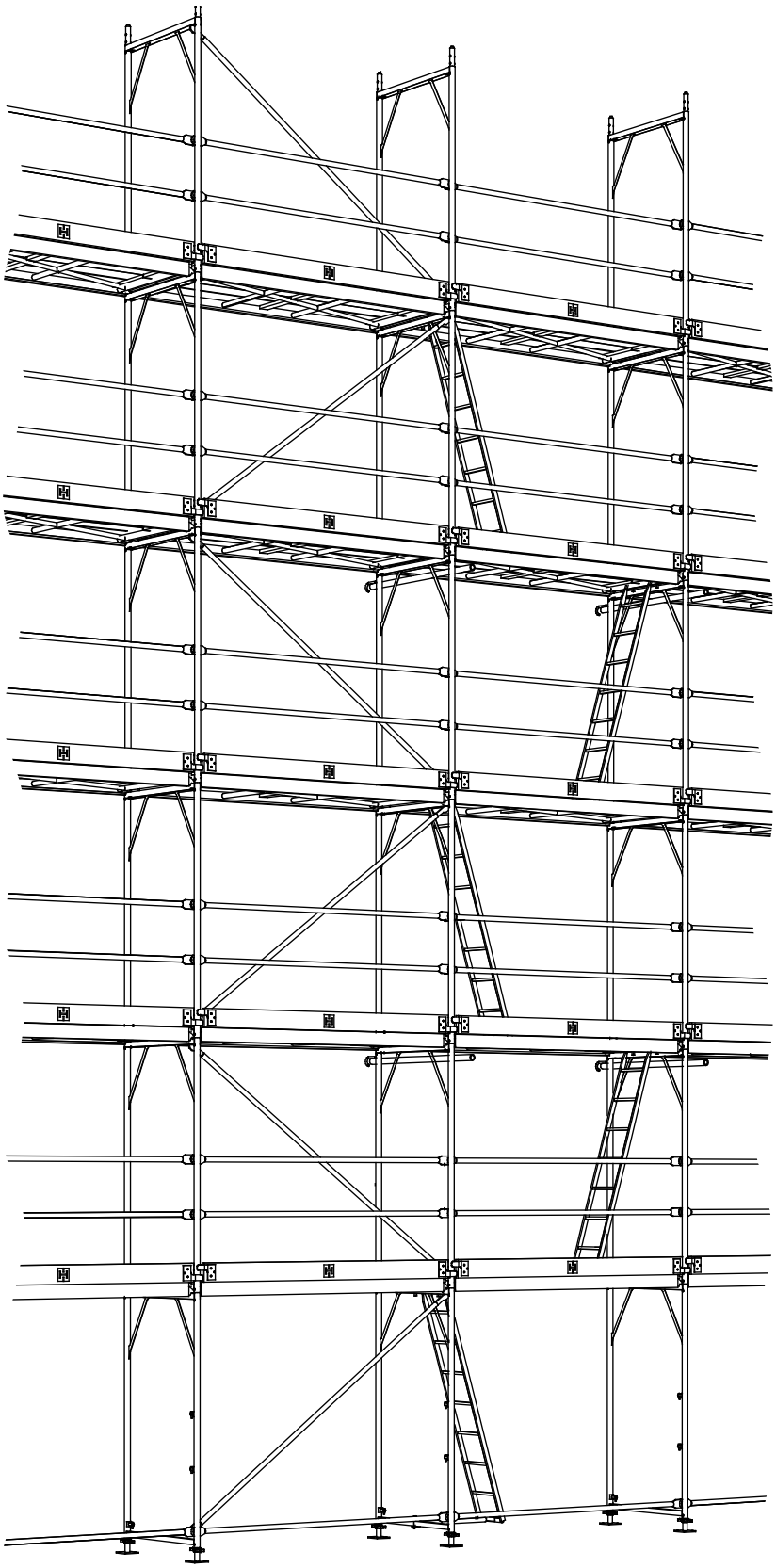
Typical scaffold corner connection



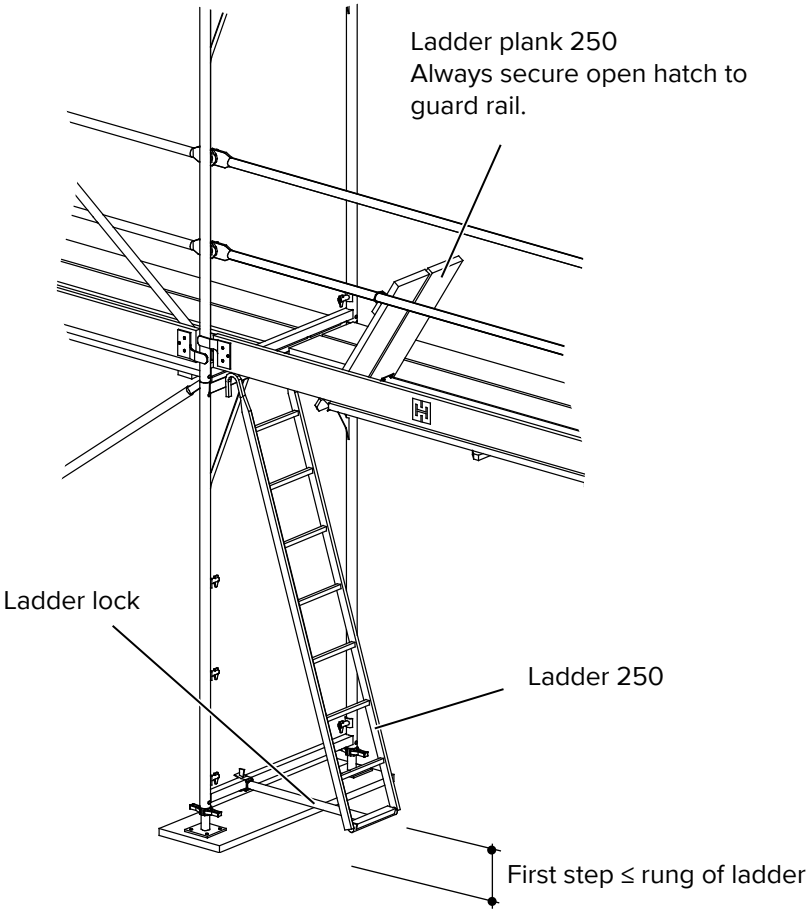
Unless stated otherwise all dimensions are in mm

7 Interior Scaffold Access Ladders

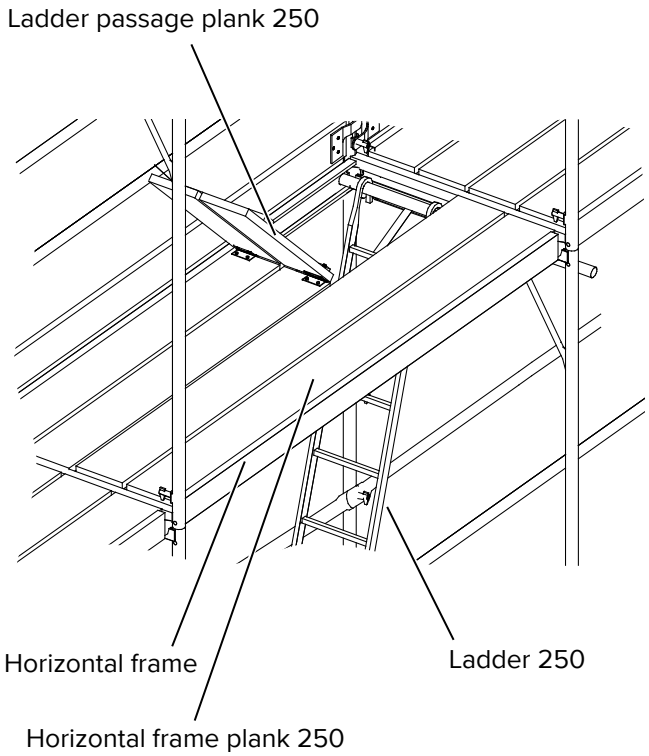
Prior to working on the first scaffold level, the scaffold access must be established. A scaffold bay suitable for the work progress must be selected. All scaffold planks necessary for the ladder access and ladder 200 A must be installed. The standard model of the BOSTA 100 scaffold does not include the use of an aluminum ladder access plank and an aluminum ladder access plank with ladder of the BOSTA 70 system.



Use the ladder attachment to fix the lower ladder in a slightly sloping position to the crossbar of the vertical frame.



Typical access hatch when using a horizontal frame and a ladder passage plank 250. Hook ladder 250 to the traverse profile of the horizontal frame. The open hatch of the ladder passage plank must be immediately secured to the guard rail, using the hook provided.



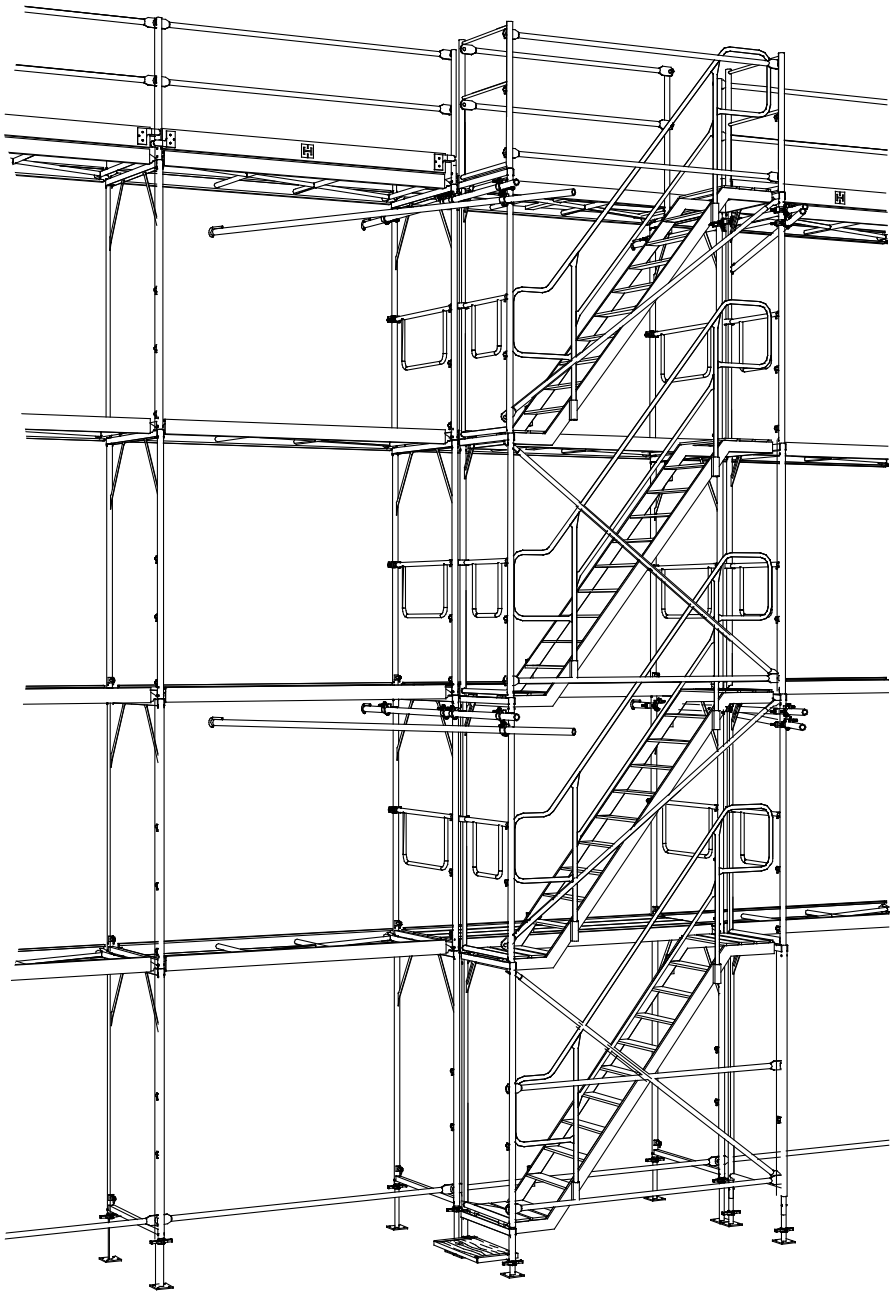
Unless stated otherwise all dimensions are in mm

8 Scaffold Access Stairway

8.1 Single Slope Scaffold Stairway

The BOSTA 70 Scaffold Access Stairway is erected in front of the facade scaffold to ensure quick and safe ascent. The stairway must be connected to the scaffold and tied every 8 m to the vertical frame and the facade; however, the tie pattern must be independent from the tying method used for the scaffold itself. The first tying point must be max. 4.5 m above ground level. Always use either base jack 50/3.5 or 70/3.3 (spindle extension ≤ 26.5 cm) with a min. lifting range of 25 cm. Use the scaffold retainers and couplers to connect the stairway to the scaffold. The applicable regulations for safety at the workplace must always be observed. Furthermore, industrial health and safety standards must be adhered to. The max. construction height for other than the standard design is 64.5 m. The live load capacity is nominal 1.0 kN/m^2 on max. 5 flights of stairs.

- Concentrated load of 1.5 kN, distributed across an area of 0.2 m x 0.2 m.
- Max. 1 person per flight of stairs.
- Max. 8 persons on the entire scaffold stairway at one time.



8.2 Installation sequence of the scaffold access stairway

Step 1 Establish the scaffold base by using base jacks (1) to make rough adjustments and to compensate for uneven ground. If necessary, use load-bearing planks.

Step 2 On one side of the base, insert the stairway access (5) and on the other side, insert the B-vertical frame 200/70 (2) into the base jacks (1).

Step 3 Place the alu stairway 250 (6) onto the U-profile of the stairway access (5) (below) and on the vertical frame 200/70 (2) (above). The stairs are now positioned off center to the B-vertical frame or the stair access.

Step 4 Insert the second B-vertical frame 200/70 (2) into the tubing of the stairway access (5).

Step 5 Insert the guard rail 250 (3) into the gravity pins of the vertical frame 200/700 (2) to provide rigidity in the longitudinal direction.

Step 6 Use a diagonal 200 (4) to stiffen the scaffold bay. At the top, attach the hook of the diagonal to the inner cut-out of the U-profile of the vertical frame. At the lower end, insert the diagonal into the gravity pin.

Step 7 Insert exterior railing (7) into the existing railing retainers of the stairway (6).

Step 8 At the top landing, insert the next vertical frame 200/70 (2) into the vertical frame below.

Step 9 To close the gap between scaffold plank and stairway landing, clamp down upper gap plate (8) and lower gap plate (8a).

Step 10 As a side protection, insert transverse guard rail 70 (9) into the gravity pins of the vertical frame (2) and lock into place with existing couplers.

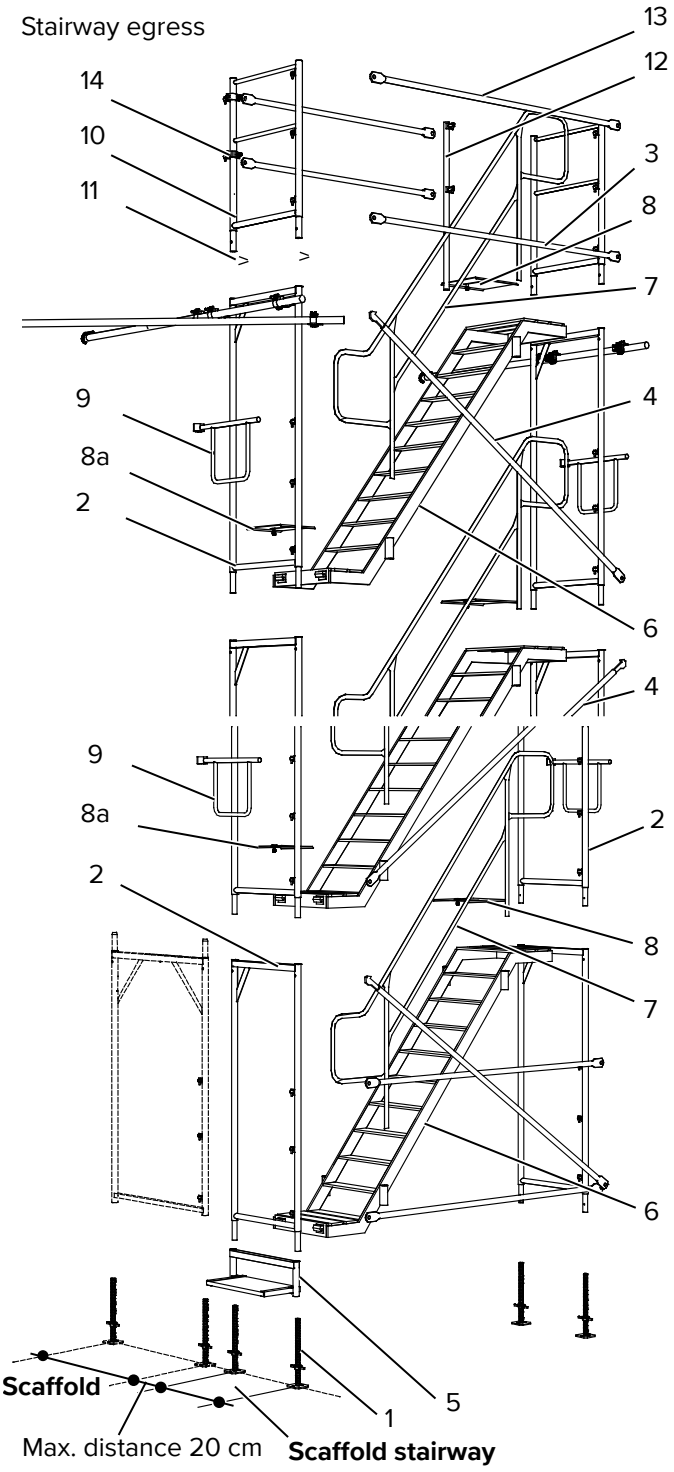
Step 11 Attach aluminum ladder 250 (6), followed by the next vertical frame 200/70 (2), the diagonal 200 (4), the exterior railing (7), the upper gap plate (8) and lower gap plate (8a), and the double rail 70 trans (9). Repeat this sequence for subsequent build-ups.

Step 12 Insert the Twin Single post 100 70 trans. (10) into the uppermost vertical frame (2) and secure with frame pin (11).

Step 13 For longitudinal stiffness, insert guard rail 250 (3) into the upper and lower gravity pin of the transverse guard rail 70 (9).

Step 14 Attach two B-Half couplers 48 G (14) to twin single post 70 trans (10). And insert the stairway post (12) into the upper bushing of the alu stairway 250 (6).

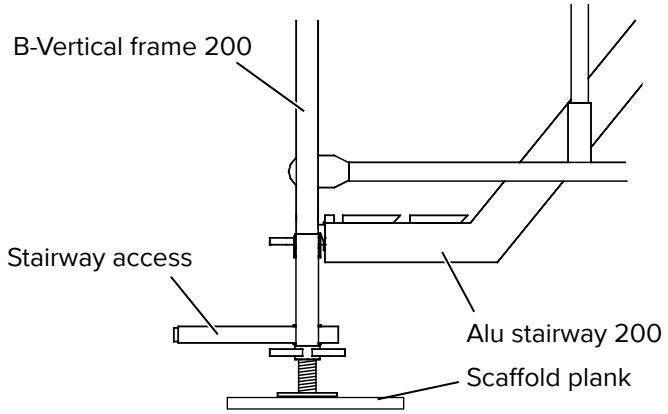
Step 15 To secure the upper scaffold level, insert two guard rails 190 (13) into the gravity pins of the stairway posts (12) and the B-Half couplers 48 G (14).

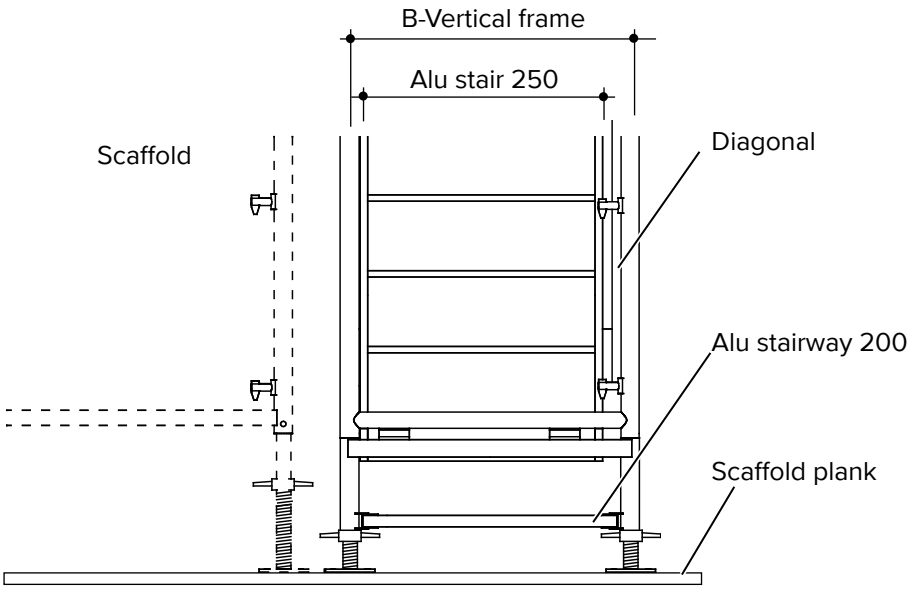


1 B-Base jack
2 B-Vertical frame 200/70
3 Guard rail 250
4 Diagonal 200
5 Stairway access
6 Alu stairway 250
7 Exterior railing
8 Gap plate - top
8a Gap plate - bottom
9 Double guard rail 70 trans.
10 Twin single post 100 70 trans.
11 Frame pin
12 Stairway post
13 Guard rail 190
14 B-Half coupler 48 G

The scaffold stairway may only be installed on a surface capable of supporting the load. A load-distributing base structure (e.g. timber planks) must be used if the ground is too soft.

Scaffold Access Stairway





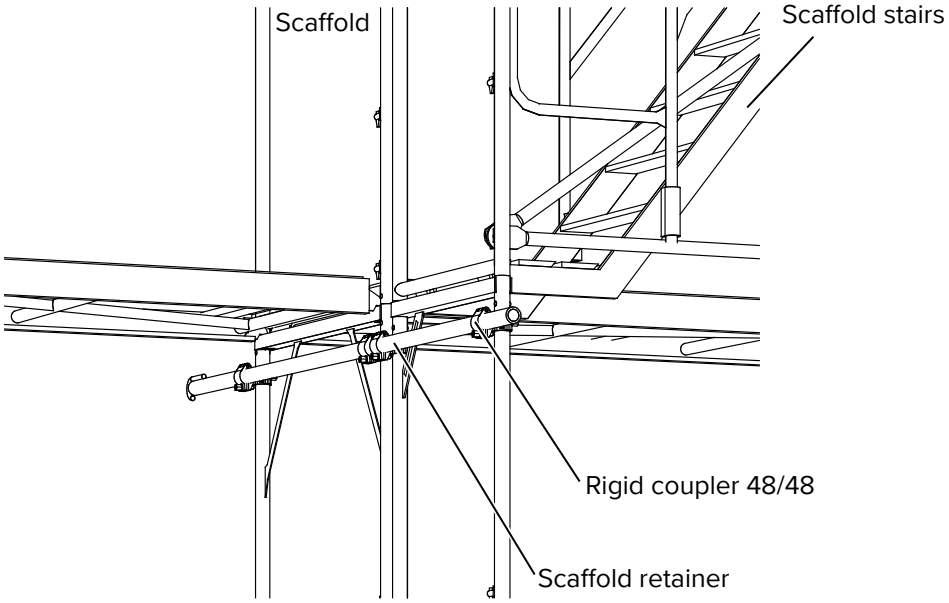
Place base plates of base jacks as close to each other as possible.

CAUTION

Caution!

Danger of falling during installation. Appropriate safety precautions must be taken!

The scaffold retainer and the couplers connect the stairway to the scaffold.



For tying forces see page 40.

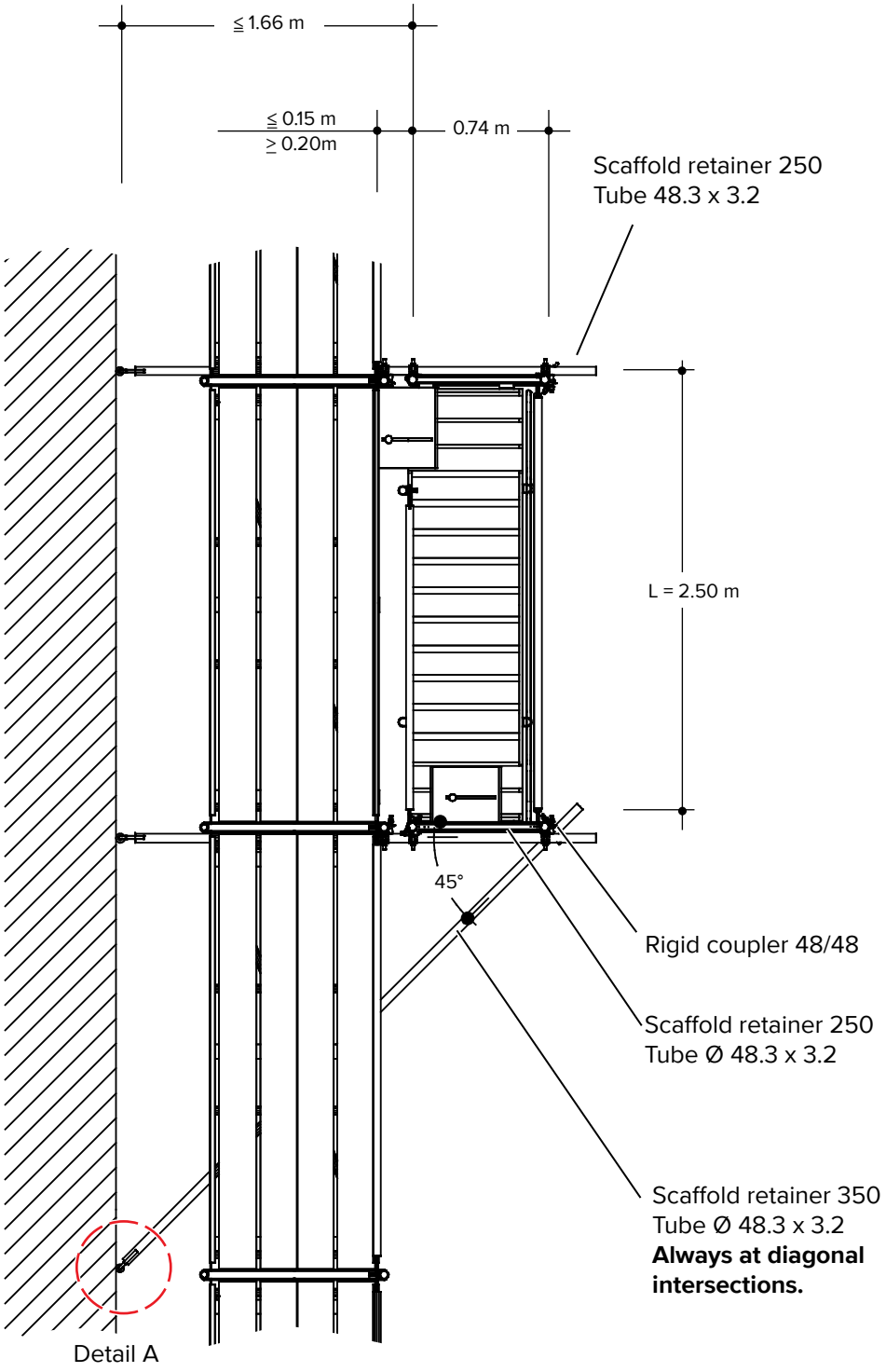
Unless stated otherwise all dimensions are in mm

8.2.1 Tying the scaffold access stairway

Vertical tie distance

The stairway must be tied into the building's facade not more than 4.5 m above the ground. The max. vertical distance of subsequent tying points must not exceed 8.0 m. However, tying points must also be provided at the uppermost stairway egress and the one below.

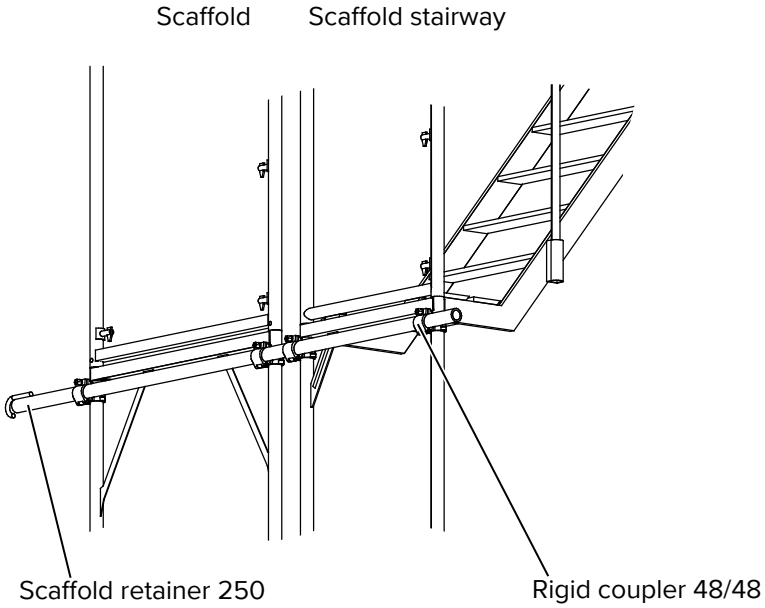
If the tie forces cannot be transferred into the building's facade, the tie distance must be reduced to 4.0 m, which will reduce the anchor forces by half.

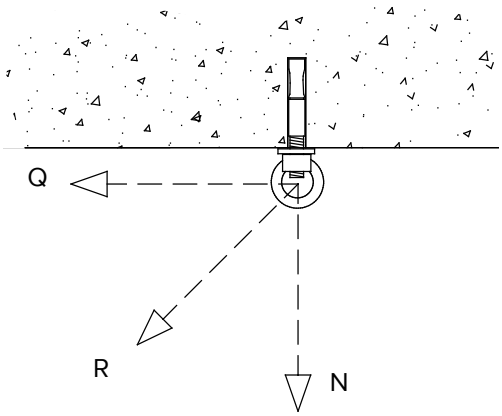


[1] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74

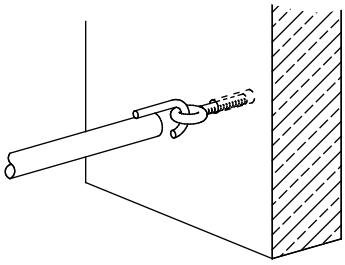
Scaffold Access Stairway

Use facade ties to attach the scaffold stairway to the scaffold. For tie forces, see table below.





Detail A



Forces to determine dowel size

Tie distance	N (kN)	Q (kN)	R (kN)
4.0 m	3.5	3.5	4.9
8.0 m	6.9	6.9	9.8

Unless stated otherwise all dimensions are in mm

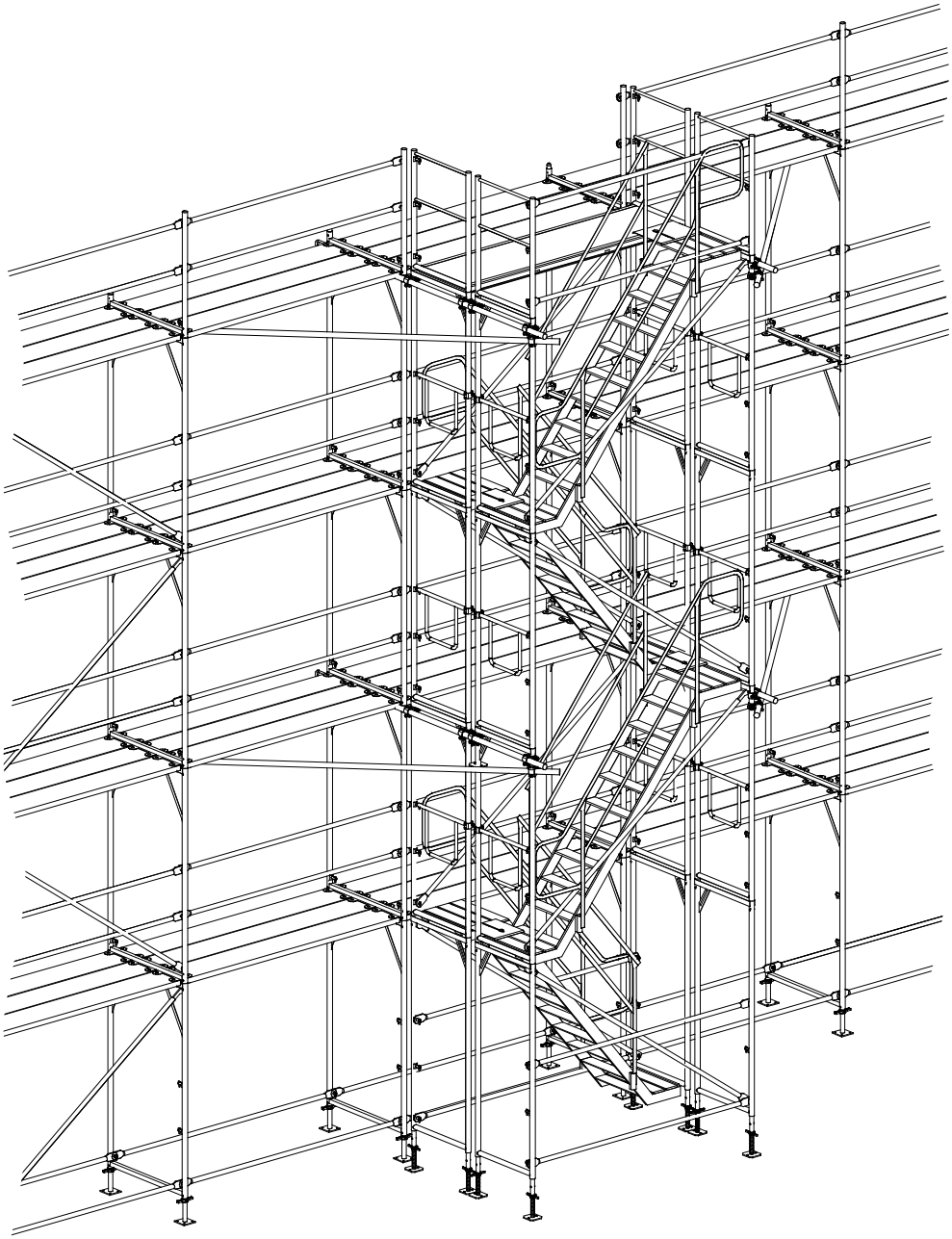
8.3 Double Slope Access Stairways

If the loads indicated below are not exceeded, alternating stairways BOSTA 70 can be used as access stairs to working and protection scaffolds or simply as access to other construction areas.

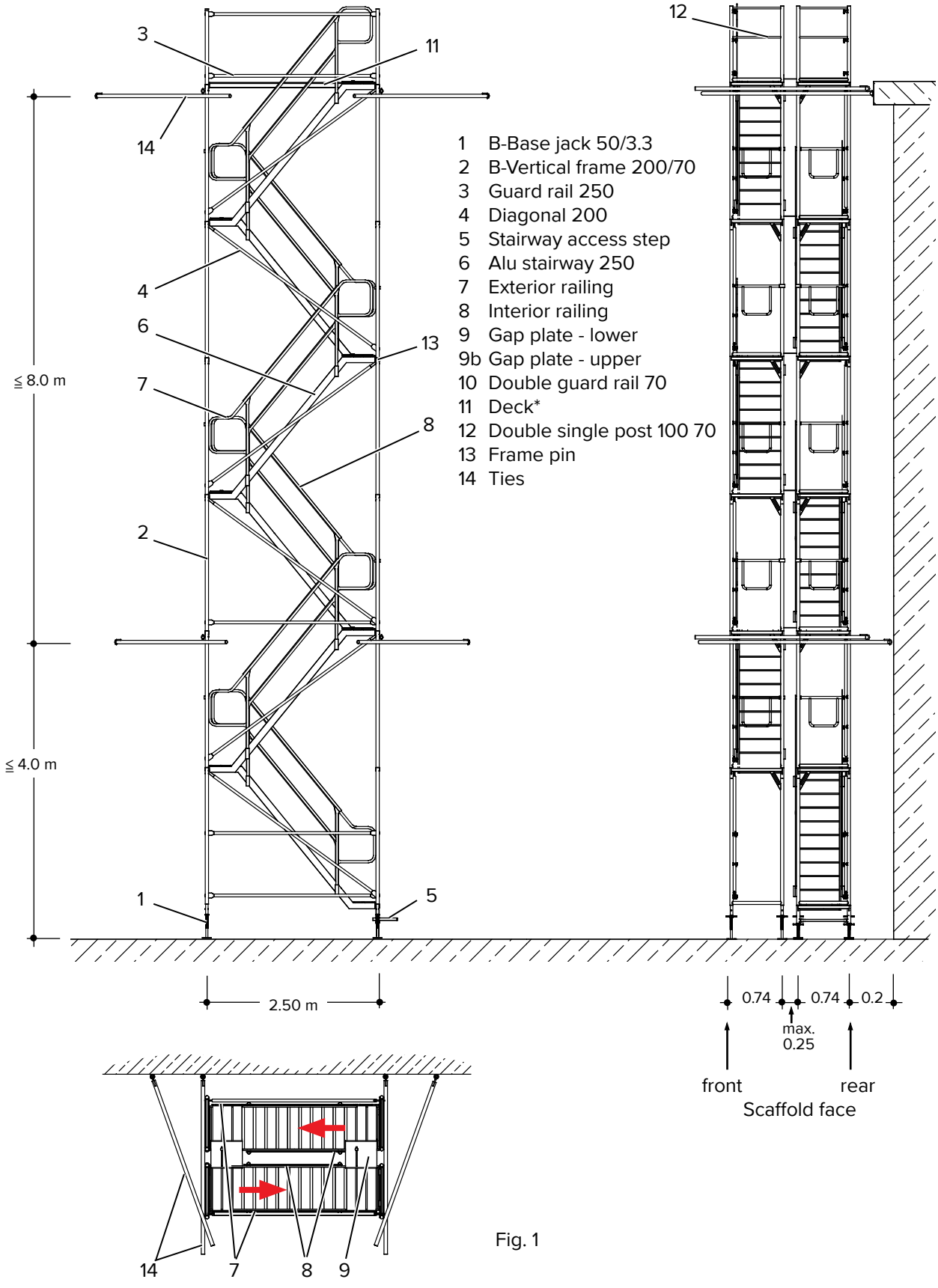
The staircase must be attached to both vertical frames of the scaffold at 8m intervals, but independently from the anchor method of the facade scaffold. The first tying point is max. 4.5 m above ground level. Always use base jack 50/3.5 or 70/3.3 with a min. spindle extension of 25 cm (spindle extension ≤ 26.5 cm). Use the scaffold retainers and couplers to connect the stairway to the scaffold. The applicable regulations for workplace safety must always be observed. Furthermore, occupational health and safety standards must be adhered to. The max. construction height for other than the standard model is 64.5 m.

The live load capacity is: nominal 1.0 kN/m^2 on max. 5 flights of stairs.

- Concentrated load 1.5 kN distributed across an area of 0.2 m x 0.2 m.
- Max. 1 person per flight of stairs.
- Max. 8 persons on the entire scaffold stairway at one time.



8.3.1 System Overview of Double Sloping Stairways



1 B-Base jack 50/3.3
2 B-Vertical frame 200/70
3 Guard rail 250
4 Diagonal 200
5 Stairway access step
6 Alu stairway 250
7 Exterior railing
8 Interior railing
9 Gap plate - lower
9b Gap plate - upper
10 Double guard rail 70
11 Deck*
12 Double single post 100 70
13 Frame pin
14 Ties

Fig. 1

Unless stated otherwise all dimensions are in mm

8.3.2 Erecting Double Sloping Access Stairways

Step 1 Use eight base jacks (1), one stairway step (5), and four vertical frames 200/70 (2) to establish the base of the scaffold stairway. Use base jacks to adjust the height and to compensate for possible unevenness of the ground.

Step 2 Insert the four guard rails 250 (3) into the upper and lower gravity pin of the vertical frame to maintain a fixed distance.

Step 3 Use one diagonal 200 (4) each to stiffen the front and rear face of the scaffold, as shown. Lock the diagonal's hook into one of the cut-outs of the U-section above and attach the lower end of the diagonal to the lower gravity pin of the vertical frame.

Step 4 Place the stairway (6) onto the U-profile of the vertical frame above the stairway access step below. The stairway is now off center to the vertical frame (2) and the stairway step (5). Subsequently, insert the outside and interior handrails.

Step 5 To erect additional scaffold levels, planks per DIN 4420 must first be installed as mezzanine. One side of the plank is placed on the step of the stairway, while the other side is placed on a scaffold retainer, which is fastened to the vertical frame using couplers.

Step 6 To erect the next scaffold level above it, insert the vertical frame (2) into the vertical frame below at the side of the stairway access.

Step 7 Place the second stairway (6) onto the vertical frame of the adjacent scaffold bay; subsequently install the opposite vertical frames 200/70 (2) within this bay.

Step 8 Install diagonals 200 (4), similar to step 3; however, running in the opposite direction of the diagonal below.

Step 9 Insert the inside (7) and exterior railings (8) into the existing railing retainers of the stairway. Attach transverse double guard rails 70 (10) as upper guard rail at the level of the two adjacent stairway landings.

Step 10 Clamp down gap plate (9) in the area of both stairway landings to bridge the gap.

Scaffold Access Stairway Base

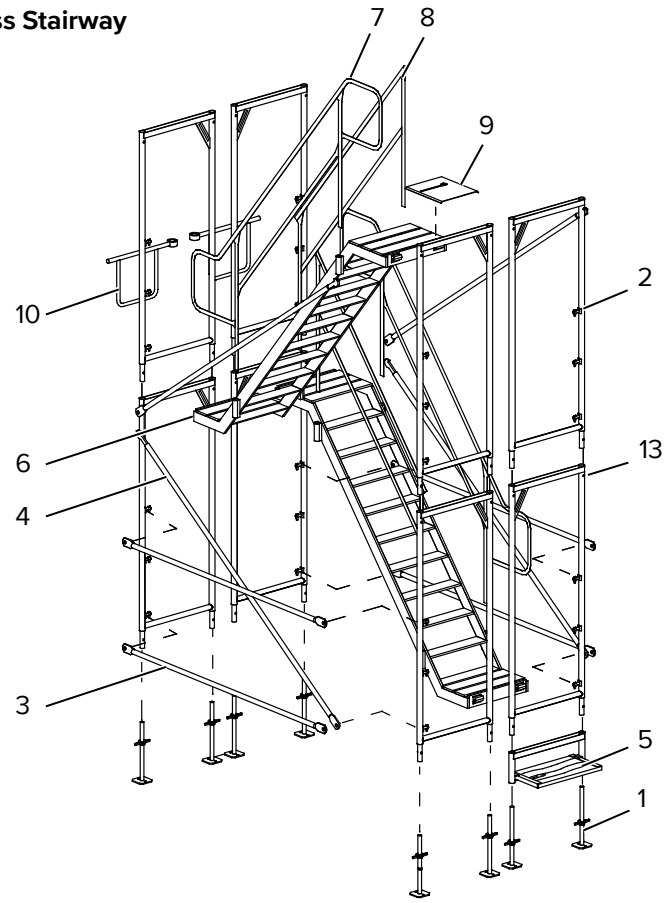
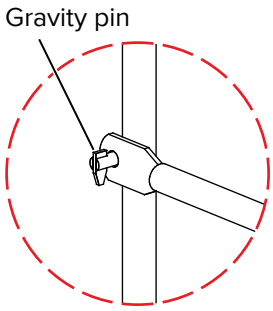


Fig. 2



Ensure the gravity pin is in the correct orientation!

1	B-Base jack 50/3.3	9	Gap plate - bottom
2	B-Vertical frame 200/70	9b	Gap plate - top
3	Guard rail 250	10	Double guard rail 70 trans.
4	Diagonal 200	11	Plank*
5	Stairway access	12	Double rail post 70
6	Alu stairway 250	13	Frame pin
7	Exterior railing	14	Tie
8	Interior railing	15	Half coupler 48 G
		16	Rigid coupler 48/48

* (Alu plywood plank 250/70 or steel plank 250/32)

CAUTION

Caution!

Danger of falling during installation. Appropriate safety precautions must be taken!

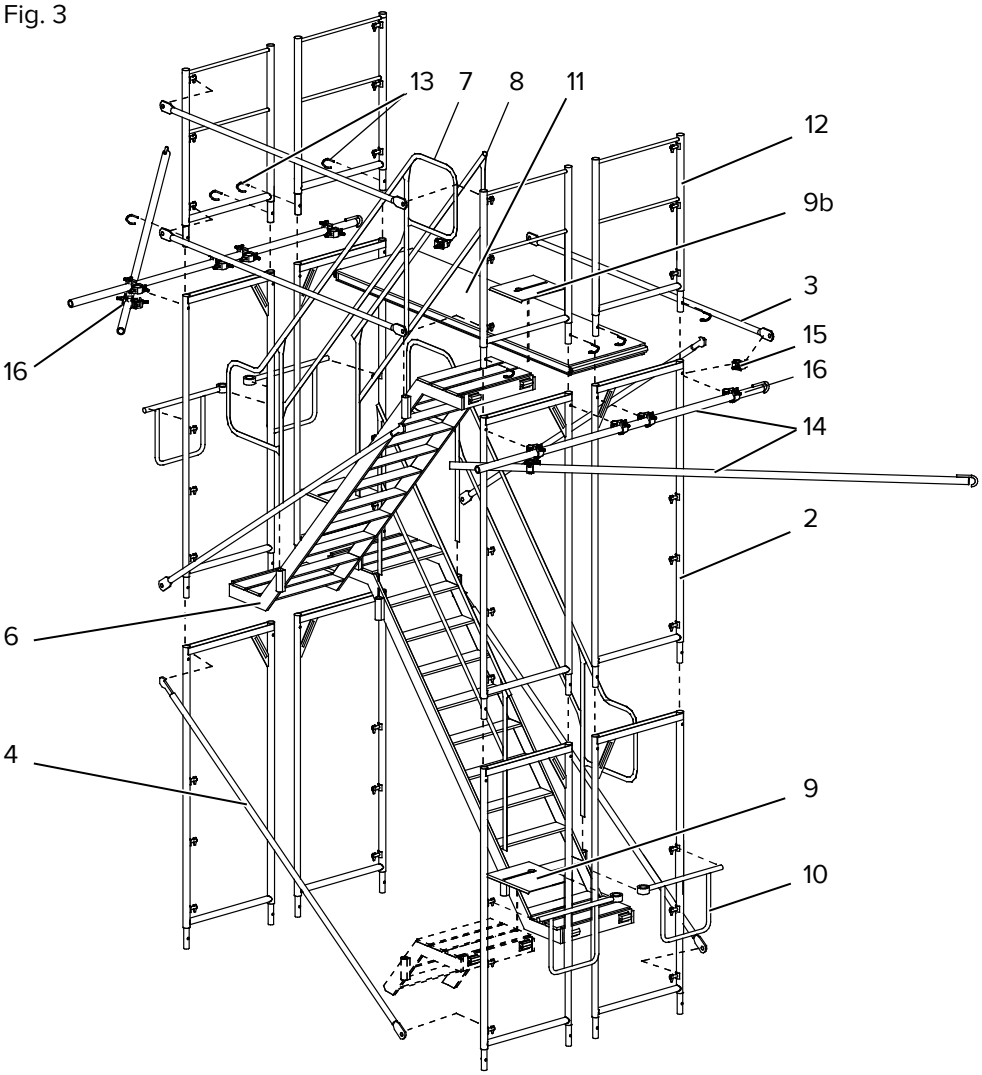
Step 11 Before the installation of the scaffold stairway can continue as described in the steps above, the stairway must be tied first (see Fig. 5 on page 48). In the area, where the stairway is tied, a guard rail 250 (3), which is acting as horizontal crossbar, must be inserted into the front and rear lower gravity pins of the following vertical frame.

Step 12 To continue the installation of the scaffold stairway, follow the steps described above. Tie the stairway at a vertical interval of 8.0 m.

Step 13 At the top of the stairway and at its egress, an additional continuous landing must be installed, using a BOSTA plank (11). Subsequently, the twin railing post 70 trans (12) are inserted into the upper vertical frame and secured with the frame pin (13).

Step 14 Attach the uppermost tie to the vertical frame at the end of the stairway (see Fig. 5 on page 48). On the front face of the scaffold, install the guard rails 250 (3) at the lower and upper attachment points of the single post 100 and insert them into the gravity pins. On the rear of the scaffold, a guard rail 250 must be installed immediately below the landing, using half couplers 48 G.

Fig. 3



1 B-Base jack 50/3.3
2 B-Vertical frame 200/70
3 Guard rail 250
4 Diagonal 200
5 Stairway access
6 Alu stairway 250
7 Exterior railing
8 Interior railing
9 Gap plate - bottom
9b Gap plate - top
10 Double guard rail 70 trans.
11 Plank*
12 Double rail post 70
13 Frame pin
14 Tie
15 Half coupler 48 G
16 Rigid coupler 48/48

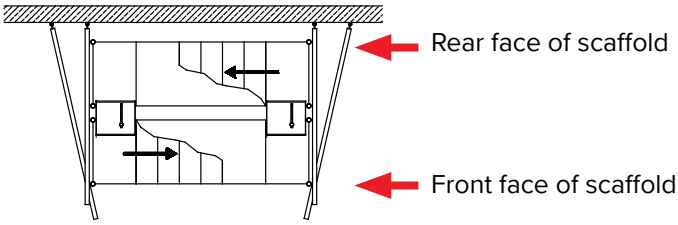
* (Alu plywood plank 250/70 or steel plank 250/32)

Step 15 The upper diagonal 200 is not used at the mezzanine level. As described in step 14, guard rails 250 (3) are installed as horizontal crossbar, both on the front and the rear tarpaulin of the scaffold and above and below the mezzanine egress. Replace the existing exterior railing with an interior railing. This creates an opening in the guard rail above and below the mezzanine egress. Use 2 additional guard rails 250 (3) to close this gap. Furthermore, allow for a minimum of one additional standard tie (as shown in Fig. 5) in all areas between standard tying points, where a mezzanine egress is intended.

- Allow for one additional tying point above and below the mezzanine egress and between standard tie distances, when one mezzanine egress is intended (see Fig. 4A).

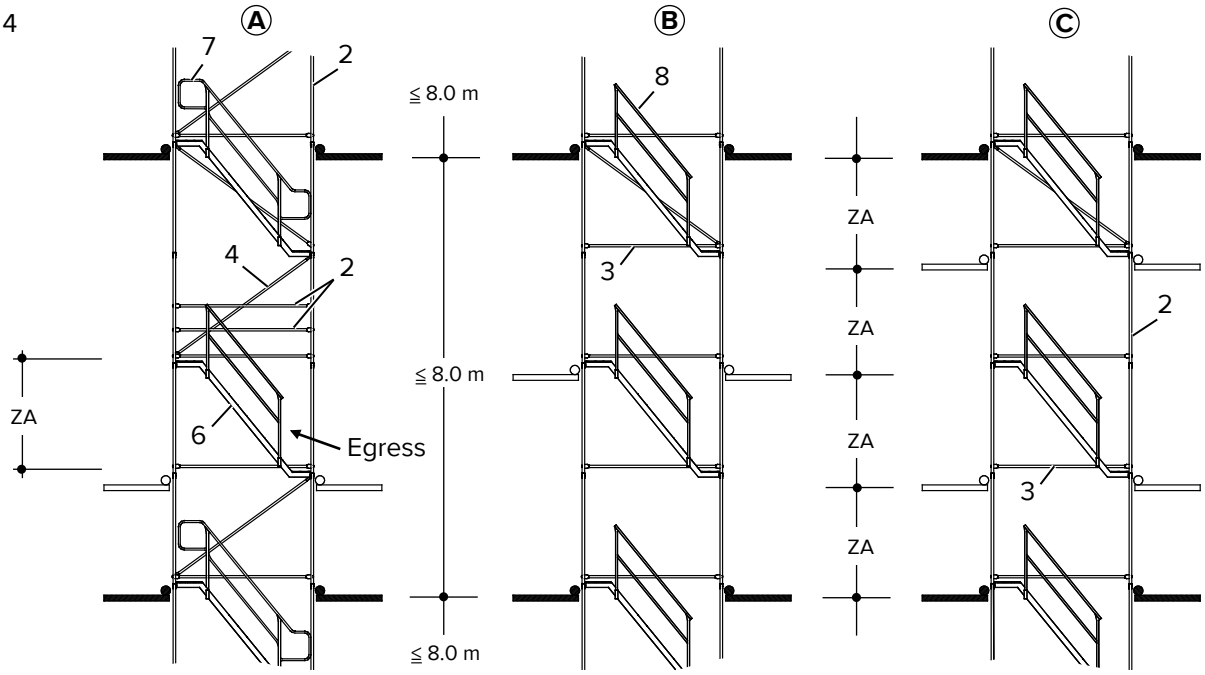
If two, three or four mezzanine egresses are intended between standard tie distances, one additional tie must be placed in the center between standard tie distances (see Fig. 4B). Should this not be feasible, since standard tie locations are not possible, two additional ties must be placed at a quarter height between each standard tie distance (see Fig. 4C).

