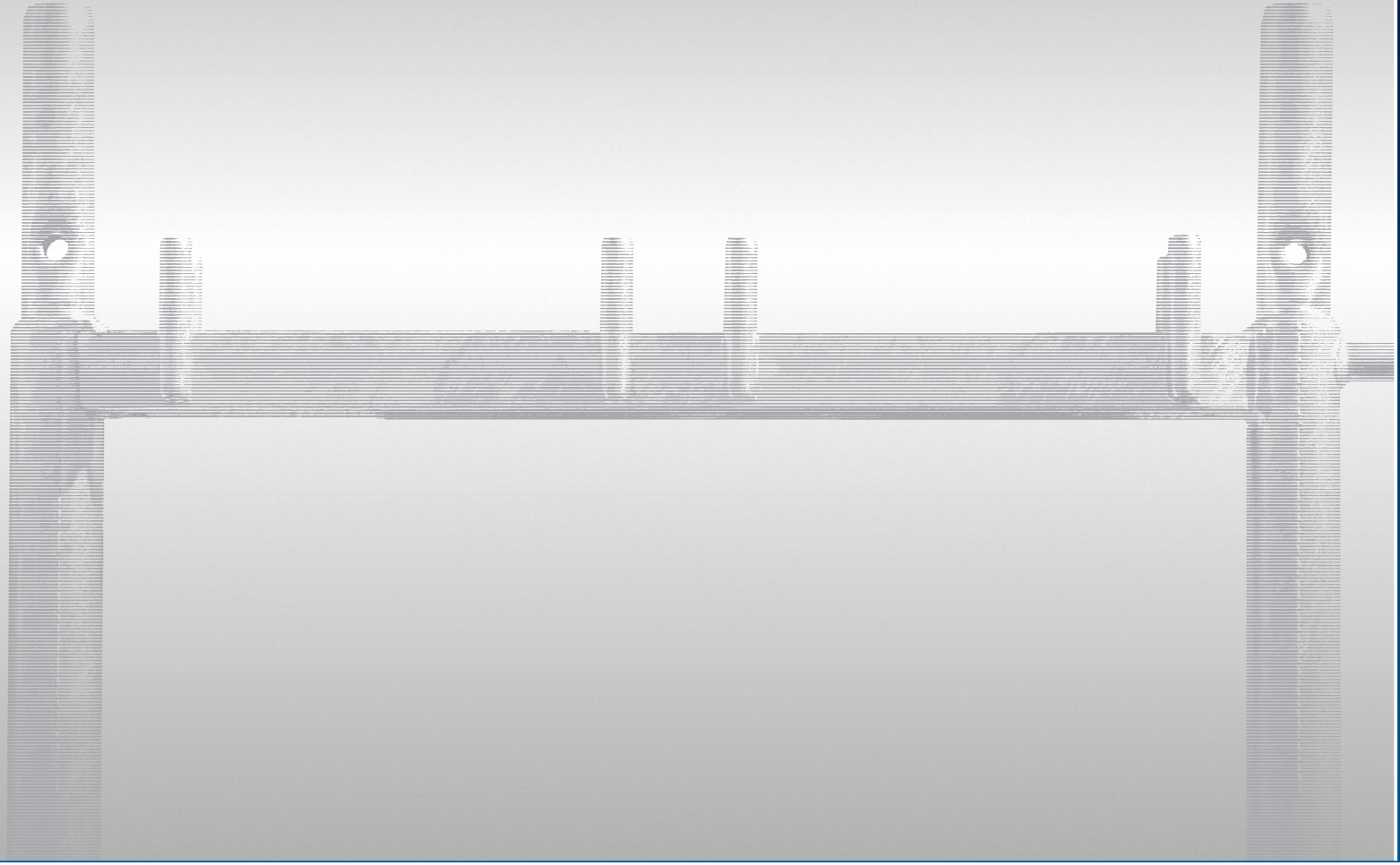

SUPER 100 *FAÇADE SCAFFOLDING*

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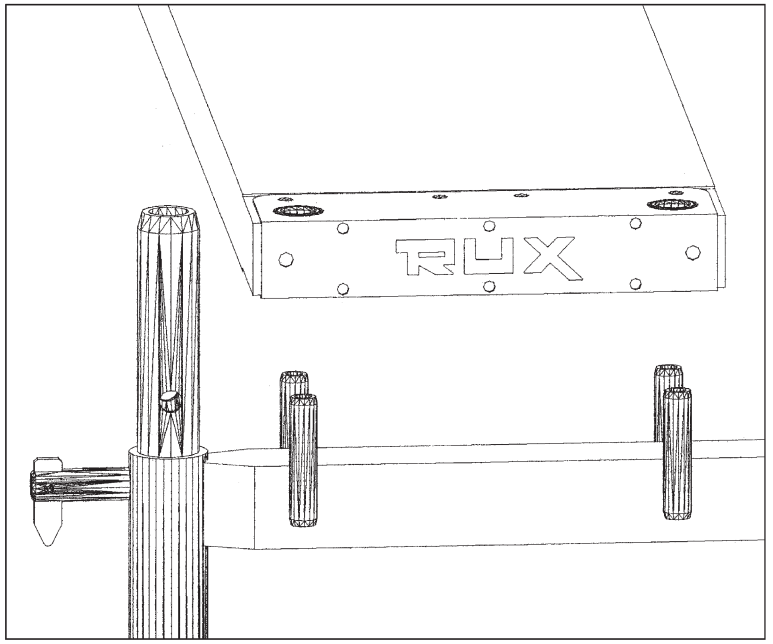
Instructions for erection and use

A Scafom international company
Scafom INTERNATIONAL

Instructions for erection and use of the RUX-SUPER 100 Rapid-Erection Scaffolding

- Standard Design -



Status: January 2007

Attention! Any instructions for erection and use issued at an earlier date are no longer valid.

These instructions for erection and use are valid only for the original RUX-SUPER 100 rapid-erection scaffolding system from RUX GmbH, RUX SALES & SERVICES GmbH and GÜNTER RUX GmbH. These instructions are not valid for any scaffolding structures consisting of imitation copies of system components or combinations of original parts with imitation components.

Contents

Rapid-Erection Scaffolding RUX-SUPER 100

1 General

Preliminary advice concerning these instructions for erection and use of the RUX-SUPER 100 scaffolding system in standard design: In connection with the instructions for erection and use contained herein, please note in particular that scaffolds may only be erected, dismantled or converted by sufficiently qualified staff and under professional supervision. For the erection and use of scaffolds we refer to the provisions under the general regulations for occupational health and safety. As part of these instructions for erection and use, we provide erectors and users with the necessary information derived from our own accident hazard analyses to comply with the regulations for occupational health and safety in each particular situation of assembly and/or use. The technical details given in these instructions for erection and use, which are intended to assist erectors and users in complying with occupational health and safety regulations, do not constitute any mandatory specifications. Erectors and/or users must carry out their own accident hazard analyses and take all necessary precautions to comply with occupational health and safety regulations according to their own best judgement. Here, the special conditions of each individual project must be taken into account.
The basic requirement in all cases is strict adherence to the instructions for erection and use contained herein.
All statements made in these instructions apply only to original components supplied by RUX GmbH, RUX SALES & SERVICES GmbH and Günter Rux GmbH. The use of components from other manufacturers may lead to safety deficiencies and insufficient stability of the structure.

In addition to these instructions for erection and use, the approval notification for the scaffolding system must also be observed.

To have any questions concerning these instructions answered and to obtain structural analyses in cases of divergence from standard designs, please contact:

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The RUX-SUPER 100 rapid-erection scaffolding is a steel frame scaffold with a system width of 1.0 m and consisting of pre-fabricated components.

The main support structure consists of 2.0 m high vertical frames, decking (planks, battens or boards) as well as vertical diagonal braces in the outer standard plane. The butt joints of the vertical frames are connected by tube connectors. The vertical diagonal braces and guardrails are fixed to the standards with the aid of gravity locks. The decking is held horizontally by tubular spigots on the cross bearers and serve to stiffen the scaffold both at a right angle as well as parallel to the facade.

The standard bay lengths are 2.0 m, 2.5 m and 3.0 m. Shorter lengths of 0.65 m, 1.0 m and 1.50 m can, however, also be fitted.

The manufacture and identification of components is regulated in the General Certificate of Approval No. Z-8.1-185.2 issued by the Institute of Construction Technology.

Timber plank, steel plank, aluminium plank (width: 0.29 m), Aluminium batten (width: 0.59 m),
Aluminium ladder frame (width: 0.59 m)

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

1 General

The topmost lift, in the standard design, is to be at a maximum of 24 m plus jack extension length above the ground.

The scaffolding system is intended for use as a working scaffold in the Scaffold groups 4 – 6 as well as a protective scaffold in accordance with DIN 4420.

In general, the working loads specified in Table 1 are permissible. When widening brackets are used on the outer side of the scaffold, the scaffolding is, however, to be subjected to a maximum load of 300 kg/m² (Scaffold group 4, DIN 4420).

Table 1: Approved scaffold groups and working loads

Bay length	Permissible scaffold groups	Permissible working loads
2.0 m	4	300 kg/m²
	5	450 kg/m²
	6	600 kg/m²
2.5 m	4	300 kg/m²
	5	450 kg/m²
3.0 m	4	300 kg/m²

Erection and dismantling of the RUX-SUPER 100 scaffolding is only to be performed by qualified personnel.

Erection, conversion and dismantling of RUX-SUPER 100 rapid-erection scaffolds may only be carried out under the supervision of a sufficiently qualified person and by qualified staff specially trained for such work and familiarized with the special conditions of each individual project. During all work on scaffolds, the occupational health and safety regulations must be observed and complied with. Prior to starting work on scaffolds, the contractor responsible must carry out a risk analysis. The form enclosed with these instructions may be used for this purpose. It does not claim, however, to contain a complete list of all conceivable risks that can occur in scaffolding work. Therefore it remains the responsibility of the contractor to recognize any additional risks present on individual building sites and take all necessary precautions to ensure adequate safety standards and to protect the health of workers.

These instructions describe the erection and dismantling of the standard version. If this scaffolding system is used to build scaffolds that deviate from the standard version, the deviations must be measurable according to the technical construction regulations and the provisions of the National Technical Approval No. Z-8.1-185.2, and they must be verified in each individual case. The verification can be waived if the scaffold is built according to a generally recognized standard structure. The scaffold may only be erected, dismantled, converted and used as described in these instructions and exclusively with components included in the parts list contained in these instructions. Other structures are possible, but subject to specific verification.

After erection and prior to use, each scaffold must be inspected by sufficiently qualified persons. The inspection must be documented. During erection, dismantling and conversion, the scaffold must be marked with a “no admittance” prohibition sign and cordoned off effectively to prevent unauthorized access to the danger zone (Appendix 2, Section 5.2.5 safety regulations).

Rapid-Erection Scaffolding RUX-SUPER 100

1 General

Scaffolding contractors must inspect each scaffold upon completion, scaffolds and parts of scaffolds not yet completed must be barred, marked with a “no admittance” sign and cordoned off effectively.

The decking of RUX-SUPER 100 rapid-erection scaffolds has been verified and approved according to table 2 for working loads on scaffold groups according to DIN 4420, part 1: 1990-12, table 2 and for use on safety scaffolding and roof safety barriers to withstand the impact of falling from heights of up to 2.00 m.

Table 2: Assignment of the planks to the Scaffold groups and their application in safety and roof safety scaffolds.