Mezzanine egress.
Additional tying point required



Rear face of scaffold

Fig. 4



1 B-Base jack 50/3.3
2 B-Vertical frame 200/70
3 Guard rail 250
4 Diagonal 200
5 Stairway access step
6 Alu stairway 250
7 Exterior railing
8 Interior railing
9 Gap plate - lower
9b Gap plate - upper
10 Double guard rail B70 traverse
11 Plank*
12 Twin single post 100 70 trans.
13 Frame pin Ø 8 mm
14 Tie

* (Alu plywood plank 250/70 or steel plank 250/32)

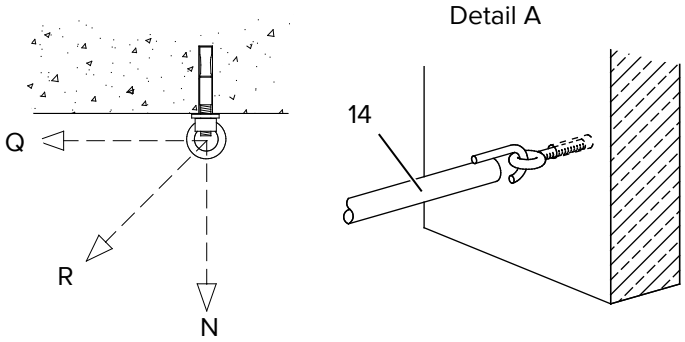
● Standard tying point
○ Additional tying point
ZA = Mezzanine

Unless stated otherwise all dimensions are in mm

8.3.3 Tying double slope stairways

The first tying point must not be higher than 4.5 m above ground. In addition, the standard tie pattern may not exceed 8.0 m. The end of a stairway must always be tied; a mezzanine egress requires additional tying points (refer to step 15 or Fig. 4 above.

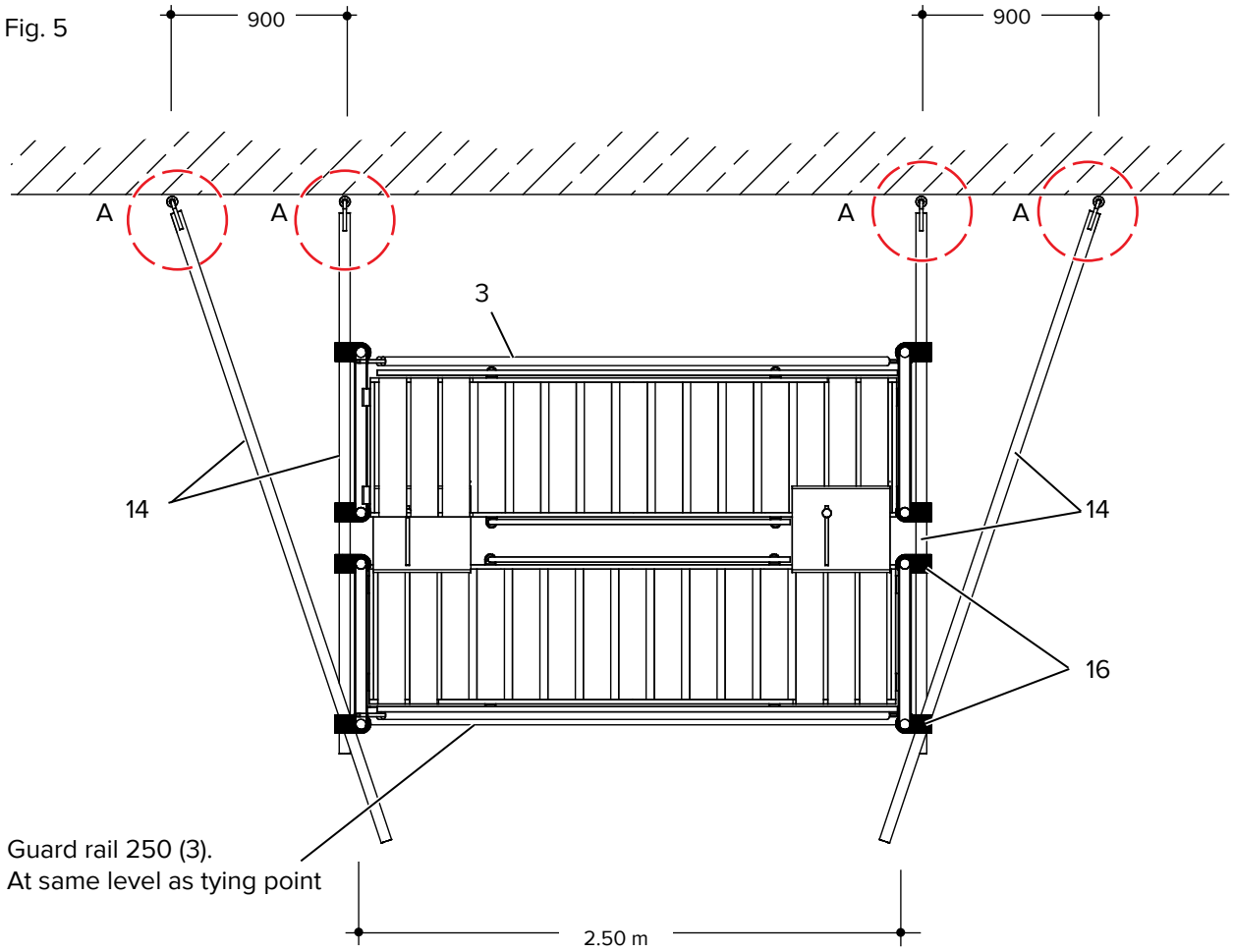
Step 16 When dismantling the scaffold, follow the reverse order of the steps mentioned above.



Height [m]	N [kN]	Q [kN]	R [kN]
0 - 12.5	5.4	2.5	6.0
12.5 - 20.5	5.8	2.7	6.4
20.5 - 28.5	6.2	2.9	6.4
28.5 - 36.5	6.4	3.0	7.1
36.5 - 44.5	6.6	3.1	7.3
44.5 - 52.5	6.9	3.2	7.6
52.5 - 60.5	7.1	3.3	7.8
60.5 - 64.5	7.2	3.4	8.0
Vertical tie distance: 8.0 m			

Scaffold Access Stairway

Fig. 5



1	B-Base jack	9	Gap plate - buttom
2	B-Vertical frame 200/70	9b	Gap plate - top
3	Guard rail 250	10	Double guard rail B70 traverse
4	Diagonal 200	11	Plank*
5	Stairway access	12	Twin single post 100 70 trans.
6	Alu stairway 250	13	Frame pin
7	Exterior railing	14	Tie
8	Interior railing	15	Half coupler 48 G
		16	Rigid coupler 48/48

* (Alu plywood plank 250/70 or steel plank 250/32)

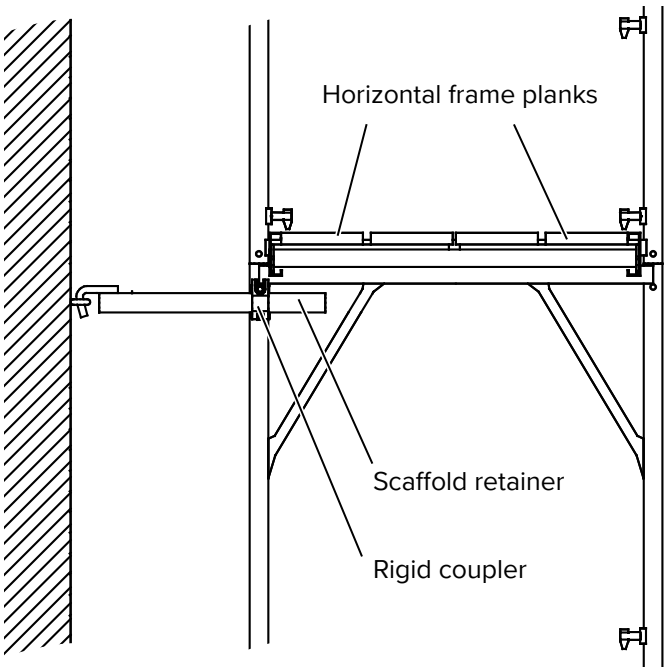
Unless stated otherwise all dimensions are in mm

9 Tying Points

9.1 Tie forces and tie patterns

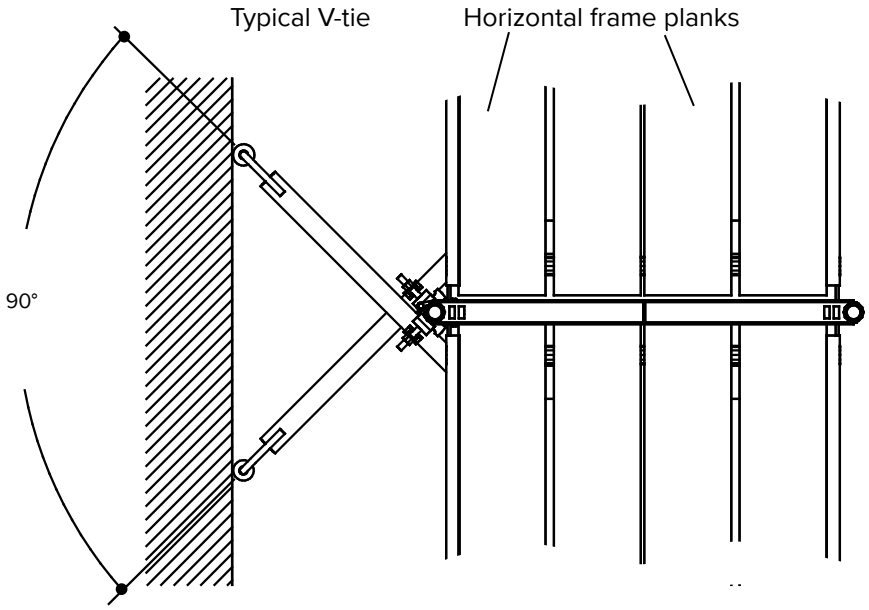
See pages 51 et seq. for applicable tie forces and tie patterns of different installations. Simultaneously with its erection, the scaffold must be tied to the building's facade. Bolts used for the attachment must all have a min. diameter of Ø 12 mm or must be of similar design. The applicable regulations for safety at the workplace must always be observed; furthermore, the industrial health and safety standards act must be adhered to.

Short retainer



9.2 Scaffold retainer

Use only rigid couplers[1] to connect the scaffold retainer to the inner vertical post. Each third tie must consist of 2 scaffold retainers forming a “V”. If each post is tied to the building, every fifth tie must consist of 2 scaffold retainers forming a “V”. If every second post is tied to the building, every third tie must consist of 2 scaffold retainers forming a “V”.

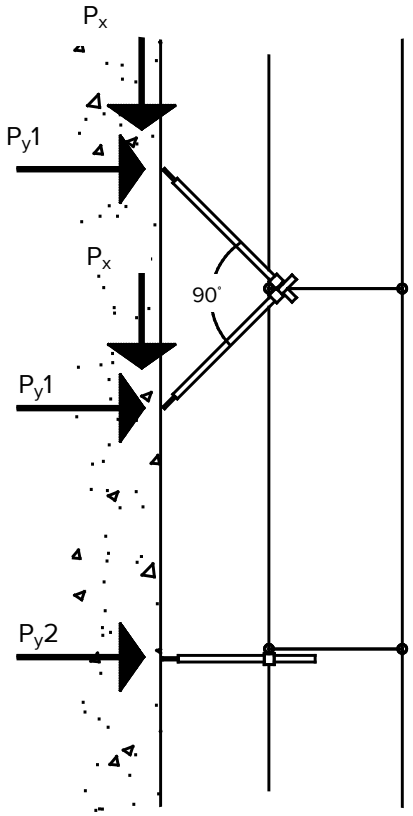


[1] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74

For standard scaffolds, see tie patterns on pages 51 et seq.

For applicable tie forces. see tables on pages 51 et seq.

These tables differentiate between scaffolds covered with or without nets or tarpaulins, scaffold lengths between 2.50 m to 3.50 m, as well as “open” or “closed” building facades.



Unless stated otherwise all dimensions are in mm

9.3 Notes on implementation and inspection of fastening points

- All tie forces shown in section 7.6.1 must be transferred through the scaffold retainer and fastening elements into an appropriate load-bearing anchor surface (e.g. building facade). Appropriate fastening elements are devices referred to in DIN 4426 “Equipment for building maintenance – safety requirements”. Tie wires and ropes are inappropriate fastening elements. The following surfaces can be used as load-bearing surfaces:
  - ceilings, walls, and support structures made from reinforced concrete,
  - carrying walls per DIN 1053.
- Snow fences, lightning rods, drain pipes, or window frames must not be used to tie the scaffold to.
- The load capacity of the fastening elements between the scaffold retainers and the load-bearing surface must be proven. Proof of the adequate load ratings of the fastening elements may be required through a certificate from the “Institut für Bautechnik in Berlin”.
- If fastening elements are being used in accordance with a certificate of the “Institut für Bautechnik, Berlin”, the requirements of this certificate must be adhered to, such as:
  - proof of anchor surface,
  - required component dimensions and edge distances,
  - specific installation instructions.
- If load tests are required, they must be performed at the installation site. Appropriate testing equipment must be used when performing load tests. Proper equipment is considered any device having met the approval of the “Bau” Technical Committee of the “Zentralstelle für Unfallverhütung und Arbeitsmedizin” (ZefU) [German authority for the prevention of accidents at the workplace]. An expert in this field must determine the number and locations of tying points that will be selected for the required load tests. Such an expert must have the necessary technical knowledge and must have sufficient understanding in the area of scaffold installation. He must also be familiar with the relevant federal industrial health and safety standards, and regulations for the prevention of accidents at the workplace. He should have general knowledge of acceptable technical standards (e.g. DIN Standards) in order to properly access and evaluate the condition of the scaffold tying points.
- Load tests must be conducted based on the following criteria:
  - The test load must be 1.2 times the required tie load “F”;
  - When using concrete as anchor surface for load testing, the scope of the test must include at least 20% of all dowels and a minimum of 5 different load tests must be performed;
  - For all other building materials, 40% of all dowels must be tested and a minimum of 5 different load tests must be performed.
- If any fastening elements fail the load test, the expert must
  - determine the cause,
  - find another substitute fastening location and,
  - if necessary, increase the scope of the test.
- All test results must be recorded and retained during the duration of the construction, while the scaffold is being used

BOSTA 100 Scaffold System: Standard tie patterns

Cladding	Facade	Tie pattern	Load	Bay length	First tie location	Planks
None	open and closed	1	LC4	L ≤ 2.50	at 4.00	SP, AP, TB, HBP
		2	LC4	L ≤ 2.50	at 4.00	HF
		3	LC4	L = 3.00	at 4.00	SP, AP, HF
		4	LC5	L ≤ 2.50	at 4.00	SP, AP
		5	LC5	L = 3.00	at 4.00	HF
		6	LC5 + 6	L ≤ 2.50	at 4.00	HF
		7	LC4	L = 5.00	———	Bridge girder 500
		8	LC5 + 6	L = 5.00	———	Bridge girder 500
Nets	open	9	LC4	L ≤ 2.50	at 2.00	all planks
		10	LC4	L ≤ 2.50	at 2.00	all planks
		11	LC4	L = 3.00	at 2.00	SP, AP, HF
		12	LC4	L = 3.00	at 2.00	SP, AP, HF
		13	v5	L = 3.00	at 2.00	HF
		14	LC5	L = 3.00	at 2.00	HF
		15	LC5 + 6	L ≤ 2.50	at 2.00	SP, AP, HF
		16	LC5 + 6	L ≤ 2.50	at 2.00	SP, AP, HF
	closed	17	LC4	L < 2.50	at 4.00	all planks
		18	LC4	L = 3.00	at 4.00	SP, AP, HF
		19	LC5	L = 3.00	at 4.00	HF
		20	LC5 + 6	L ≤ 2.50	at 4.00	SP, AP, HF
	open and closed	21	LC4	L = 5.00	———	Bridge girder 500
		22	LC5 + 6	L = 5.00	———	Bridge girder 500
Tarpaulin	open and closed	23	LC4	L ≤ 2.50	at 2.00	all planks
		24	LC4	L ≤ 2.50	at 4.00	all planks
		25	LC4	L = 3.00	at 2.00	SP, AP, HF
		26	LC4	L = 3.00	at 4.00	SP, AP, HF
		27	LC5	L = 3.00	at 2.00	HF
		28	LC5	L = 3.00	at 4.00	HF
		29	LC5 + 6	L ≤ 2.50	at 2.00	SP, AP, HF
		30	LC5 + 6	L ≤ 2.50	at 4.00	SP, AP, HF
		31	LC4	L = 5.00	———	Bridge girder 500
		32	LC5 + 6	L = 5.00	———	Bridge girder 500

For explanation of abbreviations see page 52

Overview of applicable planks and their allocation to scaffold groups (LC) or load classifications

		Classification per scaffold group and width of span [cm]					
Type of plank	**Width [cm]**	74	125	150	200	250	300
Timber plank (TP)	32	6	6	6	5	4	
Hollow box plank (HBP)	32	6	6	6	5	4	
Steel plank (SP)	32		6	6	6	5	4
Alu plank (AP)	32		6	6	6	6	5
Alu plank (AP)	50		6		6	6	5
Horizontal frame (HF)	100		6			6	5

CAUTION

Caution!

The classification of planks within scaffold groups and within the BOSTA 100 scaffold is shown on the following pages

Life loads per DIN 4420, part 1 or per DIN EN 12811, part 1

Load class LC	Nominal area load p kN/m²	Single load[1] P_1 kN	P_2 kN	Partial load p_c partial area kN/m²	Ac
1	0.75[2]	1.5	1.0	–	–
2	1.50	1.5	1.0	–	–
3	2.00	1.5	1.0	–	–
4	3.00	3.0	1.0	5.0	0.4 x A_B
5	4.50	3.0	1.0	7.5	0.4 x A_B
6	6.00	3.0	1.0	10.0	0.5 x A_B

[1] P1 Load area 0.5 m x 0.5 m.
min. 1.5 kN per plank
P2 Load area 0.2 m x 0.2 m

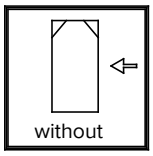
[2] for plank sections p = 1.50 kN/m²

A_B = plank area per DIN 4420 - 5.4.4.3

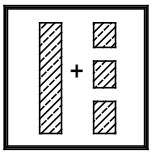
Abbreviations:

EB35: Enlargement bracket 35
EB50: Enlargement bracket 50
EB70: Enlargement bracket 70
AP: Alu plank
HBP: Hollow box plank
HF: Horizontal frame
SP: Steel plank
TB: Timber plank
IEB: Inner enlargement bracket
OEB: Outer enlargement bracket

Explanation of pictograms

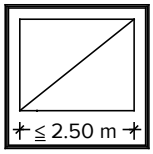


= (without) cladding/ nets/tarpaulin

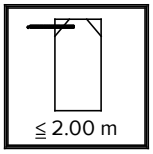


= closed + open facade

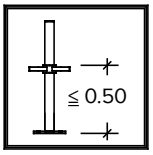
= load class (4), (5), (6)



= bay length (< 2.50m), (3.00 m)



= first tying point (2.00 m)

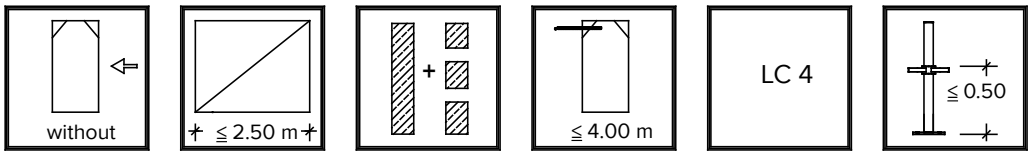


= spindle extension (≦ 0.50 m)

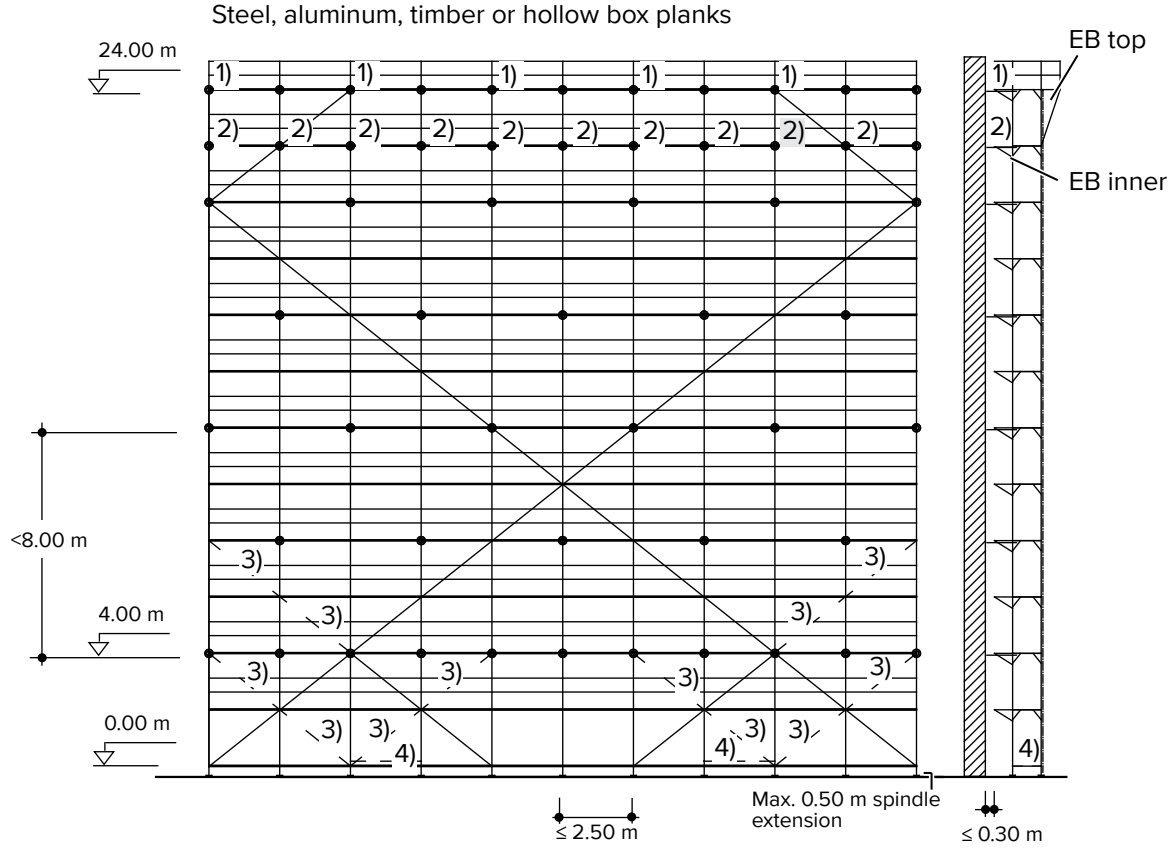
Tying Points

Standard design

①



Steel, aluminum, timber or hollow box planks



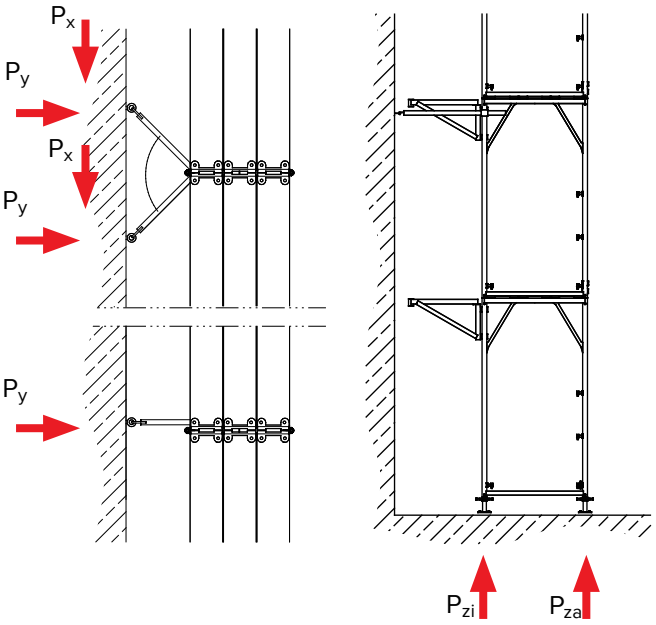
Standard design applies to bay lengths ≤ 2.50 m

1) Additional ties required if used as guard rail

1+2) Additional tie if the following brackets are used:
- enlargement bracket 70
- enlargement bracket 70 + diagonal EB 70
- enlargement bracket 100

3) Additional outside diagonals with base jack 70/3.8

4) Place 1 H-connector every 5 bays and connect all post bases inside and outside with guard rails at 0.00 m:
- when using VHB 250/32 in connection with inner bracket EB 50.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.38	2.38	2.63		2.33	2.33	2.03
22	2.16	2.16	2.92		2.00	2.00	2.46
20	3.51	3.51	3.87		3.07	3.07	1.81
18	0.00	0.00	0.00		0.00	0.00	0.00
16	3.08	3.08	3.09		2.95	2.95	1.01
14	0.00	0.00	0.00		0.00	0.00	0.00
12	3.26	3.26	3.01		3.11	3.11	1.02
10	0.00	0.00	0.00		0.00	0.00	0.00
8	3.42	3.42	2.16		3.42	3.42	0.73
6	0.00	0.00	0.00		0.00	0.00	0.00
4	3.74	2.74	2.34		2.69	2.69	0.88
2	0.00	0.00	0.00		0.00	0.00	0.00

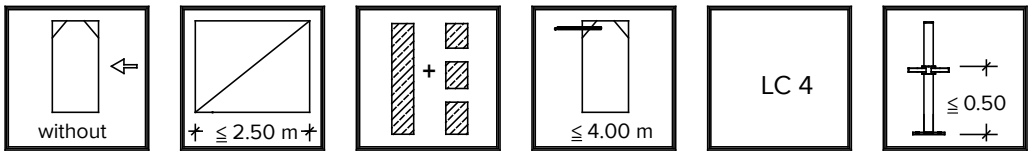
Bearing	P_{zi}= 21.71 kN	P_{zi}= 21.58 kN
	P_{za}= 25.40 kN	P_{za}= 25.40 kN

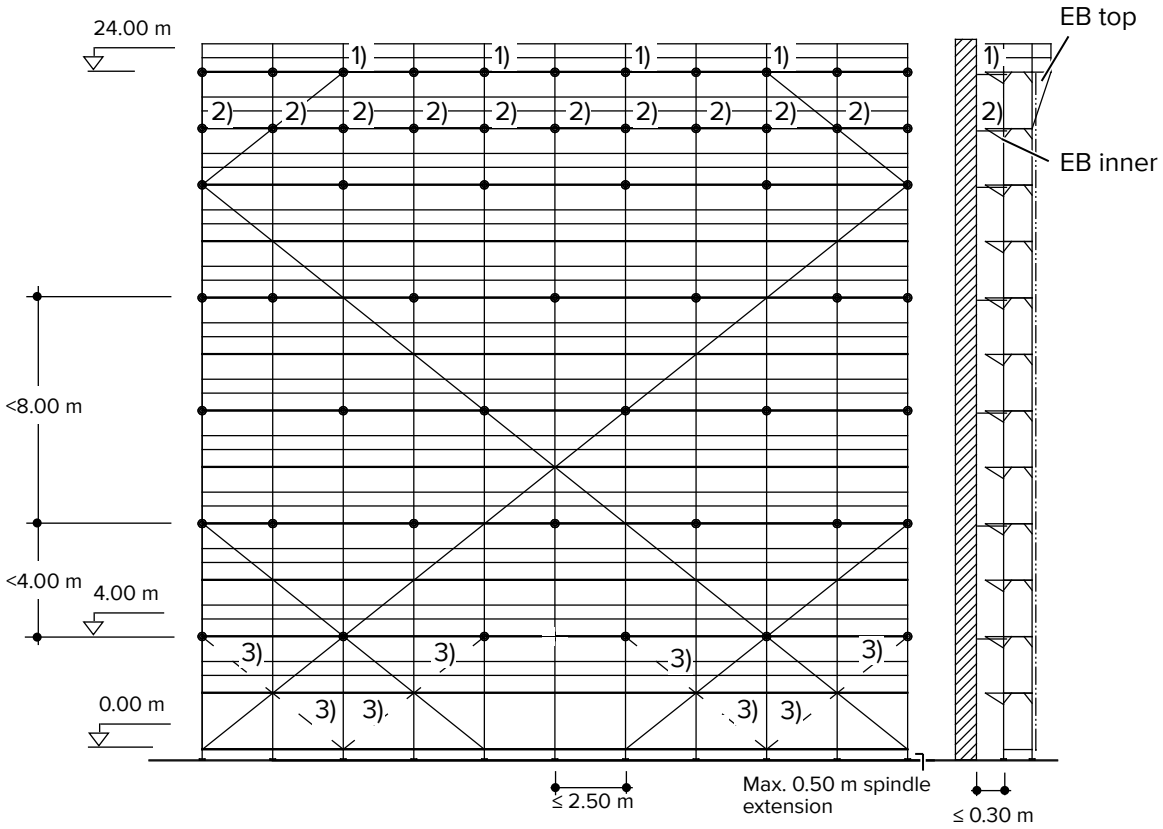
Load class 4			
Main planks		Steel plank 250/32 Alu plank 250/32 + 250/50 Hollow box plank 250/32	Timber plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outer bracket	**EB 35** **EB 70** **EB 70+Dia.** **EB 100**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32 + 250/50. Timber plank 250/32	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none outer bracket only in connection with inner bracket EB 35 - additional outside diagonals - only with inner bracket EB 35 and outer bracket EB 35 - only with inner bracket EB 35 and outer bracket EB 35, max. spindle extension 26.5 cm	
Additional measures in the base area		none	11 H-connectors every 5 bays and connect all post bases inside and outside with guard rails at = 0.00 m: when using TB 250/32 in connection with inner bracket 50
Passage frame		possible if using configuration 1 and 2; configuration 6 only if SP, AP or HBP with inner bracket EB 35 is used (see page 115).	
Adjustment stand		applicable	
Bridge girder 500		applicable (see page 66)	

Tying Points

Standard design

②





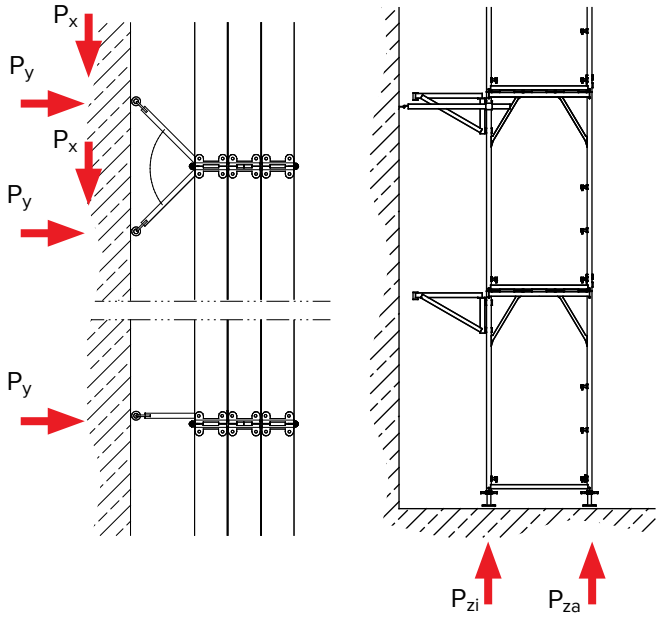
Standard design applies to bay lengths ≤ 2.50 m

1) Additional ties required if used as protective wall

1+2) Additional tie if the following brackets are used:
- enlargement bracket 70
- enlargement bracket 70 + diagonal EB 70
- enlargement bracket 100

3) Additional diagonals, except with

- base jack 70/3.8
- B 70 base jack 50/3.3
- B 70 base jack 70/3.3



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.91	2.91	3.03		2.60	2.60	1.90
22	2.17	2.17	2.61		2.09	2.09	2.39
20	3.37	3.37	3.61		2.99	2.99	1.26
18	0.00	0.00	0.00		0.00	0.00	0.00
16	3.19	3.19	3.49		2.78	2.78	1.16
14	0.00	0.00	0.00		0.00	0.00	0.00
12	3.27	3.27	3.39		2.93	3.93	1.13
10	0.00	0.00	0.00		0.00	0.00	0.00
8	3.66	3.66	3.29		3.52	3.52	1.08
6	0.00	0.00	0.00		0.00	0.00	0.00
4	3.94	3.94	3.53		3.81	3.81	1.30
2	0.00	0.00	0.00		0.00	0.00	0.00

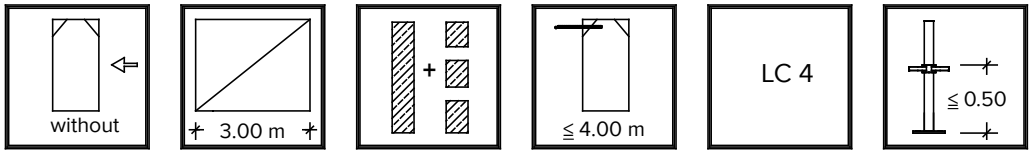
Bearing		
	P_{zi}= 21.19 kN	P_{zi}= 21.23 kN
	P_{za}= 25.46 kN	P_{za}= 25.46 kN

Load class 4		
Main planks		Horizontal frame 250/100-6 Horizontal frame 250/100
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Alu plank 250/50
1 outer bracket	**EB 35** **EB 70** **EB 70+Dia.** **EB 100**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32 + 250/50. Timber plank 250/32
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None additional outside diagonals - outer bracket EB100 in connection with inner bracket EB 35 - additional outside diagonals - outer bracket EB100 in connection with inner bracket EB 35, max. spindle extension 26.5 cm - additional outside diagonal
Additional measures in the base area		none
Passage frame		possible if using configuration 1, 2, 3, and 4 only with inner bracket EB 35 (see page 115)
Adjustment stand		applicable
Bridge girder 500		applicable (see page 66)

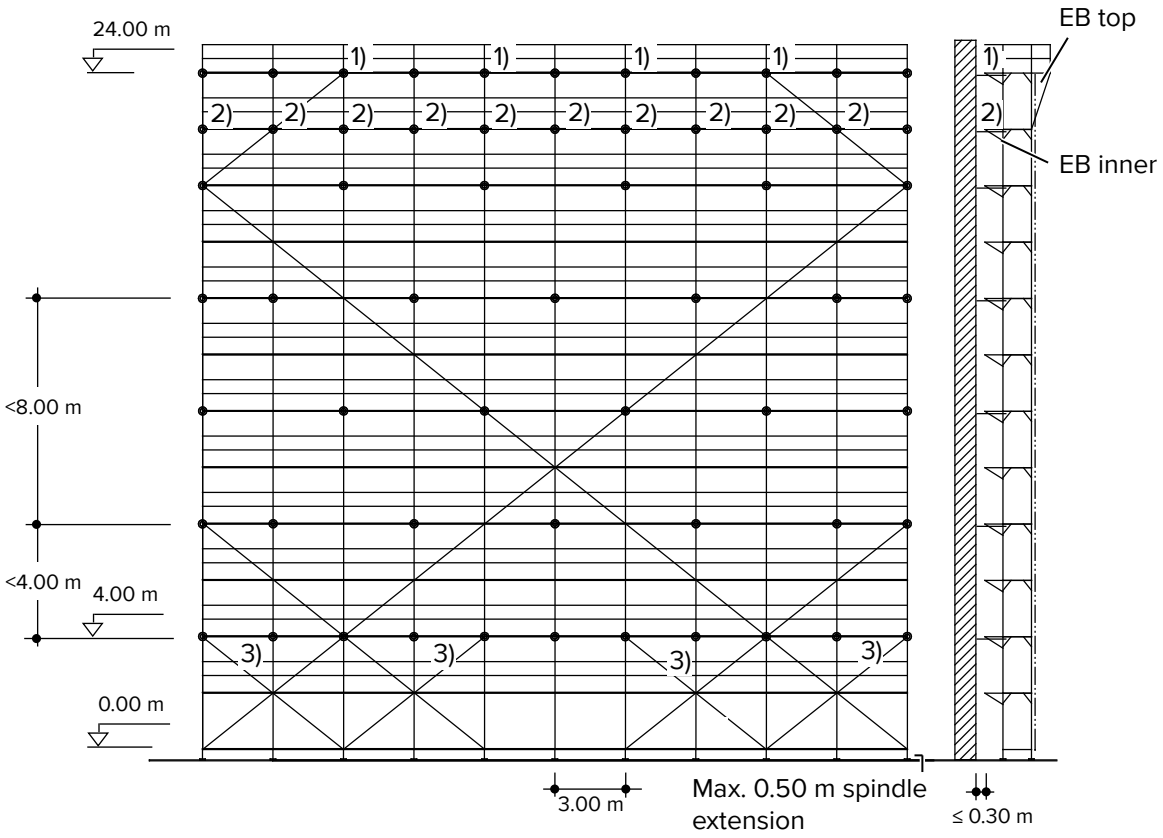
Tying Points

Standard design

③



Horizontal frame, steel plank or alu plank



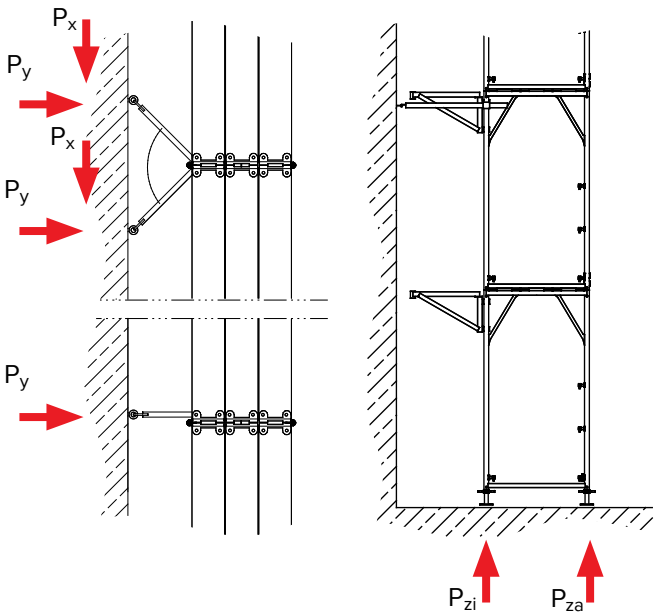
Standard design applies to bay lengths ≤ 2.50 m

1) Additional ties required if used as protective wall

1+2) Additional tie if the following brackets are used:
- enlargement bracket 50
- enlargement bracket 70 + diagonal EB 70

3) additional tie if

- steel planks and
- alu planks are used



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	3.05	3.05	3.57		2.55	2.55	2.17
22	2.11	2.11	2.96		1.71	1.71	1.65
20	3.64	3.64	4.36		3.19	3.19	1.54
18	0.00	0.00	0.00		0.00	0.00	0.00
16	3.67	3.67	4.21		3.16	3.16	1.39
14	0.00	0.00	0.00		0.00	0.00	0.00
12	3.58	3.58	4.05		3.12	3.12	1.34
10	0.00	0.00	0.00		0.00	0.00	0.00
8	3.70	3.70	3.93		3.26	3.26	1.31
6	0.00	0.00	0.00		0.00	0.00	0.00
4	4.00	4.00	4.20		3.56	3.56	1.54
2	0.00	0.00	0.00		0.00	0.00	0.00

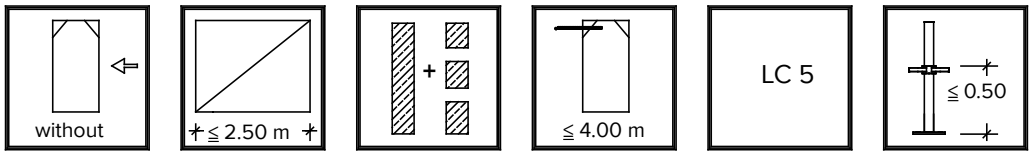
Bearing	P_{zi}= 24.84 kN P_{za}= 24.98 kN	P_{zi}= 24.27 kN P_{za}= 24.98 kN

Load class 4		
Main planks		Horizontal frame 300/100 Steel plank 300/32 Alu plank 300/32 + 300/50
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 300/32. Alu plank 300/32. Alu plank 300/50
1 outer bracket	**EB 35** **EB 70** **EB 70+Dia.** **EB 100**	Steel plank 300/32. Alu plank 300/32 not applicable Steel plank 300/32. Aluplank 300/32 not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none only with inner bracket EB 35 and outer bracket EB 35 not applicable not applicable
Additional measures in the base area		none
Passage frame		possible if using configuration 1 and 2 (see page 115)
Adjustment stand		applicable
Bridge girder 500		applicable (see page 66)

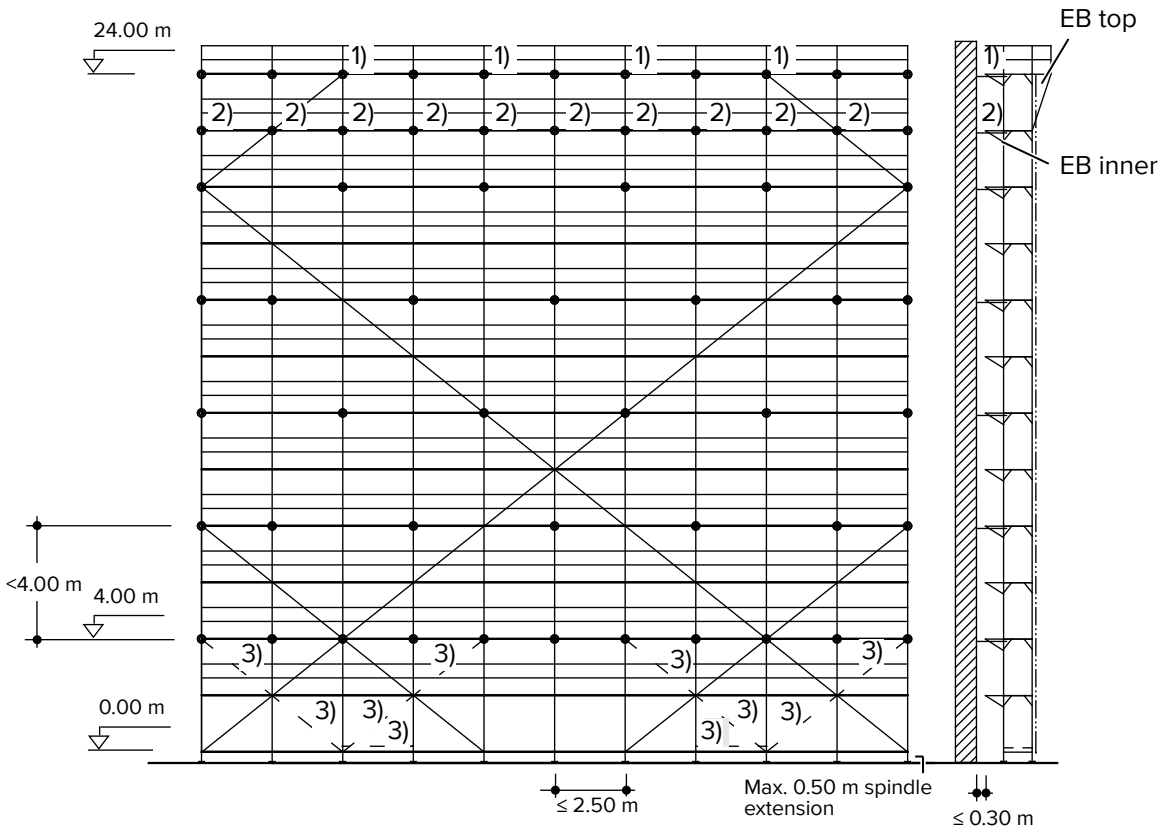
Tying Points

Standard design

④



Steel plank and alu plank



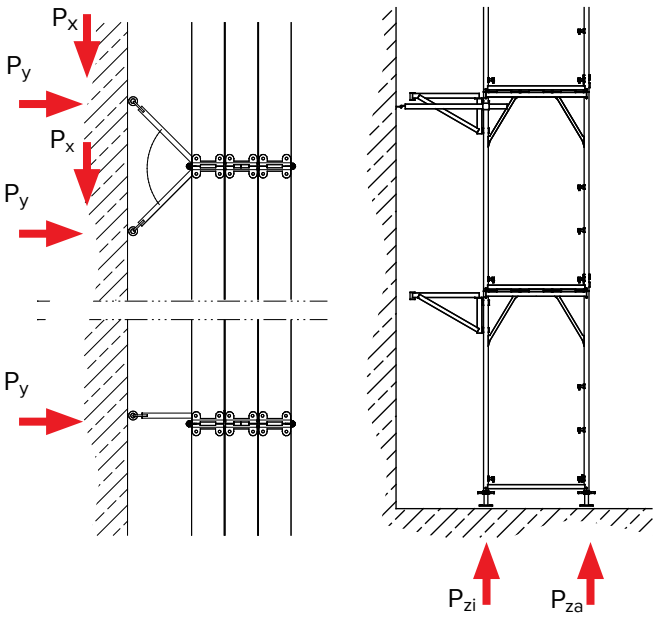
Standard design applies to bay lengths ≦ 2.50 m

1) Additional tie required if inner bracket 50 and/or protective wall is used

1+2) Additional ties if outer bracket EB70 + diagonal EB 70 is used

3) 1 vertical connection every 5 bays and outer diagonal, connection of all post bases inside and outside using rail at 0.00 m

- base jack 45/3.8 if inner bracket 50 is used
- if base jack 70/3.3 is used



For explanation of pictogrammes and abbreviations. see page 45

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.59	2.59	2.67		2.59	2.59	1.72
22	2.07	2.07	2.84		1.72	1.72	1.85
20	3.65	3.65	3.89		3.22	3.22	1.83
18	0.00	0.00	0.00		0.00	0.00	0.00
16	3.24	3.24	3.11		3.03	3.03	1.03
14	0.00	0.00	0.00		0.00	0.00	0.00
12	3.22	3.22	2.99		3.14	3.14	1.00
10	0.00	0.00	0.00		0.00	0.00	0.00
8	3.49	3.49	2.15		3.49	3.49	0.72
6	0.00	0.00	0.00		0.00	0.00	0.00
4	2.87	2.87	2.27		2.87	2.87	0.80
2	0.00	0.	0.00		0.00	0.00	0.00

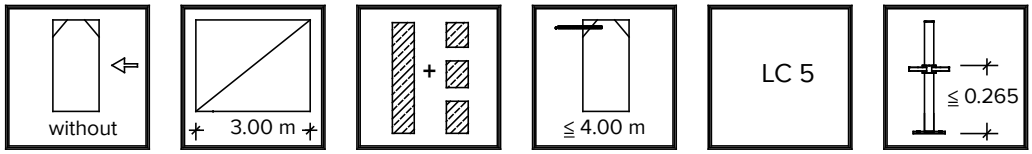
Bearing	P_{zi}= 26.03 kN P_{za}= 27.57 kN	P_{zi}= 25.61 kN P_{za}= 27.57 kN

Load class 5		
Main planks		Steel plank 250/32 Alu plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32. Alu plank 250/50
1 outer bracket	**EB 35** **EB 70** **EB 70+Dia.** **EB 100**	Steel plank 250/32. Alu plank 250/32 not applicable Steel plank 250/32. Alu plank 250/32 not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	inner bracket EB 50 only in connection with outer bracket EB 35 only with inner bracket EB 35 and outer bracket EB 35 not applicable not applicable
Additional measures in the base area		1 H-connection for every 5 bays and connection of all post bases inside and outside with railings a ∇ 0.00 m: - for base jack 45/3.8 if inner bracket is being used - for base jack 70/3.8
Passage frame		possible if using configuration 1 and 2 (see page 115 et seq.)
Adjustment stand		applicable
Bridge girder 500		applicable (see page 67)

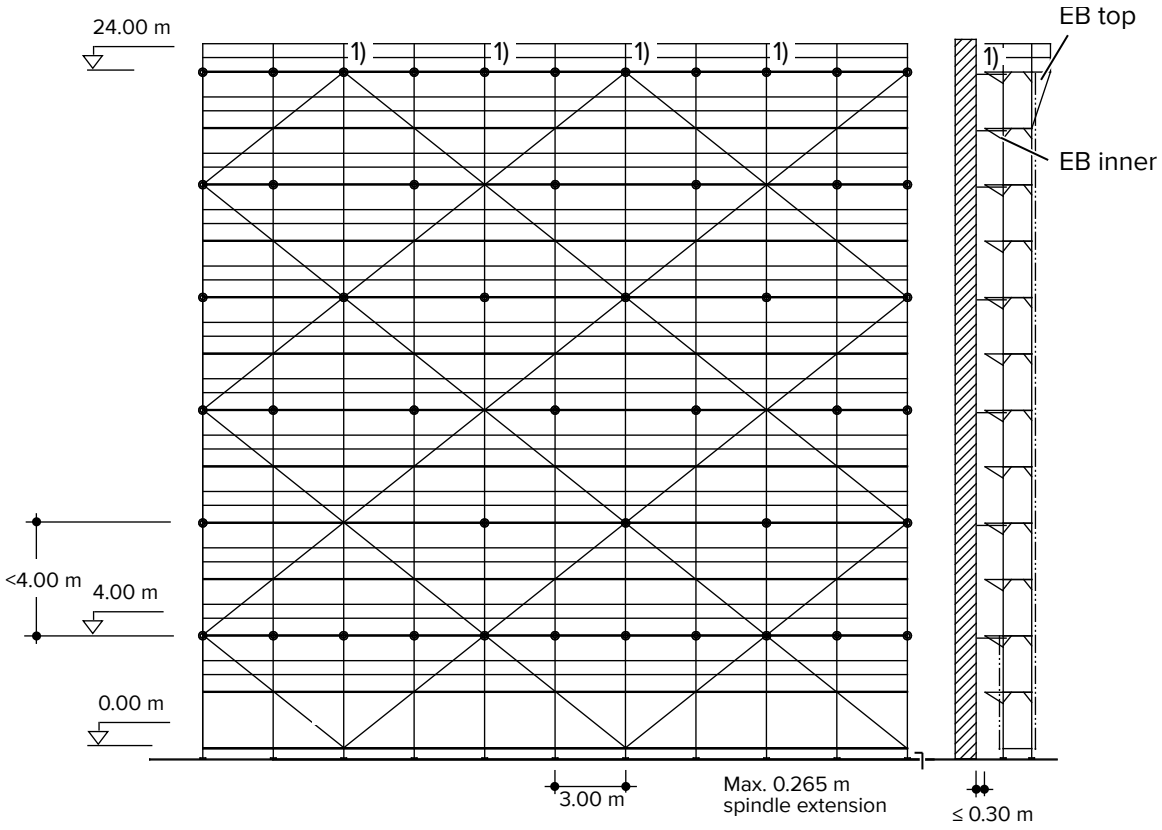
Tying Points

Standard design

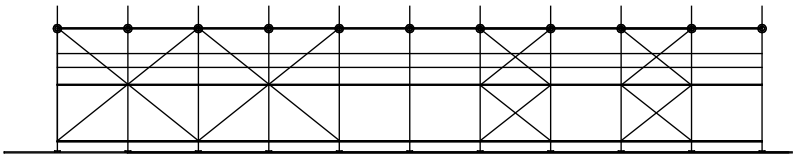
(5)



Horizontal frame

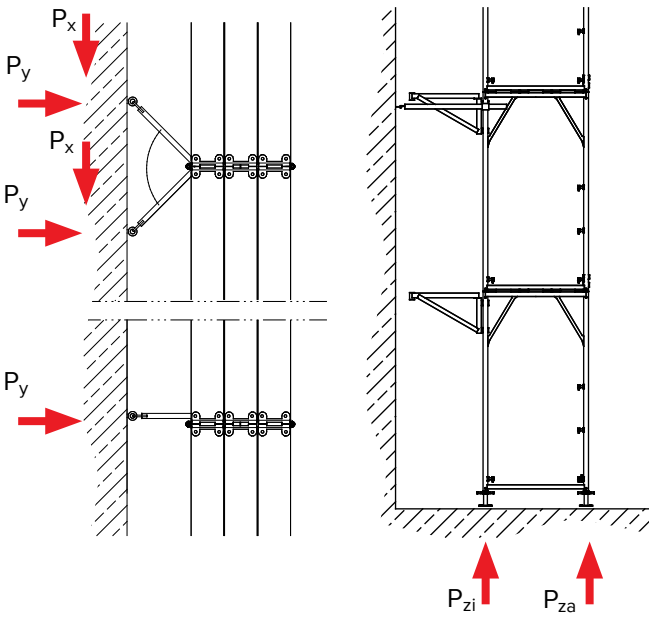


Configuration of diagonals on inside face of scaffold (up to 4.00 m)
(4 diagonals every 5 bays, as cross bars or in two adjacent bays)



2 V-ties for 5 scaffold bays each,
at 4.00 m height on every second post

1) Additional ties required, if used as protective wall



For explanation of pictogrammes and abbreviations. see page 45

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.04	2.04	3.58		1.55	1.55	2.17
22	0.00	0.00	0.00		0.00	0.00	0.00
20	2.40	2.40	4.36		1.40	1.40	1.53
18	0.00	0.00	0.00		0.00	0.00	0.00
16	2.34	2.34	4.21		1.34	1.34	1.40
14	0.00	0.00	0.00		0.00	0.00	0.00
12	2.24	2.24	4.04		1.28	1.28	1.33
10	0.00	0.00	0.00		0.00	0.00	0.00
8	2.09	2.09	3.61		1.23	1.23	1.19
6	0.00	0.00	0.00		0.00	0.00	0.00
4	2.35	2.35	2.51		2.07	2.07	0.93
2	0.0	0.00	0.00		0.00	0.00	0.00

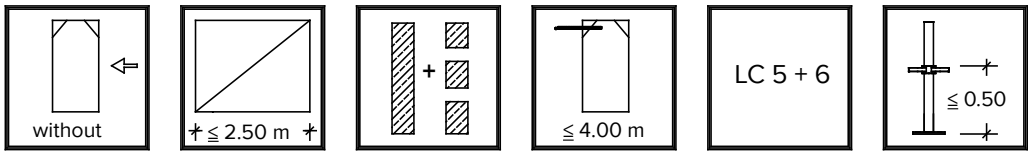
Bearing	P_{zi}= 27.68 kN P_{za}= 26.85 kN	P_{zi}= 27.68 kN P_{za}= 26.85 kN

Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32 not applicable
1 outer bracket	**EB 35** **EB 70** **EB 70+Dia.** **EB 100**	Alu plank 300/32 not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none not applicable not applicable
Additional measures in the base area		Connect all post bases inside and outside with railing at ▽ 0.00 m.
Passage frame		not applicable
Adjustment stand		not applicable
Bridge girder 500		not applicable

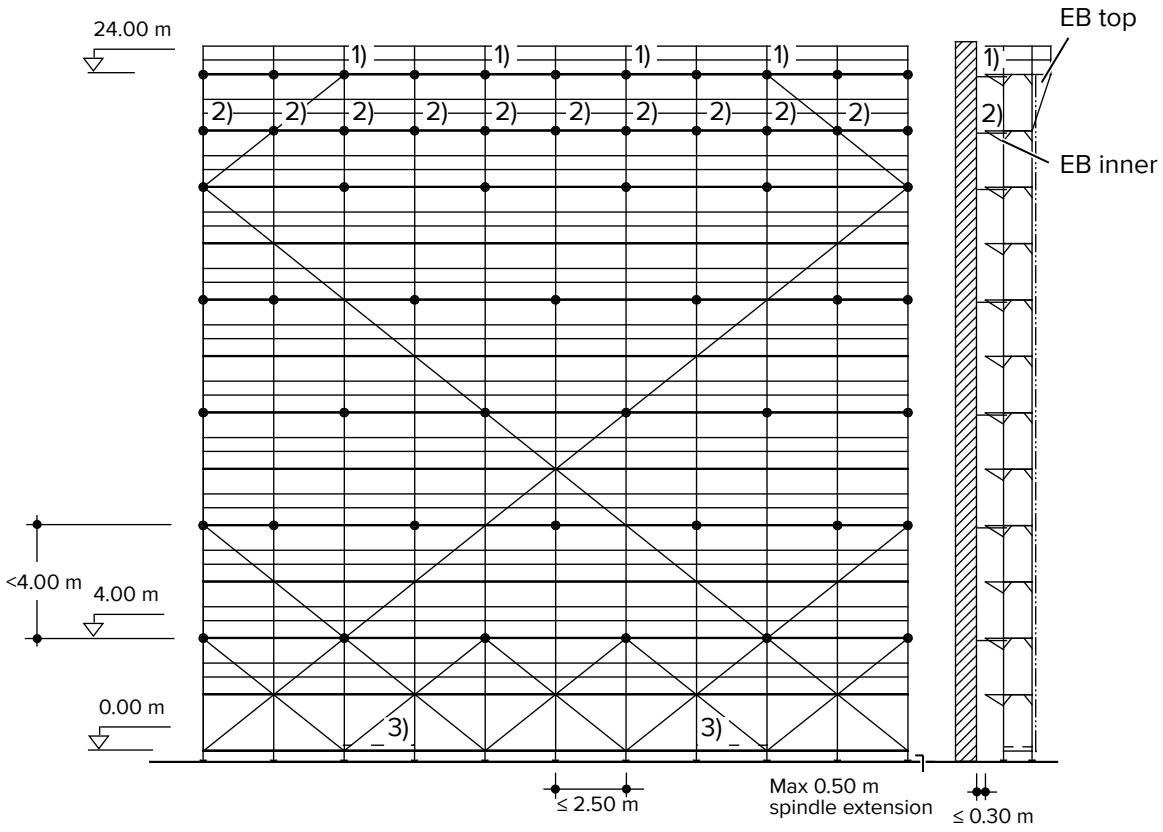
Tying Points

Standard design

⑥



Horizontal frame

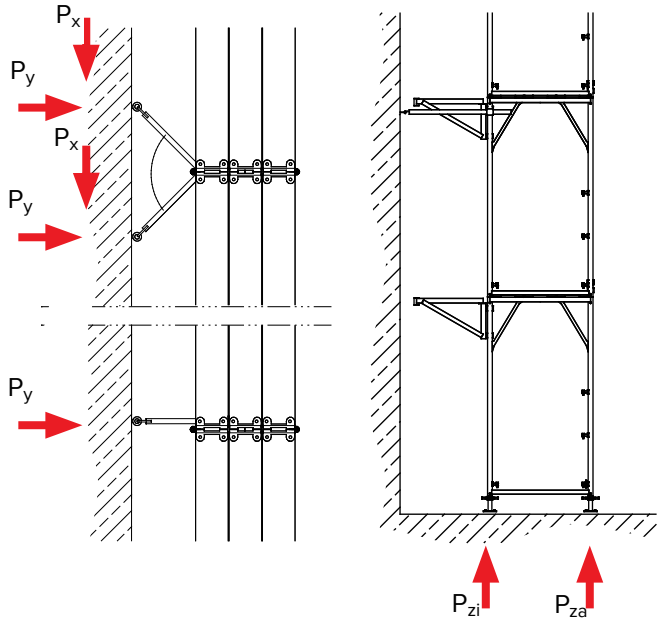


Standard design applies to bay lengths ≤ 2.50 m

1) Additional ties required if used as protective wall

1+2) Additional tie if EB 70 + diagonal EB 70 are used

3) GG6: 1 H-connection every 5 bays and connection of all post bases inside and outside with railing at 0.00m



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade					closed facade		
	V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.90	2.90	2.94		2.64	2.64	1.75
22	2.06	2.06	2.46		1.82	1.82	1.76
20	3.38	3.38	3.63		2.98	2.98	1.28
18	0.00	0.00	0.00		0.00	0.00	0.00
16	3.16	3.16	3.51		2.74	2.74	1.17
14	0.00	0.00	0.00		0.00	0.00	0.00
12	3.24	3.24	3.37		2.90	2.90	1.11
10	0.00	0.00	0.00		0.00	0.00	0.00
8	3.64	3.64	3.28		3.51	3.51	1.09
6	0.00	0.00	0.00		0.00	0.00	0.00
4	3.86	3.86	3.53		3.73	3.73	1.31
2	0.00	0.00	0.00		0.00	0.00	0.00

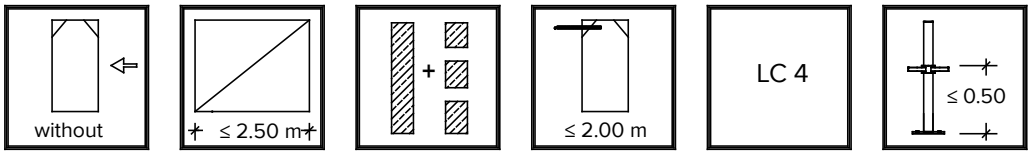
Bearing	P_{zi}= 26.27 kN P_{za}= 28.21 kN	P_{zi}= 26.27 kN P_{za}= 28.21 kN

		Load class 5	Load class 6
Main plank		Horizontal frame 250/100	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32. Alu plank 250/50	Alu plank 250/32. none
1 outer bracket	**EB 35** **EB 70** **EB 70/200.** **EB 100**	Steel plank 250/32. Alu plank 250/32 not applicable Steel plank 250/32. Alu plank 250/32 not applicable	Alu plank 250/32. not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none only with inner bracket EB 35 and outer bracket EB 35 not applicable not applicable	none max. spindle extension 26.5 cm not applicable not applicable
Additional measures in the base area		none	1 H-connection every 5 bays and connection of all post bases inside and outside with railing at 0.00 m.
Passage frame		possible if using configuration 1 and 2 (see page 115 et seq.)	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 67)	applicable (see page 67)

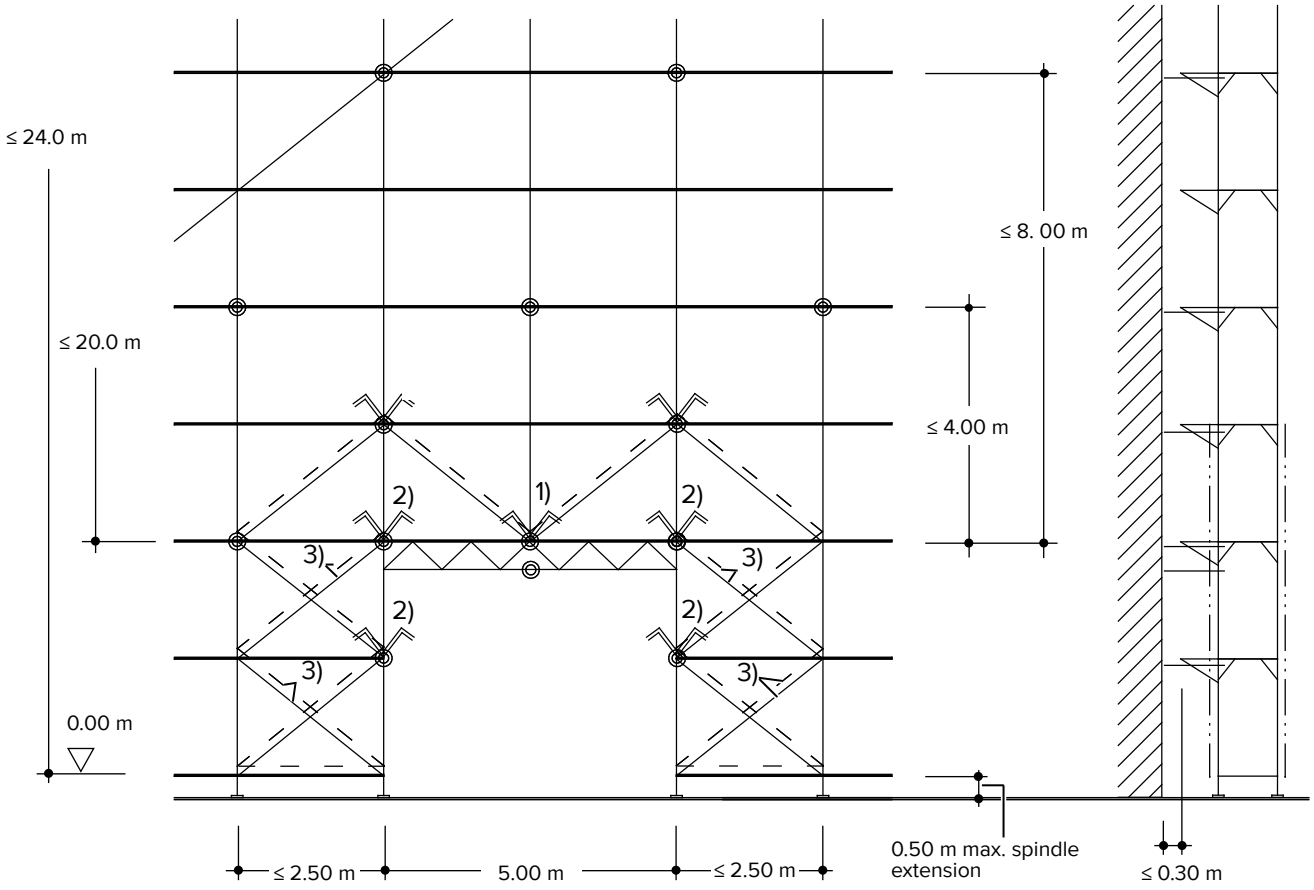
Tying Points

Standard design

⑦



with bridge girder 500



Standard design applies to field lengths ≤ 2.50 m

——— Outer scaffold tarpaulin

— — — — Inner scaffold tarpaulin

○ = Standard tie location

= Additional tie required if standard ties are not present; use equivalent horizontal connection as alternative

1) The inner and outer post is pinned

1+2) V-tie (see page 50)

3) Additional diagonals if base jack 70/3.8 is being used

	Plank elevation	
Load class	**Main plank**	**Enlargement bracket EB 35 and EB 50**
4	H-frame 250/100-6 Steel plank 250/32 Alu plank 250/32 + 250/50 Timber plank 250/32 Hollow box plank 250/32	Steel plank 250/32 Alu plank 250/32, 250/50 Timber plank 250/32 Hollow box plank 250/32

Restrictions for base jacks

Base jacks 45/3.8: none
Base jacks 70/3.8: none
BOSTA 70 base jacks: not applicable

For explanation of pictograms and abbreviations, see page 52

NOTE

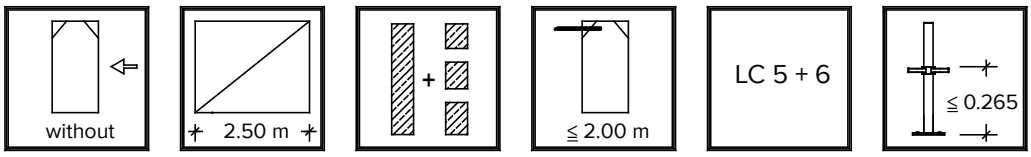
Note

See tie forces on page 68.

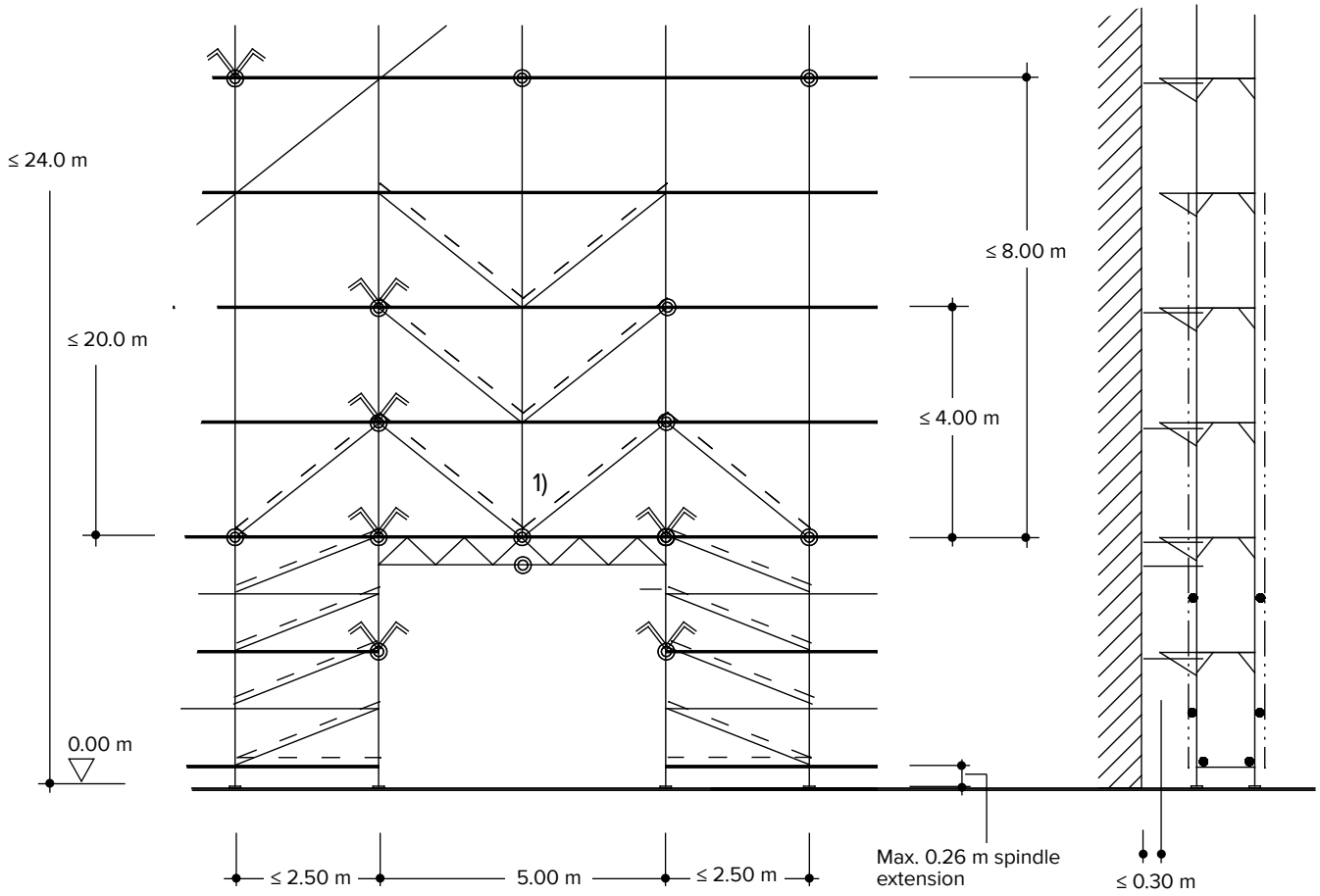
Unless stated otherwise all dimensions are in mm

Standard design

⑧



with bridge girder 500



Standard design applies to bay lengths ≤ 2.50 m

_____ Outer scaffold tarpaulin

— — Inner scaffold tarpaulin

} diagonals, single post 100s or scaffold tube

○ = Standard tie

= V-tie

1) This location must be pinned

	Plank elevation	
Load class	**Main plank**	**Enlargement bracket EB 35 and EB 50**
5	H-frame 250/100-6 Steel plank 250/32 Alu plank 250/32	Steel plank 250/32 Alu plank 250/32, 250/50
6	H-frame 250/100-LC6	Alu plank 250/32

Restrictions for base jacks

Base jacks 45/3.8: none
Base jacks70/3.8: max spindle extension: 26.5 cm
BOSTA 70 base jacks: not applicable

For explanation of pictograms and abbreviations, see page 52

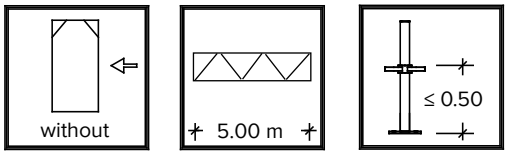
NOTE

Note

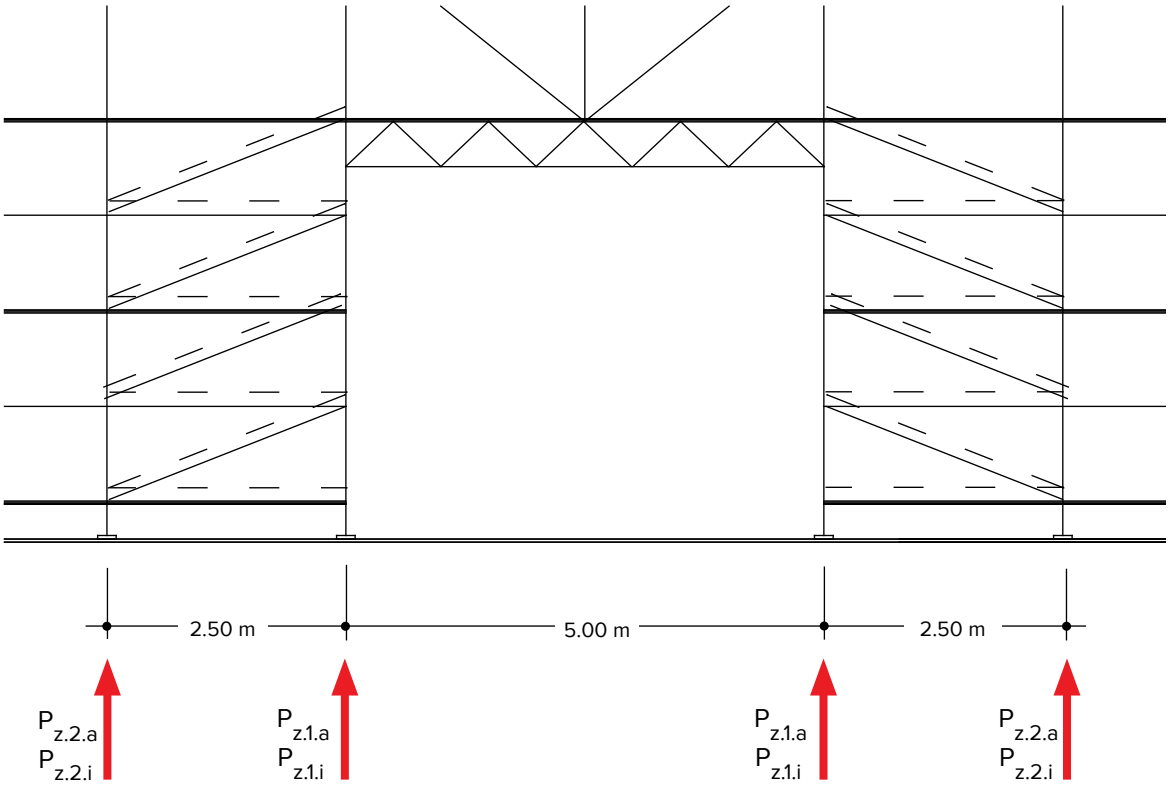
See tie forces on page 68.

For explanation of pictograms and abbreviations, see page 52

Standard design

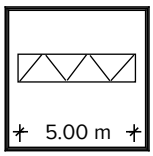


if h = 24.00 m and enlargements inside and outside are used



Bearing forces in [kN] (also applies to scaffolds covered with nets and tarpaulins)

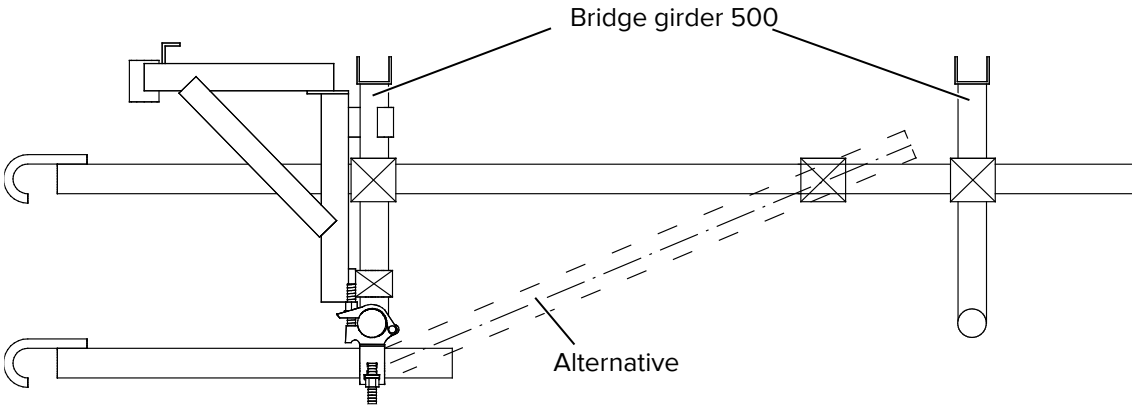
LC	max. possible enlargement bracket		outer row of posts		inner row of posts	
	inside 12 x	outside above 1 x	$P_{z.1.a}$	$P_{z.2.a}$	$P_{z.1.i}$	$P_{z.2.i}$
6	EB 35	EB 35	35.9	25.7	37.5	27.7
5	EB 50	EB 70 + Diag.	35.3	25.4	35.7	26.4
4	EB 50	EB 100	29.9	21.6	30.3	22.6



= Bridge girder (5.00 m)

For explanation of pictograms and abbreviations, see page 52

Standard design: typical tie or stiffener of bridge girder 500



Use a scaffold retainer to connect upper chords of both bridge girders 500 and tie to facade of building.

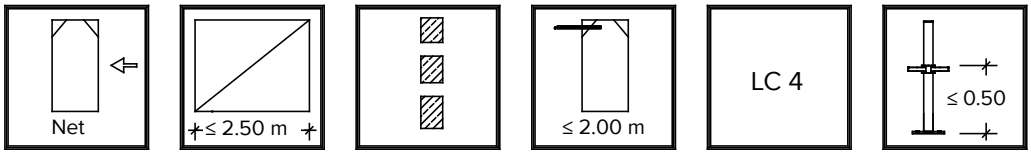
To avoid torsion, the lower chord must also be tied if an enlargement bracket EB 35 is used with the bridge girder 500.

As an alternative (instead of using the lower tie), the diagonal – shown in dotted lines – may be installed between the lower chord of the bridge girder 500 and the scaffold retainer.

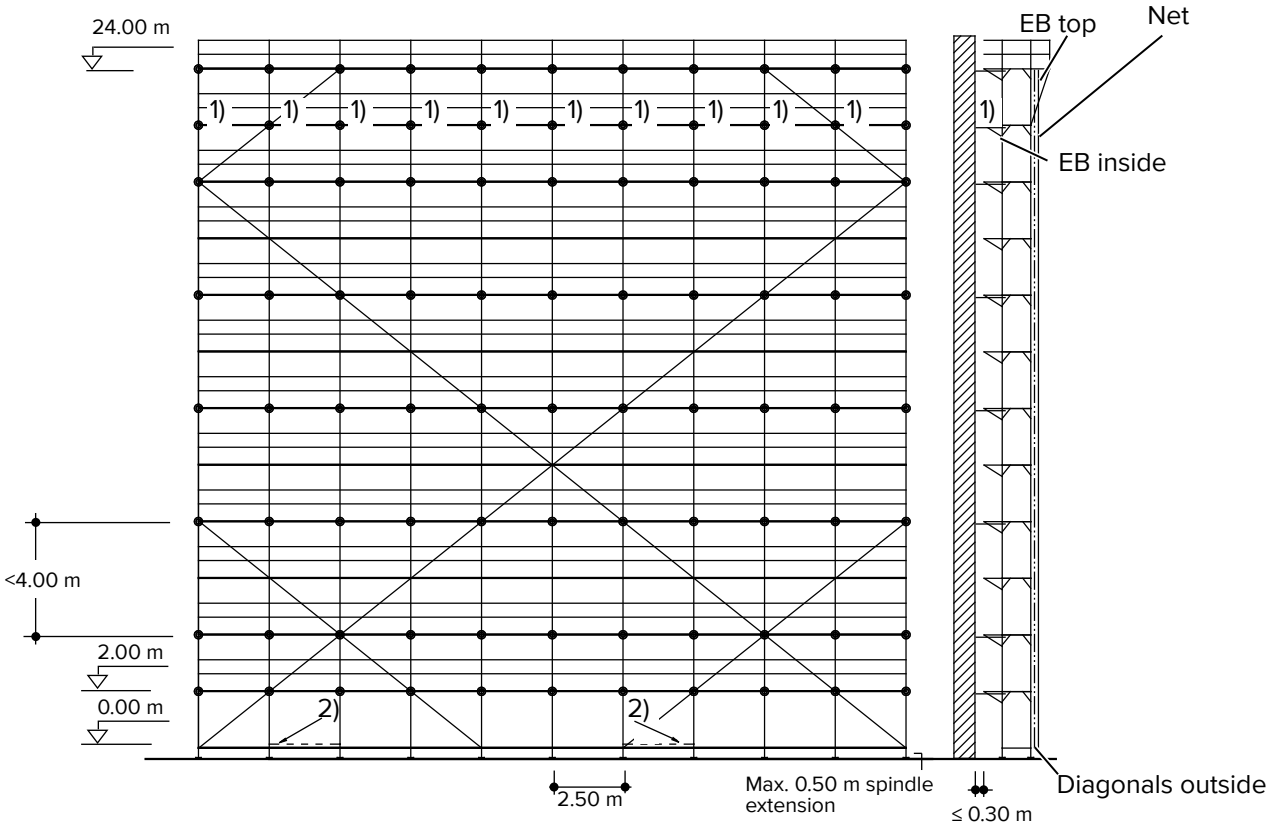
Tying Points

Standard design

⑨



Steel plank and alu plank, timber plank, hollow box plank or horizontal frame



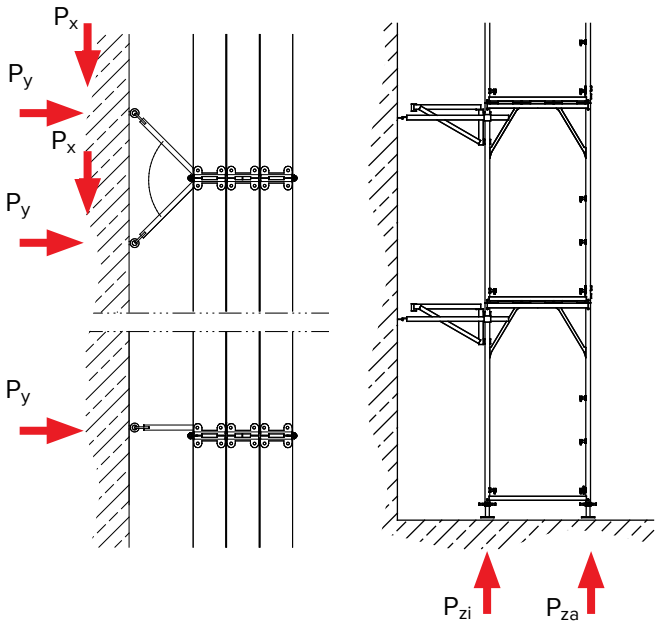
Use V-ties every third tying point

1) Additional tie required if outside brackets

- EB 70
- EB 70 + diagonal EB 70
- EB 100

are used

2) Use 1 horizontal connection every 5 bays, made from scaffold tubes and rigid couplers. For base jack 50/3.3 and base jack 70/3.3



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.40	2.40	2.95
22	2.22	2.22	2.95
20	2.94	2.94	3.30
18	0.00	0.00	0.00
16	2.83	2.83	3.26
14	0.00	0.00	0.00
12	2.78	2.78	3.12
10	0.00	0.00	0.00
8	2.70	2.70	3.00
6	0.00	0.00	0.00
4	1.99	1.99	2.15
2	2.37	2.37	1.80

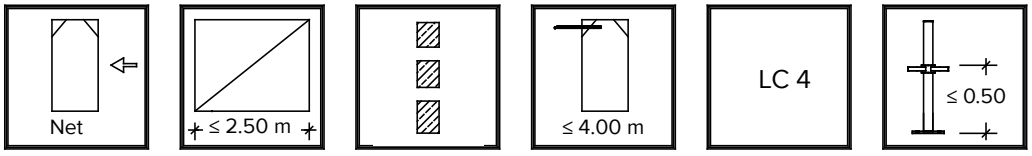
Bearing	P_{zi}= 21.14 kN
	P_{za}= 24.72 kN

Load class 4			
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-LC6	Steel plank 250/32. Alu plank 250/32 + 250/50. Hollow box plank 250/32. Timber plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none Outer bracket 100 only with inner bracket 35 Outer bracket 100 only with inner bracket 35, max. spindle extension 26.5 cm	
Additional measures in the base area		1 H-connector every 5 bays made from scaffold tubes and rigid couplers; connection of all post bases inside and outside with rails at 0.00 m: - with base jack 50/3.3 - with base jack 70/3.3	
Passage frame		applicable	
Adjustment stand		applicable	
Bridge girder 500		applicable (see page 94)	

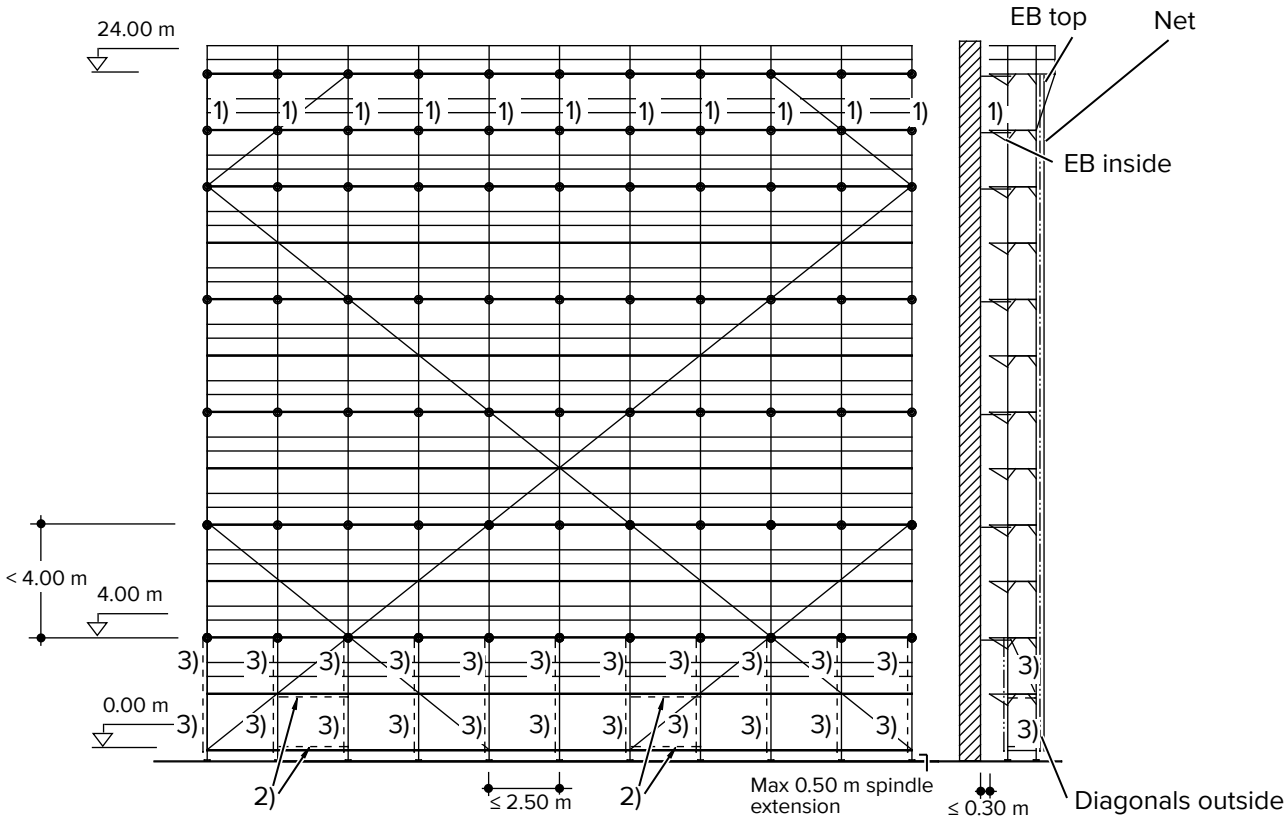
Tying Points

Standard design

⑩

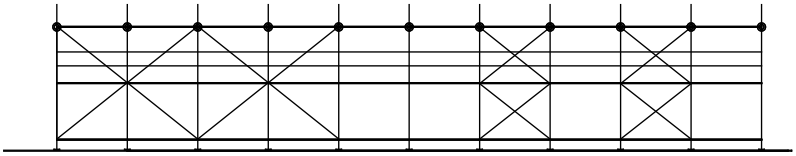


Steel plank and alu plank, timber plank, hollow box plank or horizontal frame



Standard design applies to bay lengths ≤ 2.50 m

Configuration of diagonals on inside face of scaffold (up to 4.00 m)
4 diagonals every 5 bays, as cross or 2 adjacent bays



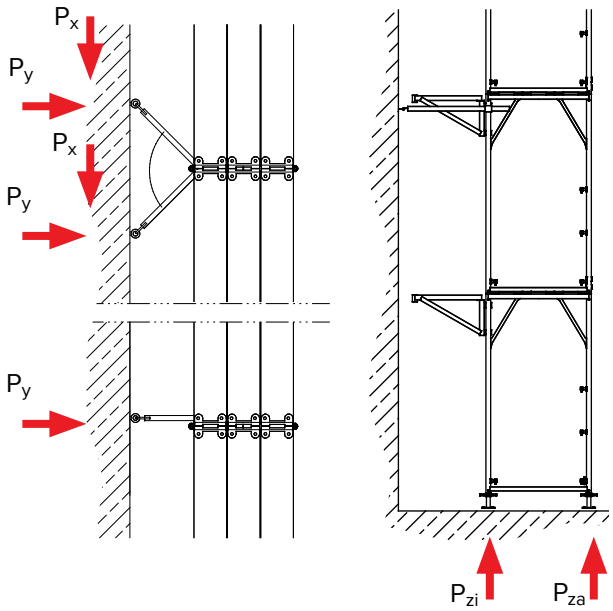
V-tie at every third tying point; at ≤ 4.00 m and upper elevation every second tie

1) Additional tie required if used with outside bracket

- EB 70
- EB 70 + diagonal EB 50
- EB 100

2) 1 H-connection every 5 bays made from scaffold tubes with rigid coupler, with all planks except H-frame

3) Transversal stiffening with diagonal 200 N (see page 15) or scaffold tube with swivel coupler



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.94	1.94	2.93
22	2.22	2.22	2.95
20	2.94	2.94	3.30
18	0.00	0.00	0.00
16	2.84	2.84	3.26
14	0.00	0.00	0.00
12	2.79	2.79	3.11
10	0.00	0.00	0.00
8	2.77	2.77	2.99
6	0.00	0.00	0.00
4	4.07	4.07	4.05
2	0.00	0.00	0.00

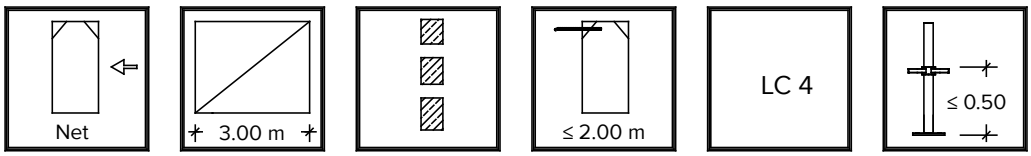
Bearing	P_{zi}= 21.87 kN
	P_{za}= 24.85 kN

Load class 4			
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-LC6	Steel plank 250/32. Alu plank 250/32 + 250/50. Hollow box plank 250/32. Timber plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Alu plank 250/32. Hollow box plank 250/32. Timber plank 250/32 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none Outer bracket 100 only in connection with inner bracket 35 Same restrictions as base jack 50/3.3; additional spindle extension max. 26.5 cm	
Additional measures in the base area		none	Connection of all post bases inside and outside with rail as longitudinal base ledger at 0.00 m: - 1 H-connection every 5 bays made from scaffold tubing tube and rigid coupler at 0.00 m & 2.00 m
Passage frame		not applicable	
Adjustment stand		applicable	
Bridge girder 500		applicable (see 94)	

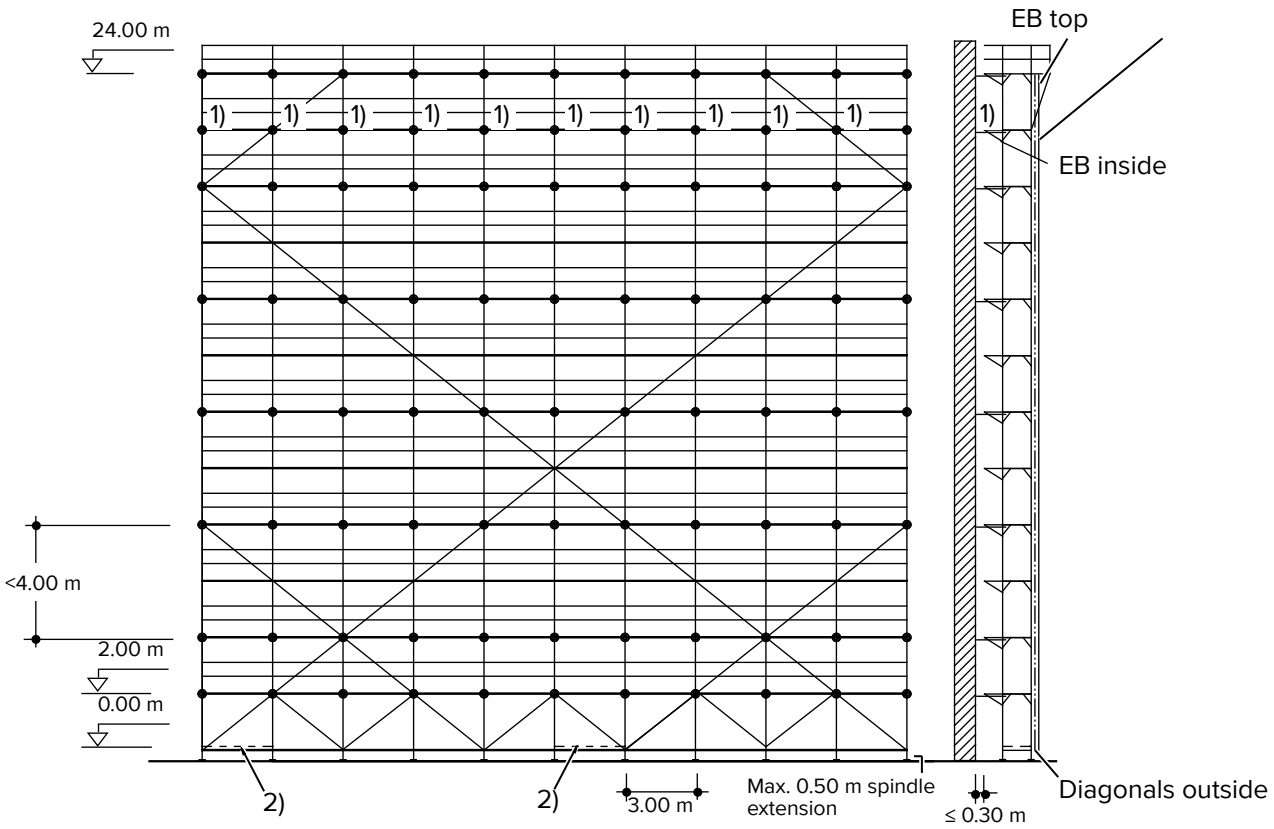
Tying Points

Standard design

(11)



Steel plank and alu plank or horizontal frame

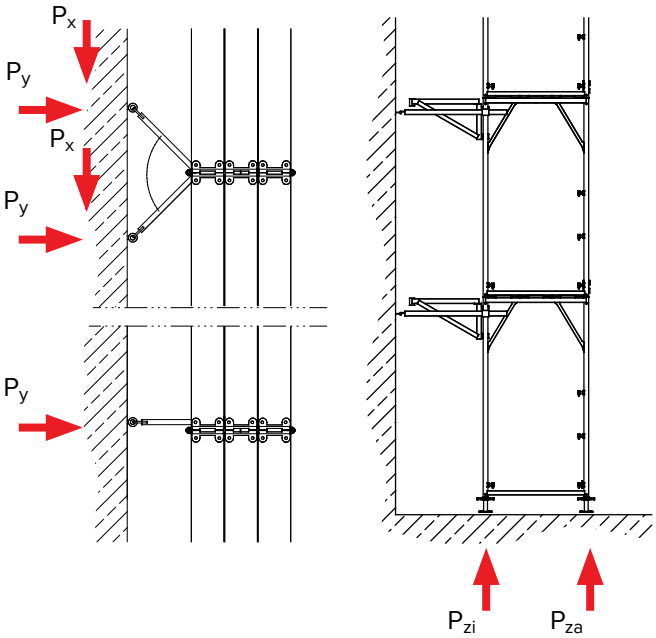


Use V-ties every third tying point

1) Additional tie required if using outside brackets

- EB 70 + diagonal EB 70
- EB 100

2) Use 1 horizontal connection every 5 bays, made from scaffold tubes and rigid couplers.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.74	2.74	3.48
22	2.55	2.55	3.51
20	3.41	3.41	4.03
18	0.00	0.00	0.00
16	3.39	3.39	3.91
14	0.00	0.00	0.00
12	3.24	3.24	3.75
10	0.00	0.00	0.00
8	3.11	3.11	3.61
6	0.00	0.00	0.00
4	2.44	2.44	2.59
2	2.79	2.79	2.16

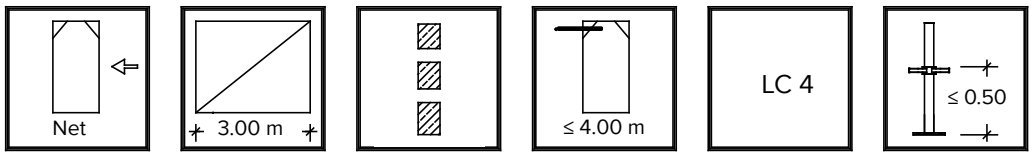
Bearing	P_{zi}= 24.78 kN
	P_{za}= 30.13 kN

Load class 4		
Main planks		Horizontal frame 300/100-LC5 Steel plank 300/32 Alu plank 300/32 + 300/50
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 300/32. Alu plank 300/32 Alu plank 300/50
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 300/32. Alu plank 300/32 / **1.00** not applicable Steel plank 300/32. Alu plank 300/32 / **1.00** Steel plank 300/32. Alu plank 300/32 + 300/50 / **2.00**
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none only with inner bracket 35 and outer bracket 35 Same restrictions as base jack, additional spindle extension max. 26.5 cm
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at 0.00 m: - with base jack 45/3.8 and outer bracket 100 - with base jack 70/3.8, inner bracket 50 and/or outer bracket 100 - with base jack 50/3.3 as a rule - with base jack 70/3.3 as a rule
Passage frame		Inner bracket 35 or 50 and outer bracket 35 or EB70 + diagonal EB 70 **(per configuaration 1 + 2 see page 115 et seq.)**
Adjustment stand		Inner bracket 35 or 50 and outer bracket 35 or EB70 + diagonal EB 70

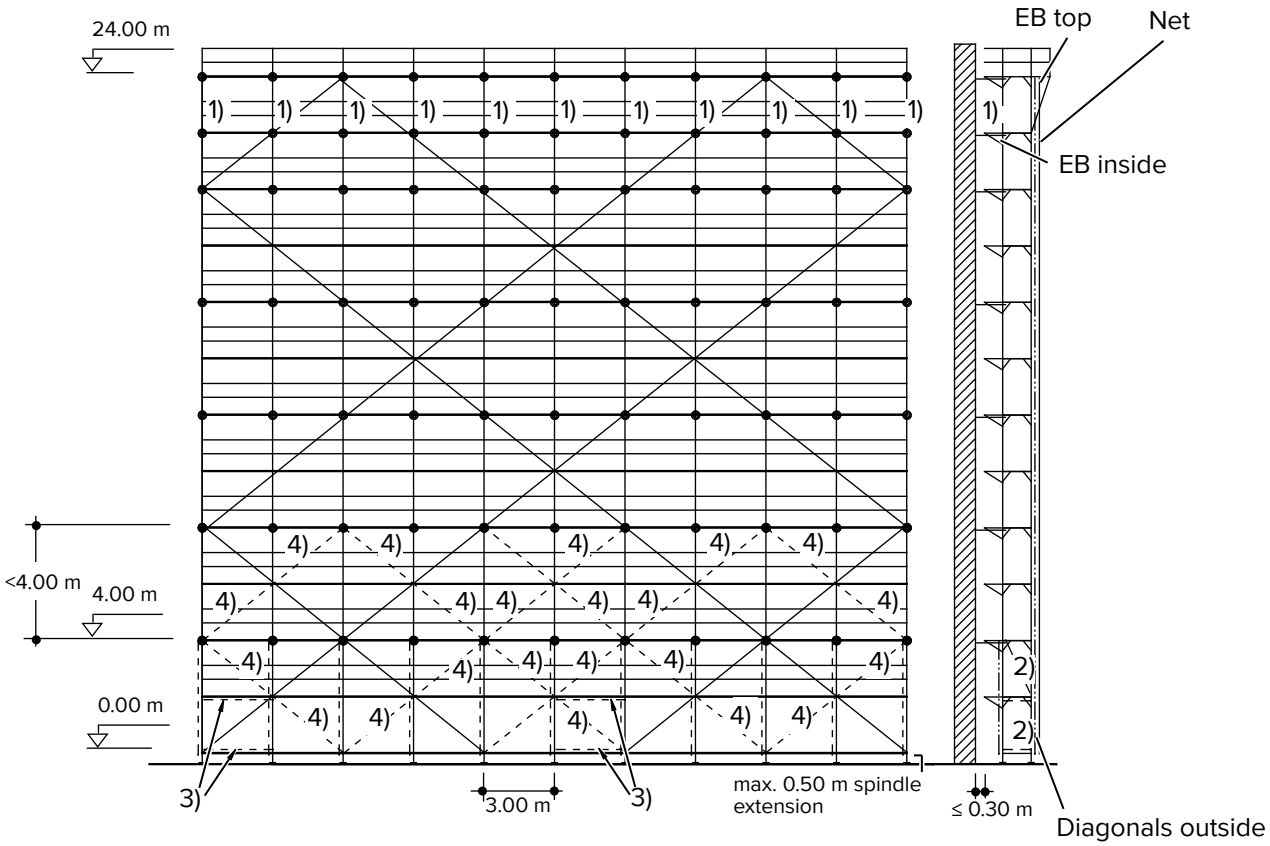
Tying Points

Standard design

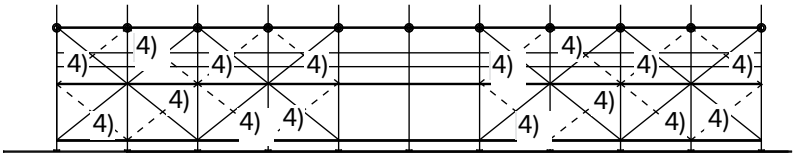
(12)



Steel plank and alu plank or horizontal frame



Configuration of diagonals at inner face of scaffold (up to 4.00 m)



1) Additional tie required if using outer brackets:

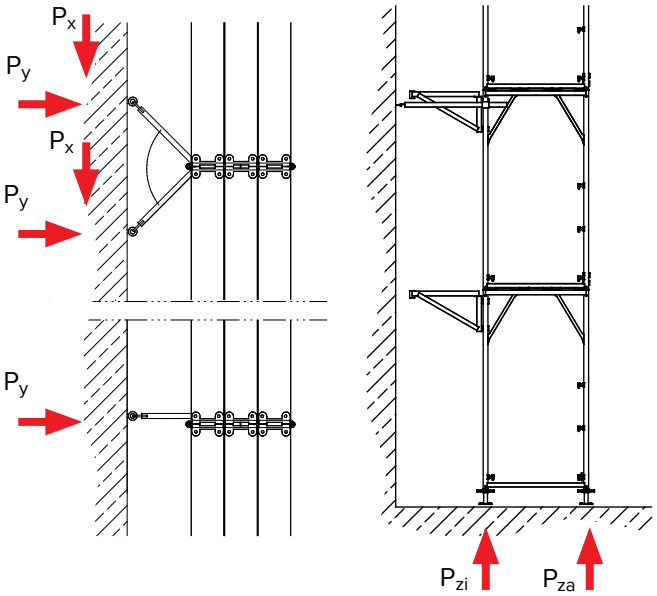
- EB 70 + diagonal EB 70
- EB 100

2) Stiffening with diagonal brace 200 N (see page 15) or scaffold tube with swivel coupler.

3) 1 H-connection every 5 bays, made from scaffold tube with rigid couplers, if using steel planks and alu planks.

4) Additional diagonals if using steel planks and alu planks.