Description	Appendix *)	Use on safety scaffolds and roof safety barriers	Grid width l [m]	Use in scaffold group
Timber plank	9	permissible	≤ 2.0	≤ 5
			2.5	≤ 4
Profiled timber plank	10	permissible	2.5	≤ 5
			3.0	≤ 4
Aluminium plank	12	permissible	≤ 2.5	≤ 6
			3.0	≤ 5
Aluminium batten	13	permissible	≤ 2.5	≤ 5
			3.0	≤ 4
Steel plank	14	permissible	≤ 2.0	≤ 6
			2.5	≤ 5
			3.0	≤ 4
Aluminium ladder frame with integrated ladder and veneer plywood (BFU 100G)	45	permissible	2.5	≤ 4
			3.0	≤ 3
All-aluminium ladder frame with integrated ladder	46	permissible	2.5	≤ 4
			3.0	≤ 3
Solid timber decking plank d = 45 mm	61	permissible	≤ 2.0	≤ 4
Solid timber decking plank d = 48 mm	62	permissible	≤ 2.0	≤ 5
			2.5	≤ 4
Alu-Belagbohle d = 45 mm	63	permissible	≤ 2.0	≤ 6
			2.5	≤ 4
Aluminium ladder frame aluminium, complete with ladder (decking: extruded profiles)	73	permissible	2.5	≤ 4
		permissible	3.0	≤ 3
Aluminium ladder frame aluminium, complete with ladder (decking: extruded profiles)	74	permissible	2.0	≤ 5

*) appendices to National Technical Approval No. Z-8.1-185.2

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2 Erection of the RUX-SUPER 100 scaffolding

2.1 General requirements

The RUX-SUPER 100 components are to be visually checked for damage prior to erection. Damaged components must not be used. Only original parts bearing the labels of RUX GmbH, RUX SALES & SERVICES GmbH and Günter Rux GmbH may be used.

The RUX-SUPER 100 scaffolding is to be erected in the sequence of the following chapters.

2.2 Erection of the first bay

2.2.1 Load-spreading foundations

When the ground is sufficiently firm to bear the loads, the scaffold can be erected without adopting any additional measures..

If the ground is not of sufficient load-bearing nature, load-spreading supports such as planks, square timber blocks or steel beams must be placed underneath(refer to illustrations 1a and 1b).

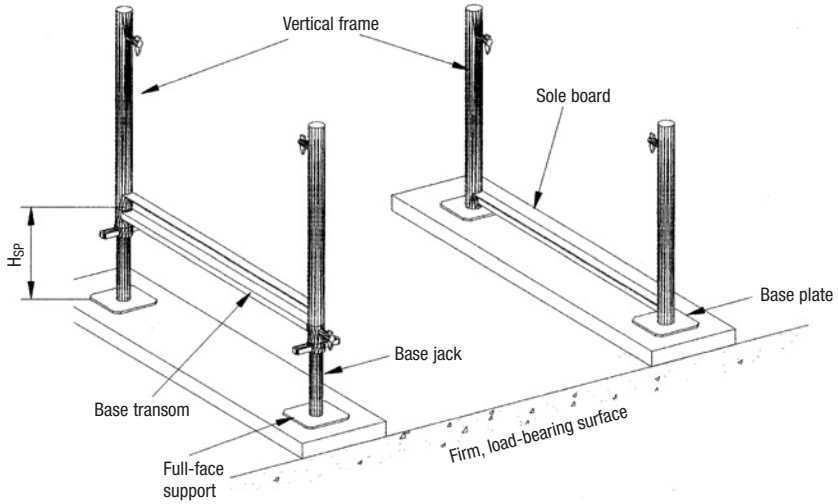


Illustration 1a Load-spreading foundations with sole boards.

2 Erection of the RUX-SUPER 100 scaffolding

2.2.2 Base plates, base transoms and longitudinal tubes (ledgers)

The base jacks are to be placed, full-face, on the horizontal, firm ground (refer to Ill. 1b). Inclines are to be compensated by wedge-shaped sole boards. The local load input is to be verified on inclines of more than 5°.

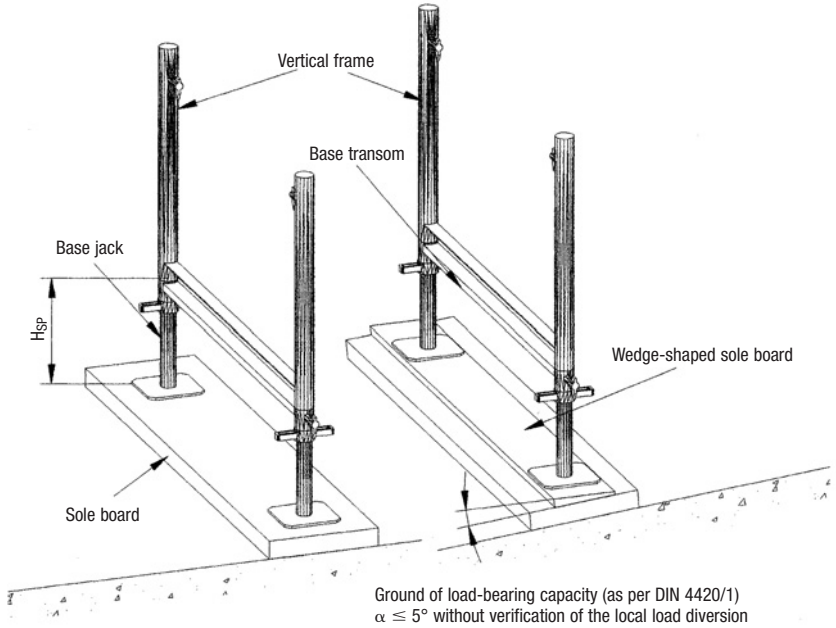


Illustration 1b Examples of foundations (in accordance with DIN 4420/1).

The permissible extended length of the base jacks depends on the mode of erection selected. These are specified in the erection sketches Chapter 2.5 (spindle extension length H_{Sp} = distance from bottom edge of vertical frame to bottom edge of the jack base plate (refer to Ill. 1a, 1b)).

2 Erection of the RUX-SUPER 100 scaffolding

The jacks are classified in Jack Group A approved by the construction authority under approval No. Z-8.1-185.1 (Z-8.1-185.2) in accordance with Chapter 6 of DIN 4425.

Base transoms are to be fitted for connecting the longitudinal tubes and are placed together with their tube supports over the jacks.

A longitudinal tube (ledger) is hooked onto the gravity finger of the base transoms on the outer side. This ensures that exact bay length is maintained (refer to Ill. 2)

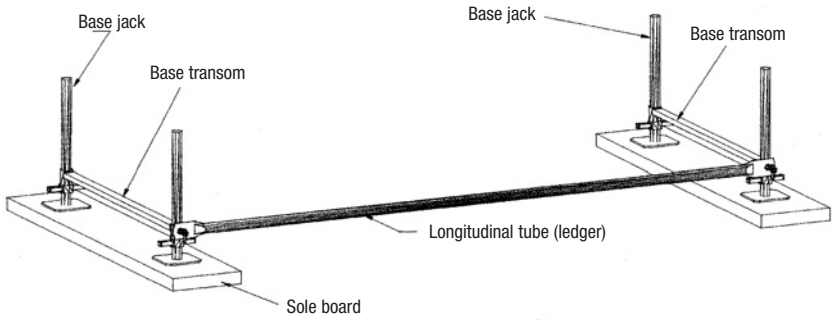


Illustration 2 Alignment of the bottom scaffold level using base transoms and longitudinal tubes (guardrails).

2 Erection of the RUX-SUPER 100 scaffolding

2.2.3 Adapter frames

If there are large variations in the height of the terrain on which the scaffold is located such that they cannot be compensated by the spindles, then adapter frames with a height of 0.5 m, or 1.0 m, are to be fitted (Ill. 3).

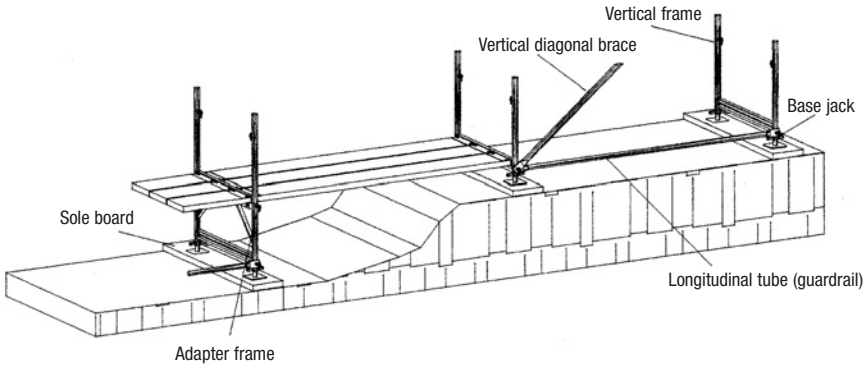


Illustration 3 Erection using vertical adapter frames.

If vertical diagonal braces are planned for a bay, then diagonal braces must also be fitted between the adapter frames. Tubes of 48.3 dia. x 3.2 are to be used and connected by swivel couplers to the standards.

2 Erection of the RUX-SUPER 100 scaffolding

2.2.4 Vertical frames

The vertical frames are to be placed perpendicular on the base plates, or jacks, at the intended distance from the wall. In doing so, care should be taken to ensure that the clear space between plank and facade must be a maximum of 0.30 m.

The vertical frame is to be secured against falling over by fitting a vertical diagonal brace. This brace is hooked onto the outer gravity locks, whereby care should be taken to ensure that the outer hole is used on the side where the twin-holes are located (Ill. 4).

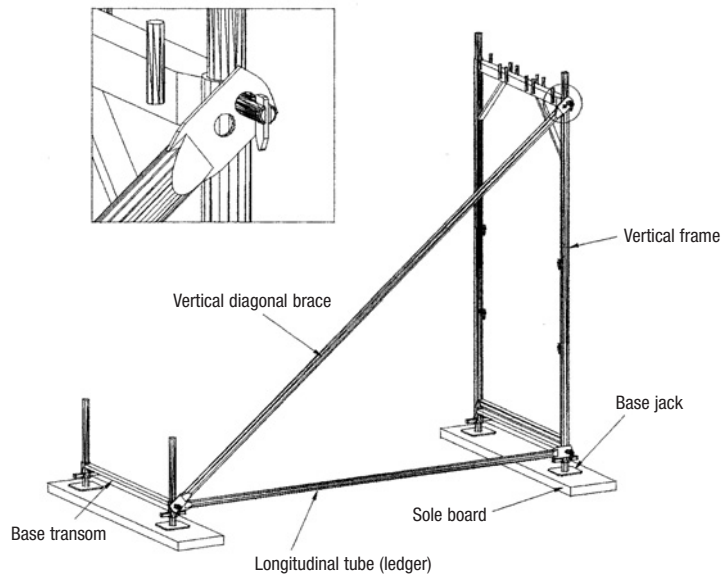


Illustration 4 Fitting the vertical frame and achieving stability by means of vertical diagonal braces.

2 Erection of the RUX-SUPER 100 scaffolding

2.2.5 Fitting the planks

Approved planks are to be fitted over the full width of the scaffold. They are located by means of tubular spigots welded to the cross bearers (Ill. 5).

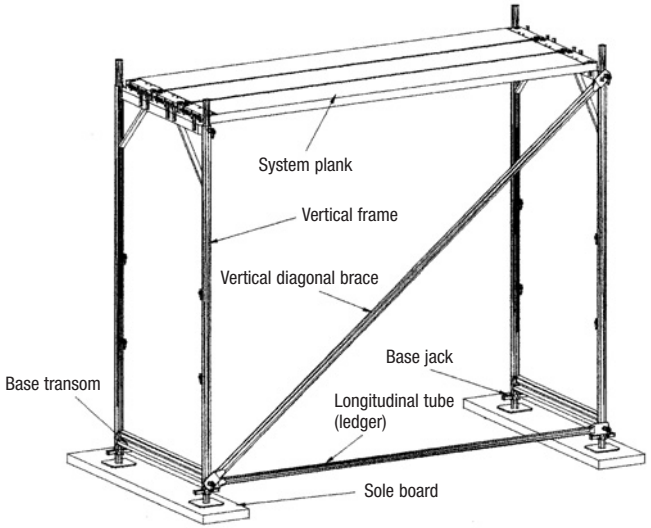


Illustration 5 Erection of the first bay (base bay).

2.2.6 Braces

The longitudinal braces are to be fitted to the outer side of the scaffold.
The vertical diagonal braces and longitudinal tubes serve to create stability and onward transmission of the forces into the ground underneath the outer scaffold face that runs parallel to the facade.

2.2.7 Alignment

The first bay must be aligned both perpendicular and horizontally. The distance from the wall should be checked i.e. the maximum distance between the planks and the facade must not exceed 30 cm if a guardrail is not fitted.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.3 Erection of the subsequent bays

2.3 Erection of the subsequent bays

2.3.1 Standard bays

When the base bay has been completed with braces and aligned, the next bays can be assembled. The same procedures are to be adopted as described in Chapter 2.2.

By fitting the vertical diagonal braces, the RUX-SUPER 100 rapid-erection scaffold plumbs itself automatically in the perpendicular.

The vertical diagonal braces and longitudinal tubes (ledgers) are supplemented in accordance with the various modes of erection described (refer to Chapter 2.5). One vertical diagonal brace is to be fitted to a maximum of five bays (Ill. 6).

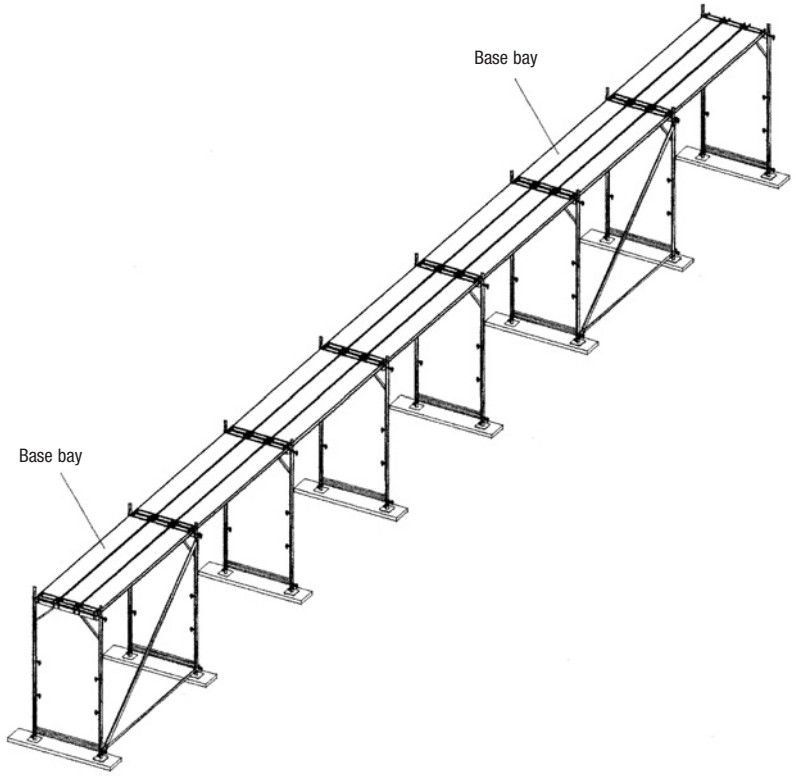


Illustration 6 Erection of the bottom scaffold level (for additional braces refer to Chapter 2.5 various modes of erection).

Rapid-Erection Scaffolding RUX-SUPER 100

2.3 Erection of the subsequent bays

2.3.2 Additional braces

On some modes of erection, longitudinal tubes (ledgers) are also to be fitted on the inside (refer to details on various modes of erection in Chapter 2.5). Tubes of 48.3 dia. x 3.2 are to be used for this purpose and connected to the standards by means of standard couplers.

In a number of cases, cross diagonal braces are to be fitted in the bottom vertical frames (refer to details on the various modes of erection in Chapter 2.5). Here again, tubes of 48.3 dia. x 3.2 should be used with connection to the standards being effected by means of swivel couplers (Ill. 7).

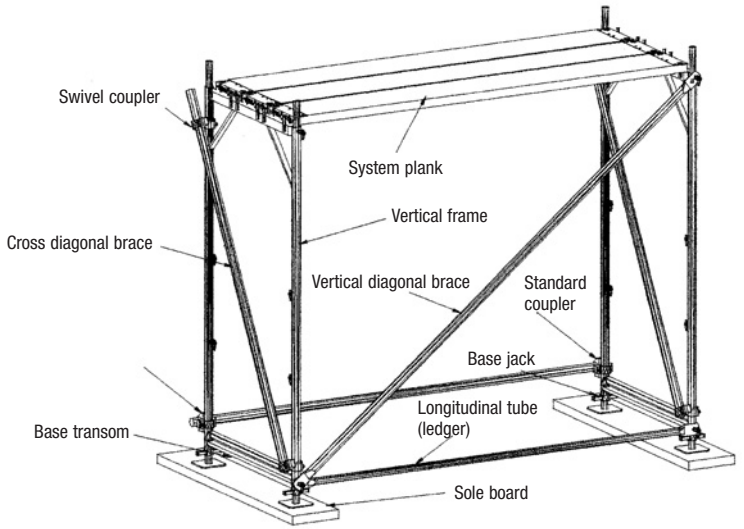


Illustration 7 Bay with additional braces.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

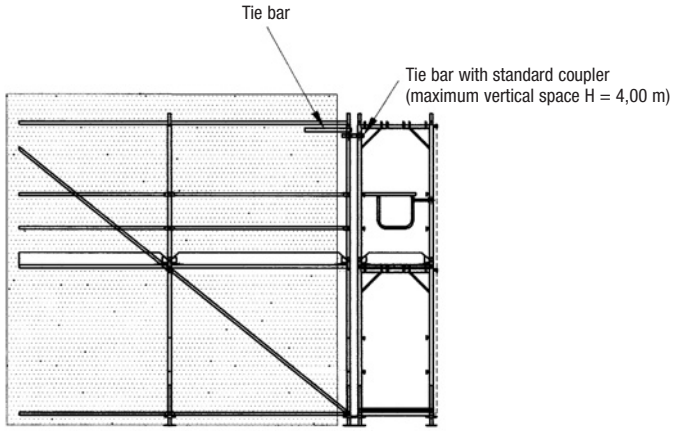
2.3 Erection of the subsequent bays

2.3.3 Building corners

Construction of the scaffold at the corner of a structure is depicted, in principle, in the illustrations 8a and 8b.

The standards of the vertical frames located immediately alongside one another are connected vertically at a distance of 4 m by a scaffold tube and two standard couplers. The gap created between the vertical facade components that meet up with one another must be covered in the event that it is larger than 8 cm.

Further details on the construction of corners with additional ties are contained in Chapter 2.4.6.



2.3 Erection of the subsequent bays

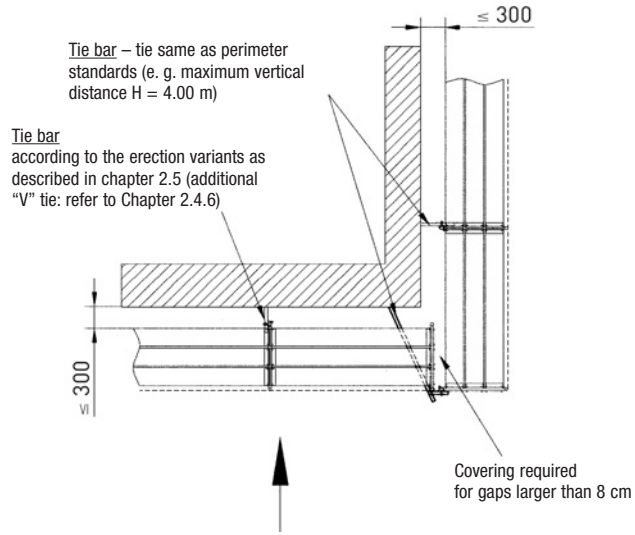


Illustration 8a Corner construction through connecting the frame standards by means of tubes and standard couplers.

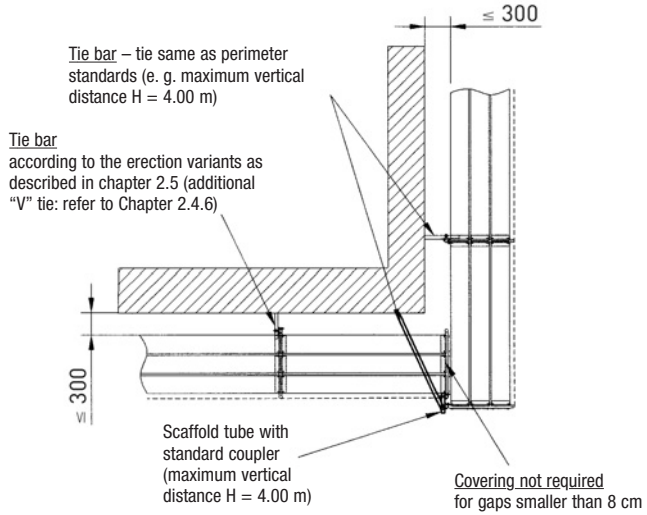


Illustration 8b Construction of corner scaffolds with no covering of the gap.

2.3 Erection of the subsequent bays

2.3.4 Scaffold access ladders

The access ladders are to be fitted before work starts on the first lift.

Inner access ladders (see illustration 9):

In the case of the inner access ladders, the 0.59 m wide aluminium ladder frames are fitted to the scaffold and a 0.29 m wide plank placed alongside in each case.

The aluminium ladder frames are to be fitted such that the ladders are located alternately on the right and left-hand sides.
Planks are to be fitted on additional plank bearers immediately above the jacks and which are slotted over the base jacks prior to the vertical frames being erected (Ill. 9;10).

This procedure may be adopted for the following modes of erection:

- Scaffold group 5 (max. 450 kg/m^2 on one lift – l = 2.00 m
- Scaffold group 4 (max. 300 kg/m^2 on one lift – l = 2.50 m

The structural design is described in detail in Chapter 2.5.3.4.

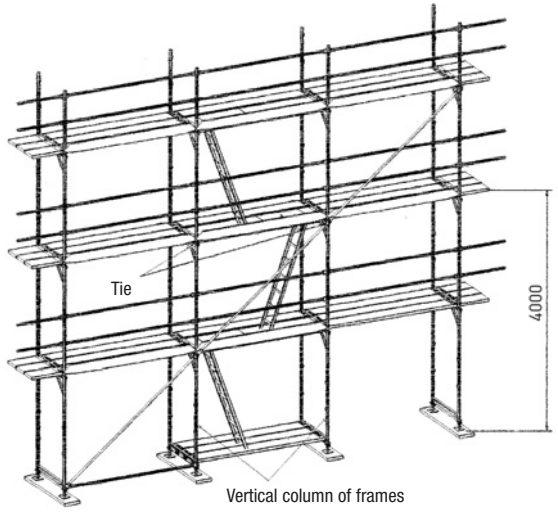


Illustration 9 Bay with inner access ladders (2.0 m bay length only – Scaffold group 5).

Rapid-Erection Scaffolding RUX-SUPER 100

2.3 Erection of the subsequent bays

Access ladders located in front of the main scaffold (refer to illustration 10):

A separate 0.65 m wide bay is erected in front of the actual working scaffold to which aluminium ladder frames are fitted.

The access ladders fitted in this manner may only be loaded to a maximum of 200 kg/m^2 on one lift (in accordance with Scaffold group 3, DIN 4420).

This construction is described in detail in Chapter 2.5.3.5.

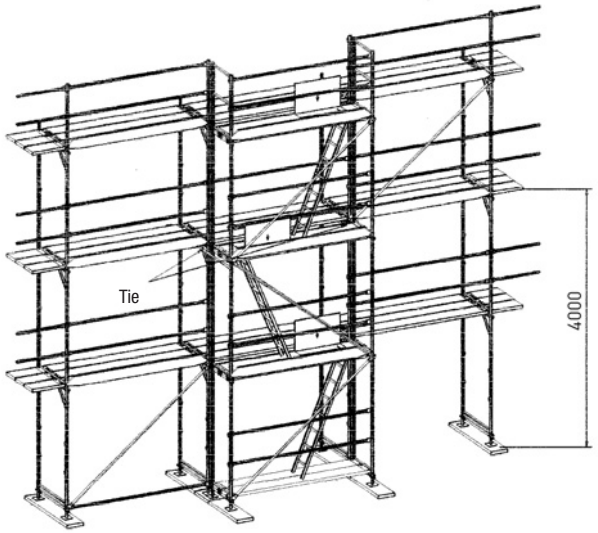
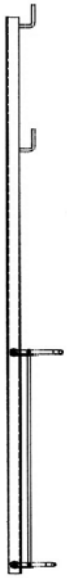


Illustration 10 Access ladders in front of working scaffold.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.4 Erection of the subsequent lifts



2.4 Erection of the subsequent lifts

The measures suggested in the next chapter to increase safety during assembly, dismantling and conversion of scaffolds are to be understood as helpful suggestions for scaffolding contractors only, not as mandatory specifications.