Configuration of diagonals on inner face of scaffold: (as cross) 8 diagonals in 5 bays up to 4.00 m.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.28	2.28	3.45
22	2.80	2.80	4.04
20	3.33	3.33	3.96
18	0.00	0.00	0.00
16	3.34	3.34	3.90
14	0.00	0.00	0.00
12	3.22	3.22	3.73
10	0.00	0.00	0.00
8	3.15	3.15	3.57
6	0.00	0.00	0.00
4	4.80	4.80	4.89
2	0.00	0.00	0.00

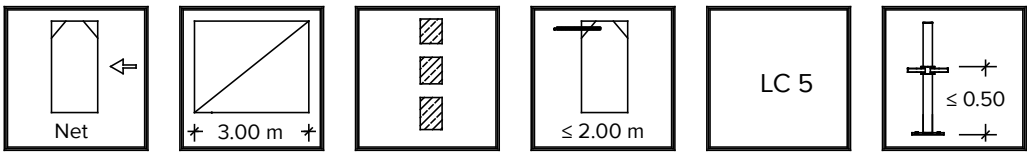
Bearing	P_{zi}= 24.73 kN
	P_{za}= 29.38 kN

Load class 4			
Main plank		Horizontal frame 300/100-5	Steel plank 300/32 Alu plank 300/32 + 300/50
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 300/32. Alu plank 300/32 Alu plank 300/50	
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.**	**-/2.00** Steel plank 300/32. Alu plank 300/32 / **1.00** not applicable Steel plank 300/32. Alu plank 300/32 / **1.00**	
	EB 100	Steel plank 300/32. Alu plank 300/32 + 300/50 / **2.00**	not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none Only with inner bracket 35 and outer bracket 35 Similar restrictions as base jack 50/3.3; additional spindle extension max. 26.5 cm	
Additional measures in the base area		V-Connection of all posts inside and outside with rail as longitudinal base ledger at ∇ 0.00 m:	
			and 1 H-connection every 5 bays at ∇ 0.00 m and ∇ 2.00 m
Passage frame		not applicable	
Adjustment stand		Inner bracket 35 and outer bracket 35 or EB 70 + diagonal EB 70	

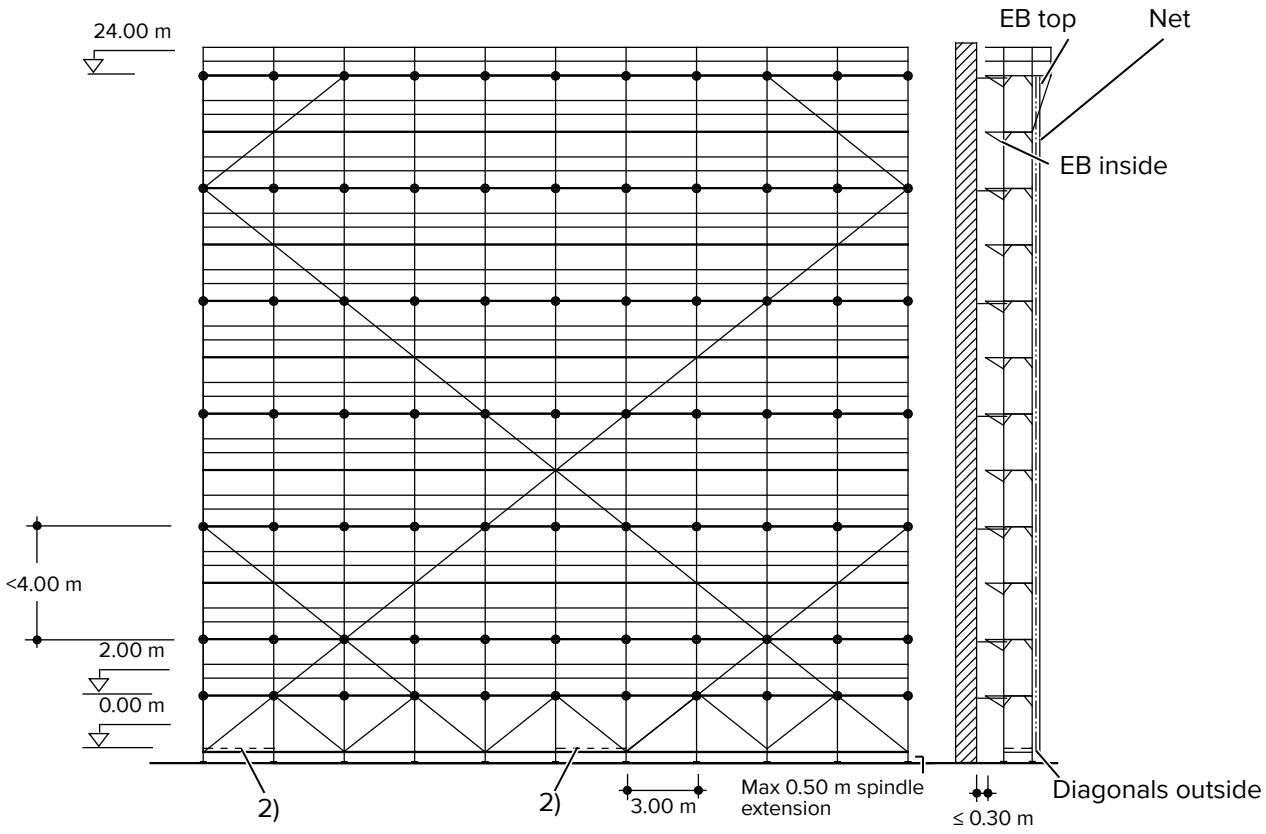
Tying Points

Standard design

(13)

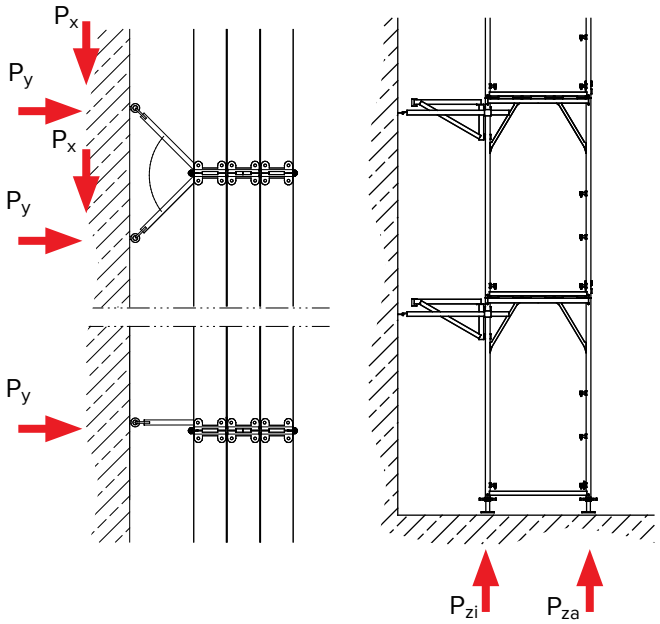


Horizontal frame



V-ties at every third tying point

2) 1 H-connection every 5 bays made from scaffold tube and rigid couplers.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.70	2.70	3.46
22	0.00	0.00	0.00
20	3.36	3.36	4.05
18	0.00	0.00	0.00
16	3.37	3.37	3.89
14	0.00	0.00	0.00
12	3.22	3.22	3.73
10	0.00	0.00	0.00
8	3.02	3.02	3.60
6	0.00	0.00	0.00
4	2.40	2.40	2.58
2	2.62	2.62	2.15

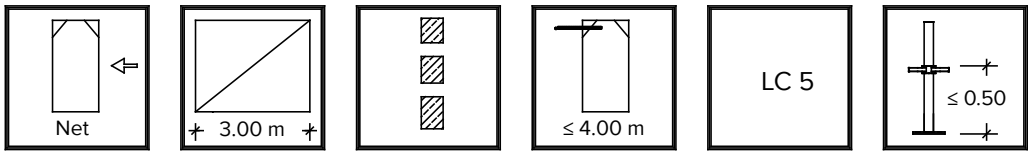
Bearing	P_{zi}= 26.31 kN
	P_{za}= 27.55 kN

Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32 not applicable
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none not applicable not applicable
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m.
Passage frame		not applicable
Adjustment stand		not applicable

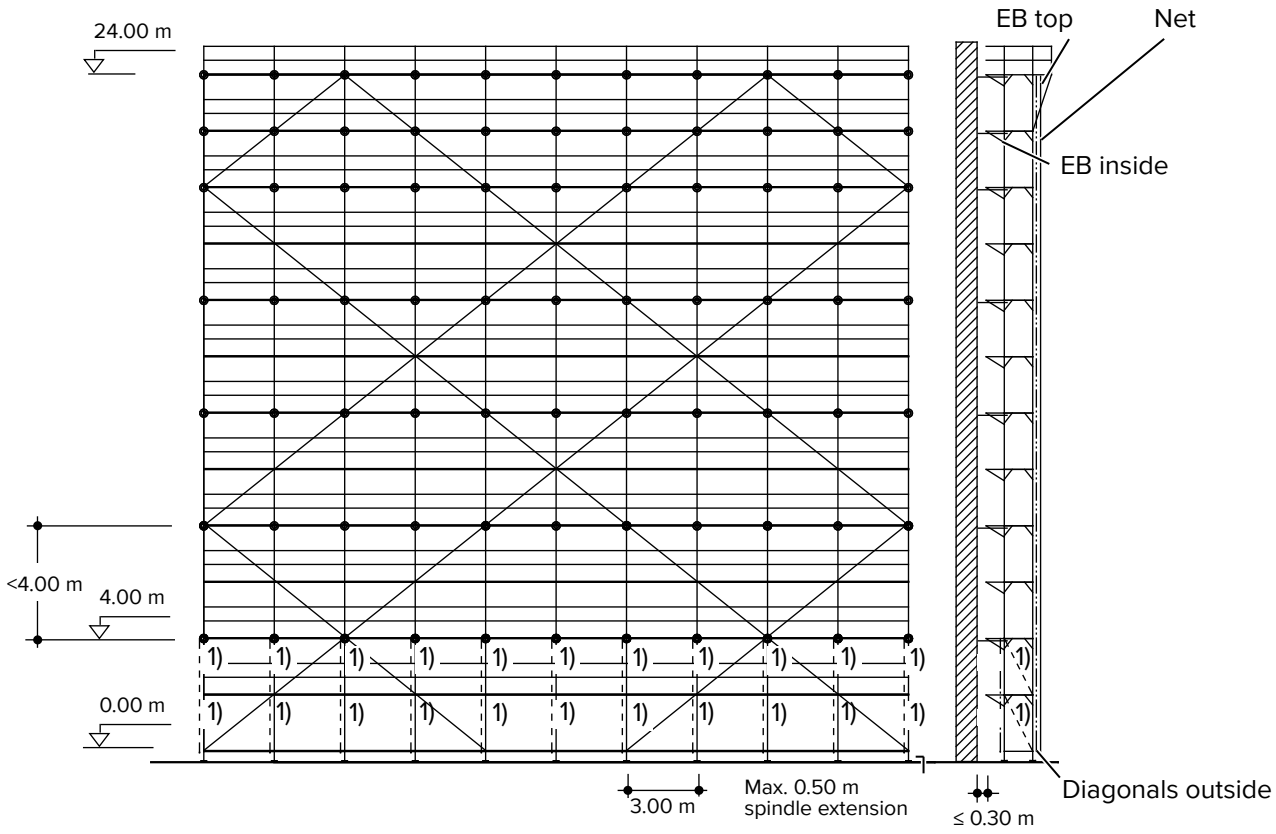
Tying Points

Standard design

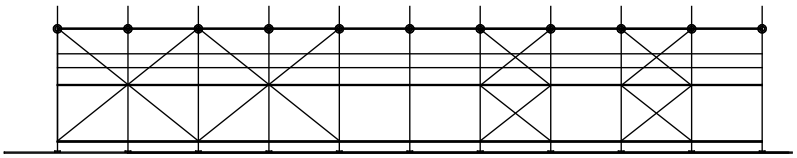
(14)



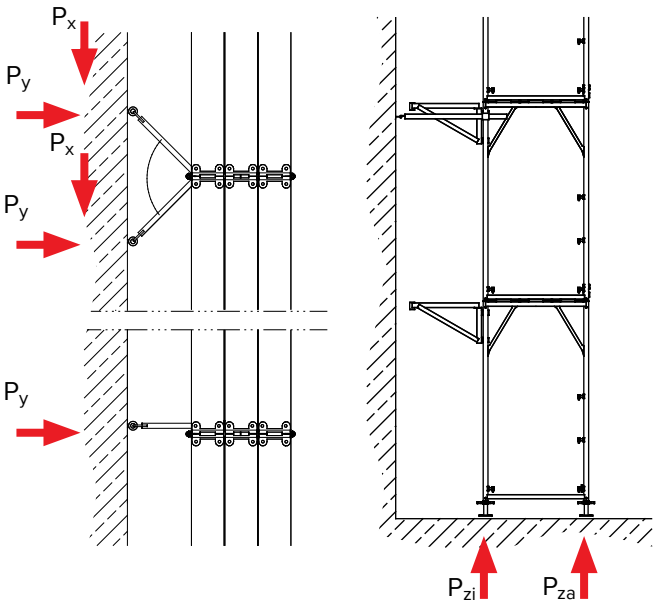
Horizontal frame



Configuration of diagonals on inside face of scaffold (up to 4.00 m)
(4 diagonals every 5 bays, as cross or in 2 adjacent bays)



V-tie every third tying point; at ≤ 4.00 m and the uppermost platform at every second tying point.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

For explanation of pictograms and abbreviations, see page 52

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.25	2.25	3.43
22	0.00	0.00	0.00
20	3.30	3.30	4.05
18	0.00	0.00	0.00
16	3.19	3.30	3.89
14	0.00	0.00	0.00
12	3.11	3.19	3.73
10	0.00	0.00	0.00
8	3.11	3.11	3.58
6	0.00	0.00	0.00
4	4.14	4.14	4.87
2	0.00	0.00	0.00

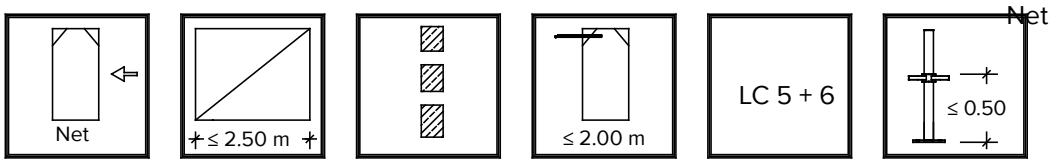
Bearing	P_{zi}= 27.81 kN
	P_{za}= 27.59 kN

Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32 not applicable
1 outer bracket / height [m] of protec-tive wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none not applicable not applicable
Additional measures in the base area		Connection of all posts inside and outside with rail as longitudinal base ledger at ∇ 0.00 m.
Passage frame		not applicable
Adjustment stand		not applicable

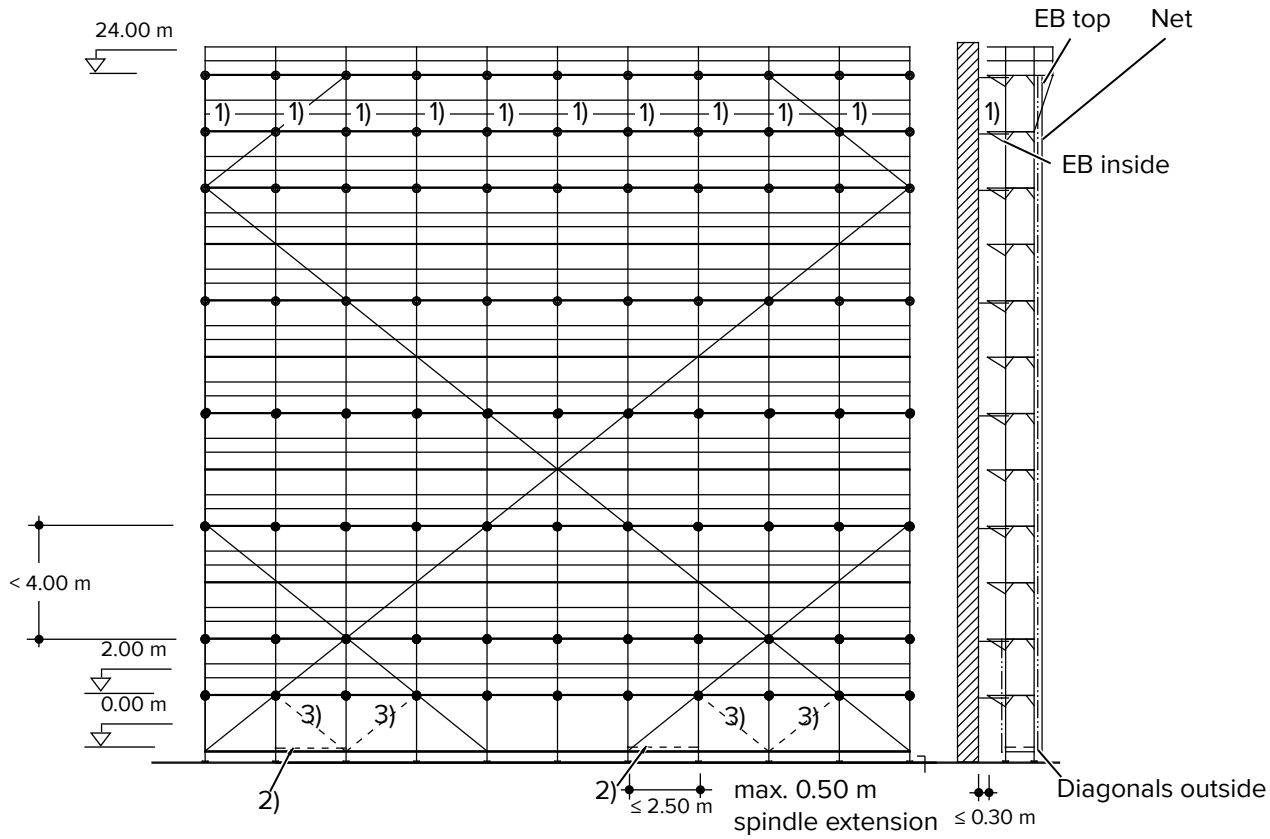
Tying Points

Standard design

(15)



Steel plank and alu plank or horizontal frame



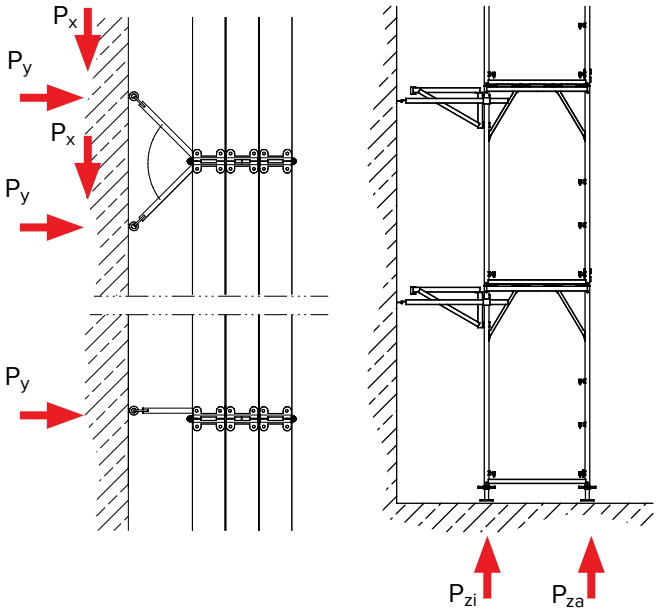
Standard design applicable only for bay lengths ≤ 2.50 m

V-ties every third tying point

1) Additional ties required if outer brackets
- EB 70 + diagonal EB 70 are used.

2) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers.

3) Additional diagonals outside for
- LC6: in general
- LC5: base jack 70/3.8; inner bracket EB 50 base jack 50/3.3



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	2.42	2.42	2.99
22	2.15	2.15	2.87
20	2.94	2.94	3.38
18	0.00	0.00	0.00
16	2.83	2.83	3.25
14	0.00	0.00	0.00
12	2.77	2.77	3.11
10	0.00	0.00	0.00
8	2.75	2.75	3.00
6	0.00	0.00	0.00
4	2.15	2.15	2.16
2	2.44	2.44	1.81

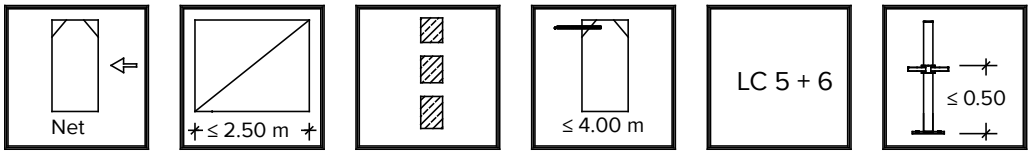
Bearing	P_{zi}= 26.27 kN
	P_{za}= 28.76 kN

		Load class 5	Load class 6
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-6 Steel plank 250/32 Alu plank 250/32	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 300/32 Alu plank 250/50	Alu plank 250/32 not applicable
1 outer bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable Steel plank 250/32. Alu plank 3250/32 / **1.00** not applicable	**-/2.00** Alu plank 250/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none only with inner bracket 35 + outer bracket 35 similar restrictions as base jack 50/3.3 additional spindle extension max. 26.5 cm	none spindle extension max. 26.5 cm not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rail as longitudinal base ledger at ∇ 0.00 m: only with inner bracket 35 + outer bracket 35 similar restrictions as base jack 50/3.3 additional spindle extension max. 26.5 cm	- 1 H-connection every 5 bays made from scaffold tubes and rigid coupler
Passage frame		applicable	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 95)	applicable (see page 95)

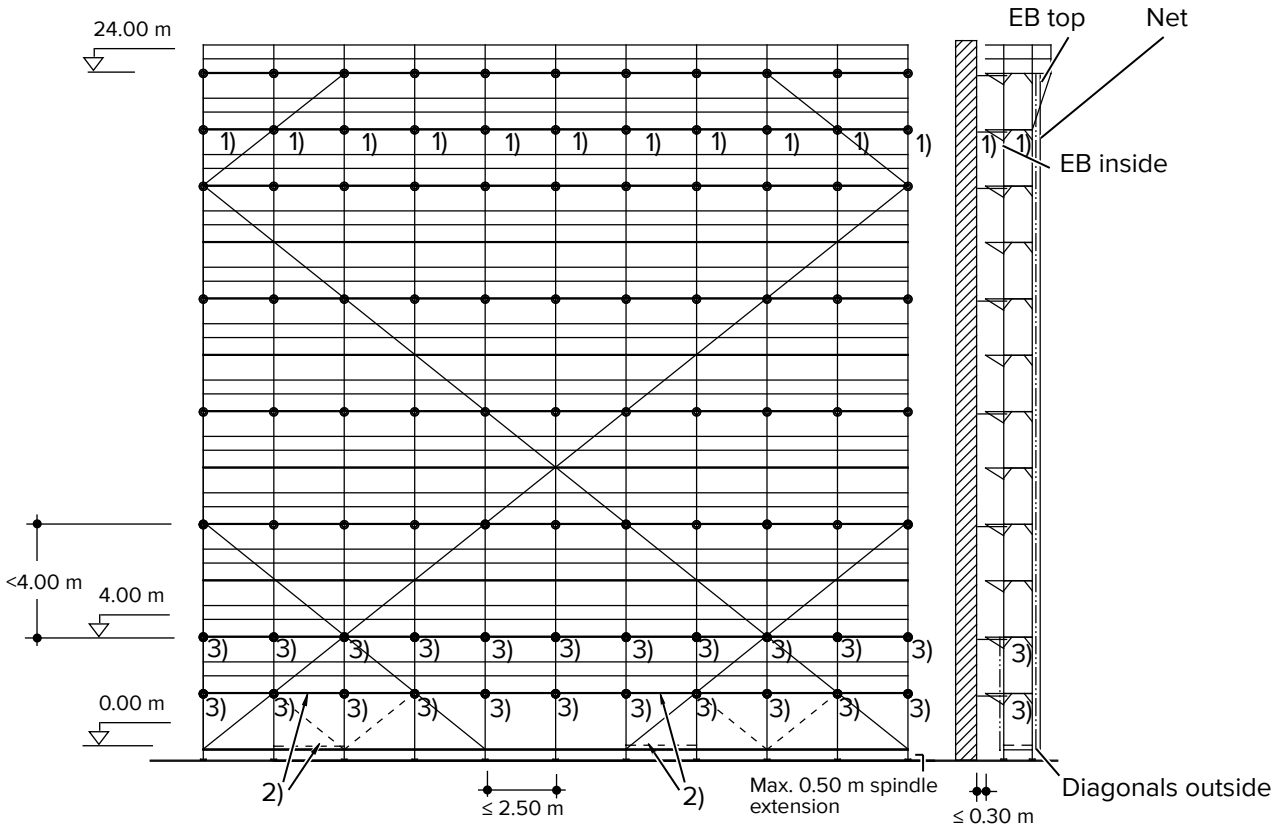
Tying Points

Standard design

(16)

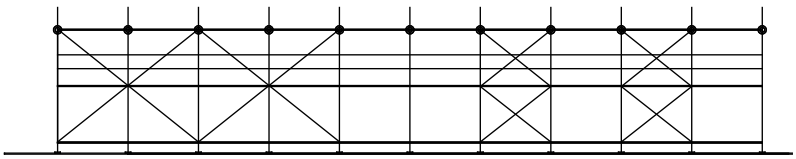


Steel plank and alu plank or horizontal frame



Standard design applies only to bay lengths ≤2.50 m

Configuration of diagonals on inner face of scaffold (up to 4.00 m)
(4 diagonals every 5 bays, as cross or in 2 adjacent bays)



V-ties every third tying point; at 4.00 m and upper scaffold level every second tying point.

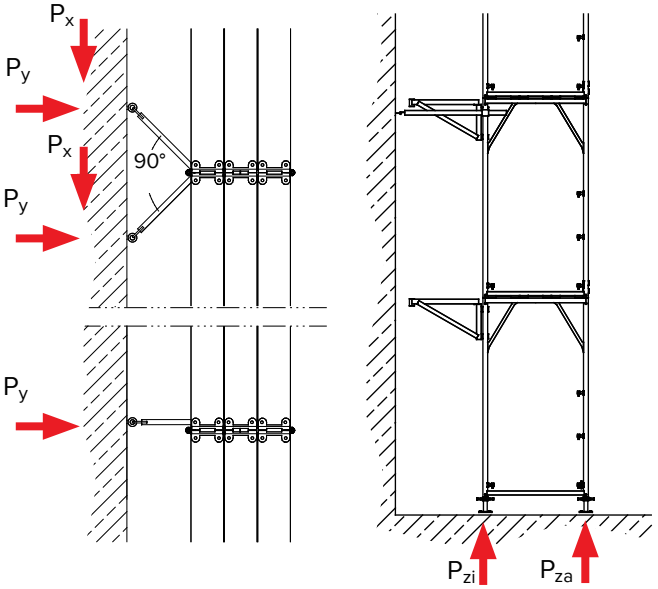
1) Additional ties required if outer brackets

- EB 70 + diagonal EB 70

are used.

2) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers.

3) Transversal stiffening with diagonal brace 200 N (see page 15) or scaffold tube with swivel coupler.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.95	1.95	2.97
22	2.16	2.16	2.87
20	2.93	2.93	3.38
18	0.00	0.00	0.00
16	2.83	2.83	3.25
14	0.00	0.00	0.00
12	2.78	2.78	3.11
10	0.00	0.00	0.00
8	2.79	2.79	2.99
6	0.00	0.00	0.00
4	4.13	4.13	4.11
2	0.00	0.00	0.00

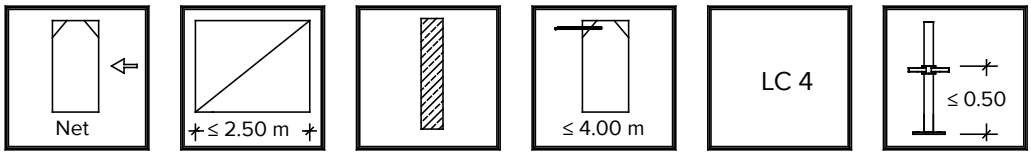
Bearing	P_{zi}= 28.76 kN
	P_{za}= 27.60 kN

		Load class 5	**Load class 6**
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-6 Steel plank 250/32 Alu plank 250/32	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 300/32 Alu plank 250/50	Alu plank 250/32
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable Steel plank 250/32. Alu plank 3250/32 / **1.00** not applicable	**-/2.00** Alu plank 250/32 / 1.00 not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none none only with inner bracket 35 + outer bracket 35 similar restrictions as base jack 50/3.3 additional spindle extension max. 26.5 cm	none spindle extension max. 26.5 cm not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rail as longitudinal base ledger at ∇ 0.00 m: - 1 H-connection every 5 bays made from scaffold tubes and rigid coupler at 0.00 m and 2.00 m for all planks, except H-frames	
Passage frame		not applicable	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 95)	applicable (see page 95)

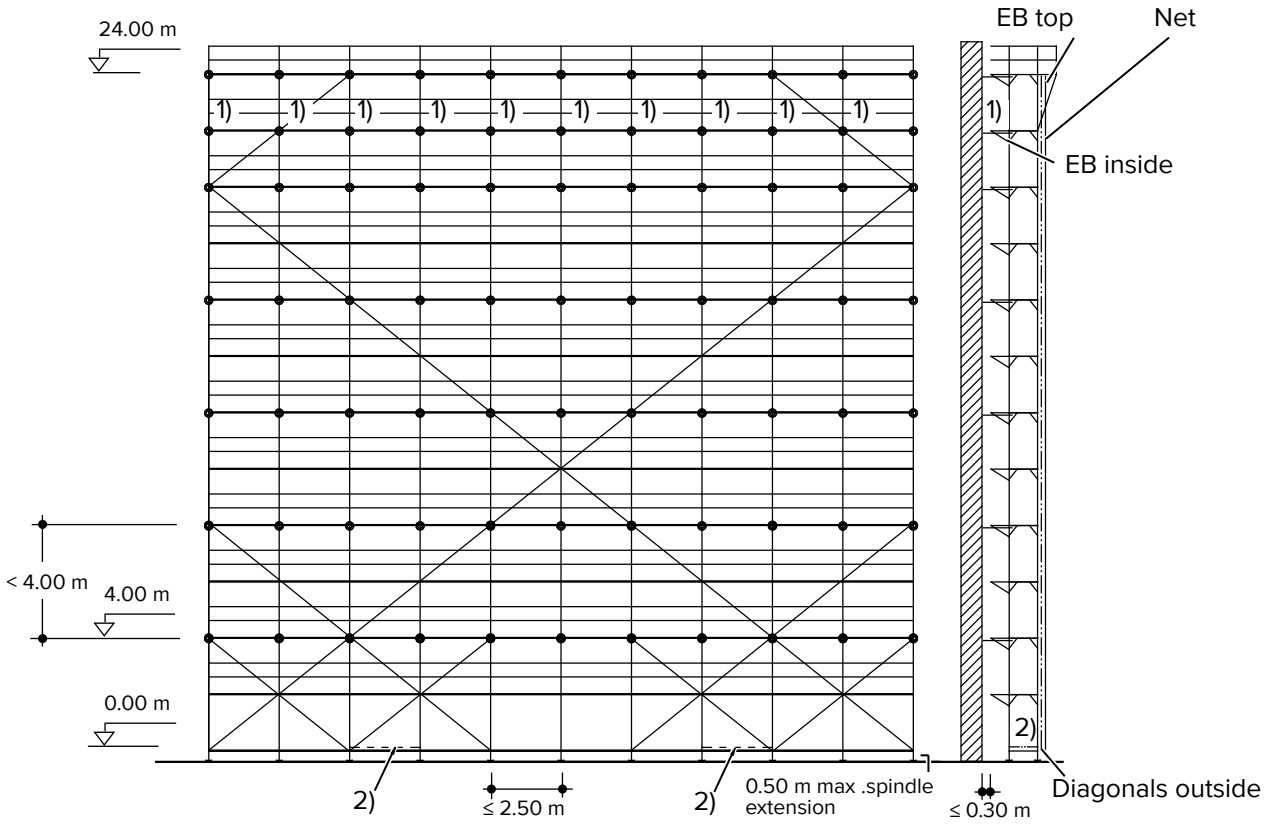
Tying Points

Standard design

(17)



Steel plank and alu plank or horizontal frame



Standard design applicable only for bay lengths ≤ 2.50 m

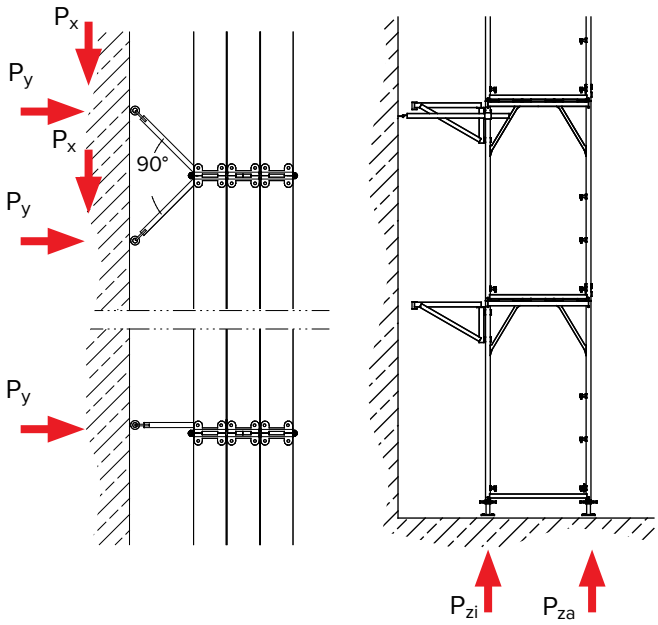
V-ties at every third tying point

1) Additional tie required if outer brackets

- EB 70
- EB 70 + diagonal EB 70
- EB 100

are used.

2) 1 H-connection every 5 bays made from scaffold tubes and rigid couplers.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: open facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.51	1.51	1.85
22	1.64	1.64	2.43
20	1.51	1.51	1.04
18	0.00	0.00	0.00
16	1.41	1.41	1.09
14	0.00	0.00	0.00
12	1.48	1.48	1.05
10	0.00	0.00	0.00
8	1.83	1.83	0.99
6	0.00	0.00	0.00
4	2.15	2.15	1.22
2	0.00	0.00	0.00

Bearing	P_{zi}= 21.45 kN
	P_{za}= 25.57 kN

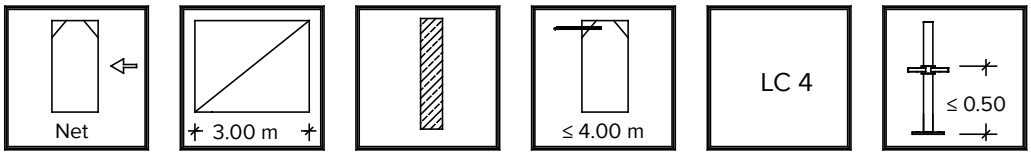
Load class 4			
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-LC6	Steel plank 250/32. Hollow box plank 250/32 Alu plank 250/32 + 250/50. Timber plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70/200** **EB 100**	**-/2.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32 + 250/50. Timber plank 250/32 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None Outer bracket 100 not applicable* Outer bracket 100 not applicable* Outside bracket 100 not applicable* Spindle extension max. 0.265 m	 Outside bracket 100 not applicable, inner bracket only EB 35 possible* Outside bracket 100 not applicable, inner bracket only EB 35 possible* *Spindle extension max. 0.265 m
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m: - Base jack 50/3.3 and base jack 70/3.3 - Inner bracket 50 with base jack 70/3.8 - Inner bracket 50 with outer bracket 100 (only with base jack 45/3.8)	 - Inner bracket 50 with base jack 70/3.8 - Inner bracket 35 with base jack 50/3.3 and base jack 70/3.3
Passage frame		Only inside and outside EB 35 if tying points at 2.00 m and 4.00 m height	
Adjustment stand		applicable	
Bridge girder 500		applicable (see page 96)	

* or tying points and arrangement of diagonals as with “open” facade

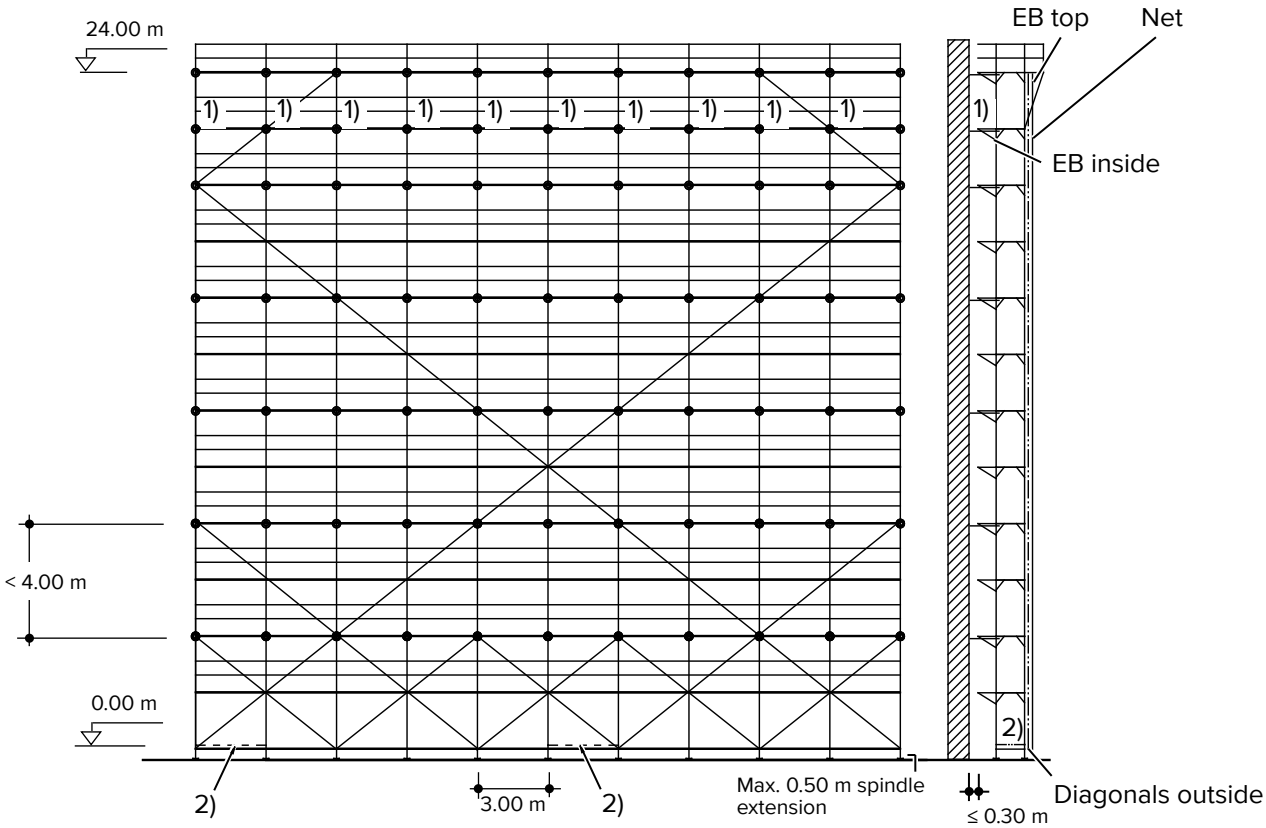
Tying Points

Standard design

(18)



Steel plank and alu plank or horizontal frame



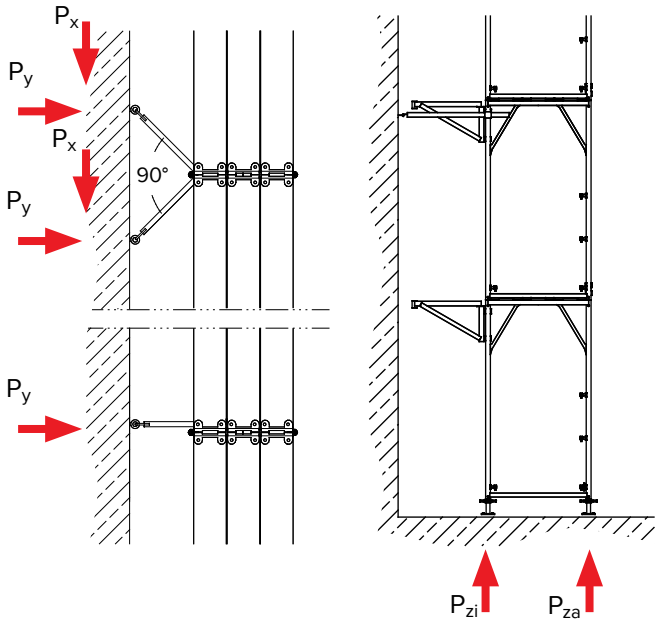
V-ties at every third tying point

1) Additional tie required if outer brackets

- EB 70 + diagonal EB 70
- EB 100

are used.

2) 1 H-connection every 5 bays made from scaffold tubes with rigid coupler.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: closed facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.67	1.67	2.12
22	1.39	1.39	1.69
20	1.70	1.70	1.33
18	0.00	0.00	0.00
16	1.66	1.66	1.29
14	0.00	0.00	0.00
12	1.73	1.73	1.31
10	0.00	0.00	0.00
8	2.05	2.05	1.19
6	0.00	0.00	0.00
4	2.47	2.47	1.47
2	0.00	0.00	0.00

Bearing	P_{zi}= 23.83 kN
	P_{za}= 26.19 kN

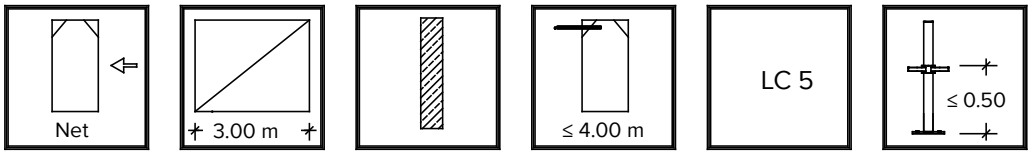
Load class 4			
Main plank		Horizontal frame 300/100-5	Alu plank 300/32 + 300/50. Steel plank 300/32
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32. Steel plank 300/32 Alu plank 300/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32. Steel plank 300/32 / **1.00** not applicable Alu plank 300/32. Steel plank 300/32 / **1.00** Alu plank 300/32. Steel plank 300/32 + 300/50 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	Outer bracket 100 not applicable* IB EB35 or EB50 / AK EB35 or EB 70 + diagonal EB 70 not applicable or * not applicable or *	Inner bracket EB35 or EB50 / Outer bracket EB35
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m: With: - Base jack 70/3.8	
Passage frame		not applicable *	
Adjustment stand		applicable	

* or tying points and arrangement of diagonals as with “open” facade

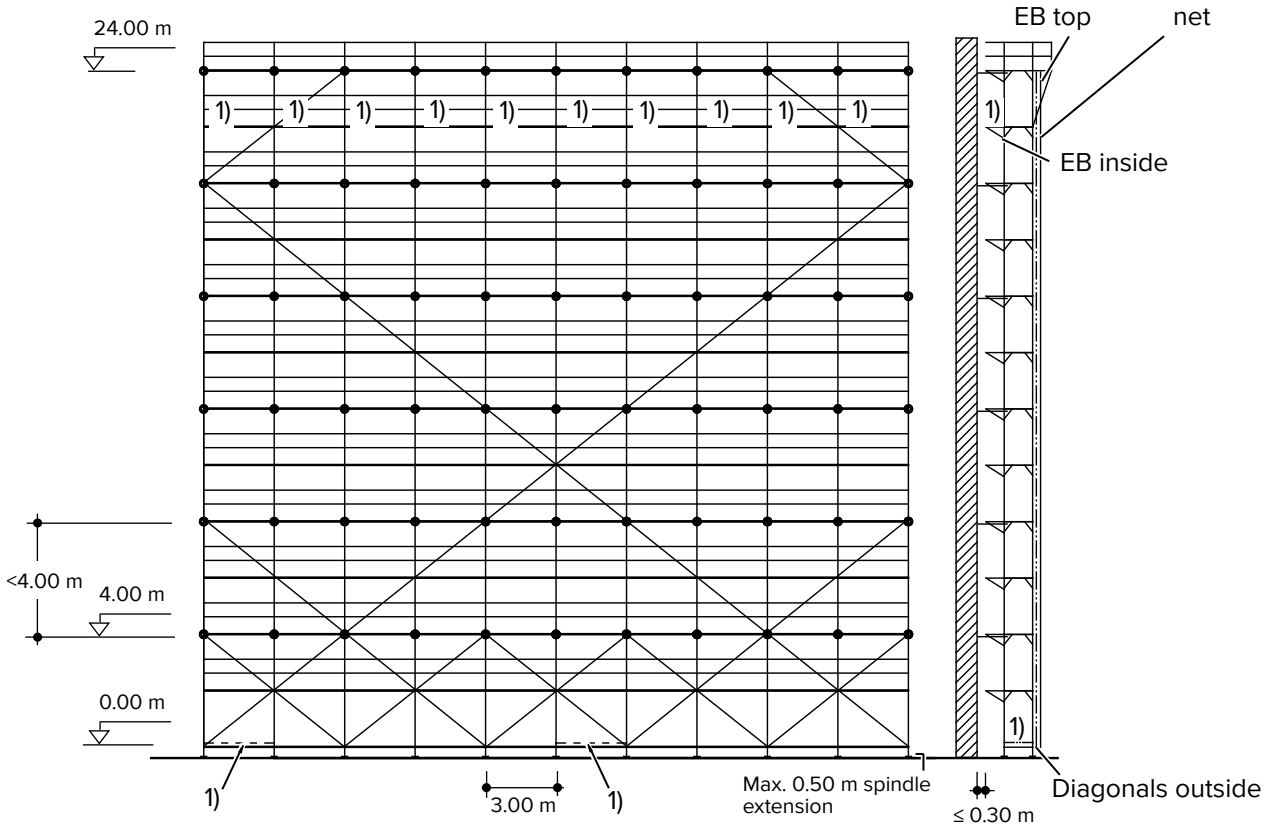
Tying Points

Standard design

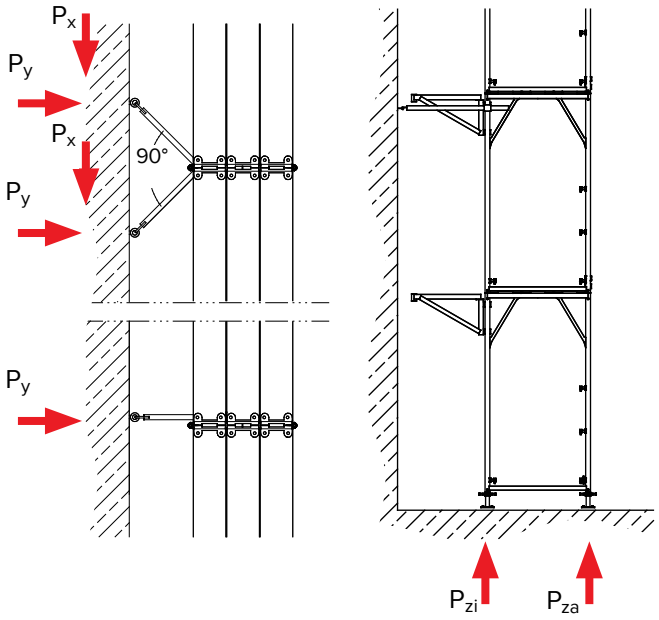
(19)



Horizontal frame



V-ties at every third tying point



For explanation of pictogrammes and abbreviations. see page 45

Unless stated otherwise all dimensions are in mm

Tie forces: closed facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.74	1.74	2.39
22	0.00	0.00	0.00
20	1.55	1.55	1.35
18	0.00	0.00	0.00
16	1.44	1.44	1.29
14	0.00	0.00	0.00
12	1.49	1.49	1.25
10	0.00	0.00	0.00
8	1.82	1.82	1.19
6	0.00	0.00	0.00
4	1.97	1.97	1.29
2	0.00	0.00	0.00

Bearing	P_{zi}= 26.31 kN
	P_{za}= 27.86 kN

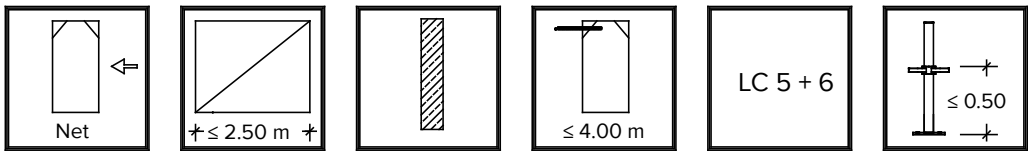
Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32 not applicable
1 outside bracket / height [m] of protec-tive wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	none max. Base jack 26.5 cm or *not applicable not applicable
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m.
Passage frame		not applicable
Adjustment stand		not applicable

* or tying points and arrangement of diagonals as with “open” facade

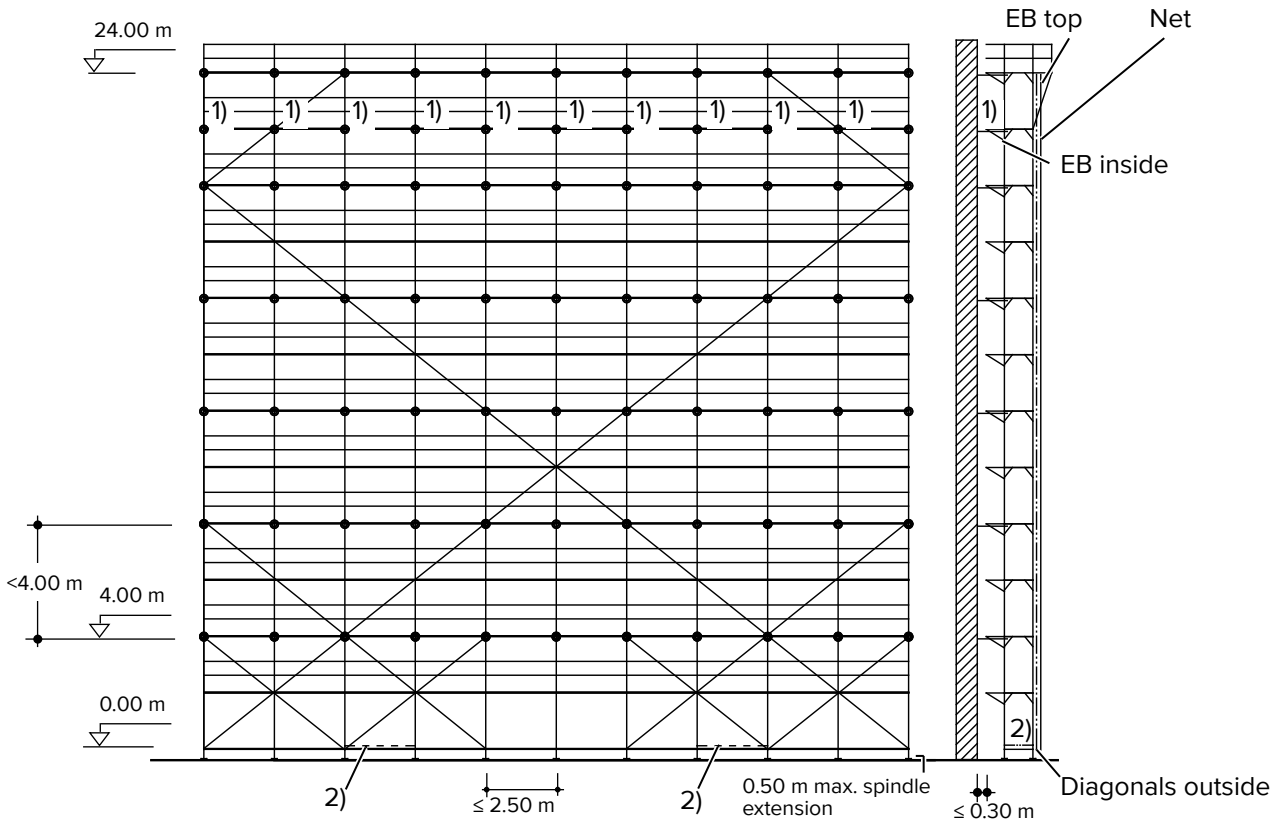
Tying Points

Standard design

(20)



Steel plank and alu plank or horizontal frame



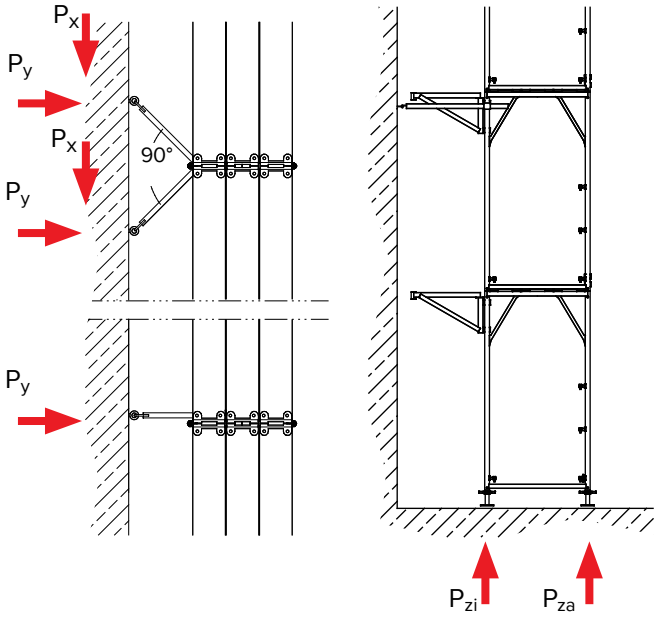
Standard design applicable only for bay lengths ≤ 2.50 m

V-ties at every third tying point

1) Additional tie required if outer brackets

- EB 70 + diagonal EB 70 are used.

2) 1 H-connection every 5 bays made from scaffold tubes and rigid couplers.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Tie forces: closed facade			
	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]
24	1.44	1.44	1.86
22	1.39	1.39	1.81
20	1.54	1.54	1.13
18	0.00	0.00	0.00
16	1.44	1.44	1.08
14	0.00	0.00	0.00
12	1.45	1.45	1.04
10	0.00	0.00	0.00
8	1.80	1.80	0.99
6	0.00	0.00	0.00
4	2.13	2.13	1.23
2	0.00	0.00	0.00

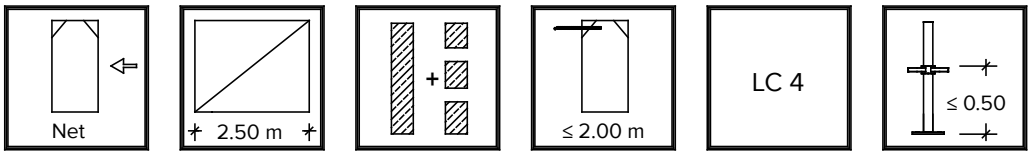
Bearing	P_{zi}= 26.27 kN
	P_{za}= 28.33 kN

		Load class 5	Load class 6
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-6 Steel plank 250/32 Alu plank 250/32	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 300/32 Alu plank 250/50	Alu plank 250/32 not applicable
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable Steel plank 250/32. Alu plank 3250/32 / **1.00** not applicable	**-/2.00** Alu plank 250/32 / 1.00 not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	With inner bracket 50 only outer bracket 35* With inner bracket 35 only outer bracket 35* not applicable not applicable	none spindle extension max. 26.5 cm not applicable not applicable
Additional measures in the base area		1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m: - Inner bracket EB 50 - Base jack 70/3.8	1 H-connection every 5 bays and connection of all post bases inside and outside with rail at ∇ 0.00 m.
Passage frame		only with additional tie in 2 m height	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 95)	applicable (see page 95)

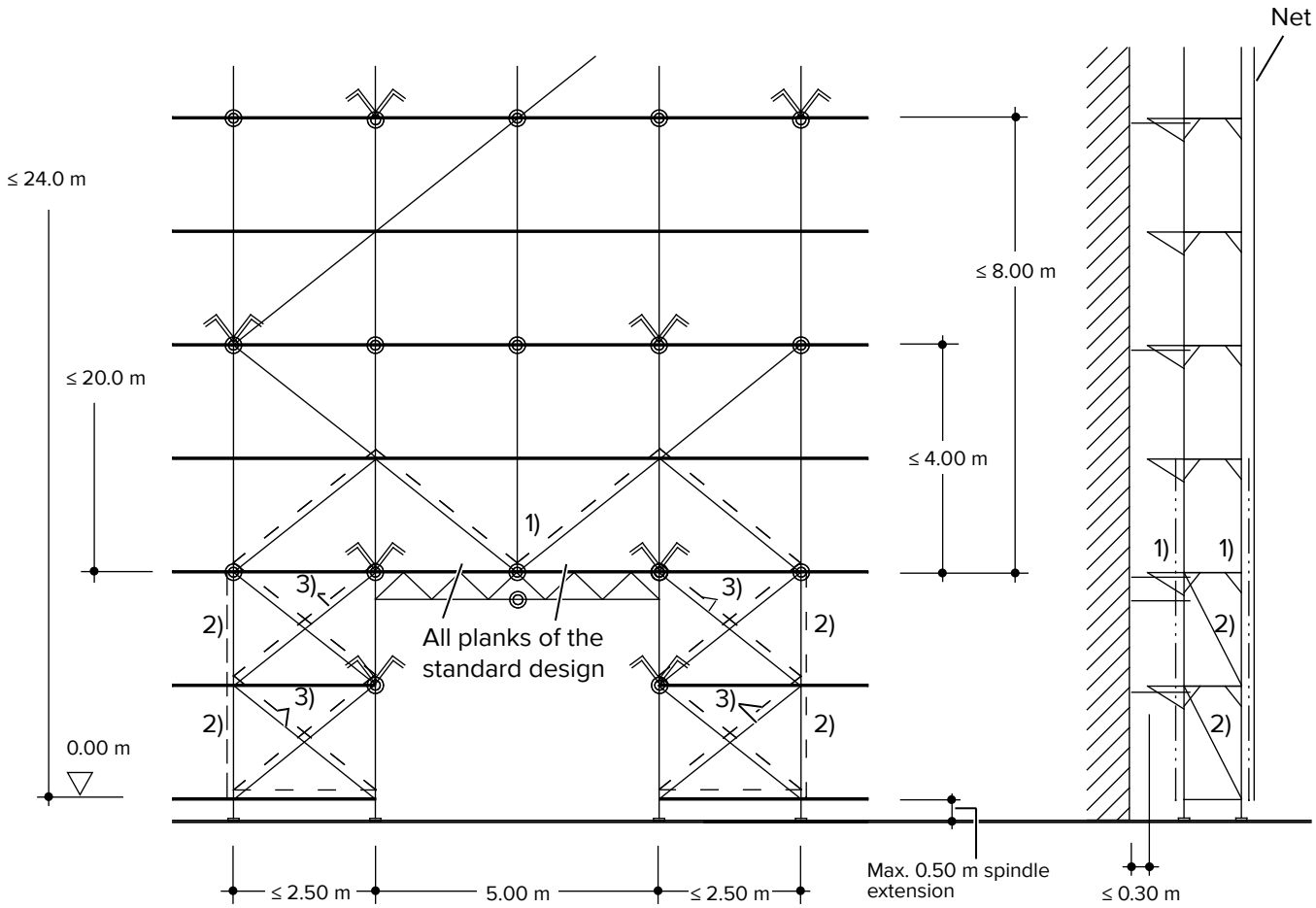
Tying Points

Standard design

(21)



with Bridge girder 500



Standard design applicable for bay lengths ≤ 2.50 m

——Outer scaffold tarpaulin
— — Inner scaffold tarpaulin
} Diagonals, Rail posts or Scaffold tubes

○ = Standard tie location
= V-tie

1) These locations must be pinned
2) Scaffold tube or diagonal 200 N (see page 15)
3) Additional diagonal if base jack 70/3.8 used

	Plank elevation	
Load class	**Main plank**	**Enlargement bracket EB35 + EB 50**
4	H-frame 250/100-6 Steel plank 250/32 Alu plank 250/32 + 250/50 Timber plank 250/32 Hollow box plank 250/32	Steel plank 250/32 Alu plank 250/32, 250/50 Timber plank 250/32 Hollow box plank 250/32

Restrictions for base jacks:

Base jacks 45/3.8: none
Base jacks 70/3.8: none
BOSTA 70 base jacks: not applicable

For explanation of pictogrammes and abbreviations. see page 45

NOTE

Note

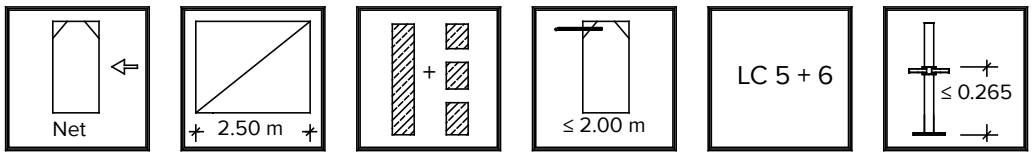
See tie forces on page 68.

Unless stated otherwise all dimensions are in mm

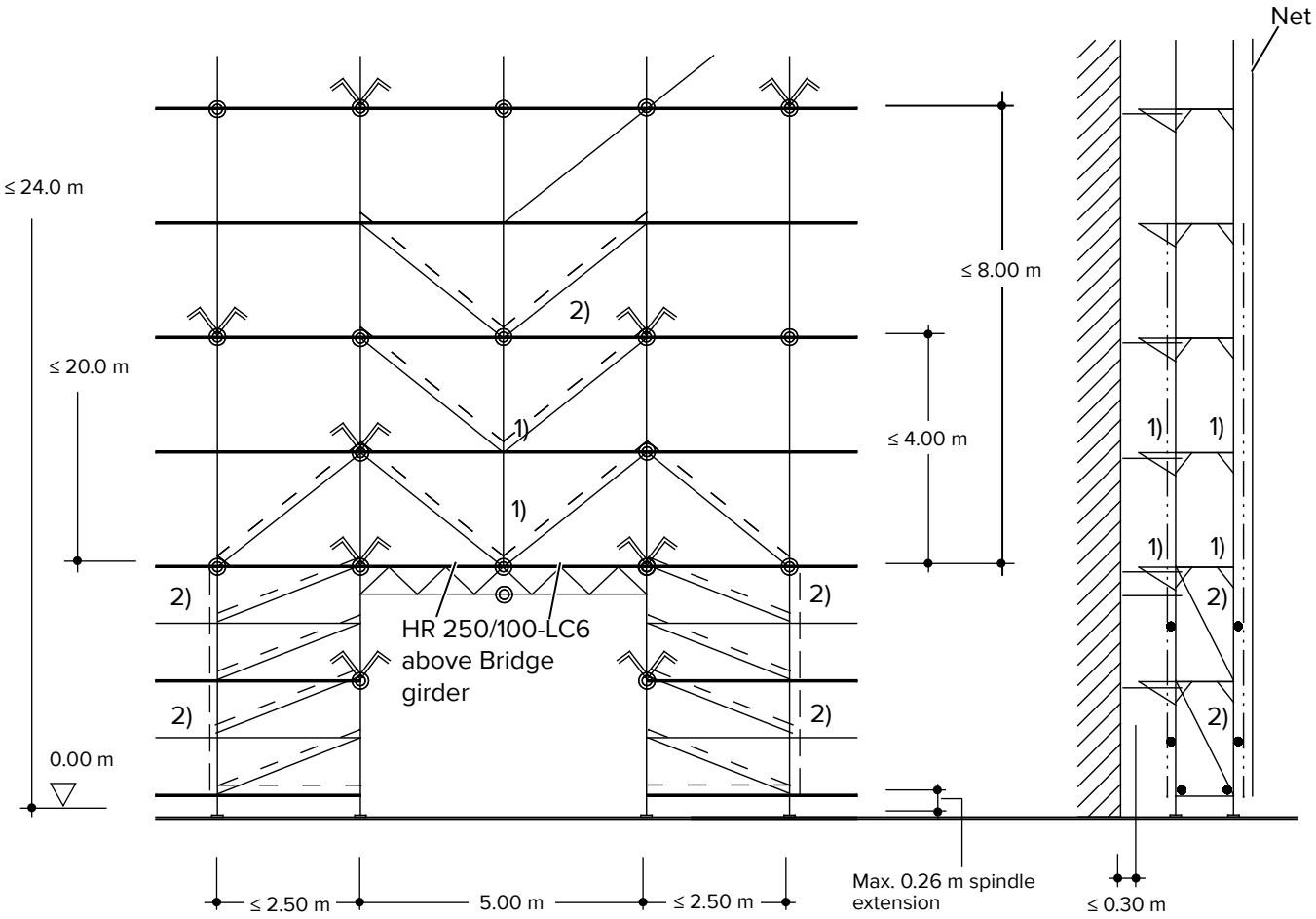
For explanation of pictograms and abbreviations, see page 52

Standard design

(22)



with Bridge girder 500



Standard design applies to field lengths < 2.50 m

——Outer scaffold tarpaulin
— — Inner scaffold tarpaulin
} Diagonals, Rail posts or Scaffold tubes

○ = Standard tie location
= V-tie

1) These locations must be pinned
2) Scaffold tube or diagonal 200 N (see page 15)

	Plank elevation	
Load class	**Main planks**	**Enlargement bracket EB 35 + EB 50**
5	H-frame 250/100-6 Steel plank 250/32 Alu plank 250/32	Steel plank 250/32 Alu plank 250/32 or Alu plank 250/50
6	H-frame 250/100-6	Alu plank 250/32

Restrictions for base jacks:

Base jacks 45/3.8: none
Base jacks 70/3.8: none
BOSTA 70 base jacks: not applicable

For explanation of pictogrammes and abbreviations. see page 45

NOTE

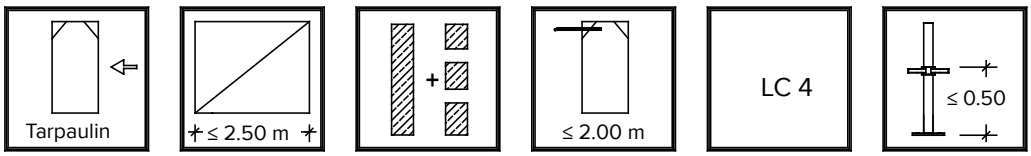
Note

See tie forces on page 68.

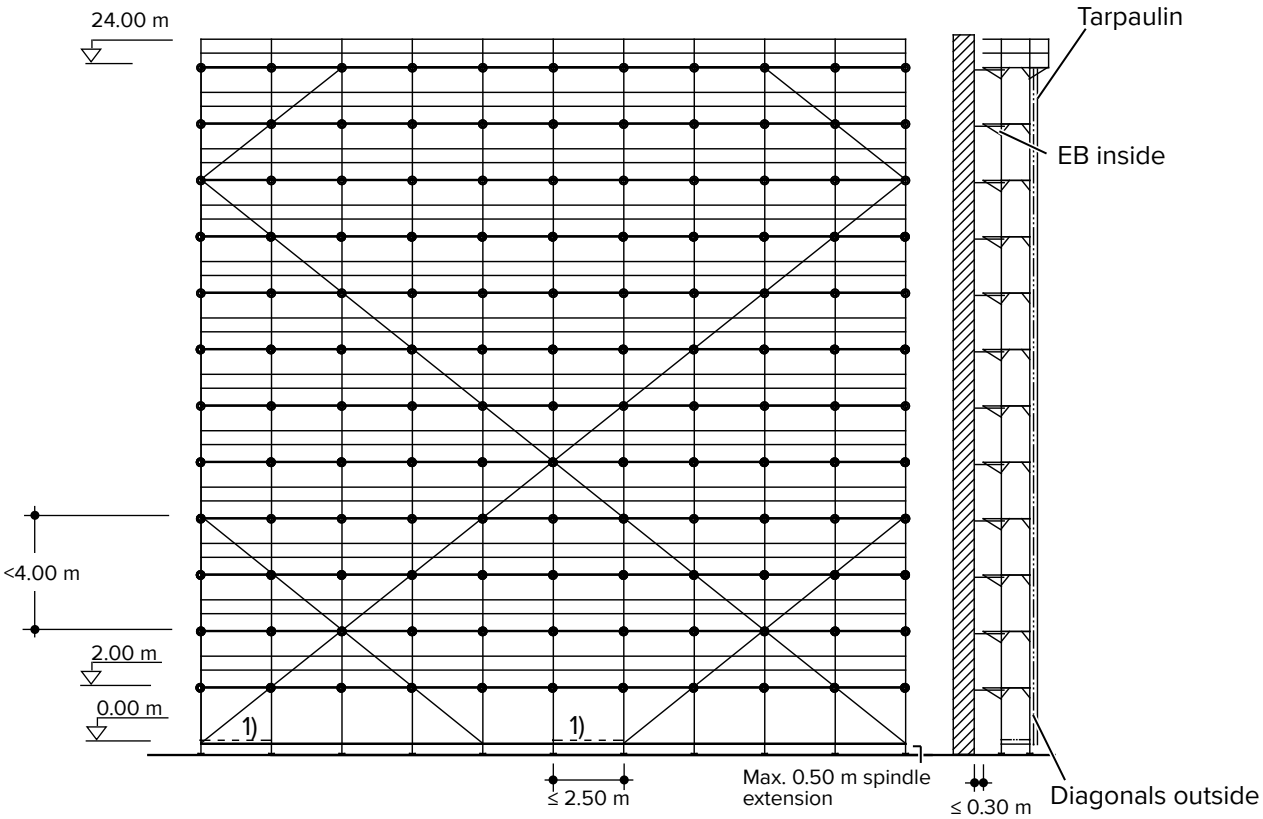
Tying Points

Standard design

(23)



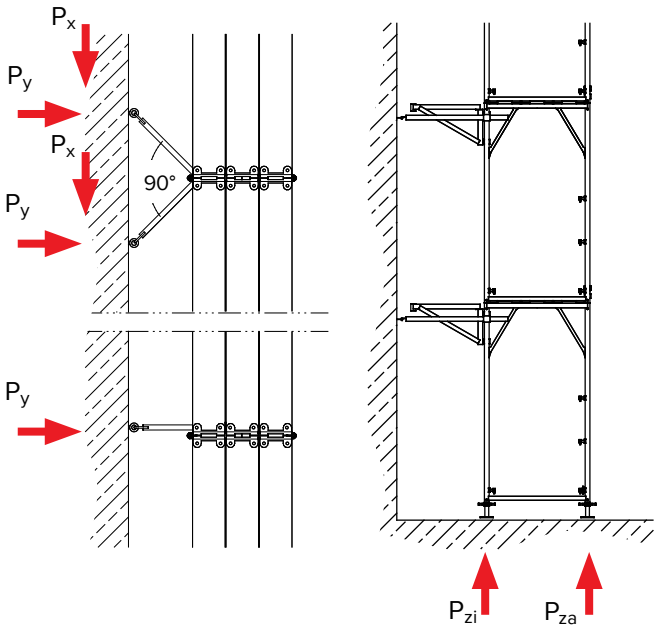
Horizontal frame, Steel plank, Alu plank, Timber plank and Hollow box plank



Standard design applies to bay lengths ≤ 2.50 m

V-ties at every third tying point

1) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open & closed facade					Pull. tie forces: open facade				Pull. force: closed facade			
	V-tie		Short retainer		V-tie		Short retainer		V-tie		Short retainer	
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	
24	2.23	2.23	3.85		2.01	- 2.01	- 3.60		1.50	- 1.50	- 2.08	
22	3.53	3.53	6.21		3.31	- 3.31	- 5.59		1.89	- 1.89	- 1.55	
20	2.81	2.81	4.85		2.64	- 2.64	- 4.36		1.55	- 1.55	- 1.21	
18	2.82	2.82	4.76		2.65	- 2.65	- 4.28		1.61	- 1.61	- 1.19	
16	2.68	2.68	4.67		2.51	- 2.51	- 4.21		1.45	- 1.45	- 1.17	
14	2.71	2.71	4.58		2.54	- 2.54	- 4.12		1.54	- 1.54	- 1.15	
12	2.59	2.59	4.49		2.44	- 2.44	- 4.04		1.43	- 1.43	- 1.12	
10	2.70	2.70	4.40		2.54	- 2.54	- 3.96		1.61	- 1.61	- 1.10	
8	2.53	2.53	4.31		2.38	- 2.38	- 3.88		1.42	- 1.42	- 1.08	
6	2.76	2.76	4.22		2.61	- 2.61	- 3.80		1.79	- 1.79	- 1.06	
4	2.48	2.48	4.10		2.33	- 2.33	- 3.69		1.45	- 1.45	- 1.03	
2	3.35	3.35	4.91		3.18	- 3.18	- 4.42		2.29	- 2.29	- 1.23	

Bearing

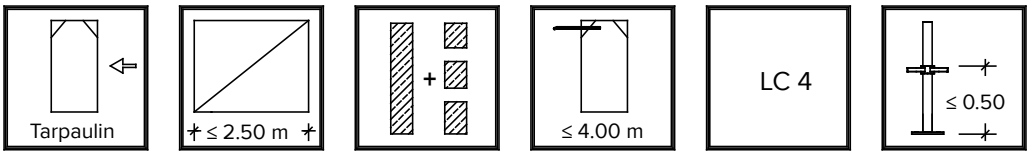
P_{zi}= 20.49 kN
P_{za}= 25.05 kN

Load class 4			
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-6	Steel plank 250/32. Hollow box plank 250/32 Alu plank 250/32 + 250/50. Timber plank 250/32
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32 + 250/50. Timber plank 250/32 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None None outer bracket 100 only with inner bracket 35 outside bracket 100 only with inner bracket 35, max. spindle extension 26.5 cm	
Additional measures in the base area		Connection of all post bases inside and outside with rail at ∇ 0.00 m: 1 H-connection every 5 bays made from scaffold tubes - Inner bracket 50 - Base jack 50/3.3 and base jack 70/3.3	1 H-connection every 5 bays made from scaffold tubes: - Base jack 50/3.3 and base jack 70/3.3
Passage frame		applicable	
Adjustment stand		applicable	
Bridge girder 500		applicable (see page 112)	

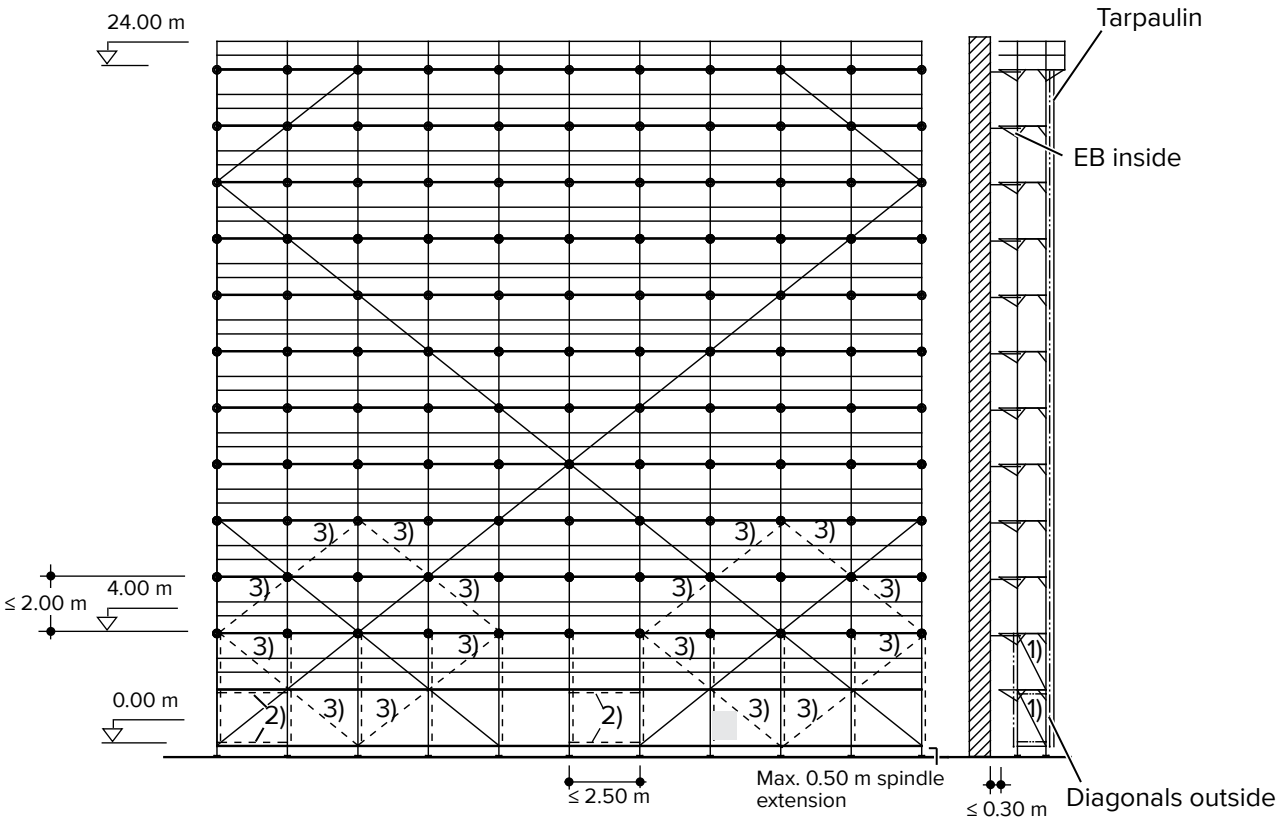
Tying Points

Standard design

(24)

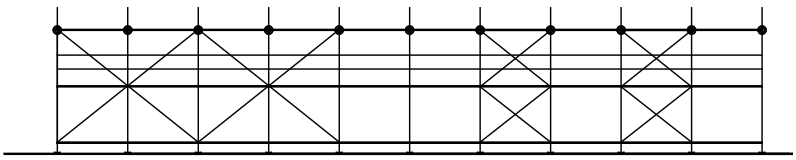


Steel plank, Alu plank, Timber plank, Hollow box plank or Horizontal frame



Standard design applies to bay lengths ≤2.50 m

Configuration of diagonals on inner face of scaffold (up to 4.00 m)
(4 diagonals for every 5 bays, as cross or in 2 adjacent bays)

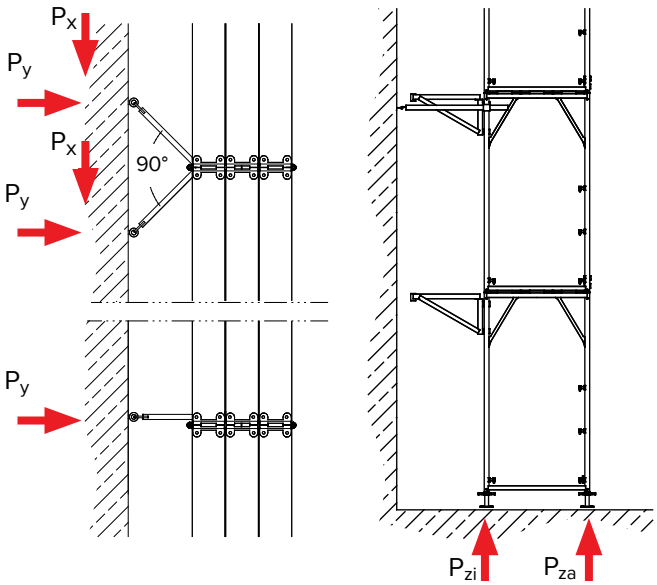


V-ties at every third tying point; at 4.00 m and at upper scaffold elevation at every second tying point

1) Transversal stiffening with diagonal braces 200 N (see page 15) or scaffold tube.

2) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers, applicable to all planks, except for horizontal frames.

3) Additional diagonals on the outside with all planks, except for horizontal frames.



For explanation of pictograms and abbreviations, see page 52.

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open & closed facade				Pull. tie forces: open facade			Pull. force: closed facade		
	V-tie		Short retainer	V-tie		Short retainer	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	1.93	1.93	3.80	1.77	- 1.77	- 3.55	1.20	- 1.20	- 2.11
22	3.53	3.53	6.22	3.31	- 3.31	- 5.60	1.88	- 1.88	- 1.56
20	2.79	2.79	4.85	2.62	- 2.62	- 4.36	1.52	-1.52	- 1.21
18	2.82	2.82	4.76	2.65	- 2.65	- 4.28	1.61	-1.61	- 1.19
16	2.64	2.64	4.67	2.47	- 2.47	- 4.20	1.40	- 1.40	- 1.17
14	2.70	2.70	4.57	2.54	- 2.54	- 4.12	1.53	- 1.53	- 1.14
12	2.54	2.54	4.49	2.38	- 2.38	- 4.04	1.36	- 1.36	- 1.12
10	2.70	2.70	4.39	2.55	- 2.55	- 3.95	1.63	- 1.63	- 1.10
8	2.53	2.53	4.31	2.38	- 2.38	- 3.88	1.43	- 1.43	- 1.08
6	2.74	2.74	4.16	2.60	- 2.60	- 3.74	1.80	- 1.80	- 1.04
4	5.61	5.61	8.94	5.29	- 5.29	- 8.05	3.46	- 3.46	- 2.24
2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

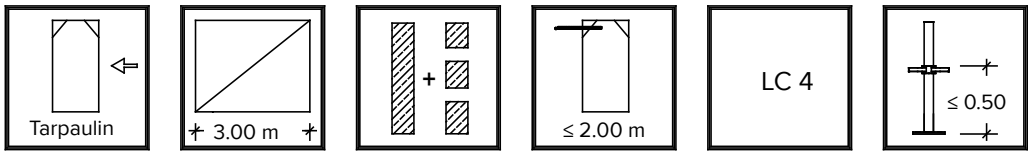
Bearing	
	P_{zi}= 21.75 kN
	P_{za}= 24.94 kN

Load class 4			
Main planks		Horizontal frame 250/100 Horizontal frame 250/100-6	Steel plank 250/32. Hollow box plank 250/32 Alu plank 250/32 + 250/50. Timber plank 250/32
Inner bracket. continuous	**EB 35** **EB 50**	Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 Alu plank 250/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32. Timber plank 250/32 / **1.00** Steel plank 250/32. Hollow box plank 250/32. Alu plank 250/32 + 250/50. Timber plank 250/32 / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None Transversal stiffening in 2 lifts below: only use diagonal brace 200 N (scaffold tubes with rigid coupler not to be used) not applicable not applicable	 not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rail at ∇ 0.00 m:	and 1 H-connection every 5 bays made from scaffold tubes and rigid coupler at 0.00 m and 2.00 m
Passage frame		not applicable	
Adjustment stand		applicable	
Bridge girder 500		applicable (see page 112)	

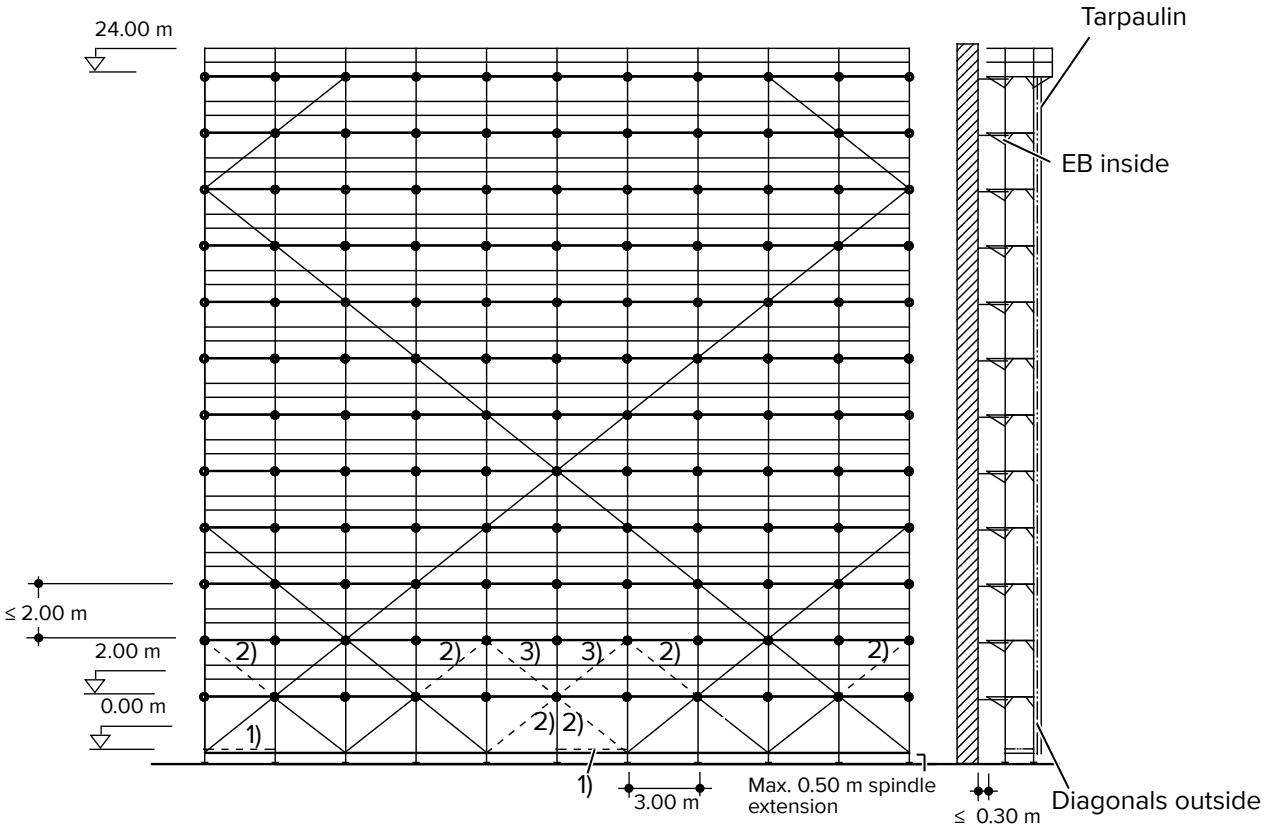
Tying Points

Standard design

(25)



Horizontal frame, Steel plank or Alu plank

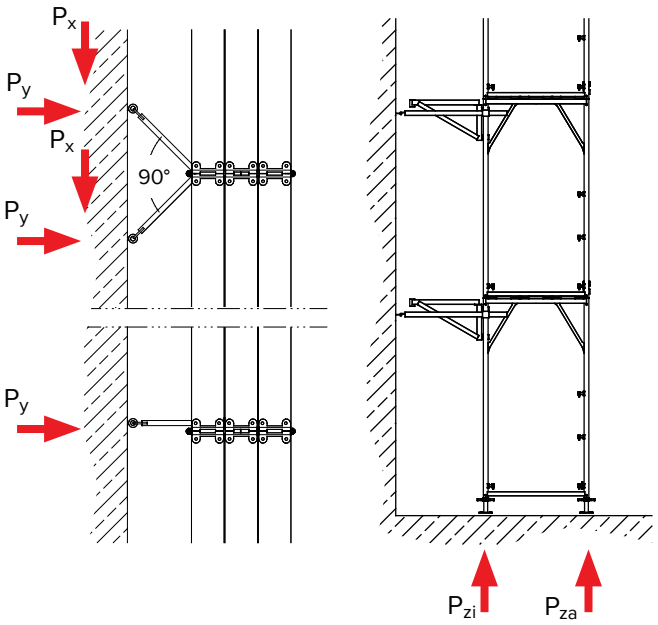


V-ties at every third tying point

1) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers

2) Additional diagonals if:
- outside bracket EB 70/200 is used

2) + 3) Additional diagonals outside if:
- outside bracket EB 100 is used.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open & closed facade				Pull. tie forces: open facade			Pull. force: closed facade		
	V-tie		Short retainer	V-tie		Short retainer	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.55	2.55	4.57	2.29	- 2.29	- 4.27	1.67	- 1.67	- 2.47
22	4.03	4.03	7.42	3.76	- 3.76	- 6.68	2.06	- 2.06	- 1.86
20	3.21	3.21	5.81	3.01	- 3.01	- 5.23	1.67	- 1.67	- 1.45
18	3.29	3.29	5.71	3.09	- 3.09	- 5.14	1.80	- 1.80	- 1.43
16	3.11	3.11	5.61	2.91	- 2.91	- 5.05	1.62	- 1.62	- 1.40
14	3.18	3.18	5.49	2.98	- 2.98	- 4.94	1.75	- 1.75	- 1.37
12	3.00	3.00	5.39	2.81	- 2.81	- 4.85	1.57	- 1.57	- 1.35
10	3.12	3.12	5.28	2.94	- 2.94	- 4.75	1.78	- 1.78	- 1.32
8	2.89	2.89	5.17	2.71	- 2.71	- 4.66	1.52	- 1.52	- 1.29
6	3.16	3.16	5.06	2.98	- 2.98	- 4.55	1.94	- 1.94	- 1.27
4	2.87	2.87	4.94	2.70	- 2.70	- 4.45	1.60	- 1.60	1.24
2	3.90	3.90	5.91	3.69	- 3.69	- 5.32	2.55	- 2.55	- 1.48

Bearing

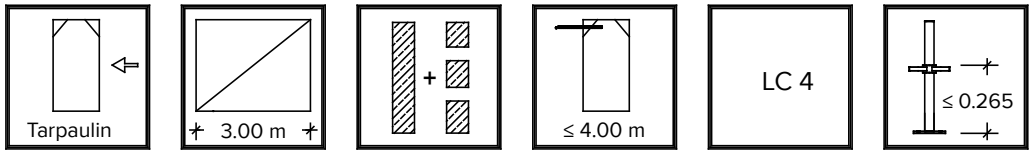
P_{zi}= 24.16 kN
P_{za}= 29.17 kN

Load class 4			
Main plank		Horizontal frame 300/100-5	Steel plank 300/32. Alu Plank 300/32 + 250/50.
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 300/32. Alu plank 300/32. Alu plank 300/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 300/32. Alu plank 300/32. / **1.00** not applicable Steel plank 300/32. Alu plank 300/32. / **1.00** Steel plank 300/32. Alu plank 300/32 + 250/50. / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None None not applicable not applicable	 only IEB 35 and OEB 35 only IEB 35 and AEB 35, max base jack 26.5 cm
Additional measures in the base area		1 H-connection every 5 bays made from scaffold tubes and connection of all post bases inside and outside with rails at ∇ 0.00 m: - Outer bracket 100 - Inner bracket 50	- Base jack 70/3.8
Passage frame		not applicable	
Adjustment stand		only with inner bracket 35 or 50 and outer bracket 35 or EB 70 + diagonal EB 70	
Bridge girder 500		not applicable	

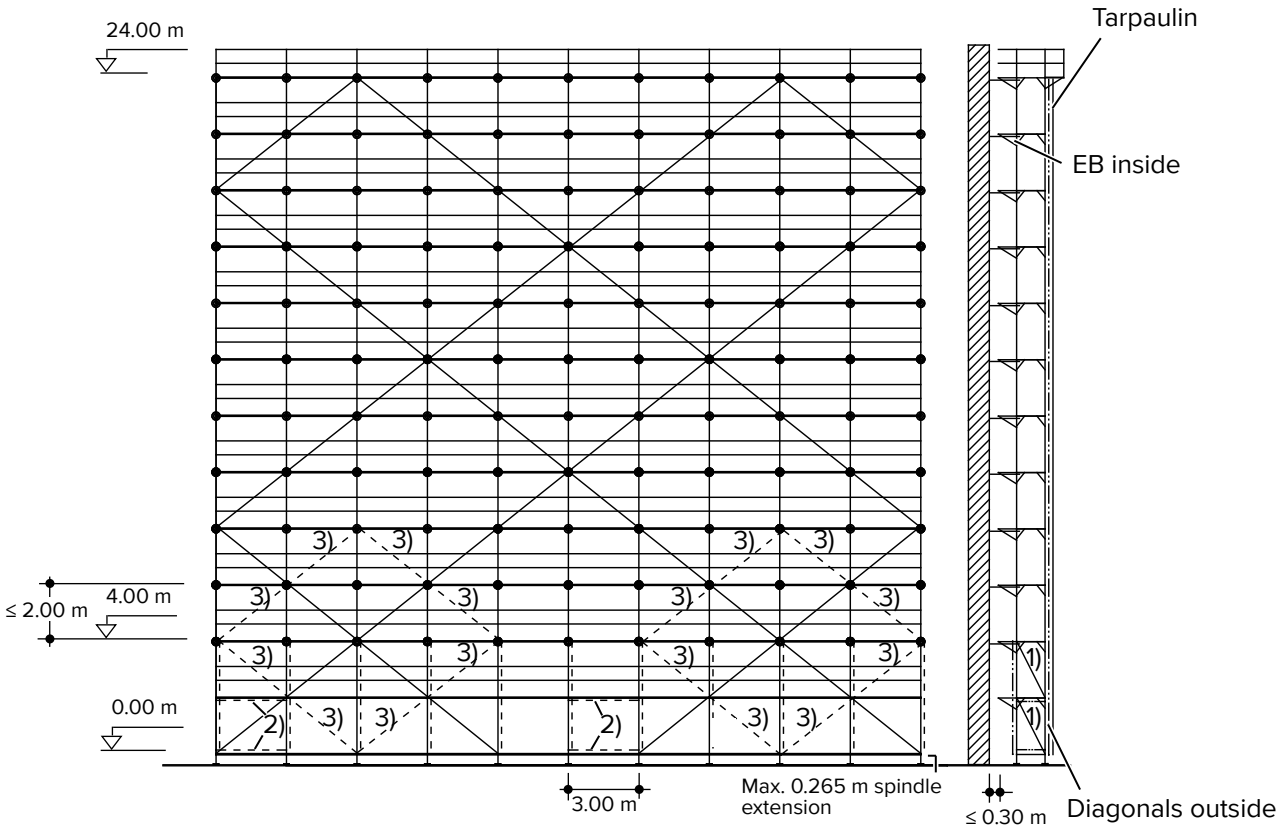
Tying Points

Standard design

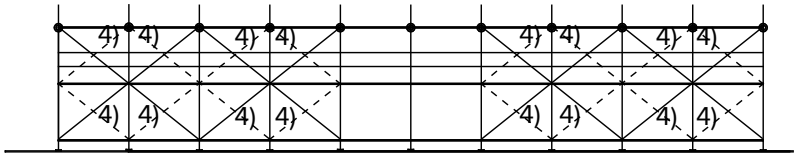
(26)



Steel plank, Alu plank or Horizontal frame



Configuration of diagonals on inner face of scaffold (up to 4.00 m)



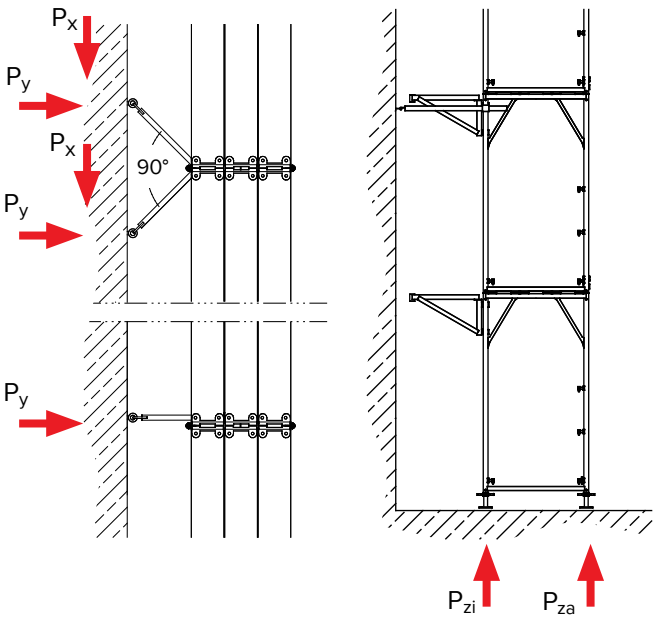
V-tie every third tying point; at ≤ 4.00 m and upper scaffold elevation at every second tying point.

1) Transversal stiffening with diagonal braces 200 N (see page 15) or scaffold tubes.

2) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers, applicable to all planks, except for horizontal frames.

3) Additional diagonals on the outside, applicable to all planks, except for horizontal frames.

4) Additional diagonals on the outside, applicable to all planks, except for horizontal frames. Arrangement of diagonals on inner face of scaffold: (as cross) 8 diagonals in 5 bays up to ≤ 4.00 m



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open & closed facade				Pull. tie forces: open facade			Pull. force: closed facade		
	V-tie		Short retainer	V-tie		Short retainer	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.25	2.25	4.50	2.10	- 2.10	- 4.20	1.33	- 1.33	- 2.50
22	4.03	4.03	7.42	3.77	- 3.77	- 6.68	2.06	- 2.06	- 1.86
20	3.17	3.17	5.81	2.96	- 2.96	- 5.23	1.63	- 1.63	- 1.45
18	3.29	3.29	5.71	3.09	- 3.09	- 5.14	1.80	- 1.80	- 1.43
16	3.05	3.05	5.60	2.85	- 2.85	- 5.04	1.57	- 1.57	- 1.40
14	3.18	3.18	5.49	2.99	- 2.99	- 4.94	1.75	- 1.75	- 1.37
12	2.95	2.95	5.38	2.76	- 2.76	- 4.84	1.52	- 1.52	- 1.35
10	3.12	3.12	5.27	2.94	- 2.94	- 4.74	1.79	- 1.79	- 1.32
8	2.87	2.87	5.16	2.68	- 2.68	- 4.64	1.50	- 1.50	- 1.29
6	3.14	3.14	4.99	2.97	- 2.97	- 4.49	1.95	- 1.95	- 1.25
4	6.41	6.41	10.83	6.03	- 6.03	- 9.74	3.70	- 3.70	- 2.71
2	0.00	0.00	0.00	0.00	- 0.00	0.00	0.00	0.00	0.00

Bearing

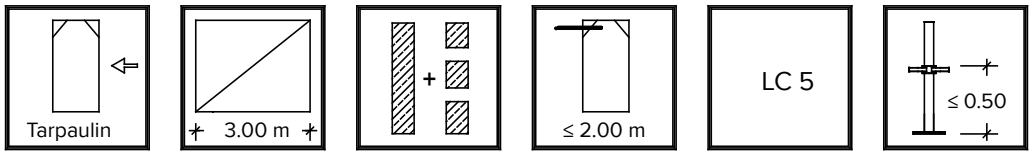
P_{zi}= 24.53 kN
P_{za}= 30.15 kN

Load class 4			
Main plank		Horizontal frame 300/100-5	Steel plank 300/32. Aluminum 300/32 + 300/50
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 300/32. Alu plank 300/32. Alu plank 300/50	
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 300/32. Alu plank 300/32. / **1.00** not applicable Steel plank 300/32. Alu plank 300/32. / **1.00** Steel plank 300/32. Alu plank 300/32 + 300/50. / **2.00**	
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	Transversal stiffening in 2 lifts below: - use diagonal brace 200 N - use scaffold tube with coupler, only with inner bracket 35 and outerbracket 35 Similar to base jack 45/3.8 - max. spindle extension 26.5 cm not applicable not applicable	
Additional measures in the base area		Connection of all post bases inside and outside with rails at ∇ 0.00 m	and 1 H-connection every 5 bays made from scaffold tubes and rigid couplers at ∇ 0.00 m and ∇ 2.00 m
Passage frame		not applicable	
Adjustment stand		only with inner bracket 35 or 50 and outer bracket 35 or EB 70 + diagonal EB 70	
Bridge girder 500		not applicable	

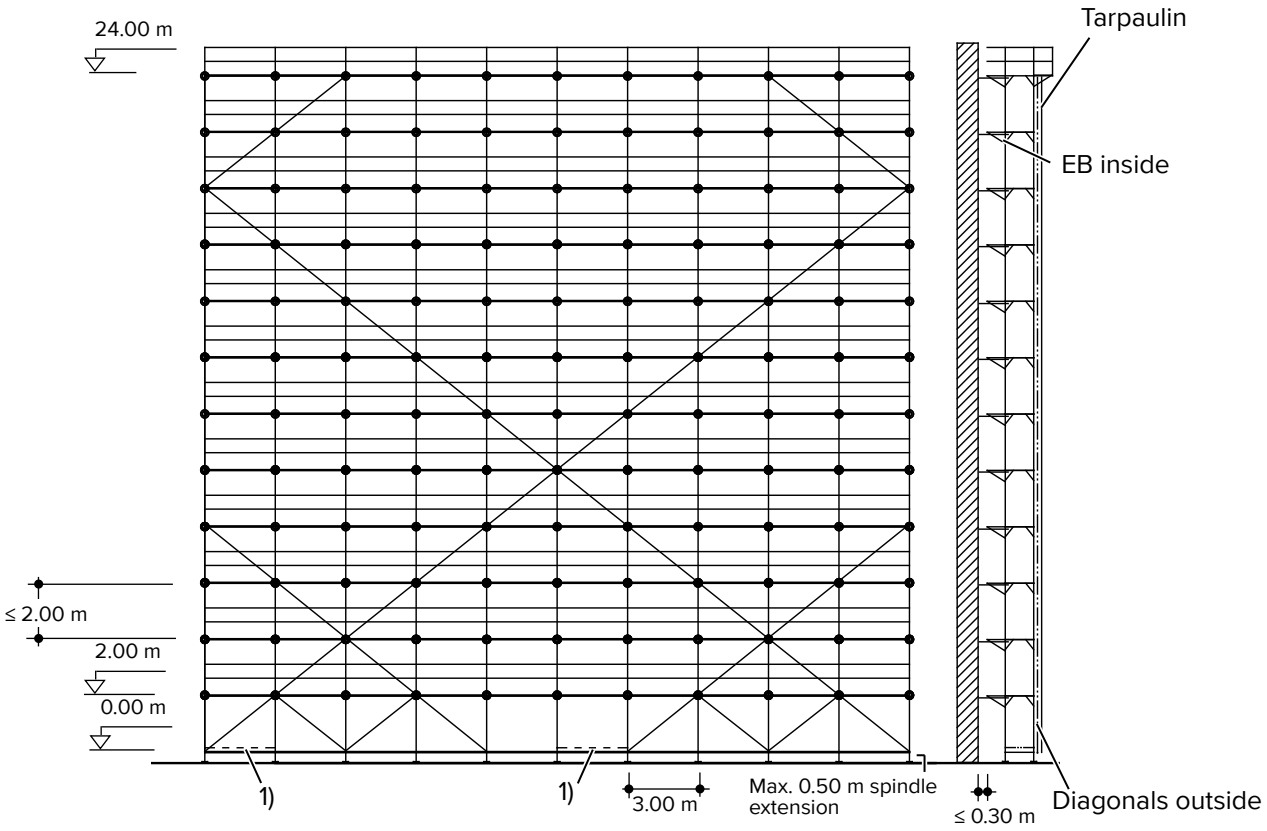
Tying Points

Standard design

(27)

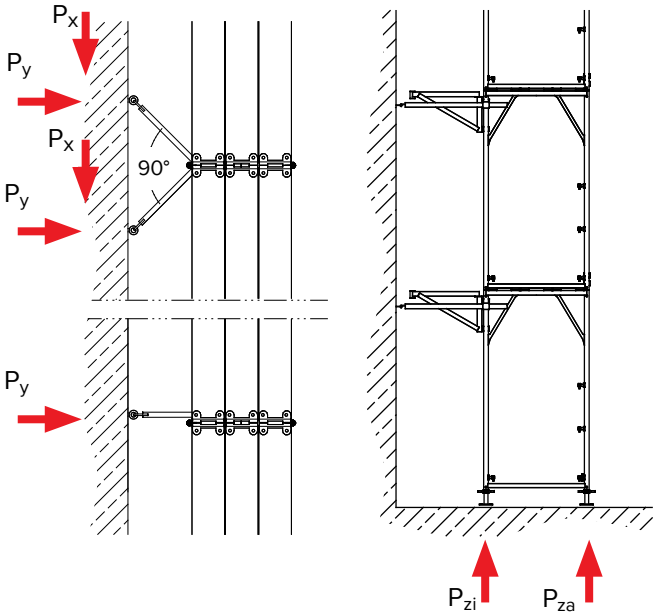


Horizontal frame



V-ties at every third tying point

1) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open facade					Pull. tie forces: open facade				Pull. force: closed facade			
	V-tie		Short retainer		V-tie		Short retainer		V-tie		Short retainer	
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	
24	2.47	2.47	4.54		2.21	- 2.21	- 4.24		1.59	- 1.59	- 2.49	
22	3.31	3.31	5.93		3.10	- 3.10	- 5.34		1.74	- 1.74	- 1.48	
20	3.08	3.08	5.81		2.88	- 2.88	- 5.23		1.54	- 1.54	- 1.45	
18	3.21	3.21	5.71		3.01	- 3.01	- 5.14		1.70	- 1.70	- 1.43	
16	3.02	3.02	5.60		2.83	- 2.83	- 5.04		1.54	- 1.54	- 1.40	
14	3.11	3.11	5.49		2.91	- 2.91	- 4.94		1.65	- 1.65	- 1.37	
12	2.89	2.89	5.39		2.70	- 2.70	- 4.85		1.47	- 1.47	- 1.35	
10	3.00	3.00	5.27		2.82	- 2.82	- 4.75		1.61	- 1.61	- 1.32	
8	2.78	2.78	5.17		2.59	- 2.59	- 4.65		1.41	- 1.41	- 1.29	
6	3.06	3.06	5.06		2.88	- 2.88	- 4.55		1.80	- 1.80	- 1.27	
4	2.81	2.81	4.92		2.63	- 2.63	- 4.43		1.51	- 1.51	- 1.24	
2	3.78	3.78	5.90		3.57	- 3.57	- 5.31		2.39	- 2.39	- 1.48	

Bearing

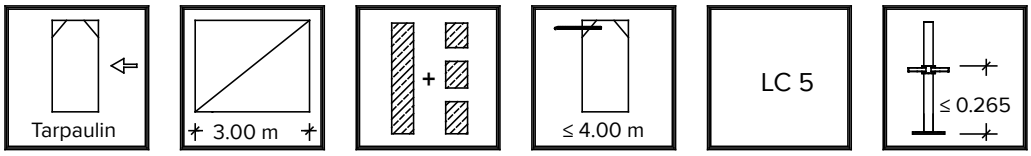
P_{zi}= 26.31 kN
P_{za}= 27.29 kN

Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32. not applicable
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32. / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None None not applicable not applicable
Additional measures in the base area		1 H-connection every 5 bays made from scaffold tubes with rigid couplers, connection of all post bases inside and outside with rails at ∇ 0.00 m: - Base jack 70/3.8
Passage frame		not applicable
Adjustment stand		not applicable
Bridge girder 500		not applicable

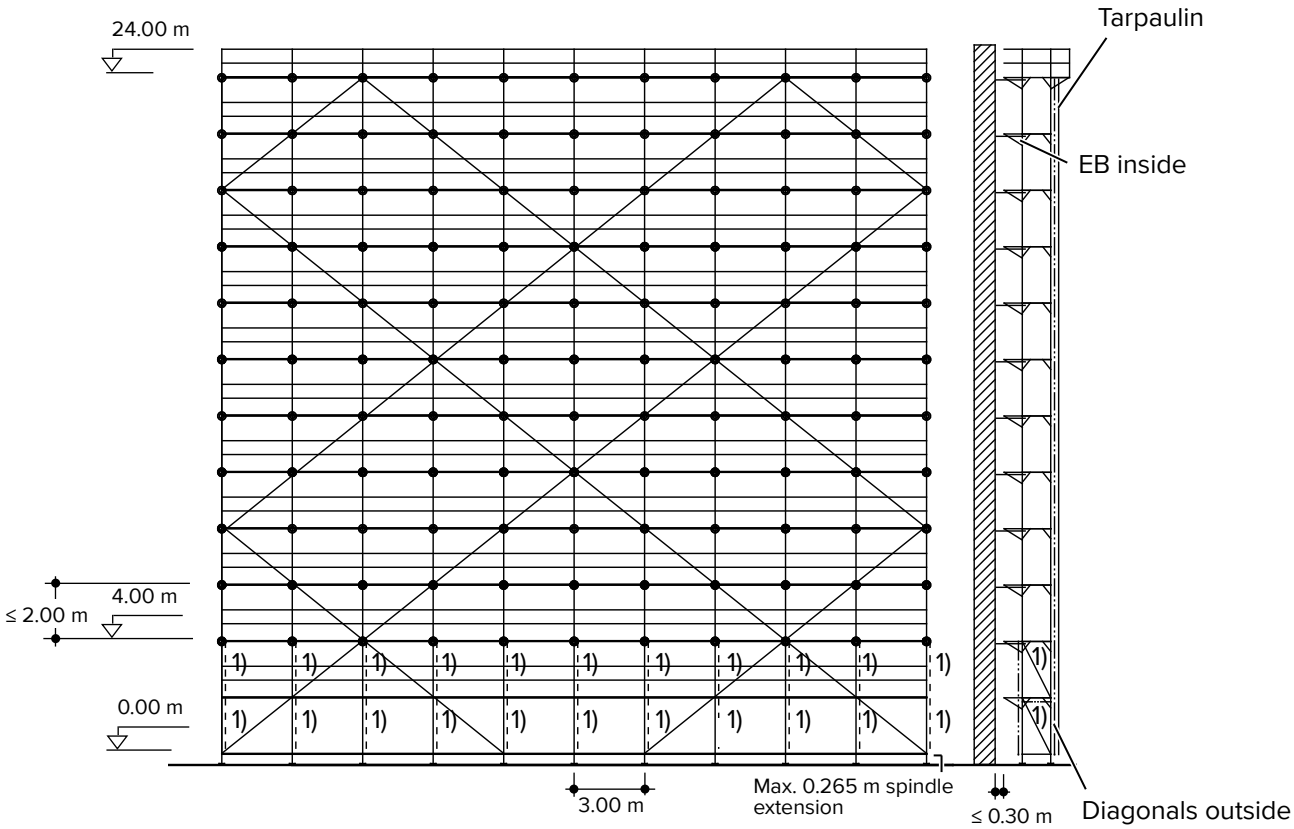
Tying Points

Standard design

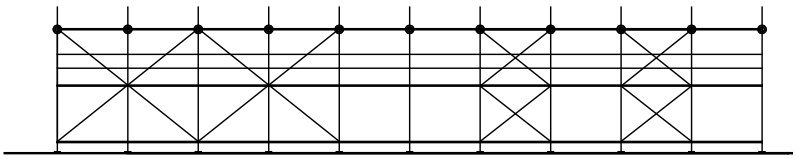
(28)



Horizontal frame

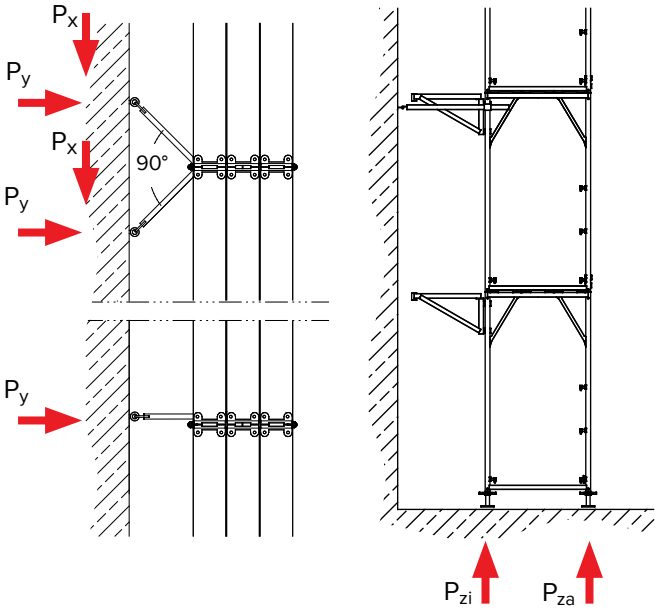


Configuration of diagonals on inner face of scaffold (up to 4.00 m)
(4 diagonals every 5 bays, as cross or in two adjacent bays)



V-ties at every third tying point; at ≤ 4.00 m and upper scaffold level at every second tying point.