The precautionary steps suggested there have been devised by a committee consisting of scaffolding contractors, leading German scaffold manufacturers and the German Federal Association of Scaffolding Contractors on the basis of a joint risk analysis. Although current accident statistics in the erection, dismantling and conversion of scaffolds do not call for mandatory changes in current scaffolding practices, the objective of the committee's work was to improve scaffolding safety standards in areas where, in theory, a danger of falls could exist.

Erection, dismantling and conversion of scaffolds always involves a risk of falls.

Work on scaffolds must be carried out in such a way as to minimise the risk of falls. Prior to commencement of work, scaffolding contractors (or principals) must have a risk analysis carried out for each individual project and take appropriate precautions to minimise the danger of falls.

It is the task of supervisors responsible for the erection and dismantling of scaffolds to take appropriate measures to prevent falls and their consequences for the life and health of workers, in order to ensure maximum safety, taking into consideration all aspects of practical feasibility, expediency and the actual risks involved. Where possible, collective protective measures must always take priority over individual measures.

Possible preventive measures are:

– employment of qualified workers who have been familiarized with the specific risks involved in each case,
– use of appropriate personal safety equipment (PSE)
– use of an assembly guard rail for the ascent
– or a combination of these measures.

It must be expressly pointed out that none of these alternatives is a collective protective measure.

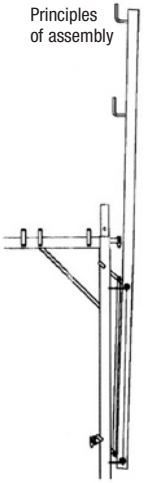
Rapid-Erection Scaffolding RUX-SUPER 100

2.4 Erection of the subsequent lifts

Erection and dismantling of the basic standard scaffolding system with the help of an assembly guard-rail system

For scaffolds without external brackets or bridges which conform to the basic standard system, Rux recommends using the Rux assembly guard-rail system in the ascent bay during erection and dismantling of the scaffold. Other measures may be taken as an alternative if they provide a comparable degree of safety.

Principles of assembly



The Rux assembly guard-rail system has been developed for scaffold frame structures to provide improved protection against falls for workers taking part in the assembly and dismantling of such structures.

The system consists of the following parts:
Assembly guard-rail posts,
assembly rails that can be mounted as hand rails and/or knee rails.

The structure is an "advanced guard-rail" that can be mounted following the assembly of each top horizontal level of any scaffold frame from the horizontal level immediately below it.

Special warning:

Please note that Rux assembly guard-rail systems are never sufficient to prevent all risks of falls occurring during the assembly or dismantling of scaffolds!

It remains the task of supervisors responsible for the assembly and dismantling of scaffolds to take additional or other precautions against falls and their consequences for the lives and health of workers involved, in order to provide maximum safety, taking into account all aspects of practical feasibility, expediency and the actual risks involved. Such precautions may include certain prescribed sequences of assembly and dismantling work, personal safety equipment or the employment of specially trained staff.

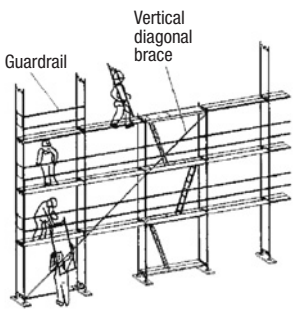
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.4 Erection of the subsequent lifts

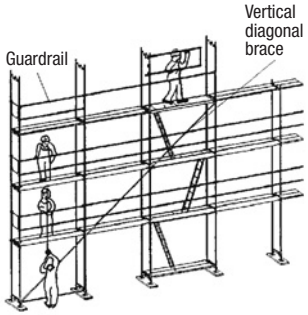
Following erection of the first scaffold level, the guard-rail system, consisting of two posts and a hand rail, is attached to the outside of the frame standards in the bay of ascent, so that the bottom hooks on the posts are locked into the rail couplers of the vertical frames at a height of 1.00 m, and the assembly guard-rail is fixed app. 1.00 m above the top horizontal level.

Attention! The assembly guard-rail system must be mounted from below in the bay of ascent, before the assemblyman steps onto the next level of the scaffold.

The assemblymen ascend through the bay secured by the assembly guard-rail. Starting from the secured bay, the assembly of frames and rails is continued to the left and/or to the right. Following the assembly of each frame, the three-part lateral safety barrier, consisting of hand rail, knee rail and toe board, must immediately be put in place in that bay.



Ill. 11a Mode of erection I



Ill. 11b Mode of erection II

It must be remembered that during the assembly of each outermost frame, the assemblymen are working in an unsecured area for a short period (prior to assembly of the lateral safety barriers), where there is an acute danger of falling. Prior to commencement of work, assemblymen must be instructed accordingly.

After completion of the next horizontal level, the assembly guard-rail posts must be removed individually, one by one, and then attached with their bottom hooks to the external standards of the row of frames already secured at the height of the back rail.

Dismantling of the assembly guard-rail is not necessary, since the rail system is telescopic, thanks to a slotted hole.

For the dismantling of scaffolds, the sequence of steps in the use of this system is reversed.

Assembly and dismantling without an advanced assembly guard-rail system, with PSE:

For the assembly and dismantling of scaffolding structures deviating from the basic standard system and special scaffolding structures not described in these erection instructions, the use of personal safety equipment is recommended, where this is expedient in view of the local conditions. Alternatively, other preventive measures providing at least an equal degree of safety may be taken.

Rapid-Erection Scaffolding RUX-SUPER 100

2.4 Erection of the subsequent lifts

Attachment points for personal safety equipment (PSE):

In RUX-SUPER 100 rapid-erection scaffolds, PSE may only be attached to the standards and the top horizontal ledgers of the vertical frames.

Back rails, diagonals, toe boards and rail posts are unsuitable as PSE attachment points.

The use of PSE on standard scaffolds that have not yet been tied is prohibited, because it would involve the risk of the whole scaffolding structure being pulled down by the fall of one person. The use of PSE is recommended only from the 3rd level of a scaffold or from a minimum height of 5.00 m upwards, since a person falling from a lesser height would already touch the ground prior to the safety mechanism taking effect, due to the length of rope involved plus his/her own body height.

Basically, the maximum length of attachment rope permissible for PSE is 3.00 m.

If PSE hooks are attached to standards of scaffold frames, the hooks may come to lie on rails mounted to the scaffold. In the event of the person secured by this device falling down, such hooks may be subjected to horizontal bending, which some hooks found on building sites are unable to withstand. Therefore the user must ascertain from the manufacturer of his PSE whether the hooks have a sufficient load capacity for their being attached in such positions.
Basically, only attachment devices according to DIN EN 362 may be used.
Prior to the use of any PSE, an individual analysis must be carried out on how, in the event of an accident, a person who has fallen and is secured by PSE can be rescued.
A person who has fallen from a scaffold will be suspended in his PSE harness either in front of a horizontal level or between two such levels. The rescuers must pull such a person onto the scaffold level within easiest reach. This makes it necessary for the rescuers to attach themselves with their own PSE and possibly to remove the lateral safety barrier of the bay involved. Only after the accident victim has been moved to a safe position and the catch-rope has been completely freed from the load, may the hook be detached from the attachment point (if necessary, the rope must be severed!). After having withstood one fall, the rope, attachment device and fall impact absorber must not be used again.

Erection of scaffolds without advanced rail system and without PSE:

In such cases only specially trained staff who have been familiarized with the risks involved and are not affected by heights may carry out the work. Persons working in scaffold areas with a danger of falls must be both physically and mentally able to carry out the type of work required in such areas.
Users of the scaffold must keep away from areas without collective lateral safety barriers consisting of back rail, knee rail and toe board.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.4 Erection of the subsequent lifts

2.4.1 Conveyance of scaffold components

In cases where the bay height exceeds 8 m (height of the topmost lift above ground level), lifts must be used to assist in erection and dismantling. Manually operated cable hoists are also considered to be lifts.

Lifts can be dispensed with when the bay height does not exceed 14 m and the length of the scaffolding is not more than 10 m.

On bays where components are conveyed vertically by hand, guardrails and intermediate rails must be in place. At least one worker must be present on each individual lift (deck) in the event of manual handling of components (refer to Ill. 11a and 11b).

2.4.2 Assembly of the vertical frames

Mode of erection I: The vertical frames are to be fitted from the far column of frames towards the bay by conveying them vertically. The guardrails must then be fitted, starting in the bay in which vertical conveyance takes place (refer to Ill. 11a).

Mode of erection II: The vertical frames are to be mounted starting in the bay in which vertical transportation takes place. The guardrail must be installed immediately after the appropriate frame has been fitted (refer to Ill. 11b).

2.4.3 Planks (decking)

Approved planks are to be installed at each lift over the full width of the scaffold. they are hooked onto the tubular spigots welded to the transoms (bearer rails).

Normally the planks are secured against unintentional dislocation by the bottom cross bar of the vertical frames, or on the topmost lift, by the guardrail or barrier supports. In cases where outer brackets are used, plank retainers are to be fitted above the vertical frame on the topmost lift.

2.4.4 Braces

The braces (vertical diagonals) are to be fitted as erection progresses and as described in Chapter 2.2.

The required number of vertical diagonal braces is illustrated in Chapter 2.5. Braces are to be installed at each lift, at least in every 5th bay.

The direction of inclination of the vertical diagonals can be selected at random, i.e. fitting can be successive or in the form of a tower.

Rapid-Erection Scaffolding RUX-SUPER 100

2.4 Erection of the subsequent lifts

2.4.5 Guard (guardrails)

Missing intermediate rails and toe boards, as well as the complete guarding at the ends of the scaffold, are to be fitted at all lifts not used for the erection of the scaffold.

The guardrails and intermediate rails are attached to the inner gravity locks on the vertical frames or, in the case of vertical frames with lugs, to the lugs. Gravity locks that do not point in the direction of the planking (e.g. locks for connection of the vertical diagonal braces) may not be used for attaching guard rails or intermediate rails.

Guardrail posts are fitted above the 1st lift for mounting the guardrails. Care is also to be taken to ensure that the gravity locks for fitting the guardrails and intermediate rails point in the direction of the decking (planks).

In cases where outer brackets are used, tubes of 48.3 dia. x 32.2 with standard couplers are fitted above the topmost lift at the ends to provide guardrails and intermediate rails (refer to Ill. 12 and 13).

The toe boards and their fittings are slotted in between the outer standards. Attention must be paid here to ensuring the correct position of the inner and outer sides (refer to the marking on the end fittings of the toe boards).