1) Transversal stiffening with diagonal brace 200 N (see page 15)



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

For explanation of pictograms and abbreviations, see page 52

Compr. tie forces: open facade					**Pull. tie forces: open facade**				**Pull. force: closed facade**		
	V-tie		Short retainer		V-tie		Short retainer		V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.25	2.25	4.51		2.10	- 2.10	- 4.21		1.32	- 1.32	- 2.25
22	3.32	3.32	5.93		3.11	- 3.11	- 5.34		1.74	- 1.74	- 1.48
20	3.09	3.09	5.81		2.88	- 2.88	- 5.23		1.55	- 1.55	- 1.45
18	3.17	3.17	5.71		2.97	- 2.97	- 5.14		1.66	- 1.66	- 1.43
16	2.97	2.97	5.59		2.78	- 2.78	- 5.03		1.49	- 1.49	- 1.40
14	3.10	3.10	5.49		2.91	- 2.91	- 4.94		1.64	- 1.64	- 1.37
12	2.88	2.88	5.38		2.69	- 2.69	- 4.84		1.45	- 1.45	- 1.35
10	3.03	3.03	5.27		2.85	- 2.85	- 4.75		1.65	- 1.65	- 1.32
8	2.79	2.79	5.16		2.61	- 2.61	- 4.64		1.42	- 1.42	- 1.29
6	3.05	3.05	5.01		2.87	- 2.87	- 4.51		1.80	- 1.80	- 1.25
4	5.19	5.19	8.92		4.87	- 4.87	- 8.03		2.87	- 2.87	- 2.23
2	0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00

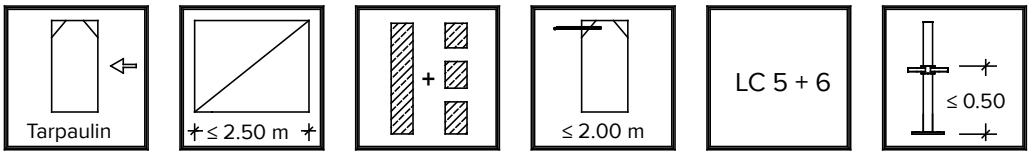
Bearing	
	P_{zi}= 28.33 kN
	P_{za}= 27.33 kN

Load class 5		
Main plank		Horizontal frame 300/100-5
Inner bracket, continuous	**EB 35** **EB 50**	Alu plank 300/32. not applicable
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Alu plank 300/32. / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	Transversal stiffening in 2 lifts below, using diagonal braces 200 N Transversal stiffening in 2 lifts below, using diagonal braces 200 N max. spindle extension 26.5 cm not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rails at ∇ 0.00 m.
Passage frame		not applicable
Adjustment stand		not applicable
Bridge girder 500		not applicable

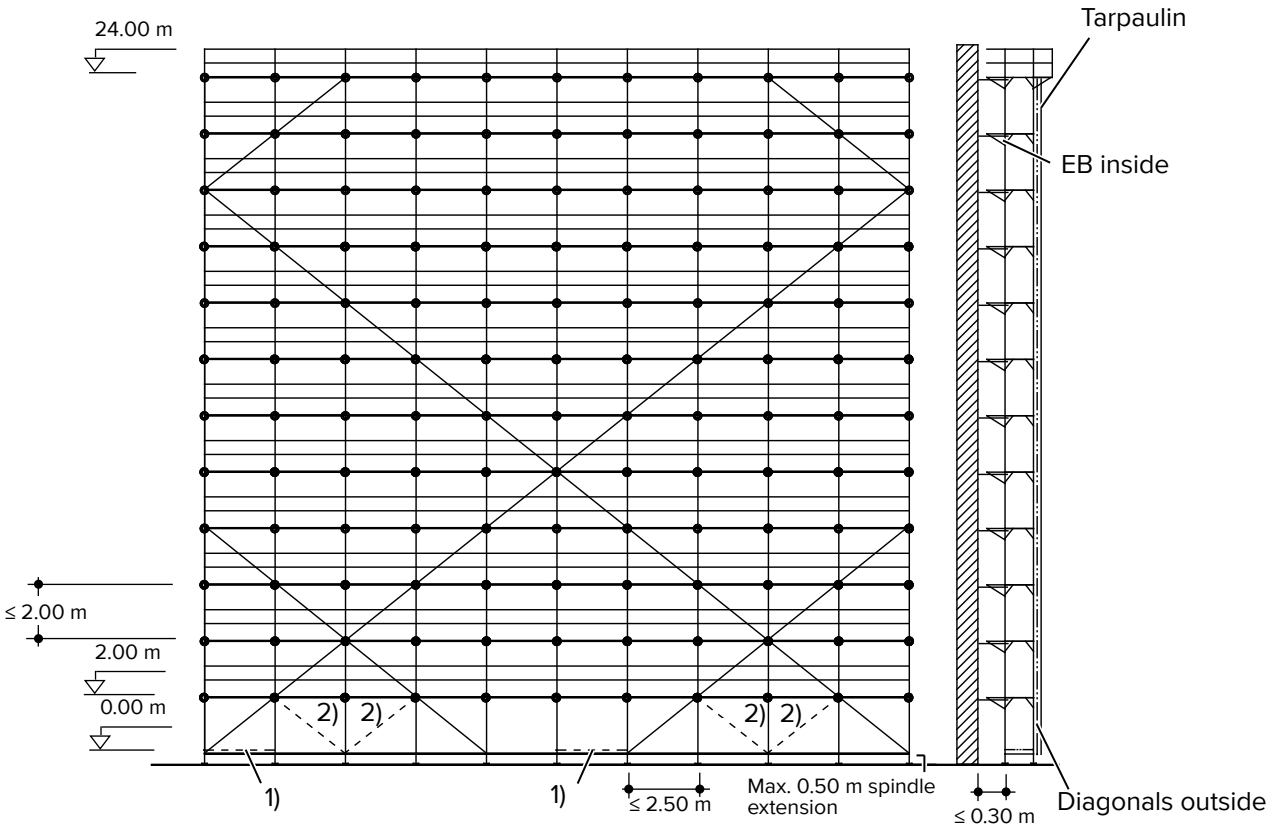
Tying Points

Standard design

29



Horizontal frame, Steel plank or Alu plank

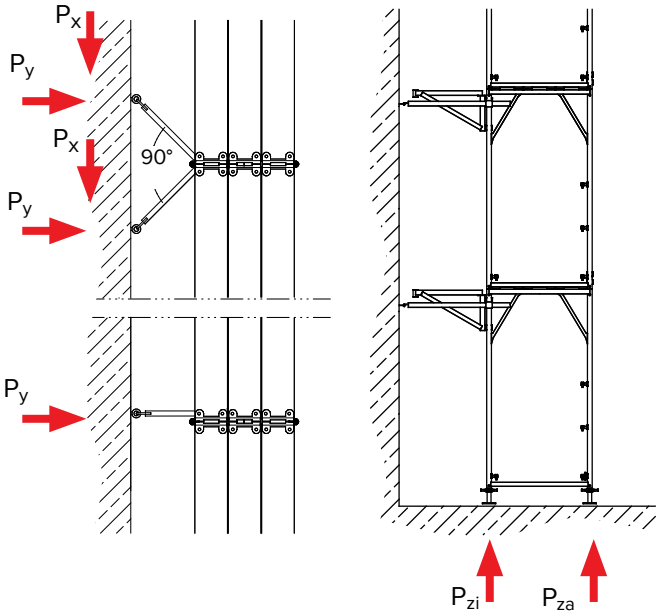


Standard design applies to bay lengths ≤ 2.50 m

V-ties at every third tying point

1) 1 H-connection every 5 bays made from scaffold tubes with rigid couplers.

2) Additional diagonals outside with
- LC6: in general
- LC5: base jack 70/3.8; inner bracket EB 50, base jack 50/3.3



For explanation of pictogrammes and abbreviations. see page 45

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open facade				Pull. tie forces: open facade			Pull. force: closed facade		
	V-tie		Short retainer	V-tie		Short retainer	V-tie		Short retainer
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	P_x [kN]	+/-P_y [kN]	+/- P_y [kN]
24	2.21	2.21	3.83	1.99	- 1.99	- 3.58	1.48	- 1.48	- 1.96
22	3.46	3.46	6.13	3.25	- 3.25	- 5.52	1.84	- 1.84	- 1.53
20	2.75	2.75	4.85	2.58	- 2.58	- 4.36	1.47	- 1.47	- 1.21
18	2.82	2.82	4.75	2.65	- 2.65	- 4.28	1.61	- 1.61	- 1.19
16	2.54	2.54	4.67	2.38	- 2.38	- 4.20	1.31	- 1.31	- 1.17
14	2.70	2.70	4.58	2.54	- 2.54	- 4.12	1.54	- 1.54	- 1.15
12	2.49	2.49	4.49	2.33	- 2.33	- 4.04	1.30	- 1.30	- 1.12
10	2.72	2.72	4.39	2.57	- 2.57	- 3.95	1.65	- 1.65	- 1.10
8	2.51	2.51	4.31	2.35	- 2.35	- 3.88	1.39	- 1.39	- 1.08
6	2.78	2.78	4.22	2.63	- 2.63	- 3.80	1.82	- 1.82	- 1.06
4	2.51	2.51	4.11	2.37	- 2.37	- 3.70	1.51	- 1.51	- 1.03
2	3.42	3.42	4.93	3.25	- 3.25	- 4.44	2.38	- 2.38	- 1.23

Bearing

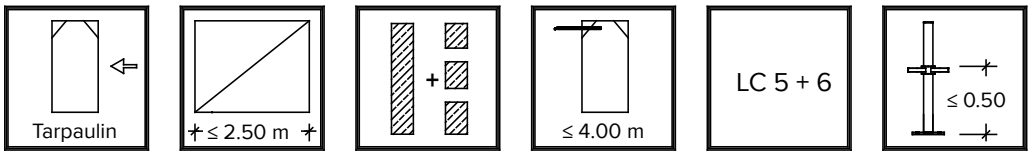
P_{zi}= 26.27 kN
P_{za}= 28.68 kN

		Load class 5	Load class 6
Main planks		Horizontal frame 250/100-6 Horizontal frame 250/100 Steel plank 250/32. Alu plank 250/32	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32 Alu plank 250/50	Alu plank 250/32 not applicable
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable	**-/2.00** Alu plank 250/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None None only IEB 35 with OEB 35 similar to 50/3.3 - max. spindle extension 26.5 cm	None max. spindle extension 26.5 cm not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rail at ∇ 0.00 m: 1 H-connection every 5 bays made from scaffold tubes and rigid couplers: - Inner bracket 50 - Base jack 50/3.3 and Base jack 70/3.3	1 H-connection every 5 bays made from scaffold tubes and rigid couplers
Passage frame		applicable	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 113)	

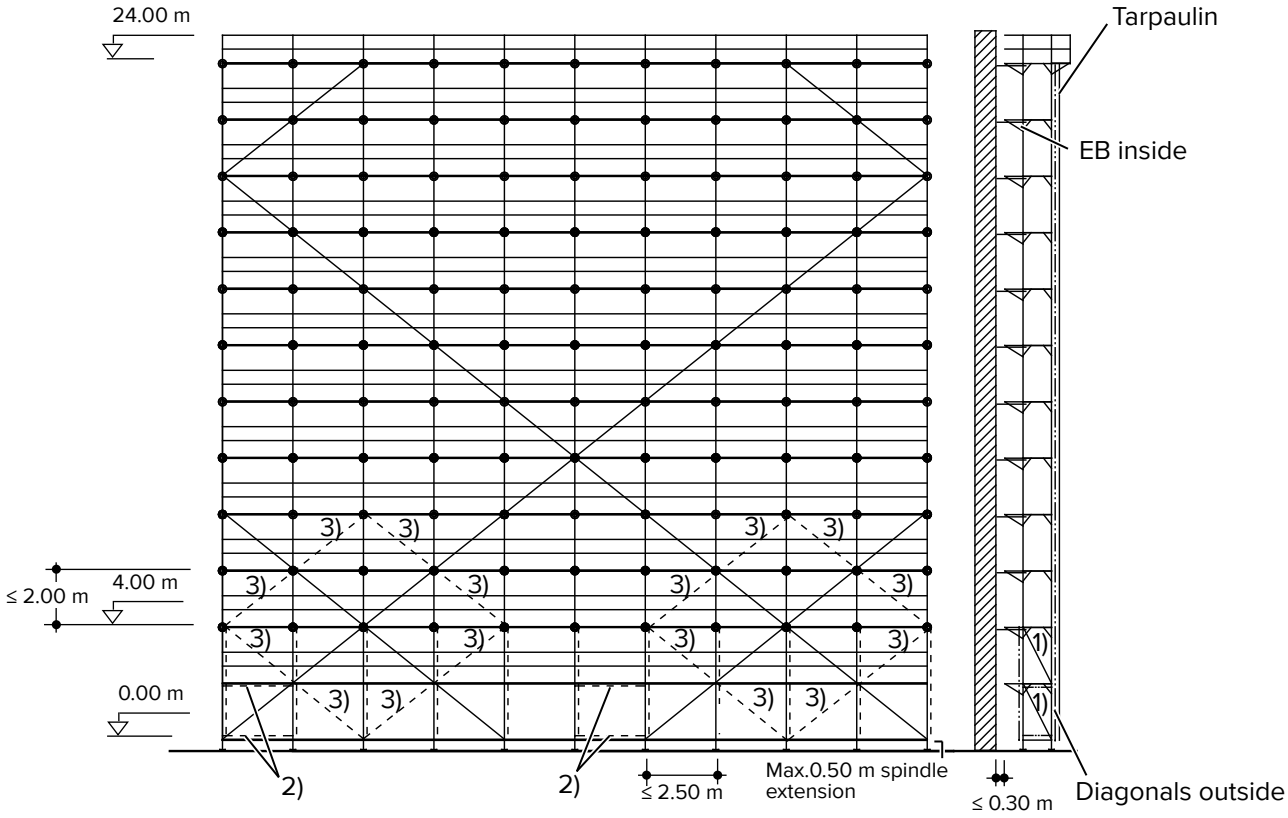
Tying Points

Standard design

(30)

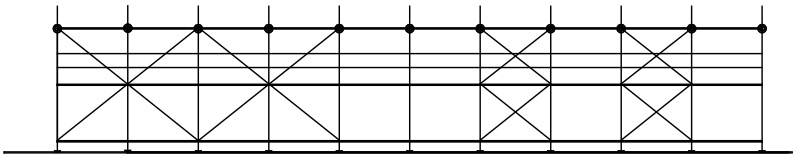


Horizontal frame, Steel plank or Alu plank



Standard design applicable only for bay lengths ≤ 2.50 m

Configuration of diagonals on inner face of scaffold (up to 4.00 m)
(4 diagonals every 5 bays, as cross or in two adjacent bays)

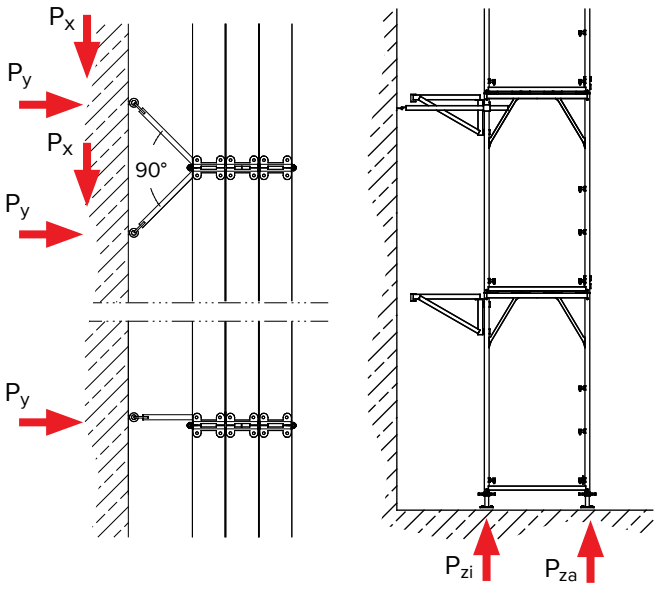


V-ties at every third tying point; at ≤4.00 m and at upper elevation of scaffold every second tying point.

1) Transversal stiffening with diagonal brace 200 N or scaffold tube

2) 1 H-connection every 5 bays made from scaffold tube with rigid couplers for all planks, except for horizontal frames.

3) Additional diagonals for all planks, except for horizontal frames.



For explanation of pictograms and abbreviations, see page 52

Unless stated otherwise all dimensions are in mm

Compr. tie forces: open facade					Pull. tie forces: open facade				Pull. force: closed facade			
	V-tie		Short retainer		V-tie		Short retainer		V-tie		Short retainer	
Tie local H [m]	P_x [kN]	+/- P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]		P_x [kN]	+/-P_y [kN]	+/- P_y [kN]	
24	1.94	1.94	3.85		1.80	- 1.80	- 3.60		1.21	- 1.21	- 1.98	
22	3.47	3.47	6.14		3.26	- 3.26	- 5.53		1.85	- 1.85	- 1.54	
20	2.76	2.76	4.85		2.59	- 2.59	- 4.36		1.48	- 1.48	- 1.21	
18	2.81	2.81	4.75		2.65	- 2.65	- 4.28		1.60	- 1.60	- 1.19	
16	2.62	2.62	4.67		2.45	- 2.45	- 4.20		1.38	- 1.38	- 1.17	
14	2.70	2.70	4.57		2.54	- 2.54	- 4.12		1.54	- 1.54	- 1.14	
12	2.51	2.51	4.49		2.35	- 2.35	- 4.04		1.33	- 1.33	- 1.12	
10	2.71	2.71	4.39		2.56	- 2.56	- 3.95		1.64	- 1.64	- 1.10	
8	2.53	2.53	4.31		2.37	- 2.37	- 3.88		1.42	- 1.42	- 1.08	
6	2.77	2.77	4.18		2.62	- 2.62	- 3.76		1.83	- 1.83	- 1.05	
4	5.65	5.65	9.03		5.33	- 5.33	- 8.12		3.48	- 3.48	- 2.26	
2	0.00	0.00	0.00		0.00	0.00	0.00		0.00	0.00	0.00	

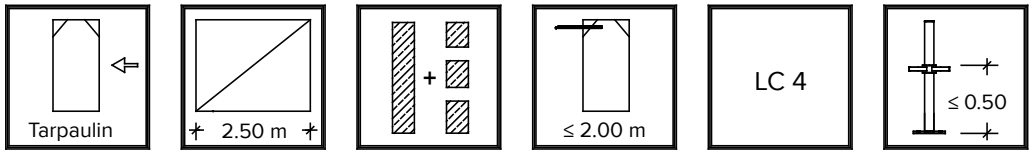
Bearing	
	P_{zi}= 28.74 kN
	P_{za}= 28.33 kN

		Load class 5	Load class 6
Main planks		Horizontal frame 250/100-6 Horizontal frame 250/100 Steel plank 250/32. Alu plank 250/32	Horizontal frame 250/100-6
Inner bracket, continuous	**EB 35** **EB 50**	Steel plank 250/32. Alu plank 250/32 Alu plank 250/50	Alu plank 250/32 not applicable
1 outside bracket / height [m] of protective wall	**none** **EB 35** **EB 70** **EB 70+Dia.** **EB 100**	**-/2.00** Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable Steel plank 250/32. Alu plank 250/32 / **1.00** not applicable	**-/2.00** Alu Plank 250/32 / **1.00** not applicable not applicable not applicable
Base jack restrictions	**45/3.8** **70/3.8** **50/3.3** **70/3.3**	None Transversal stiffeners in 2 lifts below: - Diagonal brace 200 N: applicable - Scaffold tube with swivel coupler: not applicable not applicable not applicable	None max. spindle extension 26.5 cm not applicable not applicable
Additional measures in the base area		Connection of all post bases inside and outside with rail at ∇ 0.00 m: and 1 H-connection every 5 bays made from scaffold tubes with rigid coupler at ∇ 0.00 m and ∇ 2.00 m For all planks, except for horizontal frame	
Passage frame		not applicable	not applicable
Adjustment stand		not applicable	not applicable
Bridge girder 500		applicable (see page 113)	

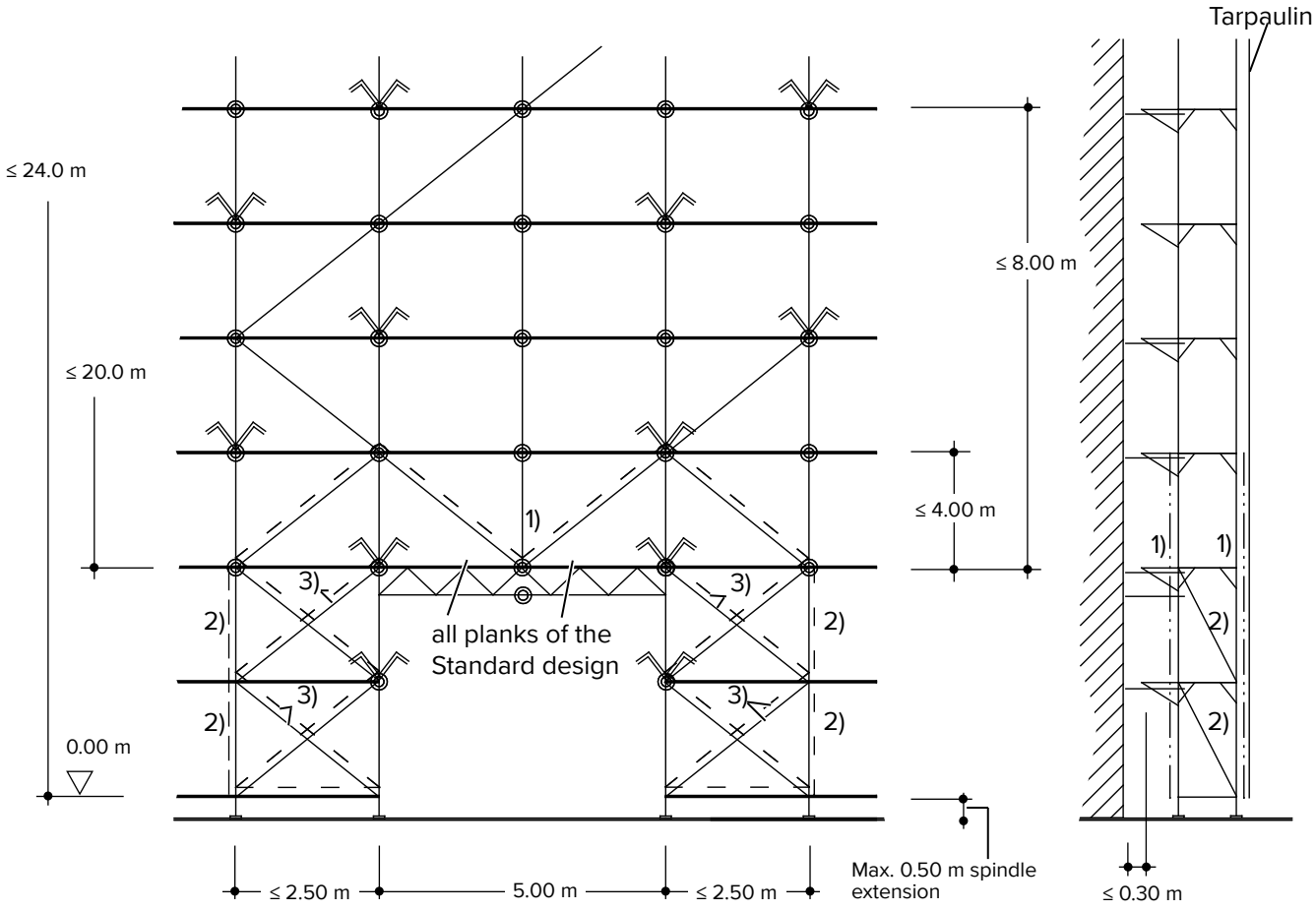
Tying Points

Standard design

31



with Bridge girder 500



Standard design applies to bay lengths < 2.50 m

——— Outer scaffold tarpaulin
— — Inner scaffold tarpaulin
} Diagonals, Rail posts or Scaffold tubes

○ = Standard tie location
= V-tie

	Plank elevation	
Load class	**Main plank**	**Enlargement bracket EB 35 and EB 50**
4	H-frame 250/100-6 Steel plank 250/32 Alu plank 250/32, 250/50 Timber plank 250/32 Hollow box plank 250/32	Steel plank 250/32 Alu plank 250/32, 250/50 Timber plank 250/32 Hollow box plank 250/32

1) These locations must be pinned

2) Scaffold tube or diagonal 200 N (see page 15)

3) Additional diagonals if base jack 70/3.8 is used

Restrictions for base jacks:

Base jacks 45/3.8: none
Base jacks 70/3.8: none
BOSTA 70 base jacks: not applicable

NOTE

Note

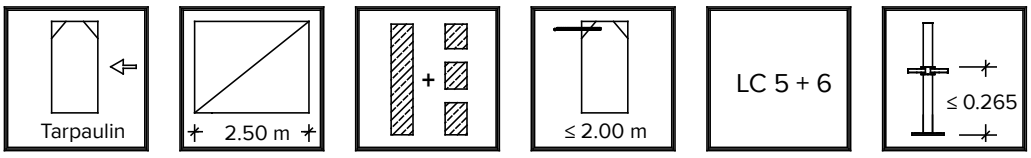
For bearing forces see page 68.

For explanation of pictograms and abbreviations, see page 52

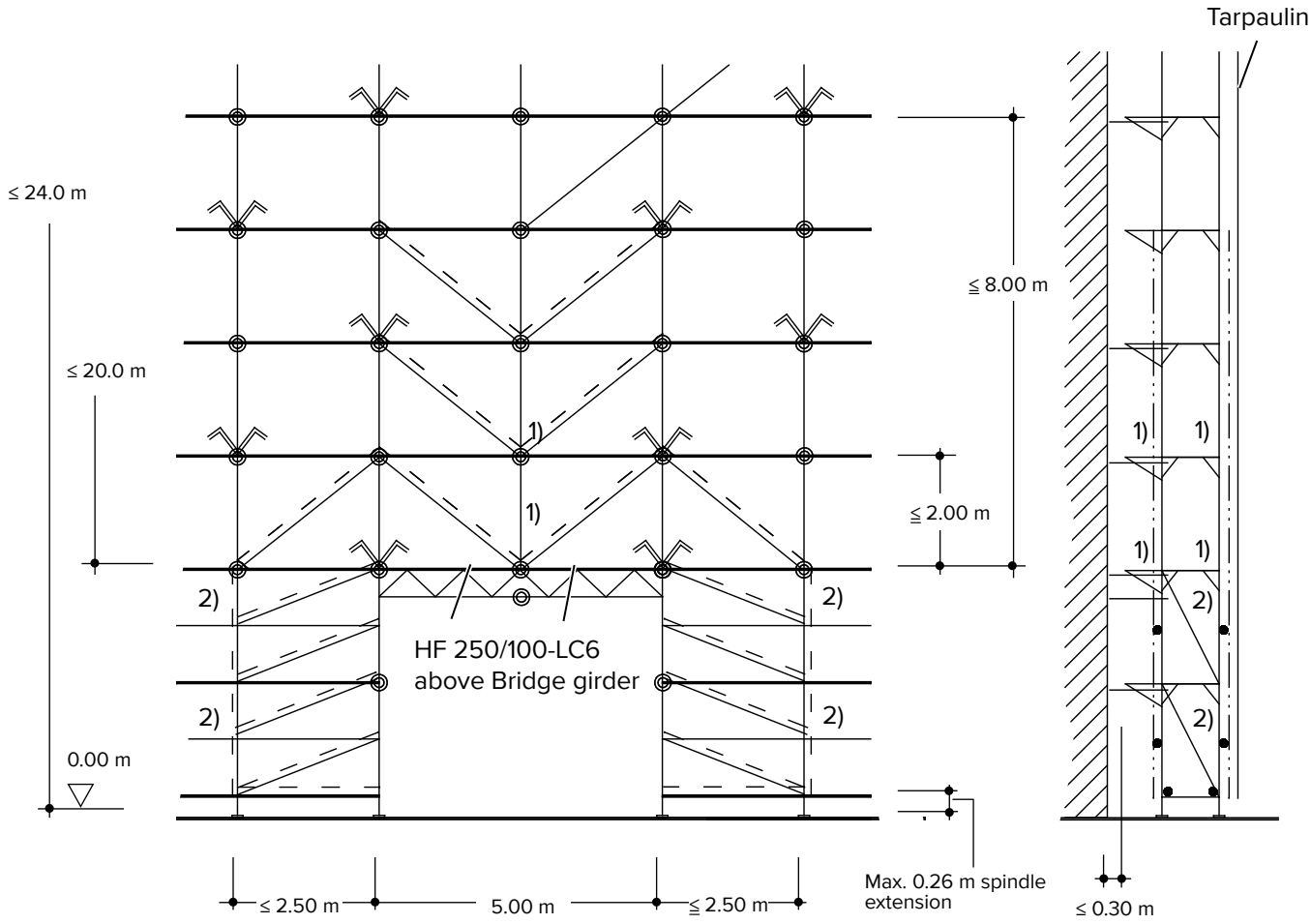
Unless stated otherwise all dimensions are in mm

Standard design

(32)



with Bridge girder 500



Standard design applies to bay lengths < 2.50 m

Outer scaffold tarpaulin
Inner scaffold tarpaulin
} Diagonals, Rail posts or Scaffold tubes

○ = Standard tie location
= V-tie

1) These locations must be pinned

2) Transversal stiffening with diagonal brace 200 N

	Plank elevation	
Load class	**Main plank**	**Enlargement bracket EB 35 and EB 50**
5	H-frame 250/100-LC6 Steel plank 250/32 Alu plank 250/32	Steel plank 250/32 Alu plank 250/32 Alu plank 250/50
6	H-frame 250/100-LC6	Alu plank 250/32

Restrictions for base jacks:

Base jacks 45/3.8: none
Base jacks 70/3.8: max. spindle extension 26.5 cm

BOSTA 70 base jacks: not applicable

NOTE

Note

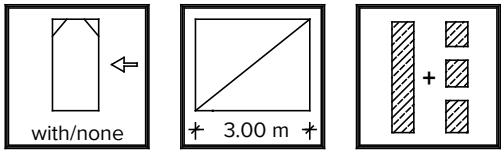
For bearing forces see page 68.

For explanation of pictograms and abbreviations, see page 52

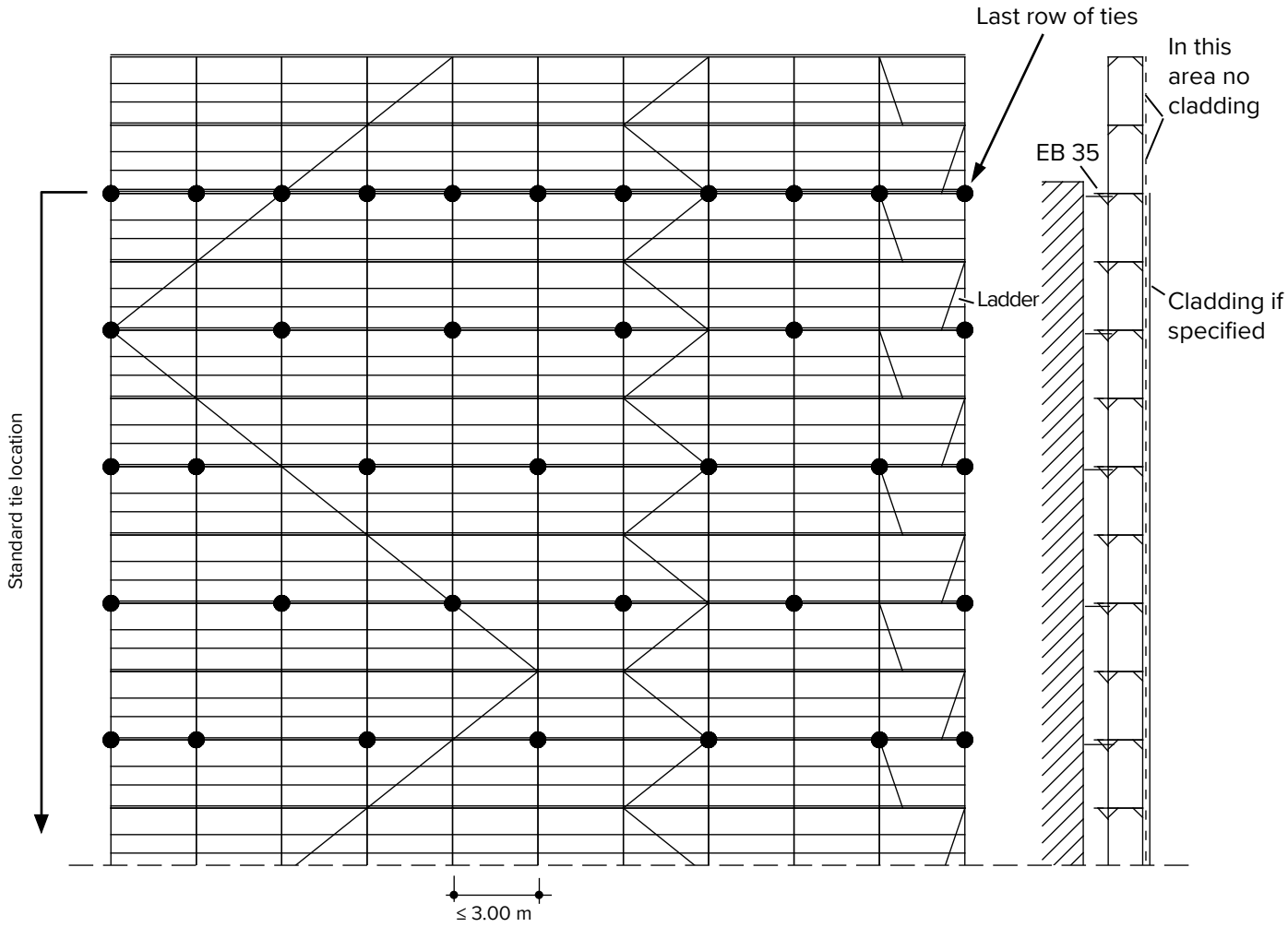
Tying Points

Standard design

33



Standard design for free-standing scaffold above the last row of ties, having an open and closed facade and fitted with and without cladding.



The requirements for tying the scaffold, as well as other specifications applicable to scaffold types with and without cladding, are described in the respective standard designs.

Tie forces per tying point in the last row of ties: P = ± 6.0 kN; P = 2.9 kN

For explanation of pictogrammes and abbreviations. see page 45

Unless stated otherwise all dimensions are in mm

10 Installation Tips for Auxiliary Equipment

10.1 Passage Frame 150

The passage frame (post distance 1.55 m) permits the installation of a pedestrians' passage. Diagonals, acting as longitudinal stiffeners, must be installed in the passage frame of every fifth bay at the front and rear face of the scaffold. In addition, continuous guard rails must be installed. As shown, scaffold ties must be installed at each vertical frame or, if necessary, at each passage frame. A frame connector (item no.: 417977) must be provided for each passage frame and used in the appropriate location.

NOTE

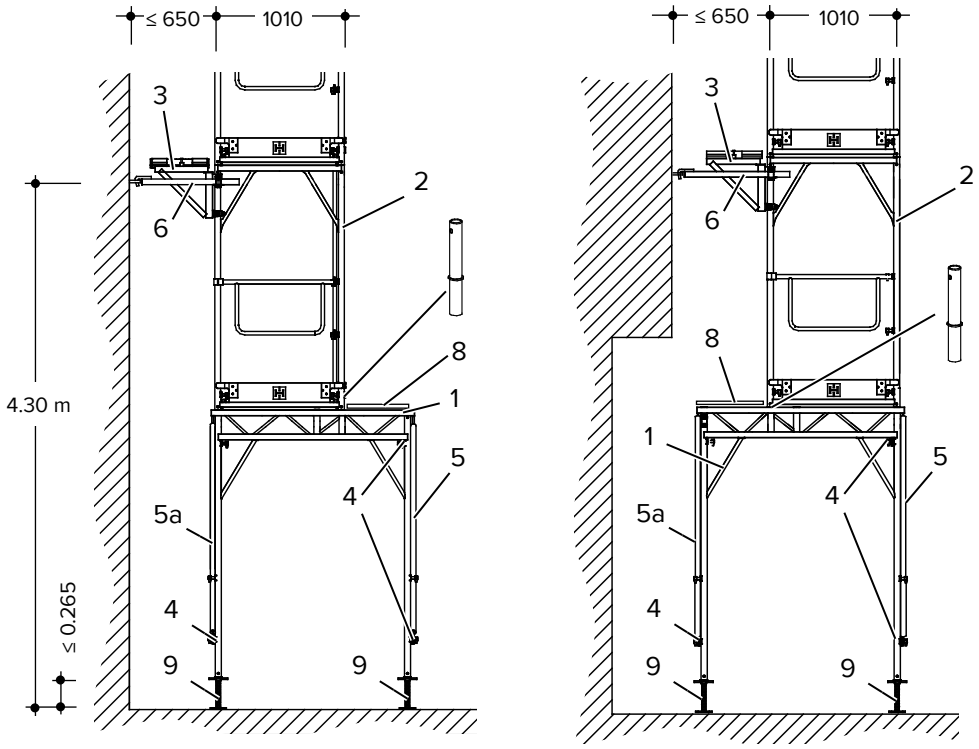
Note

A passage frame cannot be installed next to a bridge girder!

Passage frame without bridge girder

(for Standard design only available up to L=2.50 m - LC4)

First tying point at approx. 4.30 m of each intersection



Passage frame without bridge girder

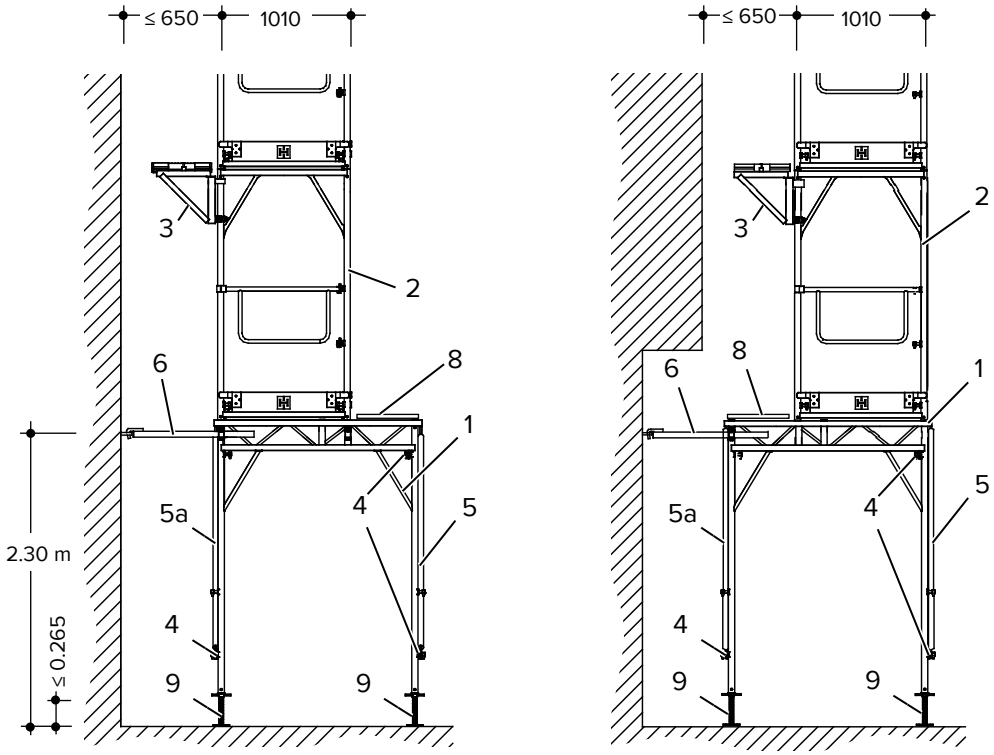
(for standard design only available up to L=2.50 m - LC4)

1. Tying point at approx. 2.30 m of each intersection

CAUTION

Caution!

Danger of falling during installation. Appropriate safety precautions must be taken!

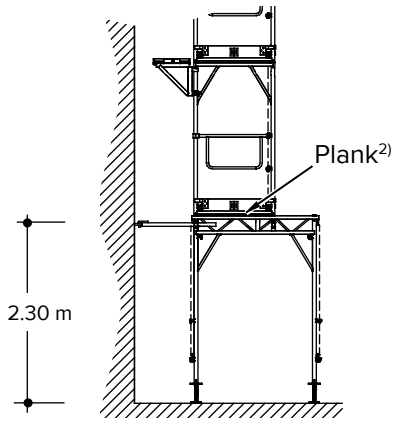


1 Passage frame 150
2 Vertical frame
3 Enlargement bracket
4 Guard rail
5 2 diagonals (opposing) on five scaffold bays
5a One diagonal every third scaffold bay, facing the building.
6 Scaffold tie
7 Half coupler 48 G[1)]
8 Secure planks against lift-off (e.g. using a tube or coupler)
9 B-Base jack 50/3.3

[1)]Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

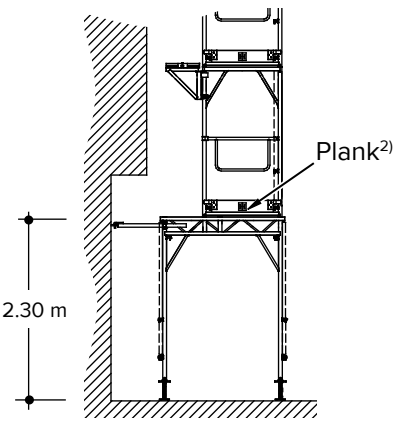
Possible installation options based on the tying point location of passage frame 150

Option 1



Scaffold retainer at each intersection

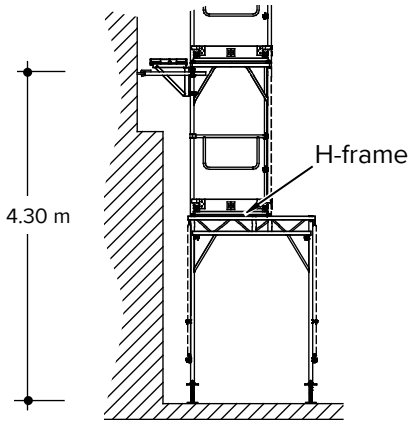
Option 2



Scaffold retainer at each intersection

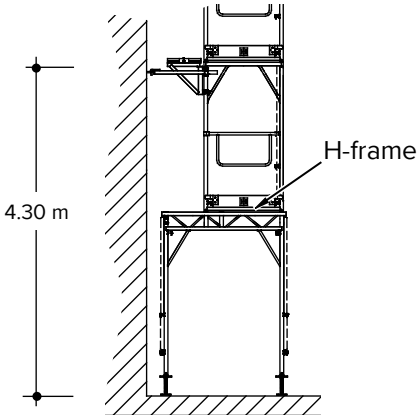
Unless stated otherwise all dimensions are in mm

Option 3



Scaffold retainer at each intersection.

Option 4



Scaffold retainer at each intersection.

Option 5

Similar to option 3; however, use steel plank, alu plank or timber plank instead of H-frame.

Option 6

Similar to option 4, however, use steel plank, alu plank or timber plank instead of H-frame.

Allocation table

* = possible — = not possible

Scaffold type			Option	1	2	3	4	5	6
LC	max. L[m]	Planks	Bracket width						
5	2.50	all[2)]	50 cm	*	*	—	—	—	—
4	2.50	HF. SP, AP	32 cm	*	*	*	*	*	*
4	3.00	all[2)]	50 cm	*	*	—	—	—	—
5	2.50	H-frame	none	*	*	—	—	—	—
5	2.50	H-frame	50 cm	*	*	—	—	—	—
4	3.00	H-frame	50 cm	*	*	—	—	—	—

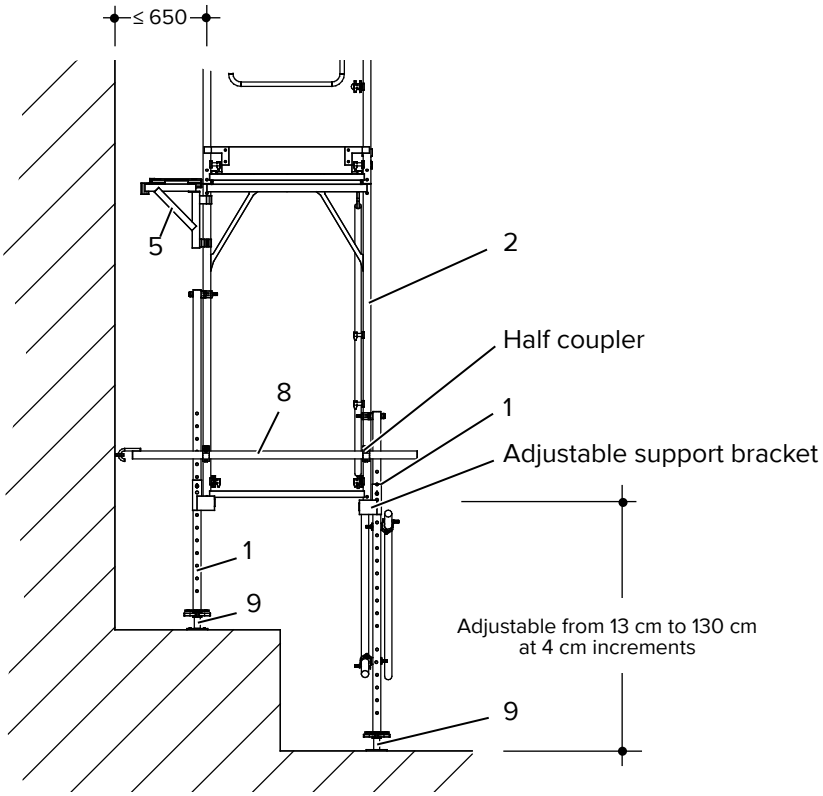
2) e.g. all permitted planks for this scaffold group

10.2 Adjustment stands

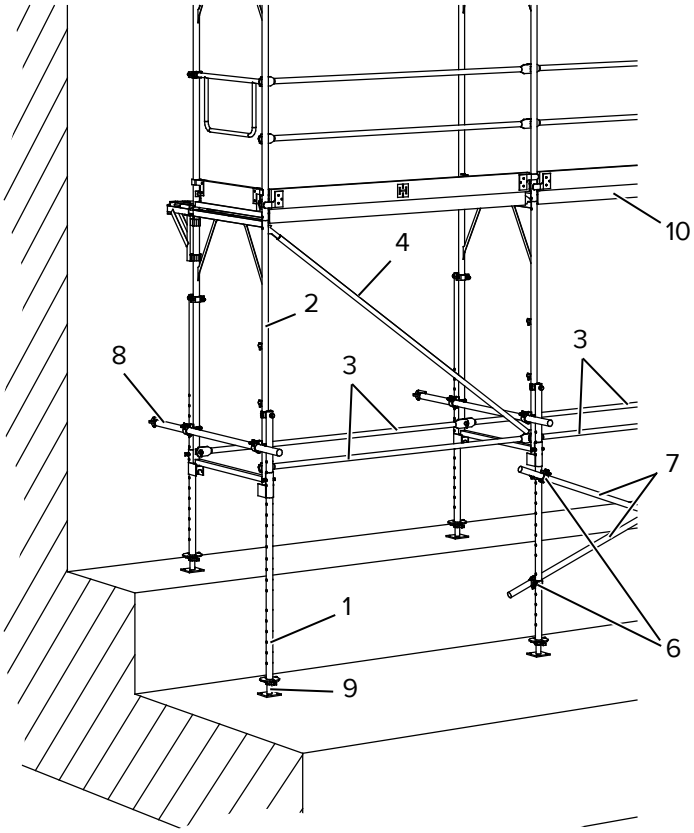
Adjustment stands are used to adapt to larger changes in elevation at the erection site.

Please note the following:

1. Cross bracing, using tubes and couplers, must be installed in every fifth scaffold bay.
2. A second guard rail must be installed in the lower vertical frame facing the building.
3. An additional tie must be installed above every adjustment stand in each scaffold bay.
4. Adjustment stands should not be used adjacent to bridge girders.



Unless stated otherwise all dimensions are in mm

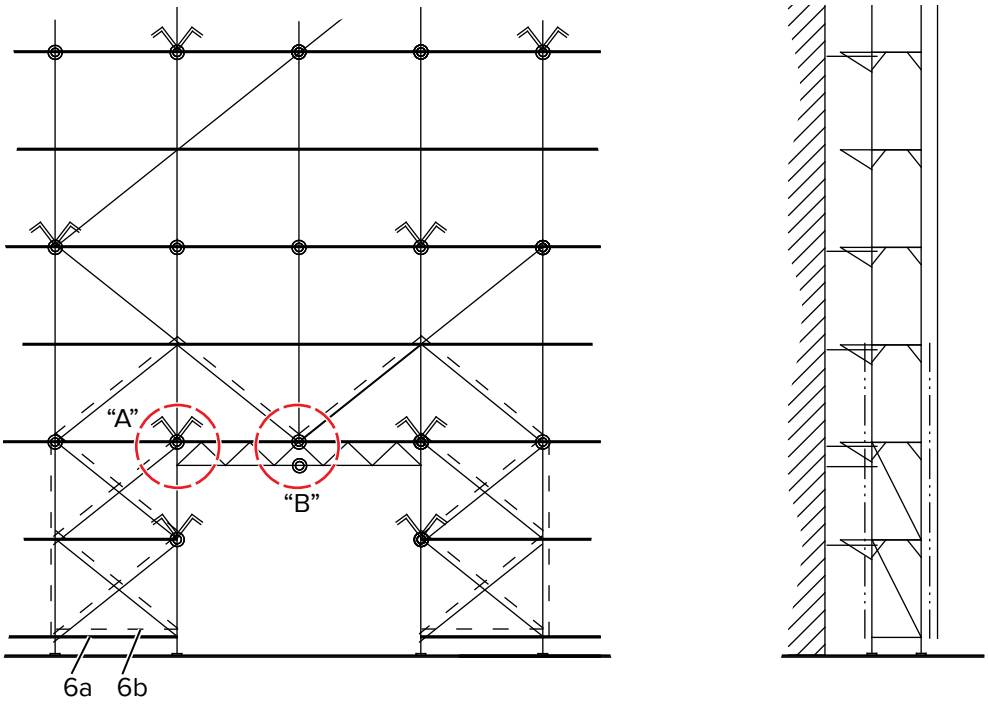


1 Adjustment stand
2 Vertical frame
3 Guard rail
4 Diagonal
5 Enlargement bracket 35
6 Swivel coupler 48[1)]
7 Scaffold tube
8 Scaffold tie
9 Base jack 45/3.8
10 Horizontal frame

[1)]Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

10.3 Bridge Girder 500

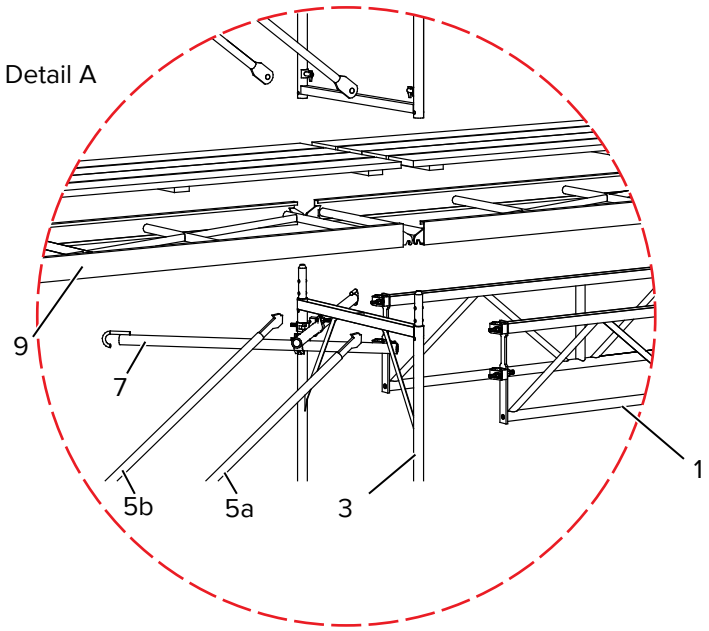
One bridge girder 500 can span two scaffold bays, each 2.50 m wide. Using the existing half couplers, each pair of girders must be attached and pinned on both sides to the vertical frame. Subsequently, crossbar 100 is inserted and scaffold planks placed onto the bridge girder. Erection of the BOSTA 100 scaffold can now continue as described previously. The adjacent scaffold bays must be stifffened by installing additional guard rails and diagonals. In parts, these rails and diagonals are installed at the level of the scaffold posts (both front and rear). Subject to the load capacity, all types of planks are permitted in the bridged scaffold bays and those adjacent to the bridge girder (< 2.50 m). Furthermore, the bridged area must be tied to the facade independently from the tie pattern of the remaining scaffold.