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.4 Erection of the subsequent lifts

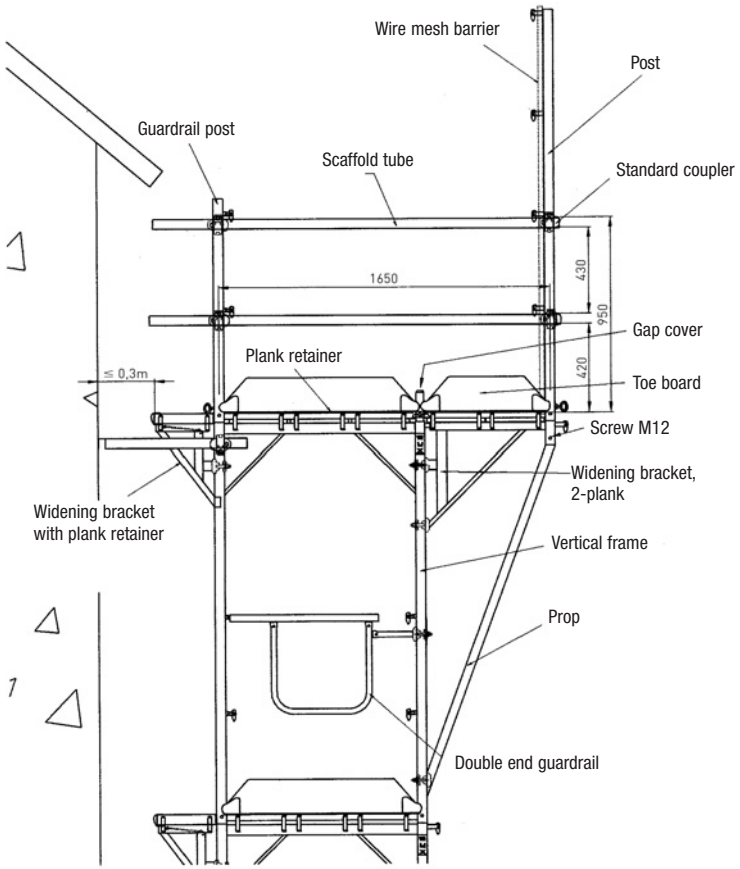


Illustration 12

Rapid-Erection Scaffolding RUX-SUPER 100

2.4 Erection of the subsequent lifts

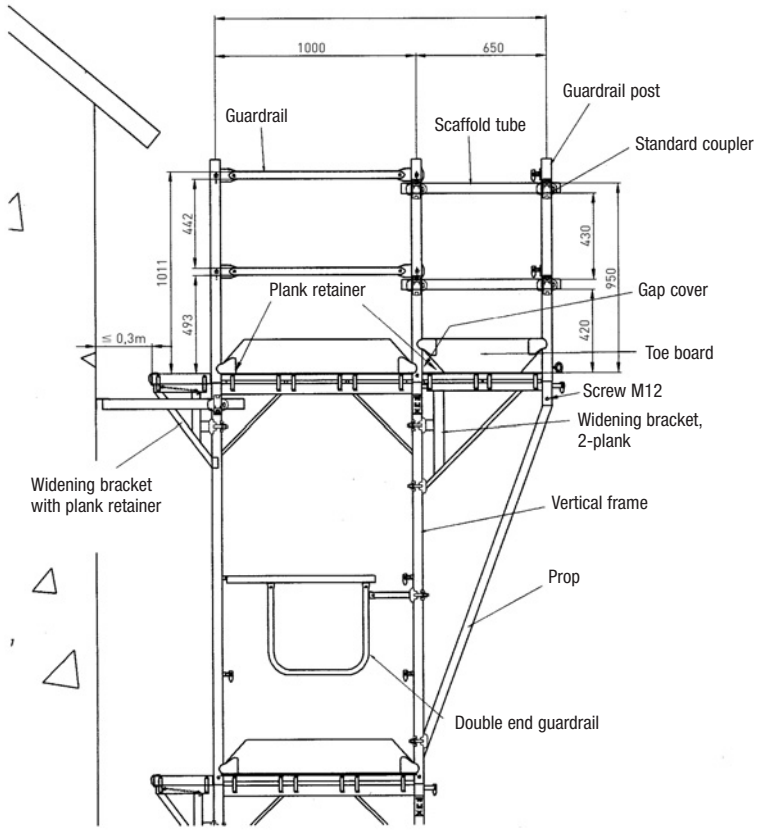


Illustration 13

2.4 Erection of the subsequent lifts

2.4.6 Ties (tie spacing and tie forces)

The tie spacing for the various modes of erection can be taken from the sketches in Chapter 2.5. The tie forces are also to be found in the appropriate tables in the same chapter.

Ties are to be installed as erection of the scaffold progresses. Use bolts of at least 12 mm dia., or equivalent means, to fasten the ties to the facade.

In the event that ties must be replaced prematurely, equivalent substitutes must be provided beforehand.

Additional ties for access ladders:
The perimeter standards of the access ladders are to be tied to the facade at each tying level. The vertical spacing of the ties must not exceed 4.0 m.

Ties in corner areas:
An additional "V" tie (refer to Ill. 8 a) is required in the case of uncovered scaffolds at each tie level for dispersion of the wind loads in the vicinity of the corners.

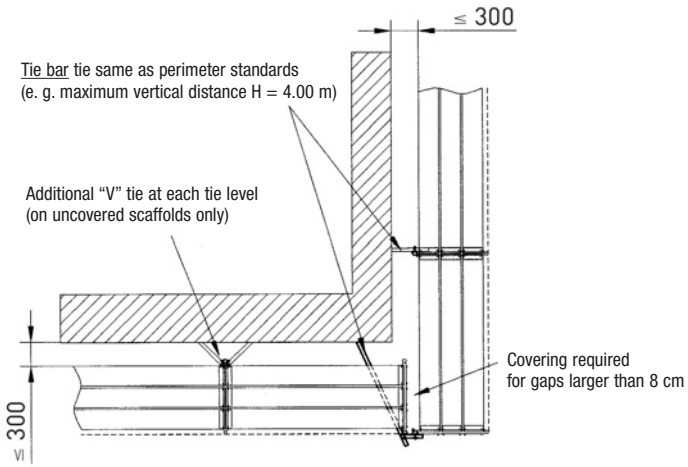


Illustration 14 Additional ties at corners on uncovered scaffolds.

2.4 Erection of the subsequent lifts

2.4.7 Scaffold tie bars

All tie bars are to be fixed in the vicinity of the nodes to the inner standards using normal couplers.

2.4.7.1 Short tie bars

The short tie bars are to be arranged at a right angle to the facade and connected by means of a standard coupler to the inner standard (refer to Ill. 15).

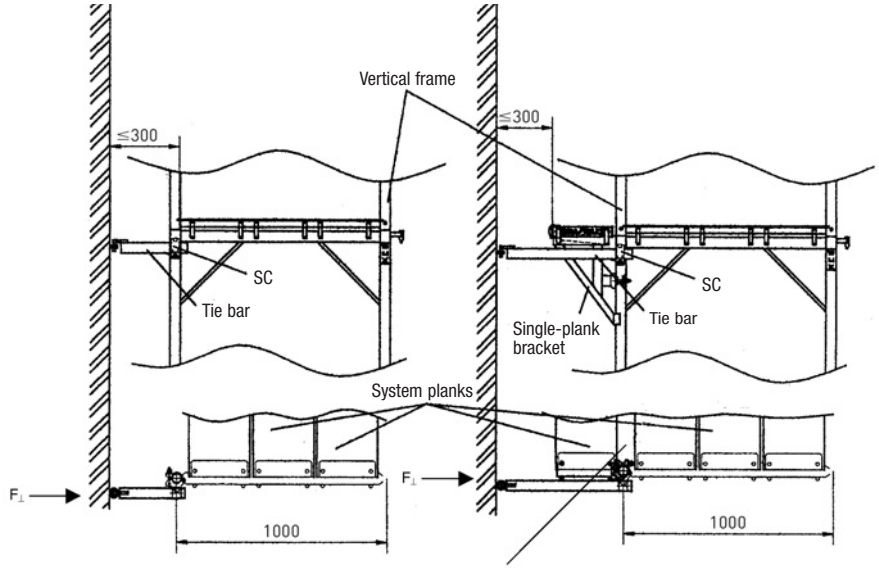


Illustration 15 Short tie bars.

2.4 Erection of the subsequent lifts

2.4.7.2 Long tie bars

The long tie bars are attached to the inner and outer standards of the vertical frame by means of standard couplers. They absorb the tie forces, both at a right angle and parallel to the facade (Ill. 16).

Long tie bars can also be used to stiffen bridge girders at top cord level including tying to the facade (refer to Chapter 2.5.3.2 bridge girders).

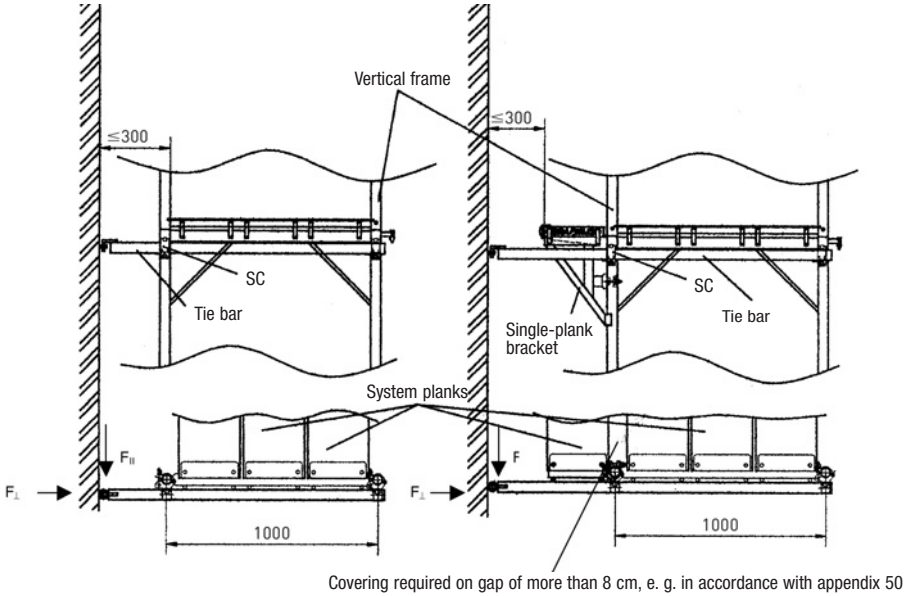


Illustration 16 Long tie bars.

2.4 Erection of the subsequent lifts

2.4.7.3 Triangular tie bars

Triangular tie bars consist of two tie bars each fitted at an angle of max. 45° to the facade, in the horizontal, by means of standard couplers to the inner standards (refer to Ill. 17).

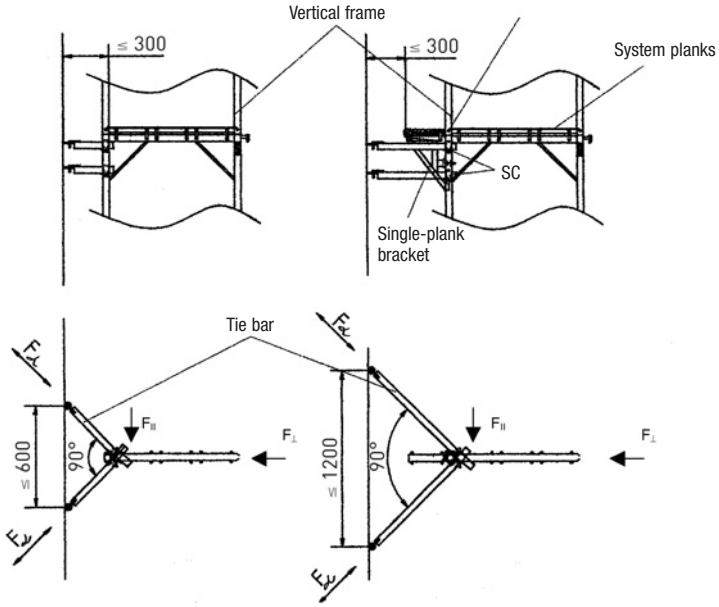


Illustration 17 Triangular tie bars.

2.4.7.4 Tying the scaffold

Attention! Scaffolds not sufficiently tied are in danger of falling over or collapsing!

Tying of the scaffold is to be carried out in accordance with the Safety Regulations for Work, Protection and System Scaffolds booklet ZH 1/534.1 issued by the Construction Professional Association.

2.5 Various modes of erection and fitting of ancillary components

2.5 Various modes of erection and fitting of ancillary components

2.5.1 General

This chapter describes the various modes of erection as well as the tying forces and foundation load capacities.

Vertical frame:

Under the following conditions, vertical frames with bottom cross bar T 35 x 35 x 4.5 may be used exclusively:

1.) Scaffold with inner and outer brackets (console type 2) and a bay length of L = 3.0 m and
2.) Scaffold in the Group 6 (600 kg/m^2).

In all other cases, vertical frames with bottom cross bar T 35 x 35 x 4 (new design) and bottom cross bar 40 x 20 x 1.5 (old design) may be used – also mixed.

Table 3: Distinguishing features of vertical frames

Vertical frame	Top cross bar	Bottom cross bar	Corner prop
"New" design (Appendices 1; 4; 48; 49)	Square hollow profile (SHP) 52 x 52 x 2.0	T section T 35 x 35 x 4.5	Rectangular hollow profile (RHP) 30 x 15 x 2.0
"Old" design (Appendices 58 to 60)	Square hollow profile (SHP) 50 x 2.5	Rectangular hollow profile (RHP) 40 x 20 x 1.5	Circular hollow profile (CHP) Ø 21.3 x 2.0

Rapid-Erection Scaffolding RUX-SUPER 100

2.5 Various modes of erection and fitting of ancillary components

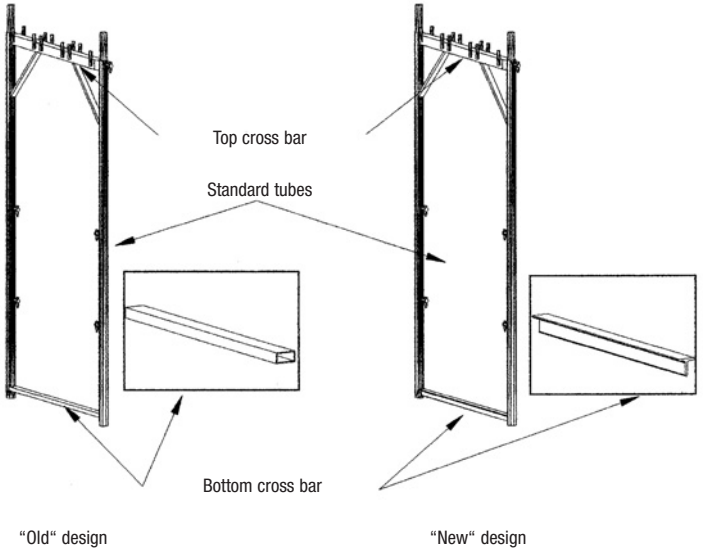


Illustration 18 "Old" and "new" design vertical frames.

On several modes of erection, longitudinal tubes (ledgers) are to be fitted in the diagonal bays between the outer standards of the bottom vertical frames and which are attached to the guard rail gravity locks. On frames with guardrail lugs, tubes of 48.3 dia. x 3.2 are to be fitted together with standard couplers (see pages 35; 39; 41 to 43; 49; 54 and 65).

Tying patterns:
The tying patterns and tie point loads are dependent on the open proportion of the facade. In this case, a distinction is made between "closed facade" and "open facade". Closed facades have no openings whereas on open facades, the proportion of openings can be up to maximum of 60% over the full facade surface.

The ties required are illustrated in the erection sketches and the tie forces can be taken from the appropriate tables.

Access ladders:
The fitting of access ladders is described in Chapters 2.5.3.4 and 2.5.3.5 (see pages 92 – 95).

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

2.5.2 Major modes of erection

Major modes are described in the erection phases below:

Basic mode (BM):
Vertical frame 2 m,
Bay length L_1 = 2,00 m, L_2 = 2,50 m or L_3 = 3,00 m.

Bracket version 1 (BV1):
Same as basic mode,
+ single-plank widening brackets 0.35 m on the inside of each lift and
+ wire mesh barrier posts on the vertical frames (roof barriers).

Bracket version 2 (BV2):
Same as basic mode,
+ single-plank widening brackets 0.35 m on the inside of each lift,
+ 2-plank widening brackets 0.65 m at the topmost lift on the outside and
+ wire mesh barrier posts on the outer brackets (roof barrier).

Safety roof version:
Same as bracket version 1 or bracket version 2,
+ safety roof at H = 4.00 m.

Scaffold covered by nets:
covering with nets
+ covering with nets.

Scaffold covered by tarpaulins:
Basic mode, bracket version 1 or bracket version 2,
+ tarpaulin covering.

2.5.2 Major modes of erection

2.5.2.1 Uncovered scaffold in front of closed or open facade

Table 4 Foundation loads and tie forces at the uncoverd scaffold in kN (working loads with no safety factors)

			Foundation loads				Tie forces					
							Standard tie					"V"
							$F_{\perp}$				$F_{\parallel}$	F_{α}
			No protective roof		With protective roof		Closed facade		Open facade			
Bay length	Scaffold group	Mode	Inner jack	Outer jack	Inner jack	Outer jack	H = 24 m	H ≤ 22 m	H = 24 m	H ≤ 22 m		
2.0 m	5	BM	12.6	18.4	–	–	0.7	1.3	2.5	3.6	0.5	2.8
		BV1	20.1	18.5	20.6	19.9	2.4	1.5	4.1	3.5	0.2	4.0
	6	BM	14.7	20.4	–	–	0.7	1.3	2.5	3.6	0.5	2.8
		BV1	23.8	21.1	23.1	22.9	2.4	1.5	4.1	3.6	0.2	3.9
2.5 m	4	BM	12.4	18.7	–	–	0.8	1.5	2.8	4.0	0.5	2.8
		BV1	19.5	18.8	20.0	20.5	2.8	1.7	4.8	4.1	0.2	4.0
		BV2	19.7	28.4	19.4	29.0	2.2	1.4	3.2	3.9	0.2	3.9
	5	BM	14.9	20.8	–	–	0.8	1.5	2.8	4.0	0.5	2.8
		BV1	24.2	21.9	23.6	23.9	2.8	1.7	4.8	4.2	0.2	3.9
3.0 m	4	BM	13.4	20.5	–	–	1.0	1.8	3.4	4.8	0.5	3.4
		BV1	22.4	21.7	21.8	23.8	3.1	1.9	5.3	4.6	0.2	3.9
		BV2	22.5	31.7	22.2	32.5	2.4	1.5	3.5	4.3	0.2	4.6

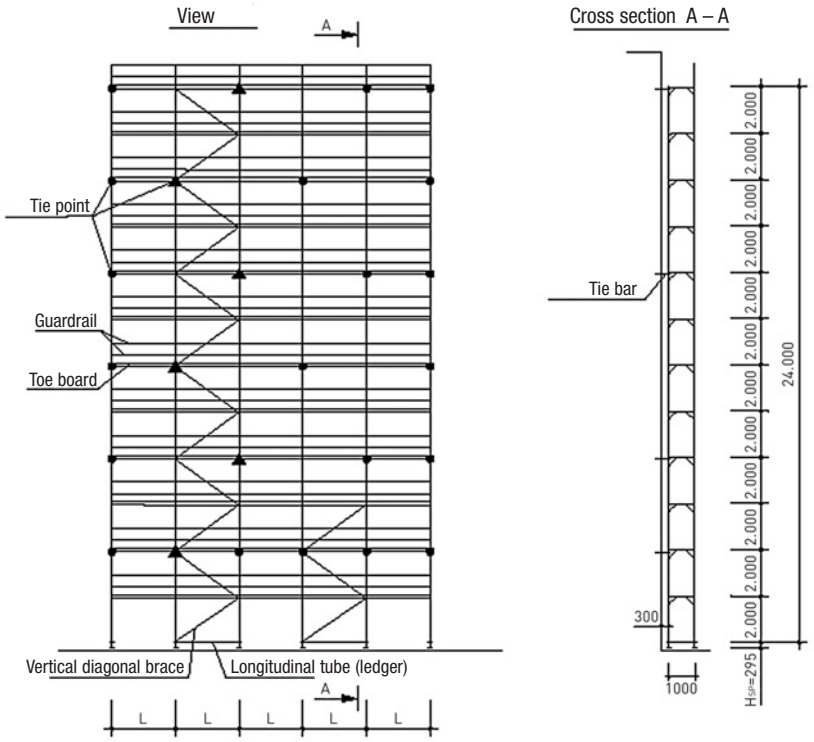
2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

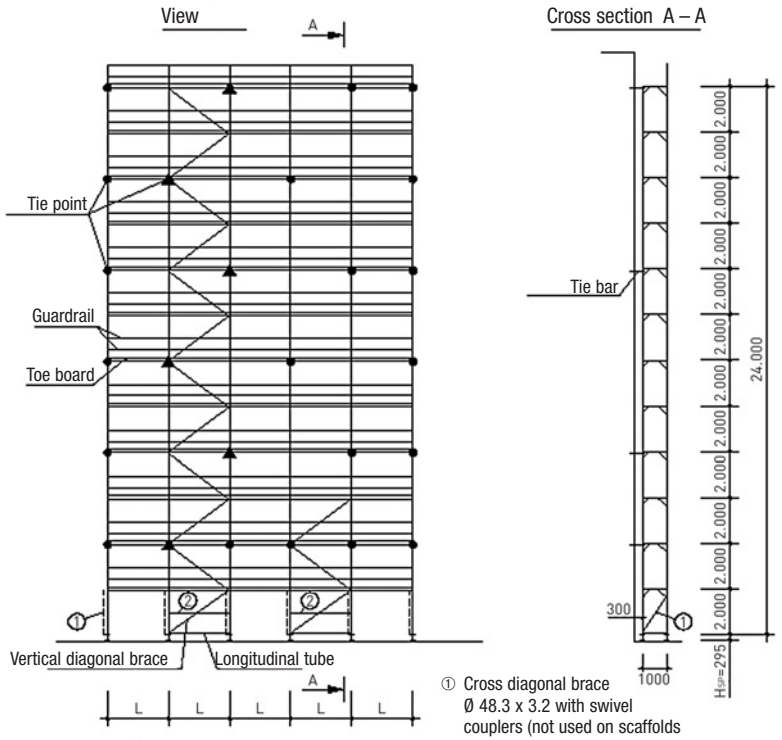
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Basic mode, L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



① Cross diagonal brace Ø 48.3 x 3.2 with swivel couplers (not used on scaffolds in front of closed facade)

② Longitudinal tube (on vertical frame with guardrail lugs Ø 48.3 x 3.2 with standard coupler

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

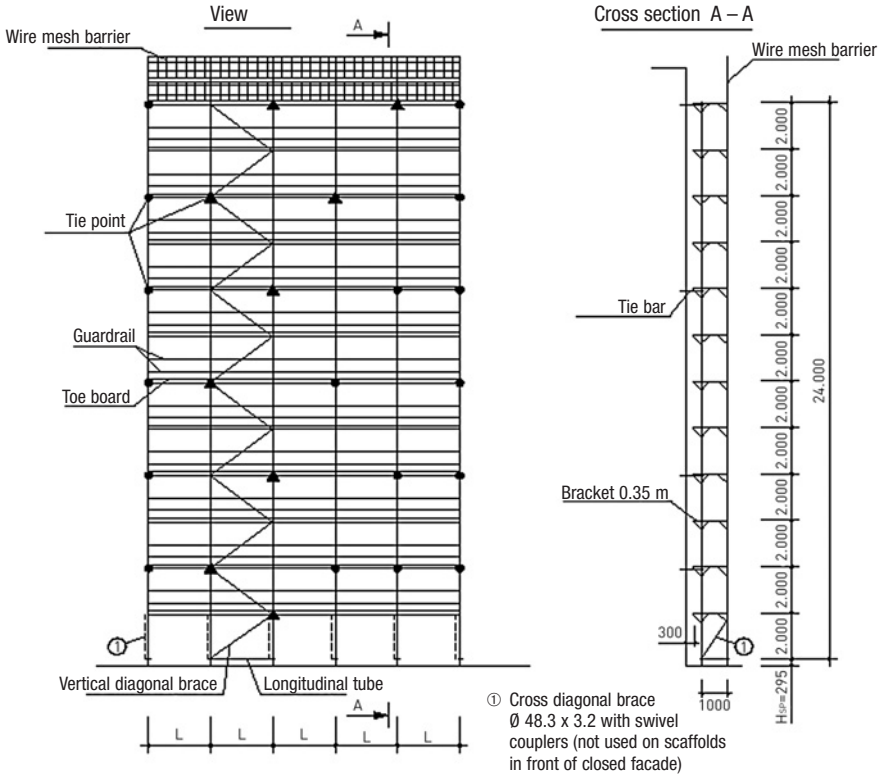
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 1, L = 2.0 m, Scaffold group 5
L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