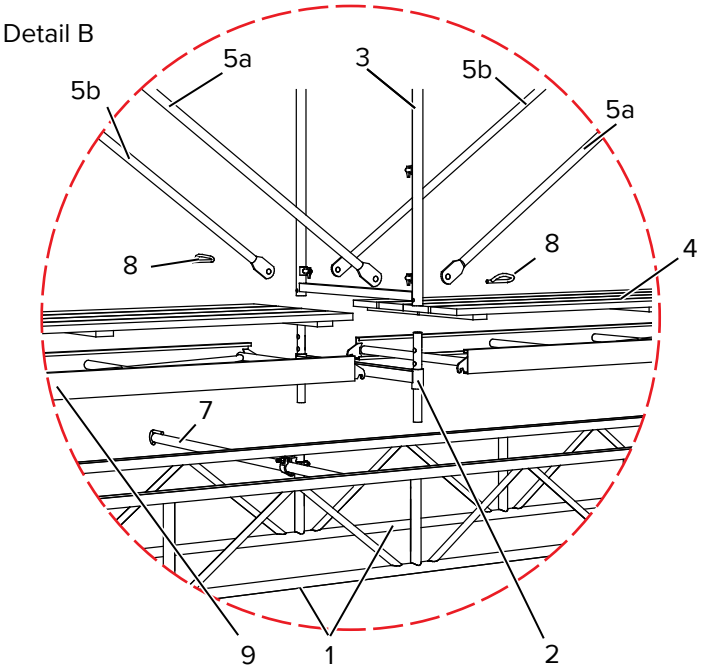


CAUTION

Caution!

Danger of falling during installation. Appropriate safety precautions must be taken!





1 Bridge girder 500
2 Crossbar 100
3 Vertical frame
4 Planks
5a Diagonal (front)
5b Diagonal (rear)
6a Guard rail (front)
6b Guard rail (rear)
7 Scaffold tie
8 Frame pin Ø 12
9 Horizontal frame

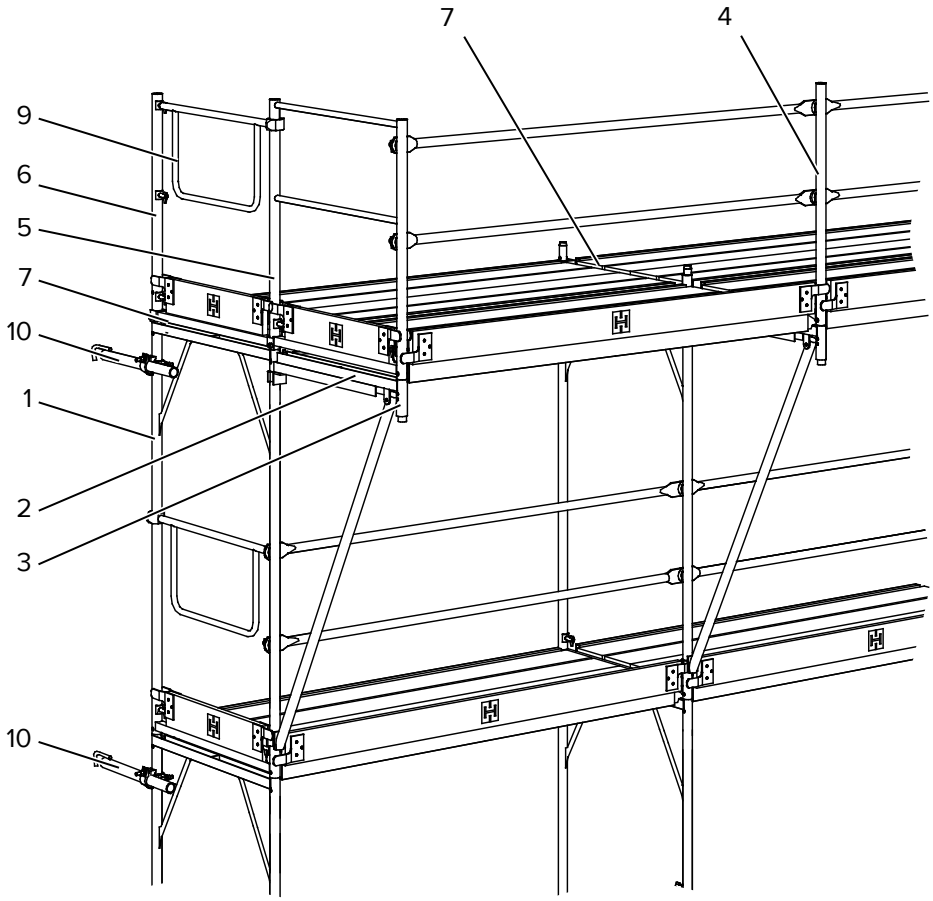
Stiffening and tie locations are subject to the load capacity and the type of cladding used. Please refer to pages 66 et seq. and 94 et seq.

10.4 Enlargement brackets

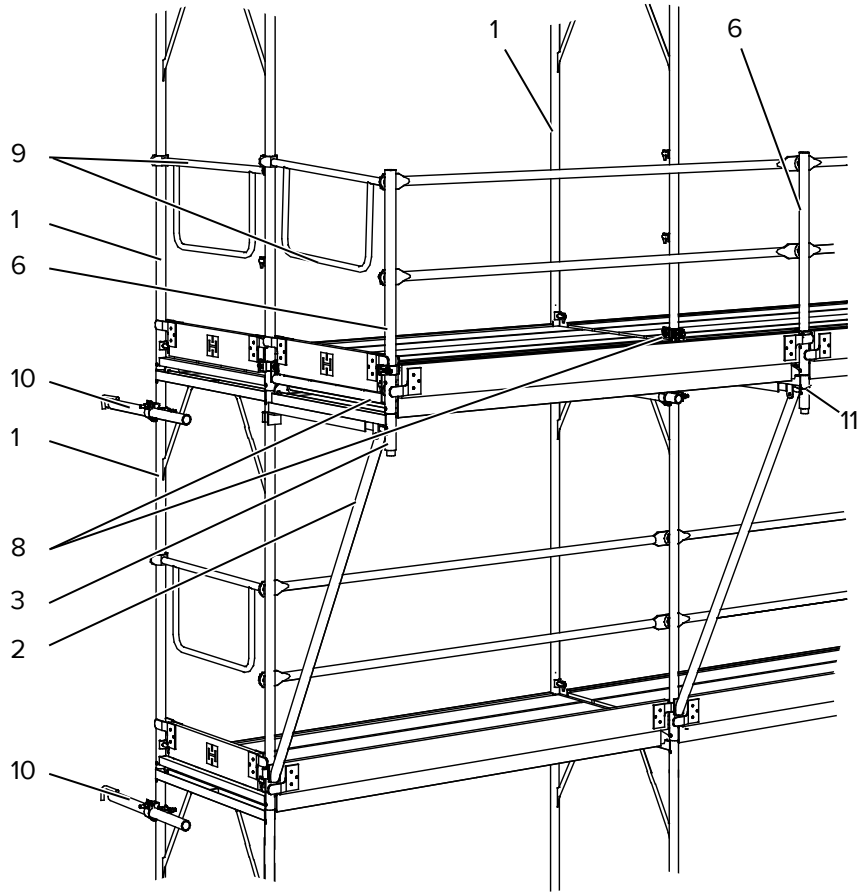
When using enlargement brackets, the BOSTA 100 scaffold can be widened by 35, 50, 74 cm or by the entire width of the system, 101 cm.

10.4.1 Enlargement bracket 100

Welded-on half couplers are used to attach the enlargement bracket 100 to the BOSTA 100 vertical frame (clamping torque 50 Nm). When using at the uppermost level of the scaffold, planks placed into the bracket are secured at the narrow end of the platform using the single post 100 100 or the twin single post 100 10 trans. To receive these components, the V-bracket 100 c/w the frame connector cpl. must be added. Planks inserted into the vertical frame are secured with the plank retainer 100. If the enlargement bracket is installed between scaffold bays, the 3-sectional side protection and the double rail 100 transverse are attached to the single post 100 at the narrow end of the scaffold. The frame connector cpl. must be installed beforehand. The plank retainer securely holds the scaffold planks to the enlargement bracket.

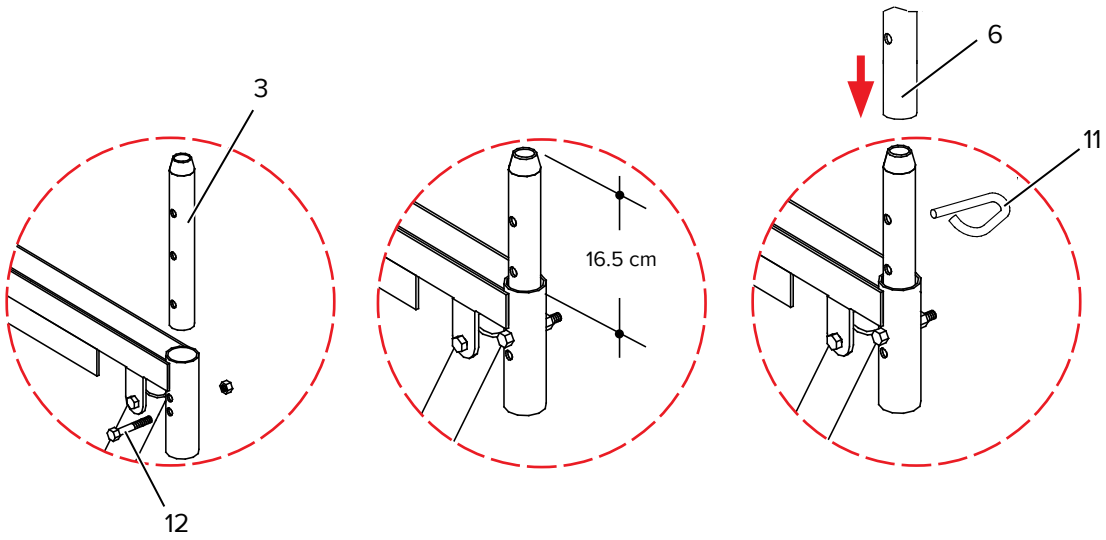


1 BOSTA 100 Vertical frame
2 Enlargement bracket 100
3 Tubular joint cpl.
4 Single post 100 100
5 Twin single post 100 100 trans.
6 Single post 100
7 Lift-off retainer 100 cpl.
8 Plank retainer 100
9 Double rail 100 transverse
10 Scaffold tie



1 BOSTA 100 Vertical frame
2 Enlargement bracket 100
3 Tubular joint cpl.
4 Single post 100 100
5 Twin Single post 100 100 trans.
6 Single post 100d
7 Lift-off retainer 100 cpl.
8 Plank retainer 100
9 Double rail 100 transverse
10 Scaffold tie
11 Frame pin Ø 12
12 Bolt M8X80 MUZ with nut

Inserting the frame connector 100 into the enlargement bracket use bolt M12 x 65 (12) to secure the frame connectors (3).



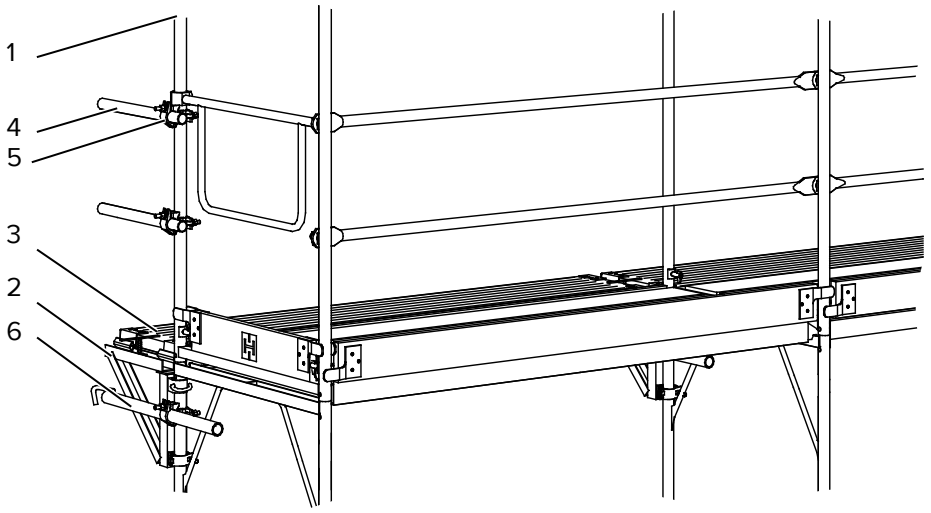
NOTE

Note

As a rule, a frame pin Ø 12 mm must be used to secure single post 100s, single post 70s, and single post 100s 100.

10.4.2 Enlargement bracket 50

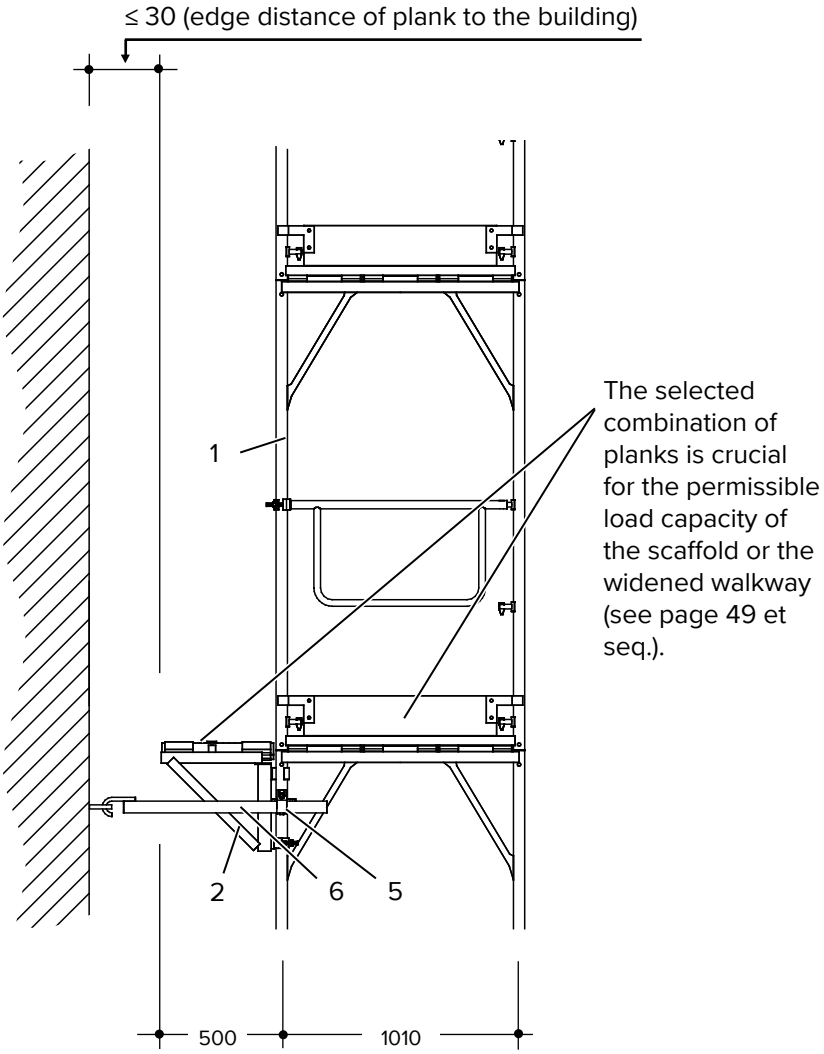
The enlargement bracket 50 is always attached to the vertical frame on the inside face of the scaffold, using a weld-on coupler (clamping torque 50 Nm). The bracket is attached at the elevation of the scaffold walkway to the post of the BOSTA 100 vertical frame. Frame pins are not required for the load deflection (may be used for alignment, if necessary). To cover the bracket, use an alu plank 50 cm wide.



NOTE

Note

Secure planks by using the locking stirrup attached to the bracket



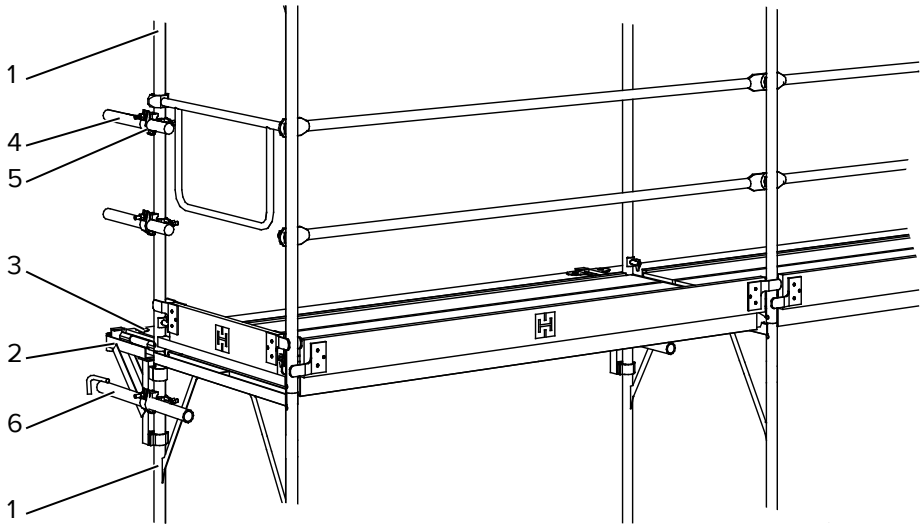
The selected combination of planks is crucial for the permissible load capacity of the scaffold or the widened walkway (see page 49 et seq.).

1 BOSTA 100 Vertical frame
2 Enlargement bracket 50
3 Alu plank
4 Scaffold tube Ø 48 mm
5 Rigid coupler 48[1)]
6 Scaffold tie

[1)] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

10.4.3 Enlargement bracket 35

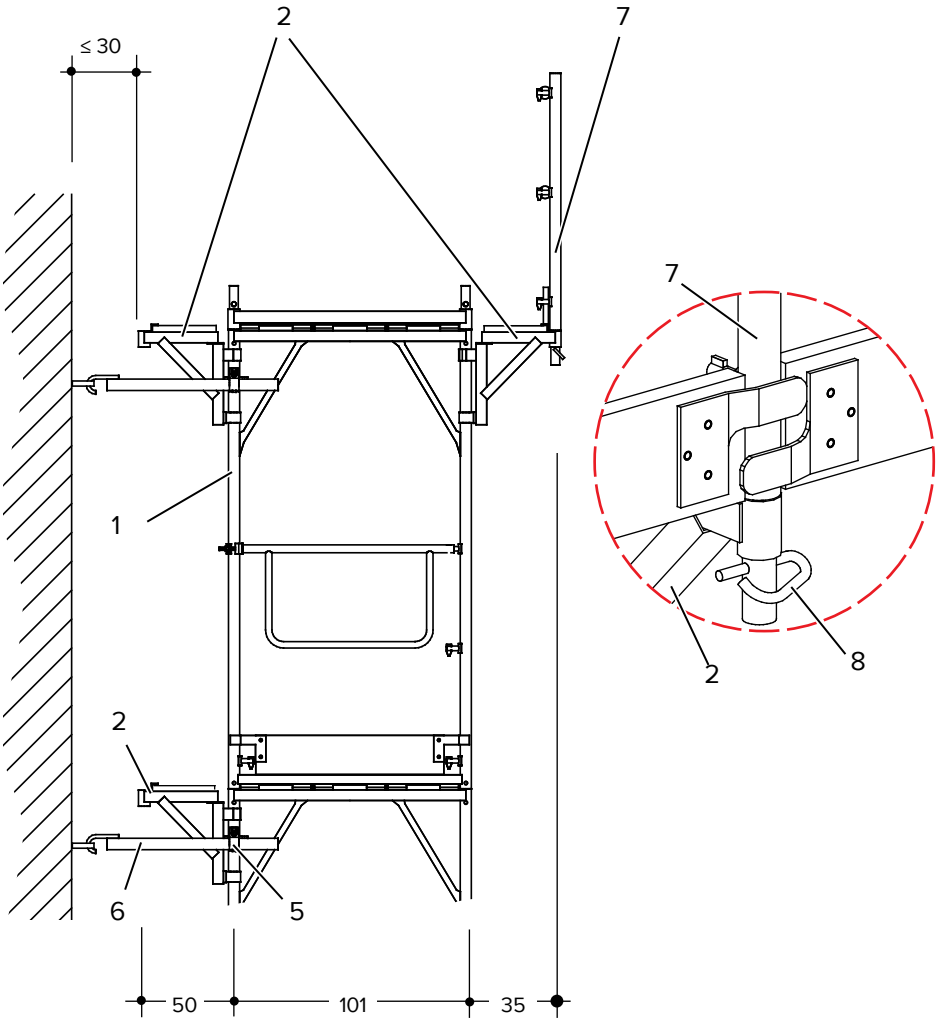
The enlargement bracket 35 is part of the BOSTA 70 scaffold system; however, it can also be used with the BOSTA 100 scaffold. Its installation is similar to the installation of the enlargement bracket 50. Timber, steel or alu planks, 35 cm wide, are used to cover the bracket. The planks must be secured against lift-off immediately after installation. The enlargement bracket 35 can be used as either inside bracket at any scaffold level and/or as outside bracket at the uppermost scaffold level, furnished with a side protection 1 m high (3-sectional or roofer's safety grate).



NOTE

Note

As a rule, a frame pin Ø 12 mm must be used to secure single post 100s, single post 70s, and single post 100s 100.

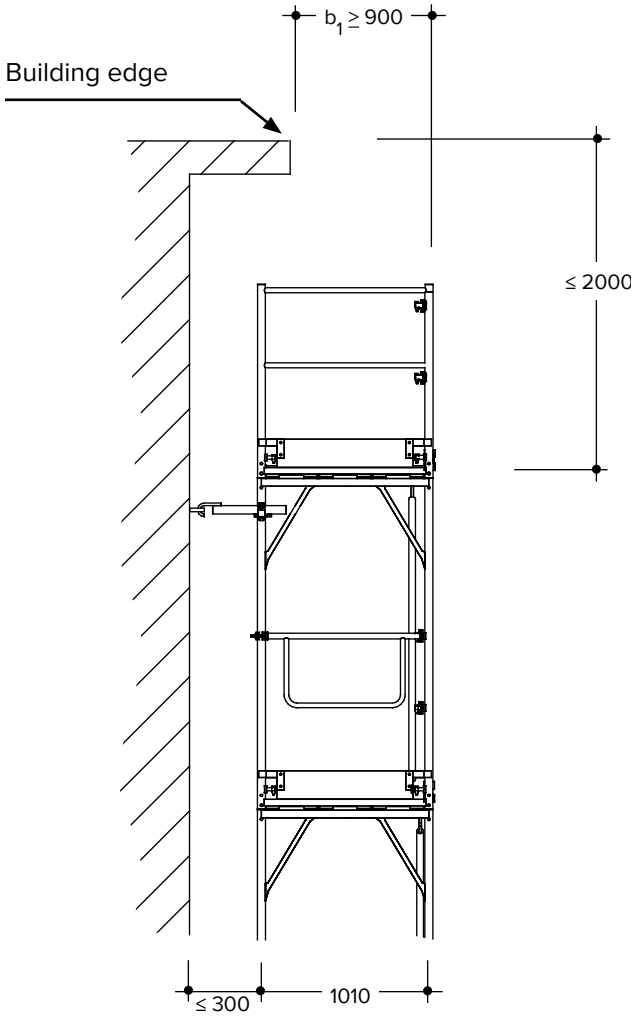


1	BOSTA 100 Vertical frame	5	Rigid coupler 48/48[1)]
2	Enlargement bracket 35	6	Scaffold tie
3	Scaffold plank	7	Single post 70
4	Scaffold tube Ø 48 mm	8	Frame pin Ø 12

[1)] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

11 Use as Fall Protection

If the BOSTA 100 is used as a protective roof scaffold, the vertical distance between the building's edge and the uppermost platform of the scaffold must not exceed 2.00 m. The distance b1 between the building's edge and the inside of the protective cover must be at least 0.90 m. If used as a protective scaffold, all applicable regulations pertaining to safety at the workplace must be adhered to.

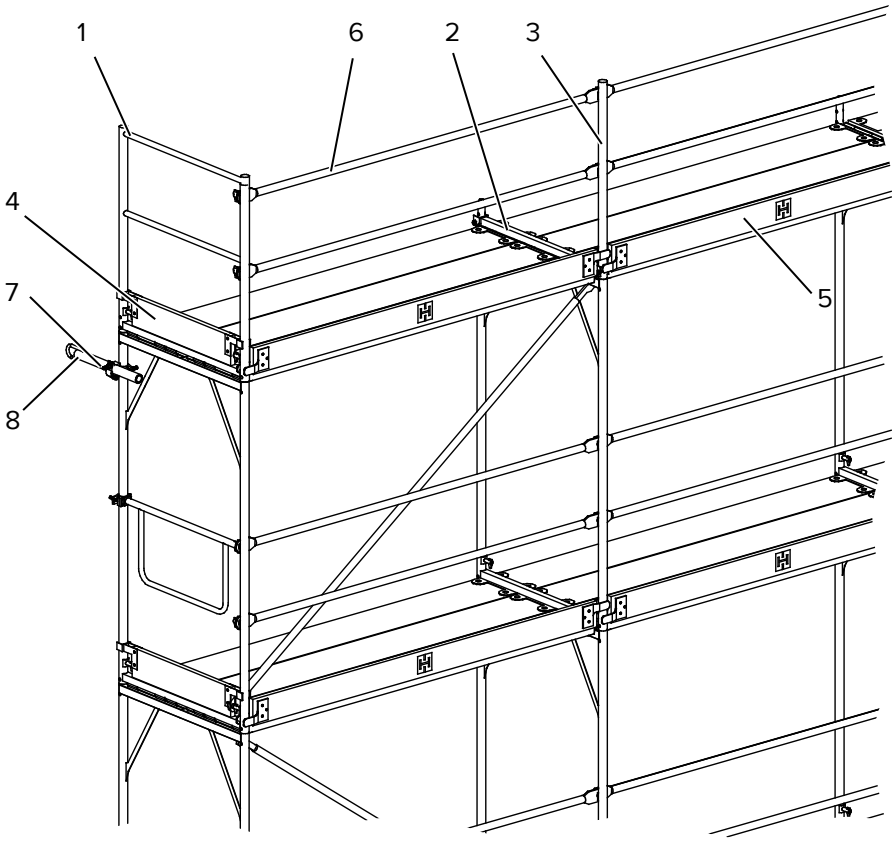


NOTE	**Note** A frame pin Ø 12 mm must be used to secure all single post 100s.

NOTE	**Note** When components with gravity pins are installed, which are intended for the installation of protective side components, these gravity pins must always be in a vertical position and point in the longitudinal direction of the planks.

11.1 BOSTA 100 scaffolds without enlargement brackets.

If the building edge projects past the face of the building, enlargement brackets must be used to increase the width of the uppermost lift of the scaffold to meet the minimum required distance of 90 cm. The scaffold must be tied at the uppermost plank.



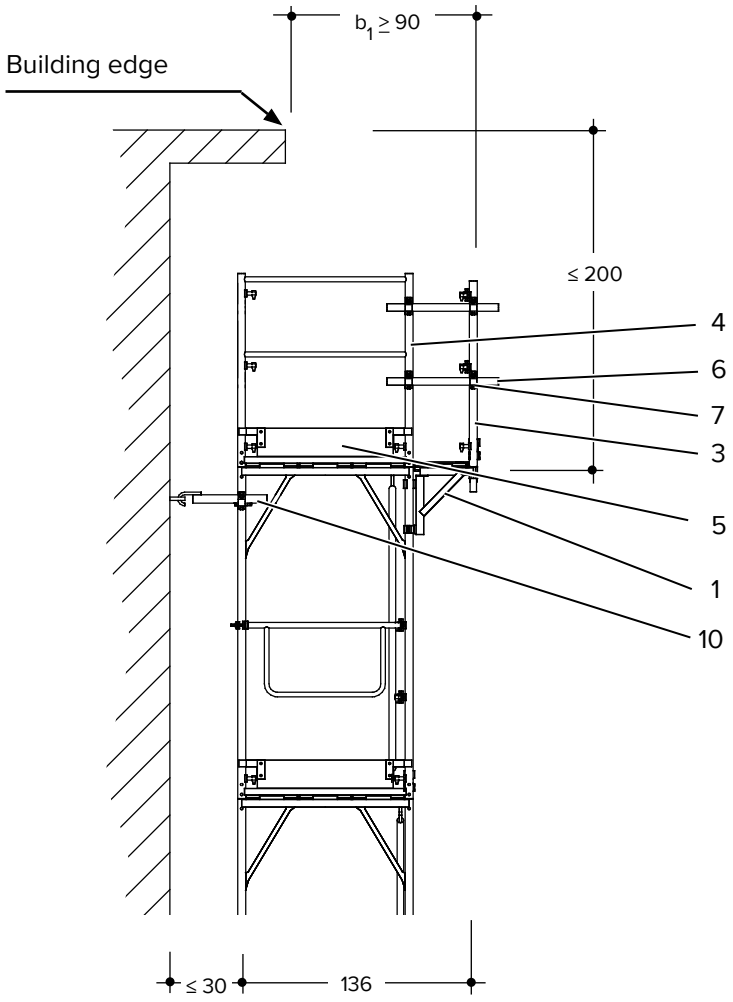
1 Twin single post 100 100 trans.
2 Lift-off retainer 100 cpl.
3 Single post 70
4 Transverse toe board 100
5 Toe board
6 Guard rail
7 Rigid coupler 48/48[1)]
8 Scaffold tie

Tie forces, see page 49 et seq.

[1)] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

11.2 Using enlargement bracket 35 outside

When using enlargement bracket 35, the width of the uppermost plank is increased to 136 cm. The scaffold must be tied at the uppermost elevation.

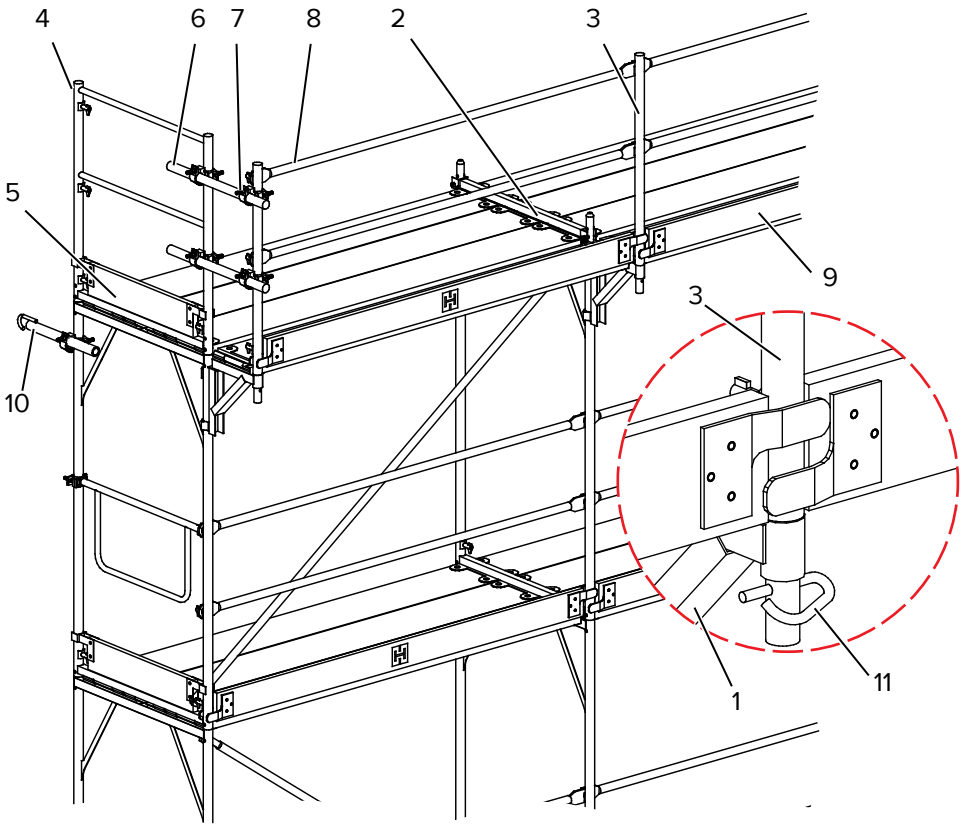


1 Enlargement bracket 35
2 Lift-off retainer 100 cpl.
3 Single post 70
4 Twin single post 100 100 trans.
5 Transverse toe board 100
6 Scaffold tube 50
7 Rigid coupler 48/48[1)]
8 Guard rail
9 Toe board
10 Scaffold tie
11 Frame pin Ø 8

Tie forces, see page 49 et seq.

[1)] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

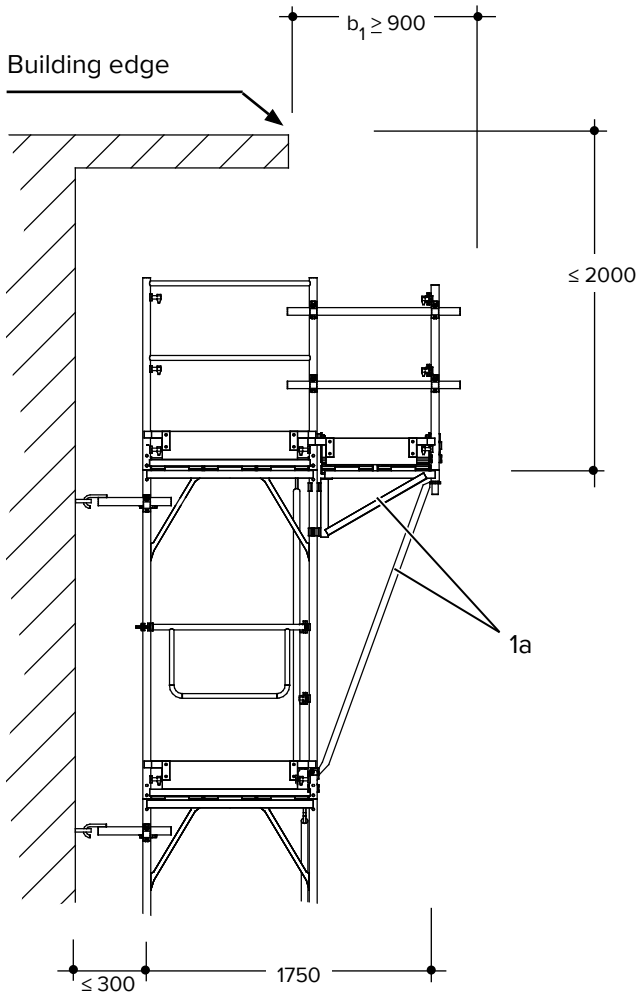
Unless stated otherwise all dimensions are in mm



NOTE	**Note** A frame pin Ø 8 mm must be used to secure all single post 70s

11.3 Using enlargement bracket 70 and diagonal EB 70 outside

When using the enlargement bracket 70 with diagonal EB 70, the total width of the walkway is increased to 175 cm. Bracket retainer 70 c/w one frame pin Ø 8 mm and B-single post 100 N/70, form a plank retainer unit. One twin single post 100 70 trans., one single post 70, as well as 2 scaffold tubes and 4 couplers[1)] close off the narrow end of the scaffold. In addition, a toe board transversal 70 must be installed at this end. The scaffold must be tied at the uppermost level and the level below.



NOTE

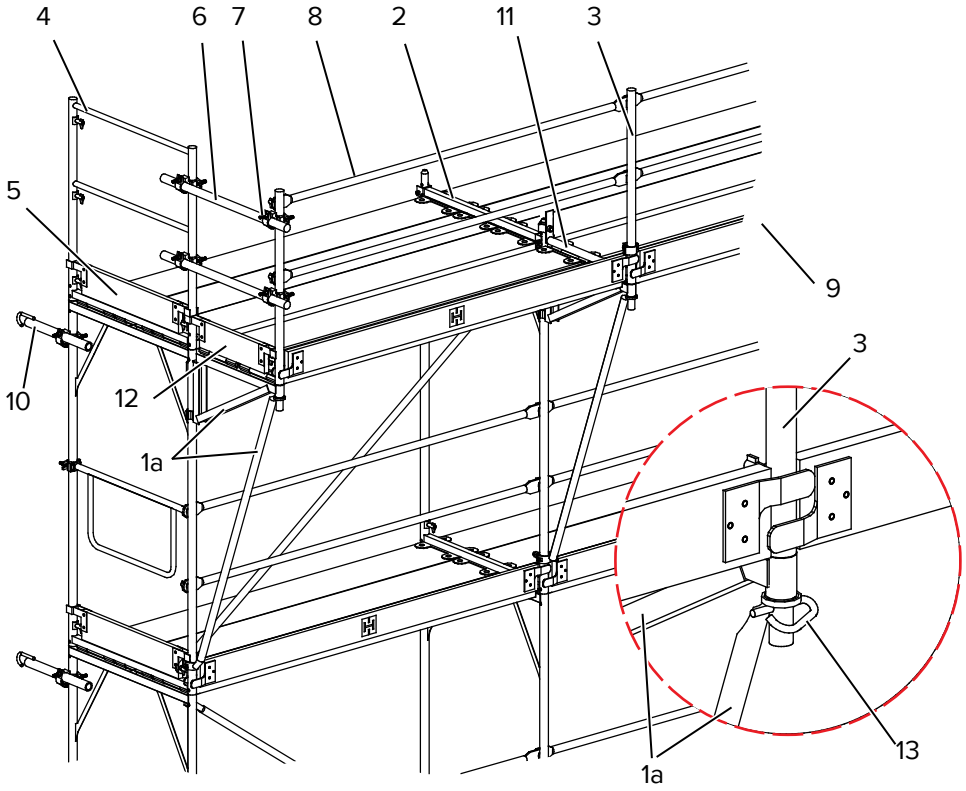
Note

A frame pin Ø 8 mm must be used to secure all single post 70s

1a Enlargement bracket 70 + Diagonal EB 70 cpl. alternative: Enlargement bracket 70/200
2 Lift-off retainer 100 cpl.
3 Single post 70
4 Twin single post 100 100 trans.
5 Transverse toe board 100
6 Scaffold tube 50
7 Rigid coupler 48/48[1)]
8 Guard rail
9 Toe board
10 Scaffold tie
11 Plank retainer 74 compl.
12 Toe board quer/70
13 Frame pin Ø 8

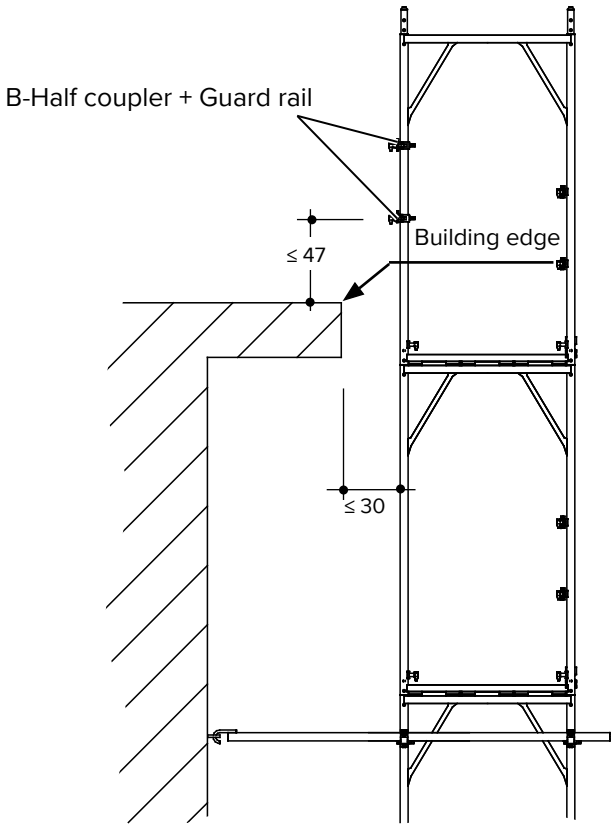
Tie forces, see page 49 et seq.

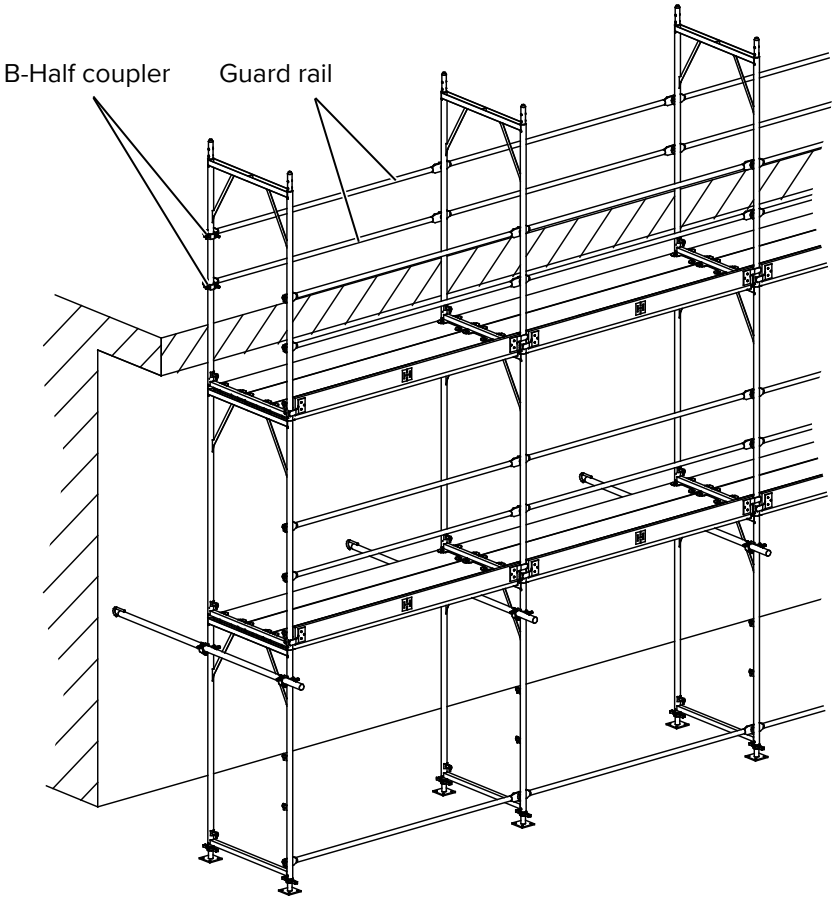
[1)] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.



11.4 Use as fall protection

Scaffold serves as support structure for fall protection near the building's edge.





Unless stated otherwise all dimensions are in mm

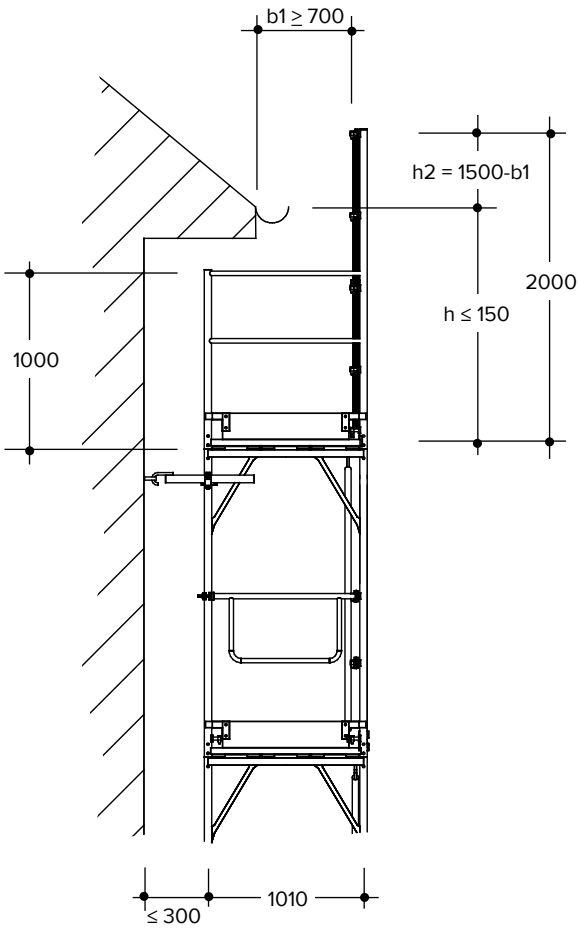
12 Use as Roof Protection

When using the BOSTA 100 scaffold as a roof protection scaffold, the vertical distance between the edge of the eaves and the uppermost plank elevation must not exceed 1.50 m. The distance b1 between the edge of the eaves and the inside of the side protection must be at least 0.70 m. The vertical height of the protective wall above the edge of the eaves must be equivalent to 1.50 - b1 (in m). When used as a roof protection, all applicable regulations pertaining to safety at the workplace must be adhered to.

NOTE

Note

A frame pin Ø 12 mm must be used to secure all roofer's safety posts.



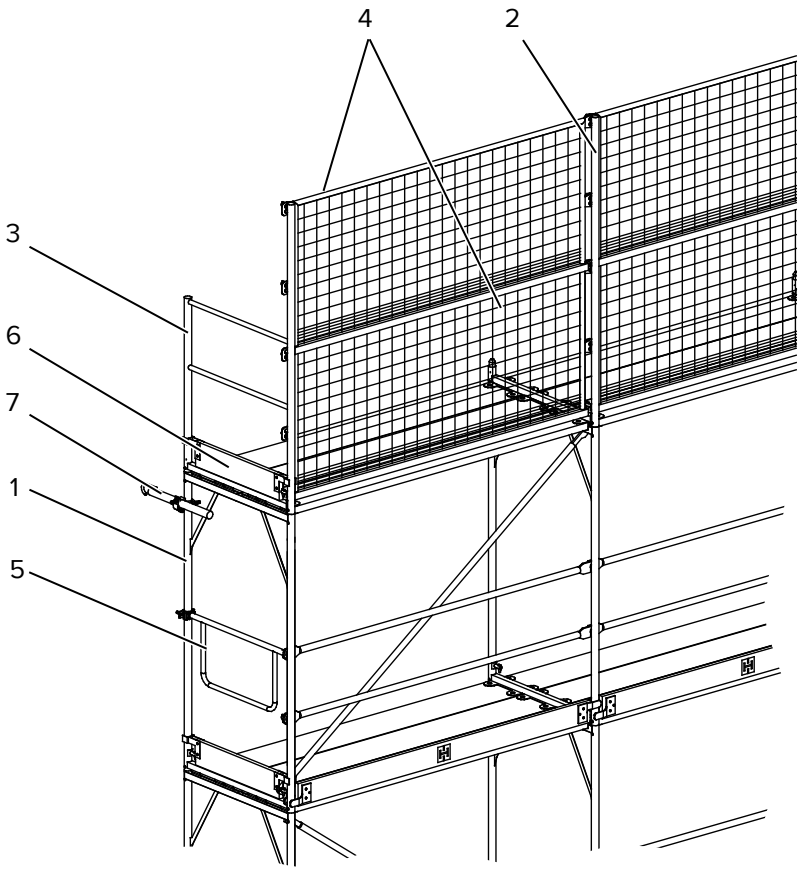
NOTE

Note

When components with gravity pins are installed, which are intended for the installation of protective side components, these gravity pins must always be in a vertical position and point in the longitudinal direction of the planks.

12.1 Without scaffold enlargement

A protective wall, 2.00 m high, is installed as a protective side wall on the uppermost scaffold plank. The wall consists of 1.00 m high safety grates, two installed, one on top of the other, and attached to the roofer's safety post 100. A roofer's safety post 100 transverse and a transverse toe board 100 secure the narrow end of the scaffold.

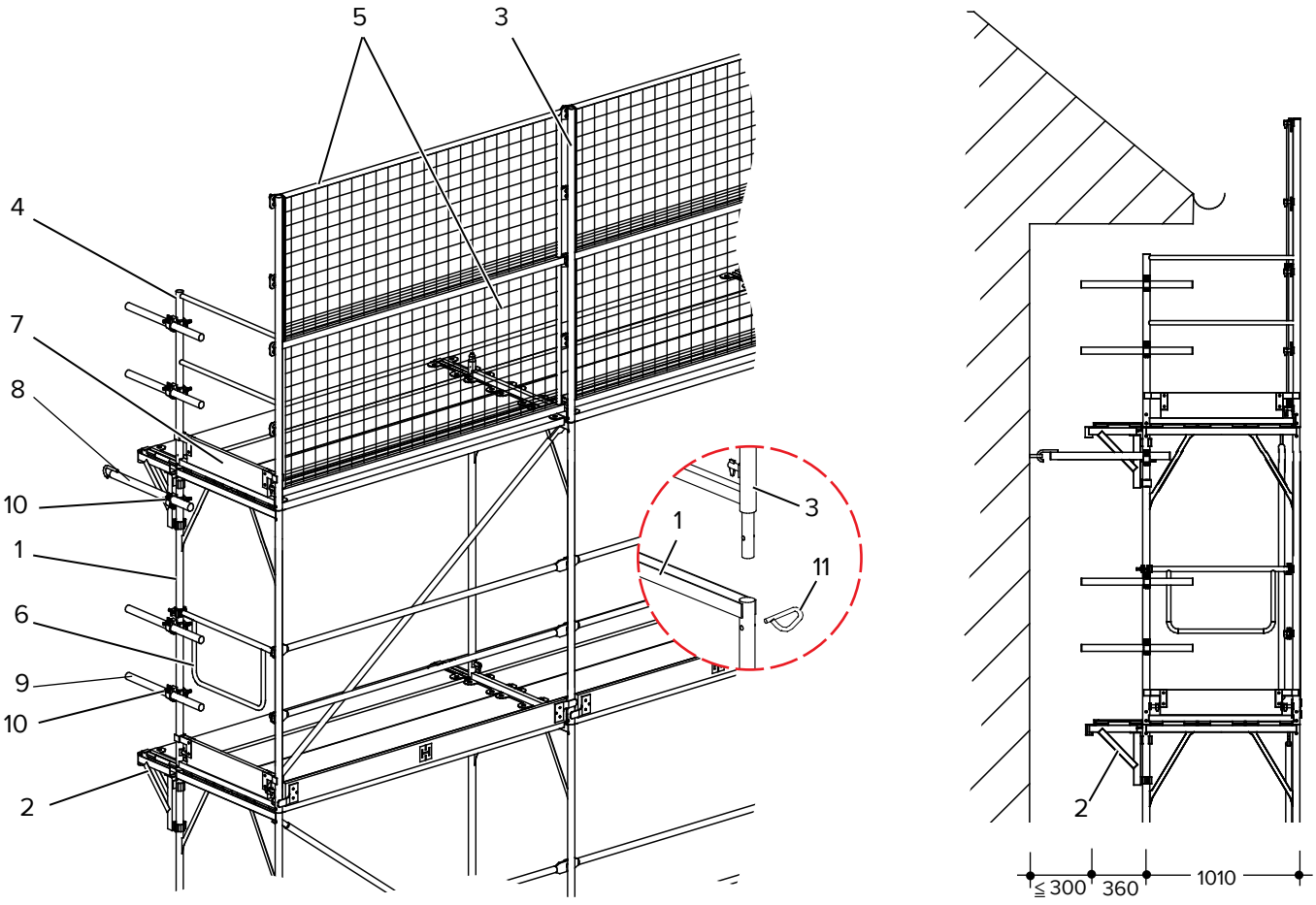


1 BOSTA 100 Vertical frame
2 Roofer's safety post 100
3 Roofer's safety post 100 trans
4 Roofer's safety grate
5 Double rail 100 transverse
6 Transverse toe board 100
7 Scaffold tie
8 Frame pin Ø 12

Unless stated otherwise all dimensions are in mm

12.2 With enlargement bracket 35 inside

Due to protruding eaves, the uppermost scaffold plank must be widened to maintain the minimum required distance of >70 cm between eaves and protective wall. Using the enlargement bracket 35, the uppermost scaffold plank can be widened to accommodate roof protrusions of up to 97 cm. When the enlargement bracket is installed facing the building's wall, the width of the walkway is extended to 137 cm. The roofer's safety post 100 secures the planks and both roofer's safety grates, 1 m high, are attached to it. The roofer's post 100 trans, one transversal toe board 100, as well as 2 scaffold tubes 50 c/w one coupler[1] secure the narrow side of the scaffold.