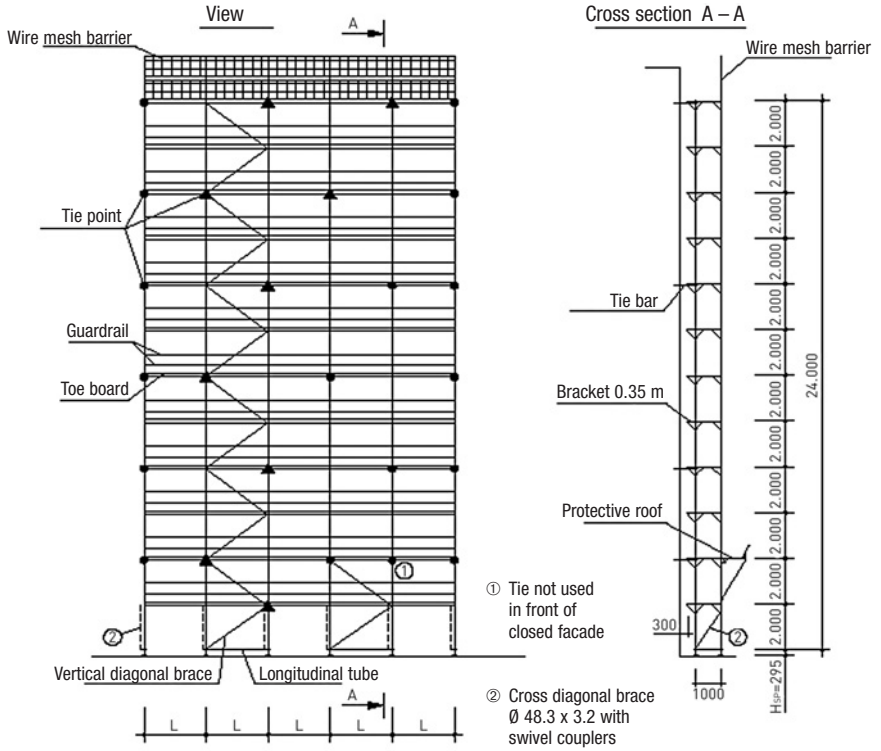
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 1 with protective roof, L = 2.0 m, Scaffold group 5
L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

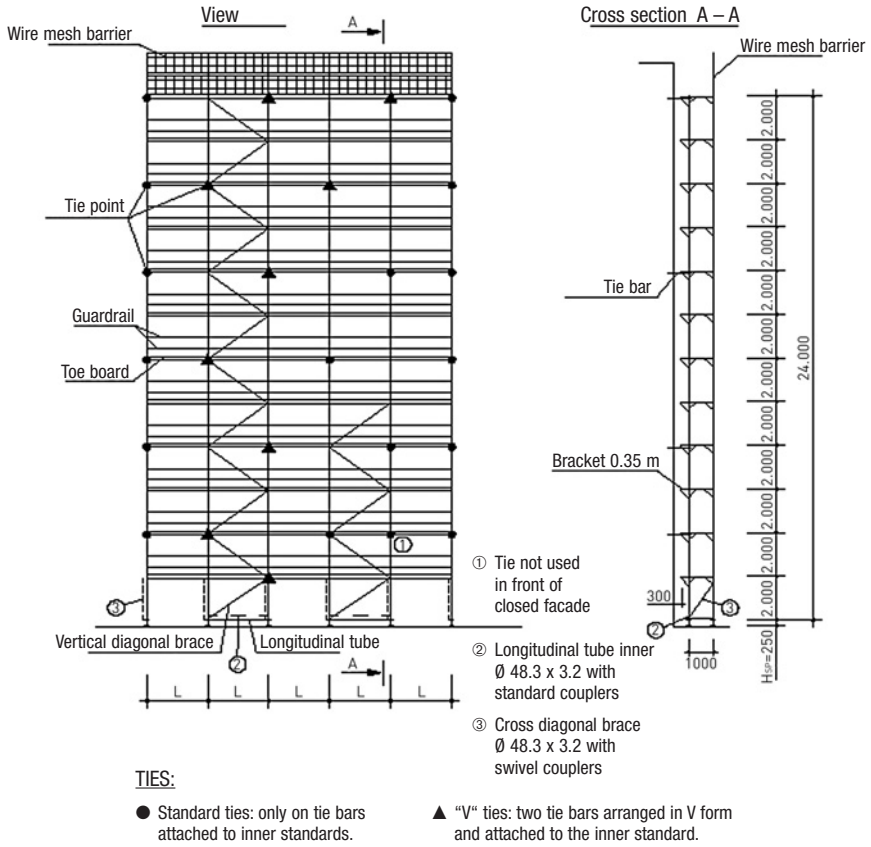
2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 1, L = 2.0 m, Scaffold group 6
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



For foundation loads and tie forces see table 4

Rapid-Erection Scaffolding RUX-SUPER 100

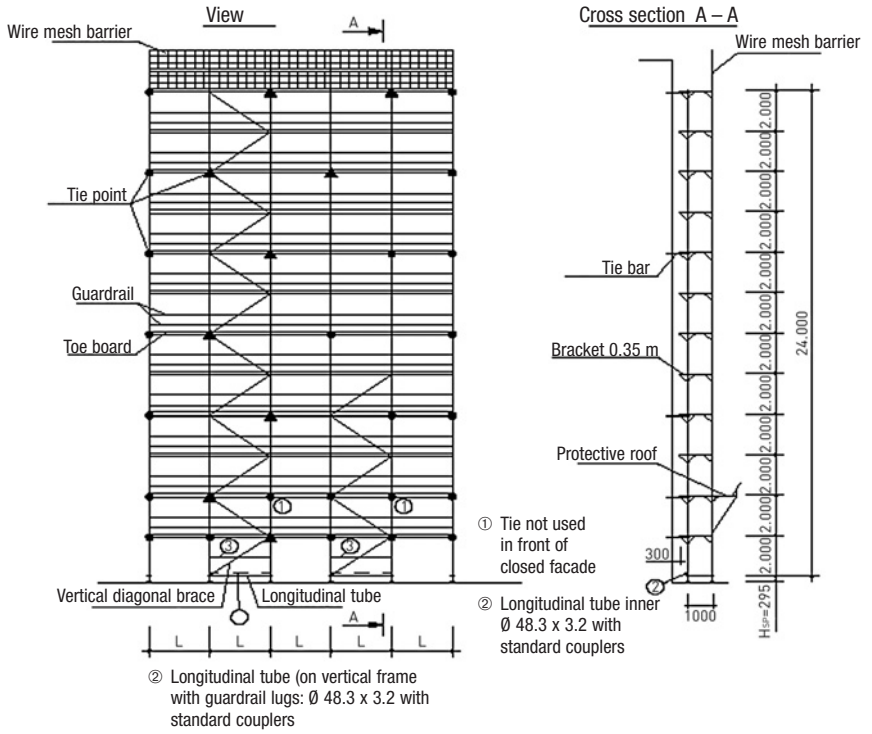
2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 1 with protective roof, L = 2.0 m, Scaffold group 6
(3-plank version depicted) L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



For foundation loads and tie forces see table 4

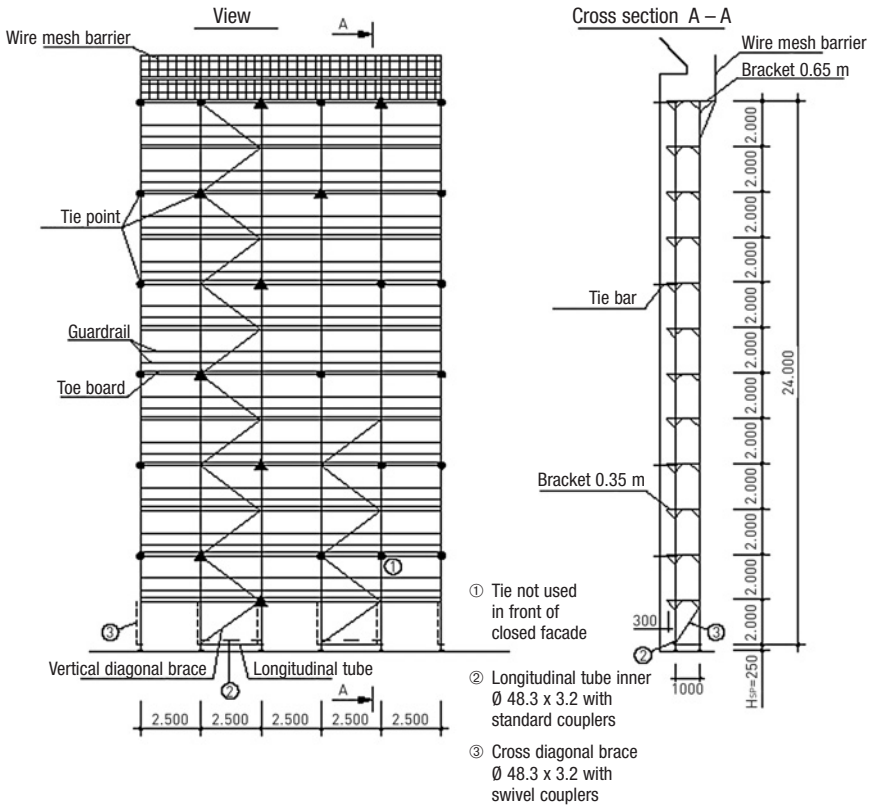
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 2, L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

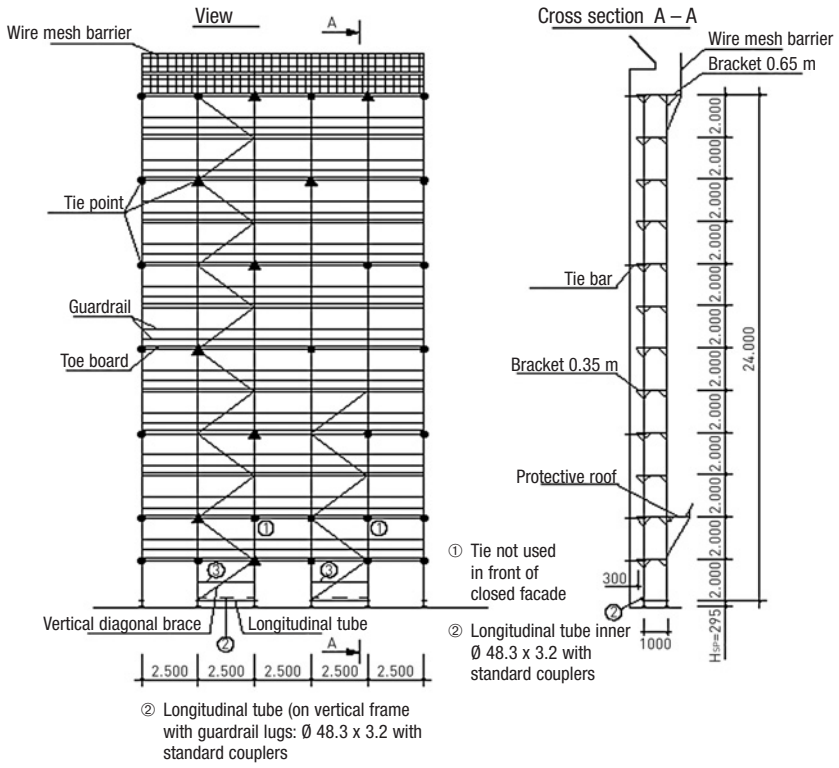
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 2 with protective roof, L = 2.5 m, Scaffold group 4
(3-plank version depicted)

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

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▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

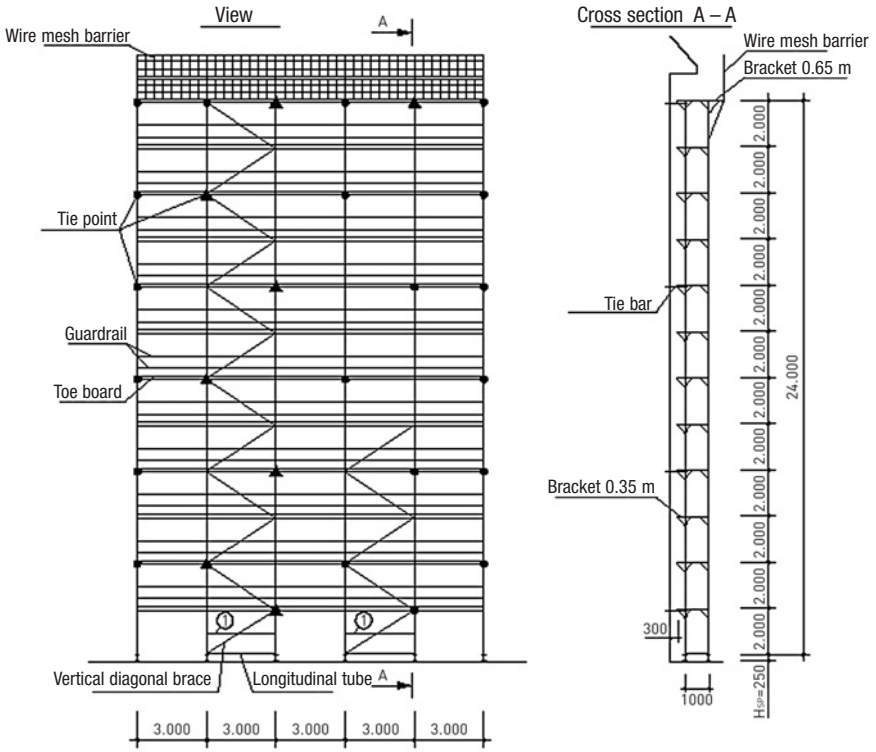
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 2, L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