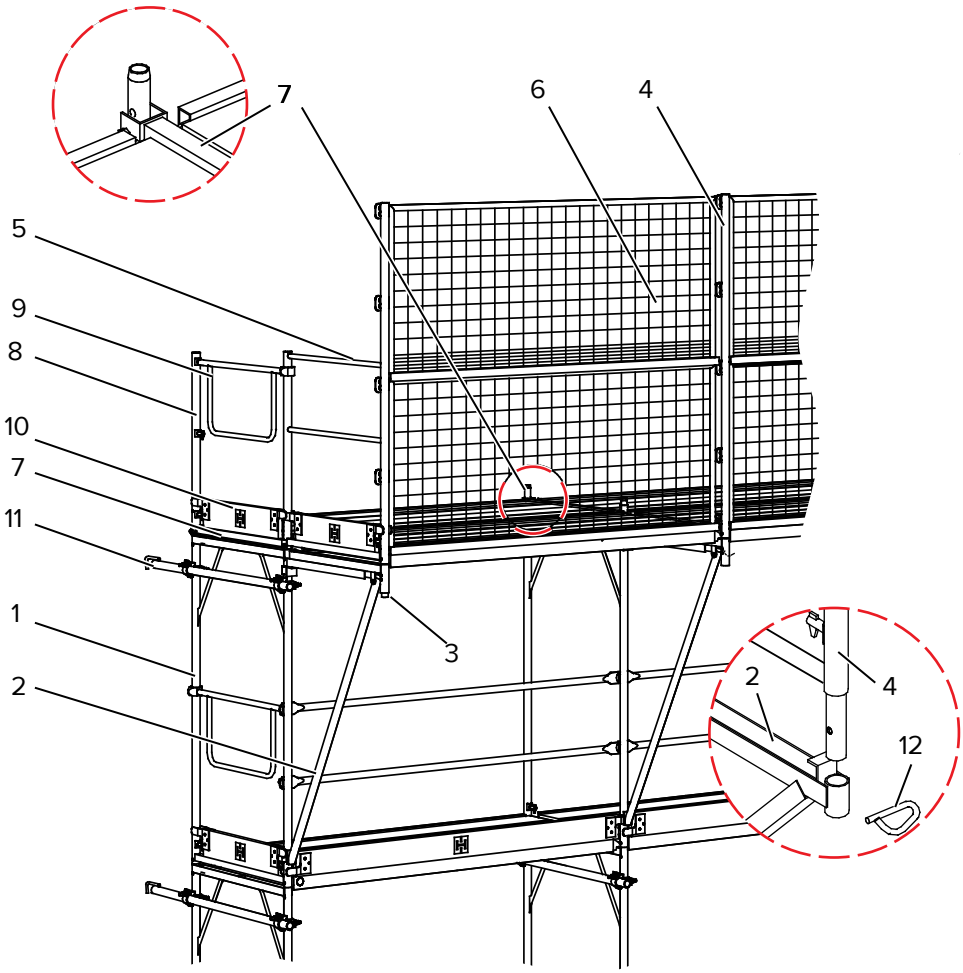


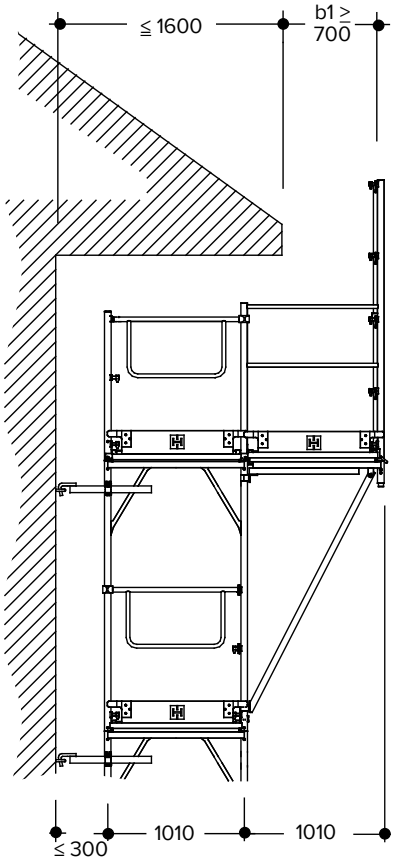
1 B100 Vertical frame
2 Enlargement bracket 35
3 Roofer's safety post 100
4 Roofer's safety post 100 trans.
5 Roofer's safety grate
6 Double rail 100 transverse
7 Transverse toe board 100
8 Scaffold tie
9 Scaffold tube
10 Rigid coupler 48/48[1]
11 Frame pin Ø 12

[1] Only use couplers permitted by the general building code or couplers in accordance with DIN EN 74.

12.3 With enlargement bracket 100

Due to large roof protrusions (eaves), the scaffold may have to be widened to meet the minimum distance of 70 cm required by DIN 4420. Using the enlargement bracket 100, the uppermost scaffold plank can be widened to allow for roof protrusions of up to 1.60 m. The 2.00 m high safety wall is installed as described previously. The lifting retainer 100 secures the planks from lifting off the uppermost V-frame. At the narrow end of the scaffold, the side protection is completed by using a single post 100, a transversal double railing 100, and an additional transverse toe board 100. In the fall protection area of the roof, the scaffold is tied to the building at the same level as the bracket.



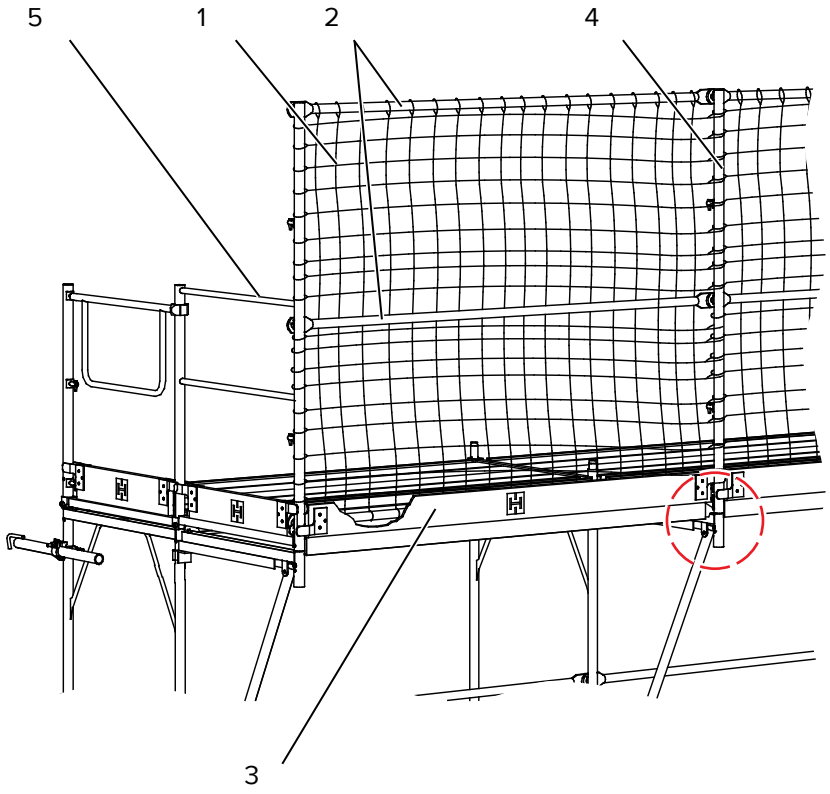


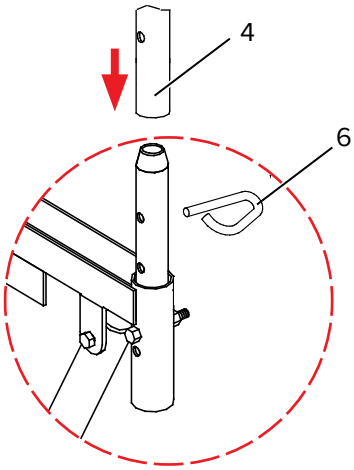
1 BOSTA 100 Vertical frame
2 Enlargement bracket 100
3 Tubular joint cpl.
4 Roofer's safety post 100
5 Roofer's safety post 100 trans.
6 Roofer's safety grate
7 Lift-off retainer 100 cpl.
8 Single post 100
9 Double rail 100 transverse
10 Transverse toe board 100
11 Scaffold tie
12 Frame pin Ø 12

Unless stated otherwise all dimensions are in mm

12.4 Roof protection with safety net

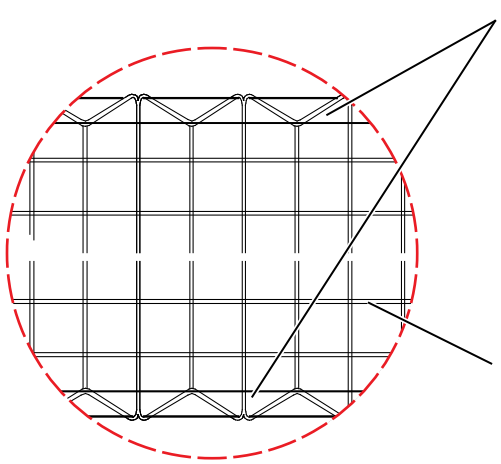
Safety nets may be used instead of roofer's safety grates with roof protection scaffolds. To fasten the safety nets at each scaffold bay, 3 guard rails are inserted into the roofer's safety post, one rail each to the upper, center, and lower gravity pin. A toe board is used to close the gap between the lower guard rail and the scaffold plank.





1 Safety net
2 Guard rail
3 Toe board
4 Roofer's safety post
5 Roofer's safety post trans.
6 Frame pin Ø 12

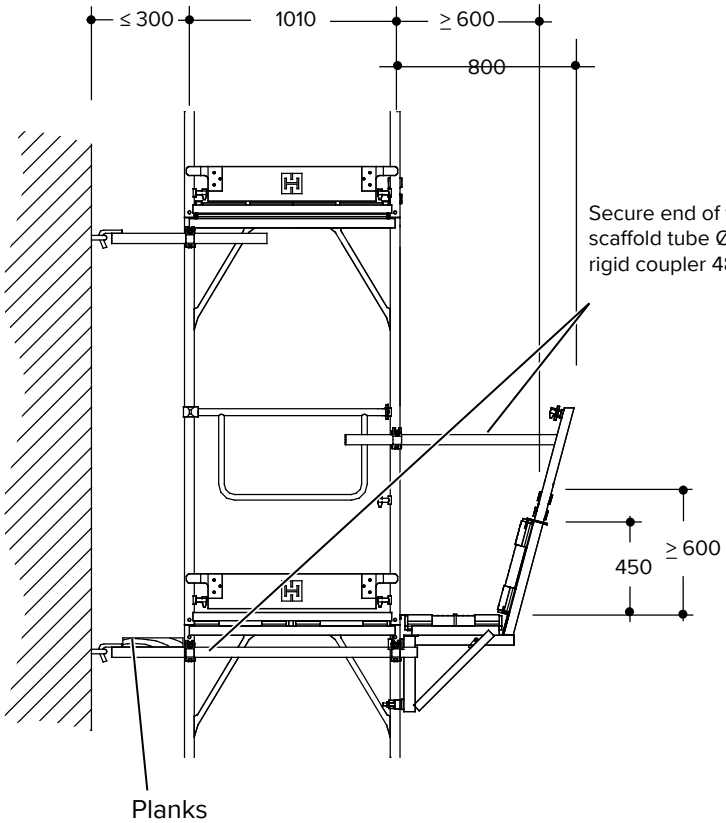
The mesh aperture should not exceed 100 mm and must comply with DIN EN 1253 "Safety Nets". The safety net must be threaded onto the upper and lower guard rail, one mesh at a time. The remainder of the protection scaffold is erected similarly to the installation of safety grates above (see page 135).



NOTE	**Note** When components with gravity pins are installed, which are intended for the installation of protective side components, these gravity pins must always be in a vertical position and point in the longitudinal direction of the planks.

13 Protective Roof

To protect against falling objects, a protective roof can be installed at the appropriate height on top of the BOSTA 100 scaffold. This protective roof is not a working platform and must be separated from the scaffold by two guard rails. Using a frame pin Ø 12 mm, the bracket post can be attached to the enlargement bracket 50 as well as the working bracket 1.8 m. Two different widths of the protective roof are available (0.95 m and 1.80 m). If used as a protective roof, all applicable regulations pertaining to safety at the workplace must be adhered to.



Unless stated otherwise all dimensions are in mm

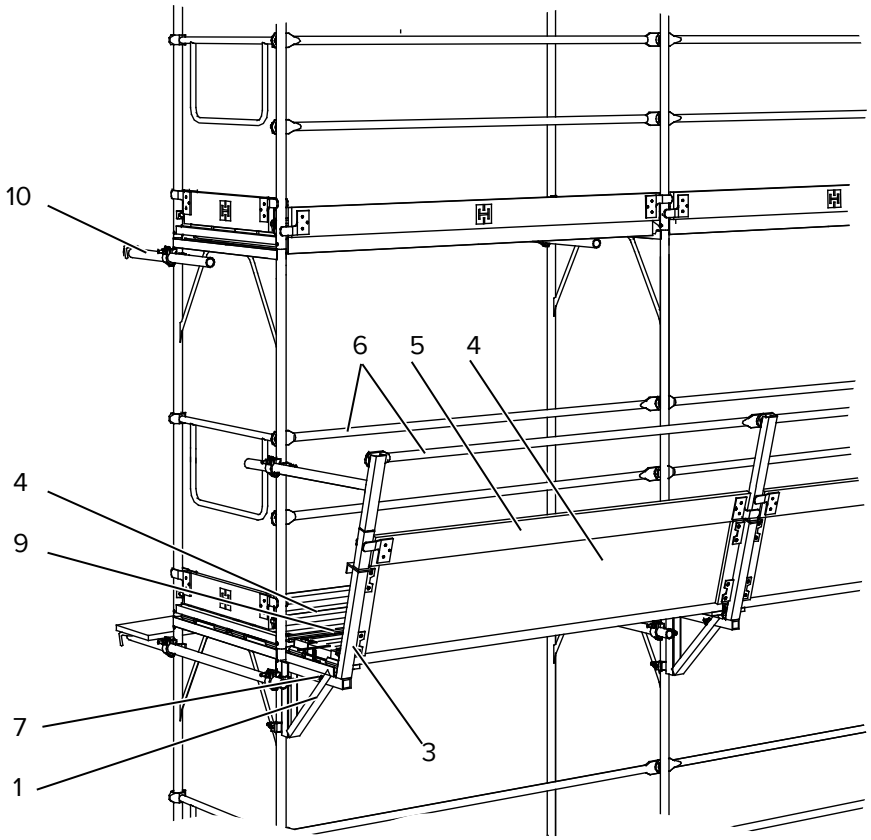
CAUTION

Caution!

Danger of falling during installation. Appropriate safety precautions must be taken!

The protective roof must be fitted with a safety wall, min. 60 cm high, which is integrated into the slanted side protection. This side protection comprises an alu plank, 50 cm wide, and a toe board. Both components must be attached to the bracket post (as an alternative, a 70 cm wide alu plywood plank from the BOSTA 70 scaffold may be used). In the area of the protective roof, the scaffold is tied above and at the support level of the protective roof.

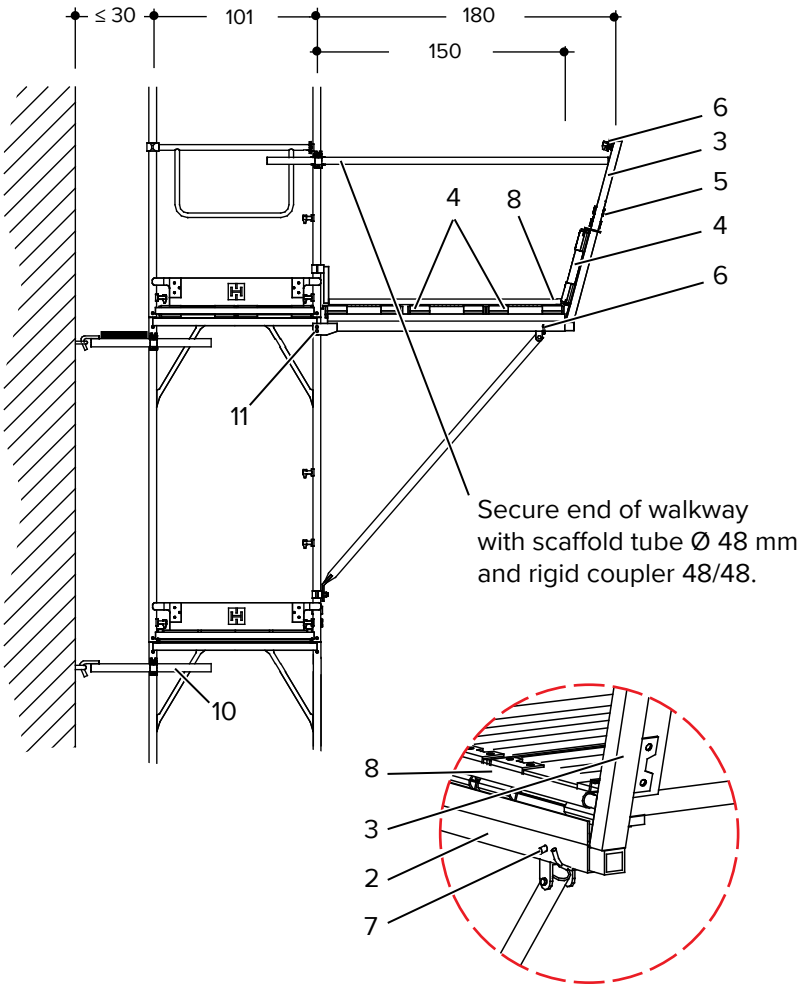
Tie forces, see page 49 et seq.



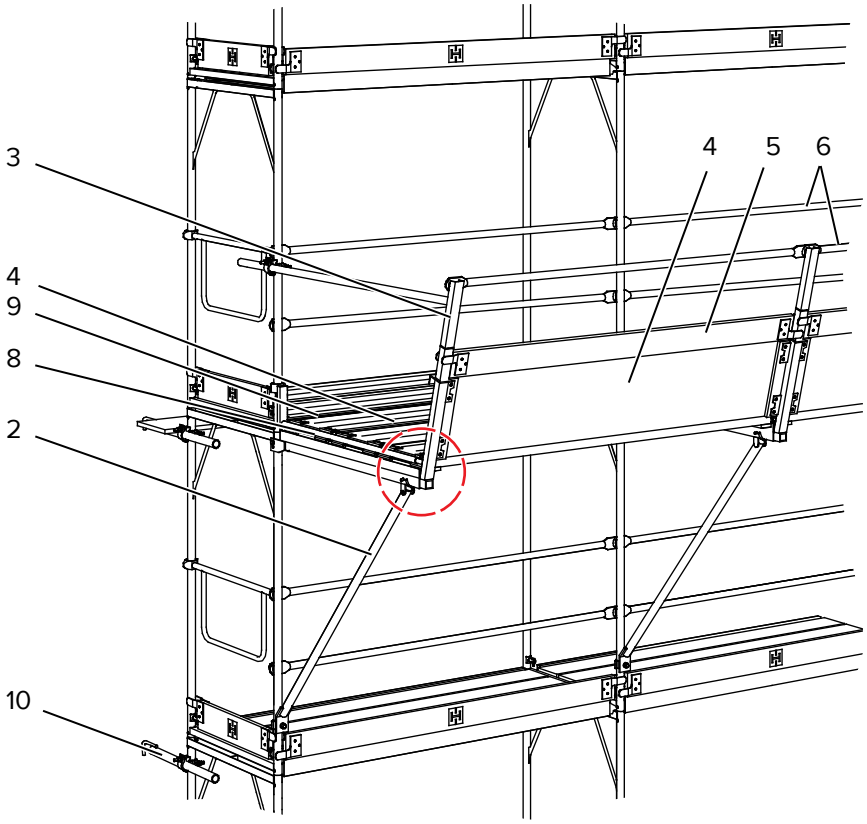
1 Enlargement bracket 50
2 Working bracket 1.8 m
3 Bracket post
4 Alu plank 50 wide
5 Toe board
6 Guard rail
7 Frame pin Ø 12
8 Plank retainer
9 Gap plate
10 Scaffold tie
11 Bolt M8x80 MuZ with nut

13.1 Protective roof, protruding 180 cm

Using a Bolt M8x80 MUZ with nut (top) and the welded-on half coupler (below), the working bracket is mounted onto the vertical frame. Three alu planks, 50 cm wide, are used as planks. An additional plank retainer secures the alu planks to the working bracket. Use a gap plate to close the space between the planks of the scaffold and the brackets. In the area of the protective roof, the scaffold is tied to the building at the same level as the bracket.



Unless stated otherwise all dimensions are in mm



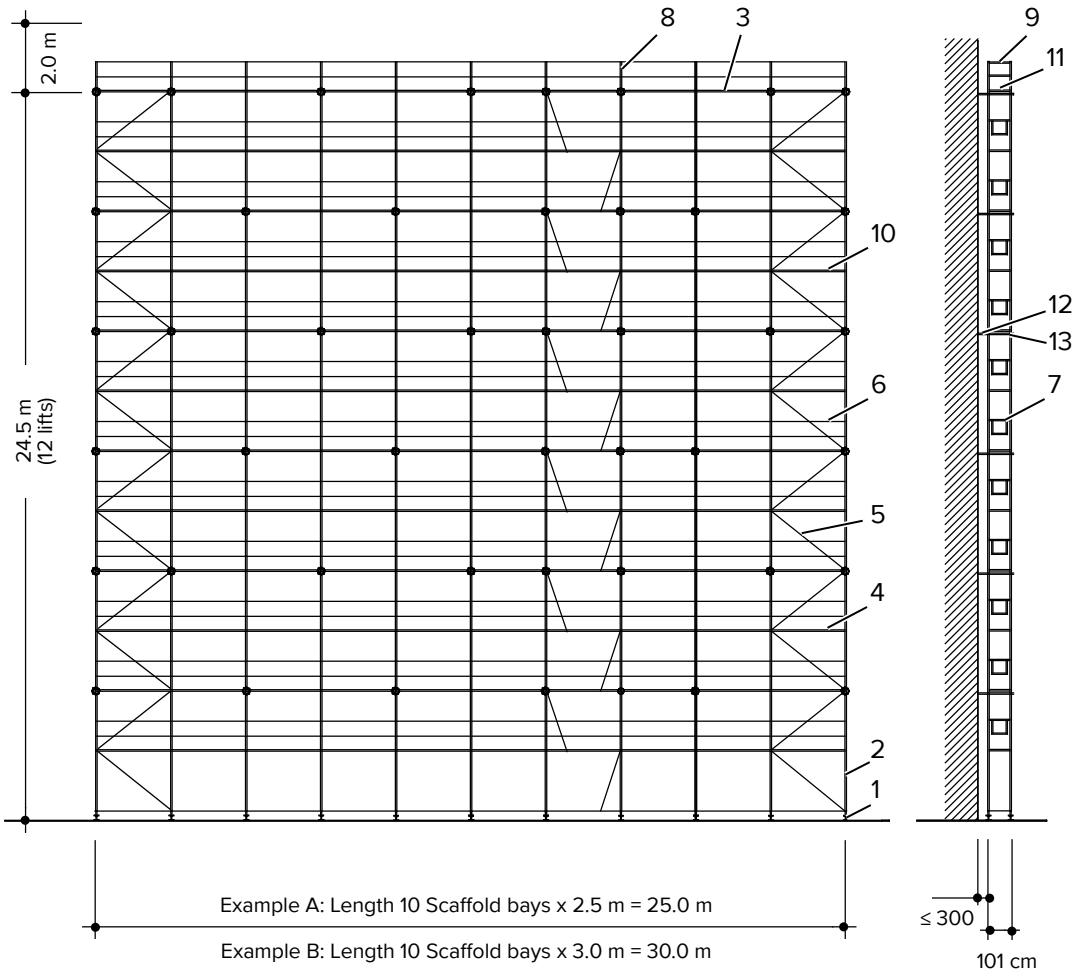
1 Enlargement bracket 50
2 Working bracket 1.8 m
3 Bracket post
4 Alu plank 50 wide
5 Toe board
6 Guard raill
7 Frame pin Ø 12
8 Plank retainer
9 Gap plate
10 Scaffold tie
11 Bolt M8X80 MUZ with nut

14 Calculating the Material

Two examples of how to calculate the necessary material.

Example A:
Length 25.0 m x Height 26.5 m = Working area 662.5 m²

Example B:
Length 30.0 m x Height 26.5 m = Working area 795.0 m²



Unless stated otherwise all dimensions are in mm

Example A:		
Pos.	**Units**	**Description**
1	22	Base jack
2	132	Vertical frame 200/100
3	120	Horizontal frame 250/100-6
4	228	Horizontal frame plank 250
5	12	Ladder plank with Ladder 200 A
6	24	Diagonal 200
7	250	Guard rail 250
8	22	Double rail 100 transverse
9	9	Single post 100 100
10	2	Twin single post 100 100 trans.
11	120	Toe board 250
12	24	Transverse toe board 100
13	45	Scaffold retainer 110
14	90	Coupler [1)]

Example B:		
Pos	**Units**	**Description**
1	22	Base jack
2	132	Vertical frame 200/100
3	120	Horizontal frame 300/1005
4	228	Horizontal frame plank 300
5	12	Ladder plank with Ladder 200 A
6	24	Diagonal 300
7	250	Guard rail 300
8	22	Double rail 100 transverse
9	9	Single post 100 100
10	2	Twin single post 100 100 trans.
11	120	Toe board 300
12	24	Transverse toe board 100
13	45	Scaffold retainer 110
14	90	Coupler [1)]

[1)] Use only couplers permitted by the general building code or couplers in accordance with DIN EN 74.

Calculating the Material

Bill of material, single scaffold access stairway

62.50	62	4	12	31	60	2	31	1	31	30	31	1	2	2	18	9	63	3662,00
60.50	60	4	11	30	58	2	30	1	30	29	30	1	2	2	16	8	56	3513,80
58.50	58	4	11	29	56	2	29	1	29	28	29	1	2	2	16	8	56	3411,00
56.50	56	4	11	28	54	2	28	1	28	27	28	1	2	2	16	8	56	3308,20
54.50	54	4	11	27	52	2	27	1	27	26	27	1	2	2	16	8	56	3205,40
52.50	52	4	10	26	50	2	26	1	26	25	26	1	2	2	14	7	49	3057,20
50.50	50	4	10	25	48	2	25	1	25	24	25	1	2	2	14	7	49	2954,40
48.50	48	4	10	24	46	2	24	1	24	23	24	1	2	2	14	7	49	2851,60
46.50	46	4	10	23	44	2	23	1	23	22	23	1	2	2	14	7	49	2748,80
44.50	44	4	9	22	42	2	22	1	22	21	22	1	2	2	12	6	42	2600,60
42.50	42	4	9	21	40	2	21	1	21	20	21	1	2	2	12	6	42	2497,80
40.50	40	4	9	20	38	2	20	1	20	19	20	1	2	2	12	6	42	2395,00
38.50	38	4	9	19	36	2	19	1	19	18	19	1	2	2	12	6	42	2292,20
36.50	36	4	8	18	34	2	18	1	18	17	18	1	2	2	10	5	35	2144,00
34.50	34	4	8	17	32	2	17	1	17	16	17	1	2	2	10	5	35	2041,20
32.50	32	4	8	16	30	2	16	1	16	15	16	1	2	2	10	5	35	1938,40
30.50	30	4	8	15	28	2	15	1	15	14	15	1	2	2	10	5	35	1835,60
28.50	28	4	7	14	26	2	14	1	14	13	14	1	2	2	8	4	28	1687,40
26.50	26	4	7	13	24	2	13	1	13	12	13	1	2	2	8	4	28	1584,60
24.50	24	4	7	12	22	2	12	1	12	11	12	1	2	2	8	4	28	1481,80
22.50	22	4	7	11	20	2	11	1	11	10	11	1	2	2	8	4	28	1379,00
20.50	20	4	6	10	18	2	10	1	10	9	10	1	2	2	6	3	21	1230,80
18.50	18	4	6	9	16	2	9	1	9	8	9	1	2	2	6	3	21	1128,00
16.50	16	4	6	8	14	2	8	1	8	7	8	1	2	2	6	3	21	1025,00
14.50	14	4	6	7	12	2	7	1	7	6	7	1	2	2	6	3	21	922,40
12.50	12	4	5	6	10	2	6	1	6	5	6	1	2	2	4	2	14	774,20
10.50	10	4	5	5	8	2	5	1	5	4	5	1	2	2	4	2	14	671,40
8.50	8	4	5	4	6	2	4	1	4	3	4	1	2	2	4	2	14	568,60
6.50	6	4	5	3	4	2	3	1	3	2	3	1	2	2	4	2	14	465,80
4.50	4	4	4	2	2	2	2	1	2	1	2	1	2	2	2	1	7	317,60
2.50	2	4	4	1	-	2	1	1	1	-	1	1	2	2	2	1	7	214,80
Height (m) / Description	V-frame 200/70	B-Base jack 50/3.3	Guard rail 250	Diagonal 250	Double Rail 100 transverse	Twin Single post 100 trans.	Alu Stairway 250	Stairway access	Exterior railing	Gap plate (bottom)	Gap plate (top)	Stair post	Guard rail 190	B-Half coupler	Scaffold retainer 250	Scaffold retainer 550	Rigid coupler 48/48	Weight kg
Article No.	119000	144131	002113	110020	534419	452970	464633	553656	464655	467626	467670	547669	547658	116370	467041	467063	002514	

Unless stated otherwise all dimensions are in mm

Bill of material, traverse scaffold access stairway

Height (m) / Description	V-frame 200/70	B-Base jack 50/3.3	Guard rail 250	Diagonal 250	Double Rail 100 transverse	Twin Single post 100 100	trans.	Alu frame plank 250/70	Alu Stairway 250	Stairway access	Exterior railing	Interior railing	Gap plate (top)	Gap plate (bottom)	Scaffold retainer 223	Rigid coupler 48/48	B-Half coupler	Weight kg
Article No.	119000	144131	002113	110020	534419	452970	437 487	464633	553656	464655	4464644	467670	467626	467085	002514	116370	061312	
62.50	124	8	23	62	60	4	1	31	1	31	31	1	30	36	90	2	8	5752.60
60.50	120	8	21	60	58	4	1	30	1	30	30	1	29	32	80	2	8	5530.70
58.50	116	8	21	58	56	4	1	29	1	29	29	1	28	32	80	2	8	5365.60
56.50	112	8	21	56	54	4	1	28	1	28	28	1	27	32	80	2	8	5200.50
54.50	108	8	21	54	52	4	1	27	1	27	27	1	26	32	80	2	8	5035.00
52.50	104	8	19	52	50	4	1	26	1	26	26	1	25	28	70	2	8	4813.00
50.50	100	8	19	50	48	4	1	25	1	25	25	1	24	28	70	2	8	4648.30
48.50	96	8	19	48	46	4	1	24	1	24	24	1	23	28	70	2	8	4483.00
46.50	92	8	19	46	44	4	1	23	1	23	23	1	22	28	70	2	8	4318.00
44.50	88	8	17	44	42	4	1	22	1	22	22	1	21	24	60	2	8	4096.00
42.50	84	8	17	42	40	4	1	21	1	21	21	1	20	24	60	2	8	3931.10
40.50	80	8	17	40	38	4	1	20	1	20	20	1	19	24	60	2	8	3766.00
38.50	76	8	17	38	36	4	1	19	1	19	19	1	18	24	60	2	8	3600.90
36.50	72	8	15	36	34	4	1	18	1	18	18	1	17	20	50	2	8	3379.00
34.50	68	8	15	34	32	4	1	17	1	17	17	1	16	20	50	2	8	3213.80
32.50	64	8	15	32	30	4	1	16	1	16	16	1	15	20	50	2	8	3048.70
30.50	60	8	15	30	28	4	1	15	1	15	15	1	14	20	50	2	8	2883.60
28.50	56	8	13	28	26	4	1	14	1	14	14	1	13	16	40	2	8	2661.70
26.50	52	8	13	26	24	4	1	13	1	13	13	1	12	16	40	2	8	2496.60
24.50	48	8	13	24	22	4	1	12	1	12	12	1	11	16	40	2	8	2345.50
22.50	44	8	13	22	20	4	1	11	1	11	11	1	10	16	40	2	8	2166.40
20.50	40	8	11	20	18	4	1	10	1	10	10	1	9	12	30	2	8	1944.50
18.50	36	8	11	18	16	4	1	9	1	9	9	1	8	12	30	2	8	1779.40
16.50	32	8	11	16	14	4	1	8	1	8	8	1	7	12	30	2	8	1614.20
14.50	28	8	9	14	12	4	1	7	1	7	7	1	6	12	30	2	8	1449.00
12.50	24	8	9	12	10	4	1	6	1	6	6	1	5	8	20	2	8	1227.00
10.50	20	8	9	10	8	4	1	5	1	5	5	1	4	8	20	2	8	1062.00
8.50	16	8	9	8	6	4	1	4	1	4	4	1	3	8	20	2	8	897.00
6.50	12	8	9	6	4	4	1	3	1	3	3	1	2	8	20	2	8	731.90
4.50	8	8	7	4	2	4	1	2	1	2	2	1	1	4	10	2	8	510.00
2.50	4	8	7	2	-	4	1	1	1	1	1	1	-	4	10	2	8	345.00

15 Safety Instructions

The compiled safety-related guidelines in this user guide are intended to draw the scaffold erector's attention to the difficulties involved with the erection and handling of scaffolds. This list includes only the most important instructions and is not exhaustive. During a professional dispute regarding occupational health and safety while working on scaffolding, this list should not be considered a replacement for such discussions.

- A visual inspection of all scaffold components for any damages must be conducted prior to their use.
- Damaged parts may only be repaired by the manufacturer.
- Using a hoist to lift and unload material onto scaffolds up to SG 3 / LC 3 is not permitted.
- For all scaffold groups / load classes of the standard design, a general rule applies, stipulating that only one working surface within a scaffold bay (referring to the area between two posts and the overall scaffold height) can be subjected to the total deadload.
- Base plates and base jacks must always be attached to the posts.
- If scaffolds are erected on a surface not capable of supporting the load, load-distributing planks must be placed under the base jacks and base plates.
- The user guide describes the type of stiffening required.
- A maximum of five scaffold bays may be vertically stiffened, using diagonals.
- Braces that loosen prematurely must be replaced with components of equal quality.
- Loosening ties must be replaced with components of equal quality.
- Jumping onto the plank below or dropping objects onto planks is not permitted.
- Planks must be placed close to each other. They should neither teeter nor give way.
- When erecting a scaffold, a minimum plank width of 50.0 cm must be ensured.
- If material is stored on top of the planks, the minimum passageway must be 20 cm wide.
- A 3-sectional side protection must be installed on all planks.
- Material may not be stored on the planks of any fall protection scaffolds.
- If the date and location of a scaffold coincides with the scheduled work of other contractors, these contractors should be consulted and coordination of the work should be arranged to avoid jeopardizing each other's work.
- The installation schedule must be determined ahead of time and during the project's techincal development. Plans must include avoiding activities that could lead to dangerous situations and falling. If this danger is unavoidable, its occurrence must be kept to a minimum.
- Erection work must be scheduled to avoid time pressure.
- All material required at the site must be available in sufficient quantities, in sound condition, and freely accessible.
- When material must be transported manually, one worker must be located on each scaffold lift, starting with the ground level.
- Scaffold parts must not be dropped to the ground below.
- All scaffold components must be stored in such a manner that they are sheltered from the weather.
- When storing scaffold components, they should be handled with care.

The contractor erecting the scaffold is responsible for the safe erection, modification

and dismantling of the scaffold.

He must keep his employees informed about all work to be completed. The contractor must communicate new safety-related developments in the erection of scaffolds to his employees. He should repeatedly encourage his employees to maintain safe work habits. Every contractor who uses the scaffold is responsible for using and maintaining safety at the workplace in accordance with all bylaws. The following regulations pertaining to safety at the workplace apply to in the erection of scaffolds:

- Arbeitssicherheitsgesetz (ASiG) dated 12.12.1973 [German Bylaw for Safety at the Workplace]
- Safety and Health Framework Directive 89/319/EEC dated 06.12.1989
- European Council Directive 89/665/EEC on the coordination of the laws, regulations and administrative provisions relating to the application of review procedures to the award of public supply and public works contracts, dated 11.30.1989 and Directive 2001/45/EC of the European Parliament and Council dated 06.27.2001.
- European Council Directive 92/57/EEC on the implementation of minimum safety and health requirements at temporary or mobile construction sites dated 06.24.1992
- Arbeitsschutzgesetz (ArbSchG) dated 08.07.1996 [German Occupational Health and Safety Act]
- VII. Sozialgesetzbuch (SGB VII) dated 08.07.1996 [German Social Code, Part VII]
- Baustellenverordnung (BaustellV) dated 06.01.1998 [German Construction Site Ordinance]
- Geräte- und Produktsicherheitsgesetz (GPSG) dated 01.06.2004 [German Equipment and Product Safety Act]
- Betriebssicherheitsverordnung (BetrSichV) dated 09.27.2002 [German Workplace Safety Ordinance]
- Handlungsanleitung für den Umgang mit Arbeits- und Schutzgerüsten [Handling instructions for the use of working and protective scaffolding]

Furthermore, in the interim, significant parts of the regulation for the erection of scaffolds are covered in the following standards pertaining to scaffolding:

- DIN 4420, Part 1 (March 2004)
- DIN EN 12810, Part 1 (March 2004), Part 2 (March 2004)
- DIN EN 12811, Part 1 (March 2004), Part 2 (April 2004), Part 3 (February 2003)

To meet the requirements of the above-mentioned regulations and ordinances, a number of prepared forms have been included on the following pages:

- Hazard assessment
- Transfer of the contractor’s responsibilities
- Test flow chart
- Proof of serviceability
- Inspection certificate
- Scaffold tying report
- Identification of an unfinished scaffold
- User’s instructions (for the user of the scaffold)

Hazard assessment

Hazard and load assessment

Company: _____ Signature: _____

Construction site: _____ Date: _____

Hazard factor	Type of hazard	Action	Defects due to: Technology	Defects due to: ORGA	Defects due to: MA	Defects resolved until:	Consultation
Construction site	Hazardous due to existing equipment in the work area	Determining hazard due to: ☐ above ground live wires ☐ pipe lines ☐ shafts ☐ ducts ☐ facilities with explosion hazards ☐ engine plants ☐ cranes and conveying systems ☐ inaccessible areas ☐ road and rail traffic	☐	☐	☐	.....	☐
Falling	Danger during erection, modification and dismantling of scaffold	☐ erection, modification and dismantling per – A+V – BGR 166- DIN 4420 part 2 – DIN 4420 part 3 – based on statistical reports ☐ _____	☐	☐	☐	.....	☐
	Danger due to faulty planks	☐ system-compatible planks – alu-frame planks – timber planks – steel planks – lu planks ☐ _____	☐	☐	☐	.....	☐
	Danger of falling off the inside of the scaffold	☐ wall distance = 30 cm ☐ railing/center rail ☐ brackets ☐ _____	☐	☐	☐	.....	☐
	Danger of falling off the outside of the scaffold	☐ railing, center rail + toe board ☐ narrow side of scaffold ☐ brackets ☐ roof protective wall ☐ personal protective equipment (attach. point.) ☐ _____	☐	☐	☐	.....	☐
Design	Danger due to faulty erection, damaged scaffold components, or due to prematurely removed scaffold components	☐ visual inspection of scaffold components ☐ load-bearing surface ☐ use of base plates/base jacks ☐ horizontal installation ☐ determine tying pattern ☐ check tying points ☐ only use appropriate dowels ☐ do not throw scaffold components ☐ proper storage of scaffold components ☐ identification of scaffold ☐ _____	☐	☐	☐	.....	☐
Tripping, slipping, falling	Danger due to poor quality and stability of platforms and working areas	☐ remove all obstacles ☐ remove all debris ☐ dimensions/quality ☐ length of scaffold retainers ☐ climate ☐ _____	☐	☐	☐	.....	☐
Non-controllable	Danger due to objects slipping or falling off the scaffold	☐ barrier/identification ☐ protective roofs/safety nets ☐ toe boards ☐ hard hats/safety gloves ☐ _____	☐	☐	☐	.....	☐
Moving parts without guard rails	Risk of injury caused by percussion drills, hoists, and scaffold lifts	☐ equipment only with CE/GS ☐ briefing the employee ☐ regular checking of SE ☐ use of A + V ☐ expert maintenance/checking ☐ _____	☐	☐	☐	.....	☐
Electrical facilities and equipment	Risk of touching live parts of high-voltage wires, defective machines, or faulty wiring	☐ installation/maintenance of facilities by expert electricians ☐ monitoring of checklists ☐ use of appropriate power sources, lighting and installation material ☐ maintaining proper distance from live wires ☐ _____	☐	☐	☐	.....	☐
Excessive bodily strain	Risk of injury due to carrying or lifting heavy scaffold parts > 25 kg	☐ availability of hoists and scaffold lifts ☐ using weight-optimized scaffold components ☐ _____	☐	☐	☐	.....	☐

Unless stated otherwise all dimensions are in mm

Transfer of contractor's responsibilities

Confirmation of transfer of contractor's responsibilities
(§ 9 Sect. 2 Nr. 2 OwiG, § 15 Sect. 1 No. 1 SGB VII, § 3 Sect. 1 and 2 ArbSchG)

Mr. / Ms.

will be responsible for the operation / the department *)

of

(Name and postal address of company)

and all aspects pertaining to the industrial health and safety act, the prevention of accidents at the workplace, occupational illnesses, and work-related health hazards. He/She shall be accountable for:

- managing and maintaining facilities *)
- providing instructions and directives *)
- ensuring effective First Aid measurements if necessary *)
- request work-related medical exams or other work-related medical requirements. *)

If the cost does not exceed €.

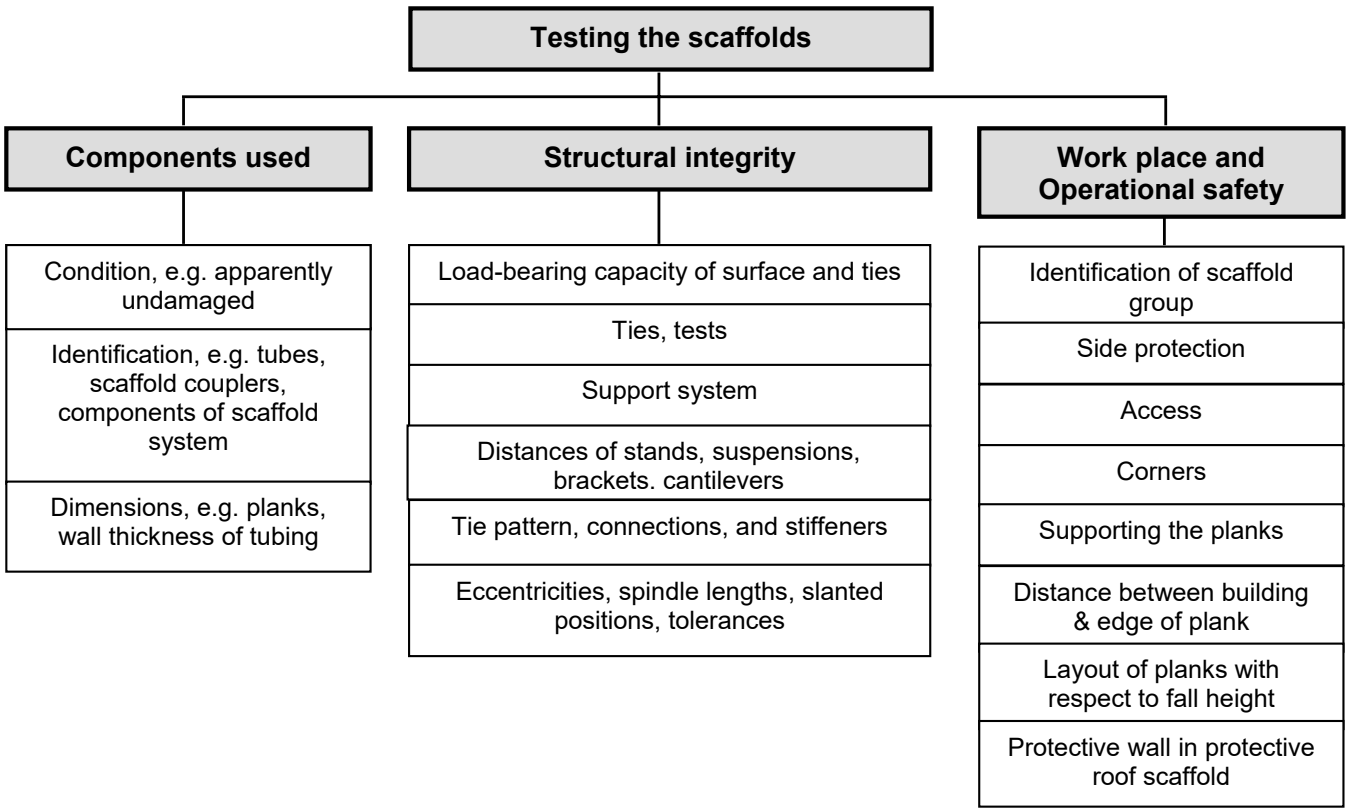
This includes in particular:

City Date

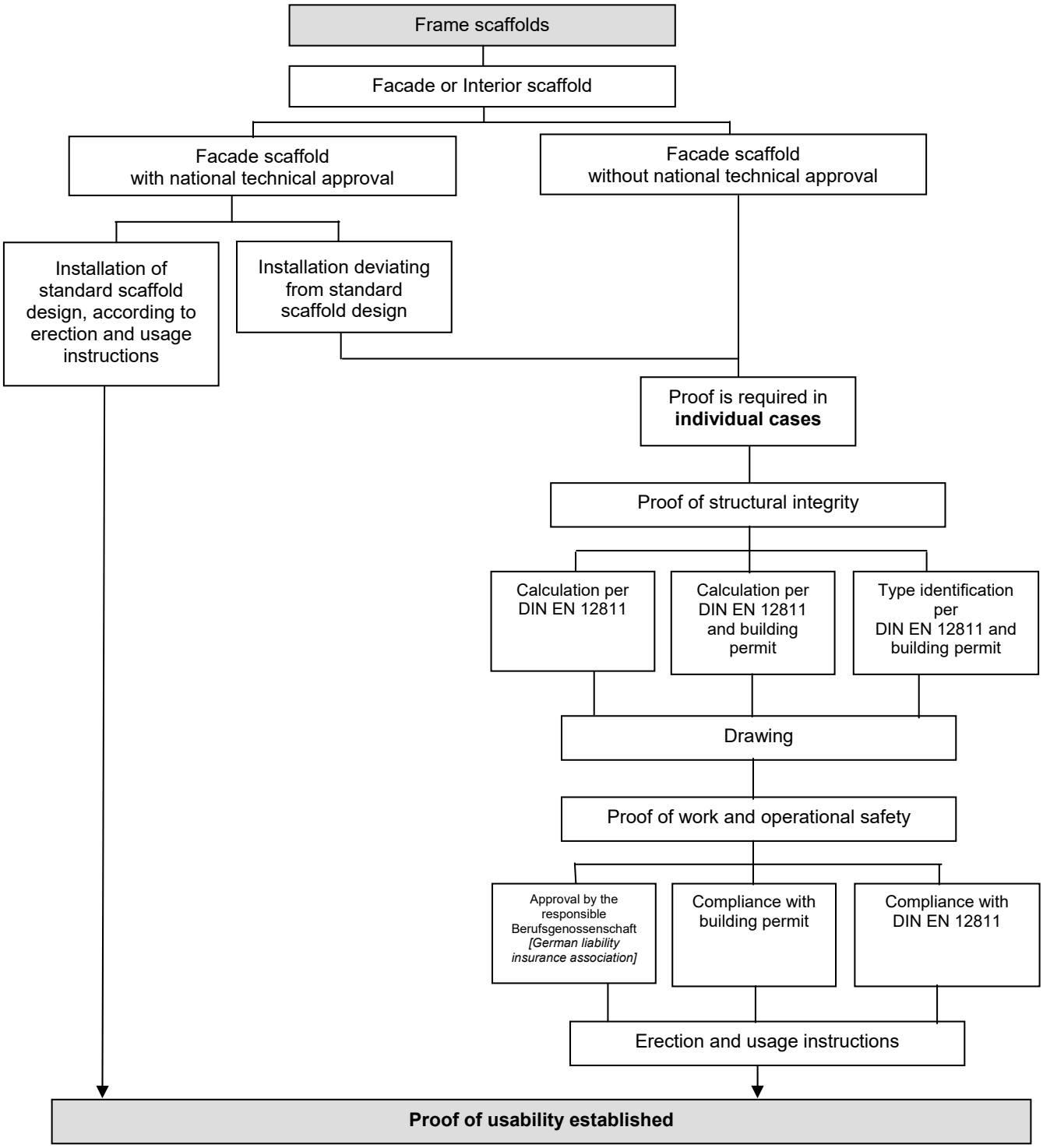
Signature of contractor Signature of responsible person

*) strike out where not applicable

Test Flow Chart



Proof of Usability



Unless stated otherwise all dimensions are in mm

HÜNNEBECK
A BRAND COMPANY

Test report for working and safety scaffolds

acc. to §§ 510 and 11 BetrSichV

Manufacturer .....
Phone.: .....
Construction site .....

Contractor .....
Phone.: .....
Operation time .....

Scaffold type:
☐ Work scaffold ☐ Protective scaffold ☐ Protective roof scaffold ☐ Protective roof
☐ Pedestrian passage ☐ Mobile scaffold ☐ Mobile working platform ☐ Hanging stage
☐ Weather protective roof ☐ Special scaffold

Type	Load class	Scaffold width	Covering	Construction
☐ Facade scaffold	☐ 1 0.75 kN/m²	☐ W06 (0.6 <0.9 m)	☐ Net	☐ Standard ABZ No. Z-.....
☐ Area scaffold	☐ 2 1.50 kN/m²	☐ W09 0.9 <1.2 m	☐ Tarpaulin	☐ Structural analysis
☐ Frame	☐ 3 2.00 kN/m²	☐ W..._____	☐ Others	
☐ Module	☐ 4 3.00 kN/m²	☐ Bracket..._____		Traffic safety
☐ Mast brackets	☐ 5 4.50 kN/m²			☐ Authorisation
☐ Steel tube couplers	☐ 6 6.00 kN/m²			☐ Warning signs
☐ Others				☐ Stopping restriction

Risk assessment	Additional safety precautions (2)	Additional assembly aids
☐ Not existent	☐ Safety net	☐ Auxiliary scaffold
☐ Existent	☐ Personal protective equipment (ppe)	☐ Lifting working platform
	☐ Attachment points for ppe determined	☐ Scaffolding lift
Additional safety precautions (1)	☐ Measures for rescue with ppe taken	☐ Crane
☐ Side protection (inside)		☐ Others
☐ Covering	☐ Others	

Check of components	Planks	Work and operation safety
☐ visually without damage	☐ Scaffold planks	☐ Side protection
☐ Original parts	☐ System planks	☐ Distance to wall
		☐ Access ways
Structural stability	Tying	☐ Corners
☐ Load bearing capacity of ground	☐ Tie pattern	☐ Protective wall in roof prot. scaffold
☐ Jack extension length	☐ Scaffold tie certificate existing	☐ Traffic safety, lighting
☐ Lateral bracing at foot level	☐ Higher loads with covered scaffolds	
☐ Diagonals		Approval
☐ Lattice girder		☐ Scaffold not approved
☐ Special construction according to on site documents		☐ Closed sign attached
		☐ Scaffold is approved
☐ Castor wheels		☐ Labeling attached
		☐ User manual handed over

Handover

☐ Notes: .....

.....

.....

☐ Check of working and protective scaffold completed (scaffold erector)

Place, date: .....

Signature Scaffold assembler:..... Group leader: .....

☐ Working and safety scaffold with test report taken over (scaffold user)

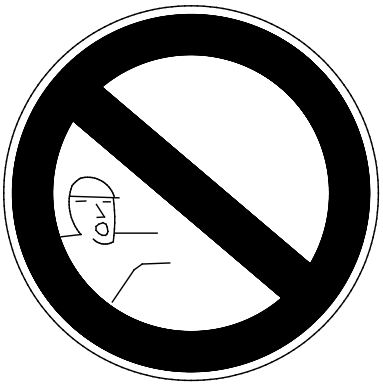
Place, date ..... Signature Contractor: .....

Place, date: ..... Qualified person: .....

Tie report

Tie Report																										
Project:													**Component:**													
Dowel type:													Bolt type:													
Tie surface:													Test equipment:													
Total no. of ties													No. of tested ties:													
x	→ Row of stands starting from the left-hand side												Test load in KN													
Scaffold elevation starting from below ↑		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**...**														
	...																									
	10																									
	9																									
	8																									
	7																									
	6																									
	5																									
	4																									
	3																									
	2																									
	1																									
Test load[kN] 1.2 x load of tie			A																							
			B																							
			C																							
			D																							
													Place. Date													

Identification of a scaffold still under construction



Areas of the scaffold not ready for use must be blocked off and clearly identified with a sign, reading “NO ACCESS”

Instructions for use

(Must be handed to the user of the scaffold)

The compiled safety-related guidelines in this user guide are intended to draw the scaffold user’s attention to the requirements when using a scaffolds. This list includes only the most important instructions and is not exhaustive. During a professional dispute regarding occupational health and safety while working on scaffolding, this list should not be considered as a replacement for such discussions.

- Prior to entering a scaffold, a visual inspection for any damages is required.
- The scaffold may only be entered by using access ways specifically designed for this purpose (ladders, stairways).
- Damaged scaffolds must not be used.
- Using a hoist to lift and unload materials onto scaffolds up to category SG 3/LC 3 is not permitted.
- Within all scaffold groups/load classes of the standard design, a general rule applies stipulating that only one working plank within a scaffold bay (referring to the area between two posts and the overall scaffold height) can be subjected to the total dead load.
- The user must not change the scaffold’s construction after the erection has been completed.
- Jumping onto planks below or dropping objects onto planks below is not permitted.
- Planks must be placed close to each other. They should neither teeter nor give way.
- If material is stored on top of a plank, the minimum passageway must be 20.0 cm wide.
- A 3-sectional side protection must be installed with all planks.
- Neither building material nor tools may be stored on the plank of a fall protection scaffold.
- Careful handling of all scaffold components must be guaranteed.

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The illustrations in this brochure depict actual site conditions which may not always conform with applicable safety rules and regulations.

Last updated: December 2018
Keep for later use!

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