① Longitudinal tube (on vertical frame with guardrail lugs: Ø 48.3 x 3.2 with standard couplers

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

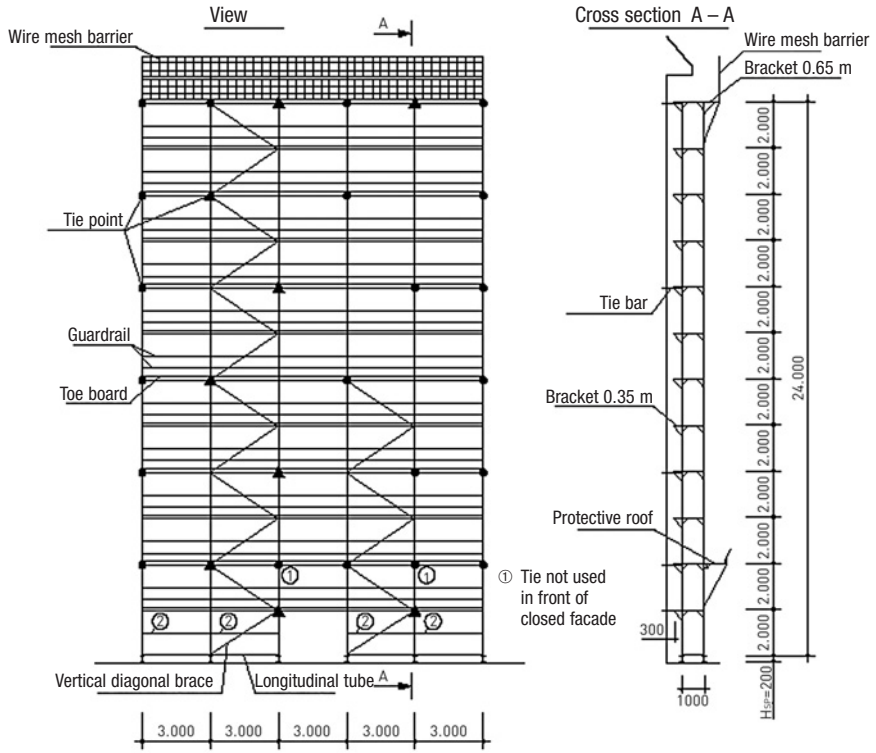
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Uncovered scaffold in front of closed or open facade

Bracket version 2 with protective roof, L = 3.0 m, Scaffold group 4 (3-plank version depicted)

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



② Longitudinal tube (on vertical frame with guardrail lugs: Ø 48.3 x 3.2 with standard couplers

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 4

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

2.5.2.2 Scaffold covered by nets

On scaffolds covered with nets, the permissible tie spacings and the required stiffening work are dependent, to a large extent, on the behaviour of the nets used. Surveys are therefore required containing the aero-dynamic force values of the nets.

The approved versions are based on an aero-dynamic force value of $c_{f,\perp} = 0.6$ and $c_{f,||} = 0.2$ (these values apply to the overall structure i.e. for the scaffold covered by nets). Nets where higher force values are involved are to be classified as tarpaulins.

Table 5 Foundation loads for scaffolds covered by nets in kN (working loads with no safety factors)

			Foundation loads	
Bay length	Scaffold group	Version	Inner jack	Outer jack
2.0 m	**5**	BM	11.6	18.4
		BV1	19.7	19.0
	6	BM	13.7	20.5
		BV1	23.4	21.6
2.5 m	**4**	BM	11.4	18.8
		BV1	19.1	19.3
		BV2	19.8	28.1
	5	BM	13.9	21.3
		BV1	23.8	22.5
3.0 m	**4**	BM	13.0	20.9
		BV1	22.0	22.2
		BV2	22.6	31.4

2.5.2 Major modes of erection

2.5.2.2.1 Scaffold covered by nets in front of closed facade

Table 6 Tie forces for scaffolds covered by nets in front of closed facades in kN (working loads with no safety factors)

			Tie forces			
			Standard tie			"V" tie
			$F_{\perp}$		$F_{||}$	F_{α}
Bay length	Scaffold group	Version	H = 24 m	H ≤ 22 m		
2.0 m	**5**	BM	2.9	2.2	0.5	4.1
		BV1			0.2	
	6	BM			0.5	
		BV1			0.2	
2.5 m	**4**	BM	3.7	2.7	0.5	
		BV1			0.2	
		BV2	2.8		0.2	
	5	BM	3.7		0.5	
		BV1			0.2	
3.0 m	**4**	BM	4.2	3.1	0.5	
		BV1			0.2	
		BV2	3.2	2.7	0.1	3.8

2.5.2 Major modes of erection

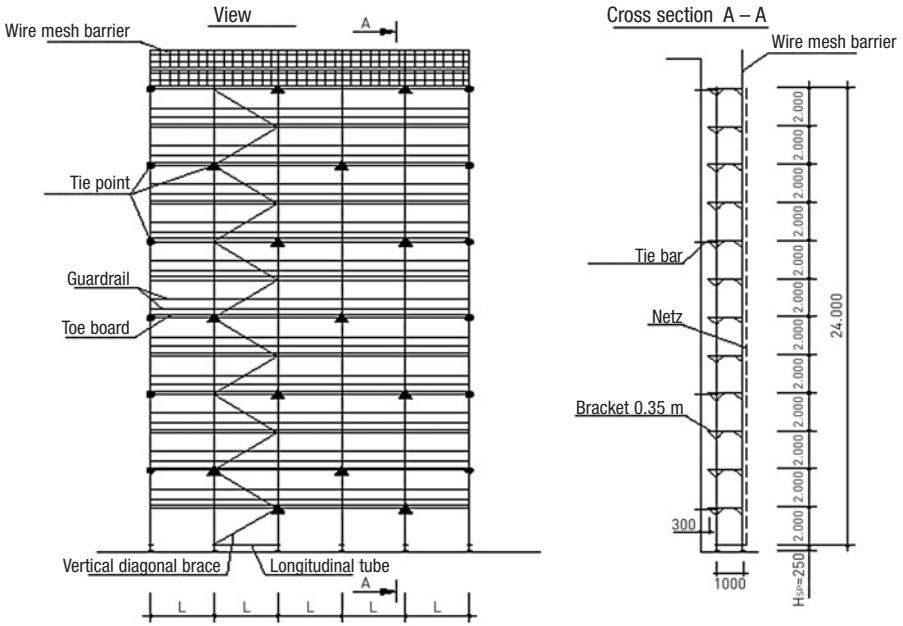
Scaffold covered by nets in front of closed facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 5, for tie forces to table 6

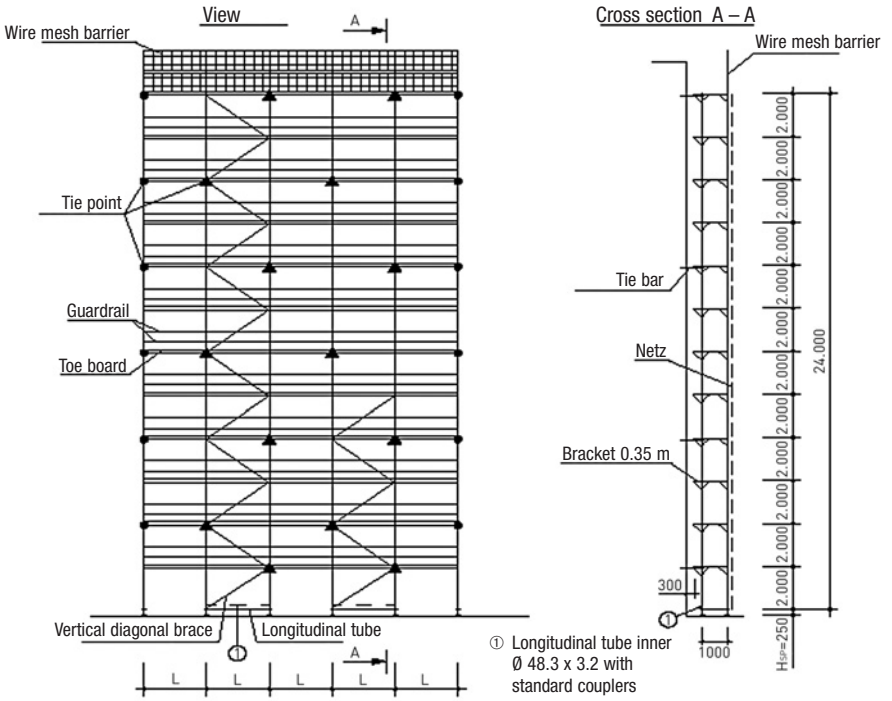
2.5.2 Major modes of erection

Scaffold covered by nets in front of closed facade

Bracket version 1, **L = 2.0 m, Scaffold group 6**
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

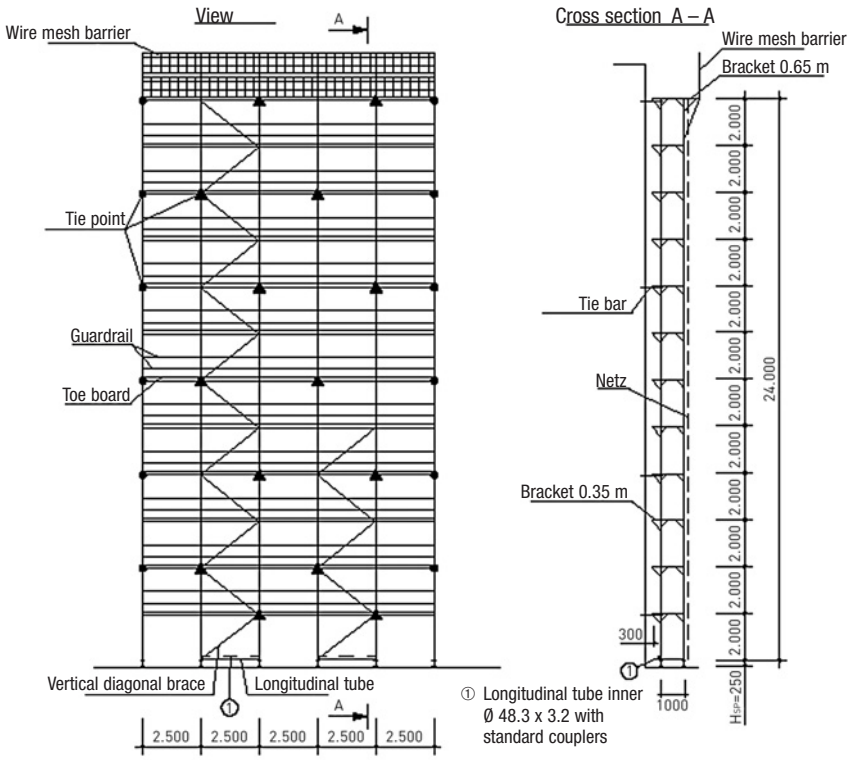
Foundation loads refer to table 5, for tie forces to table 6

2.5.2 Major modes of erection

Scaffold covered by nets in front of closed facade

Bracket version 2, L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V": two tie bars arranged in V form and attached to the inner standard

Foundation loads refer to table 5, for tie forces to table 6

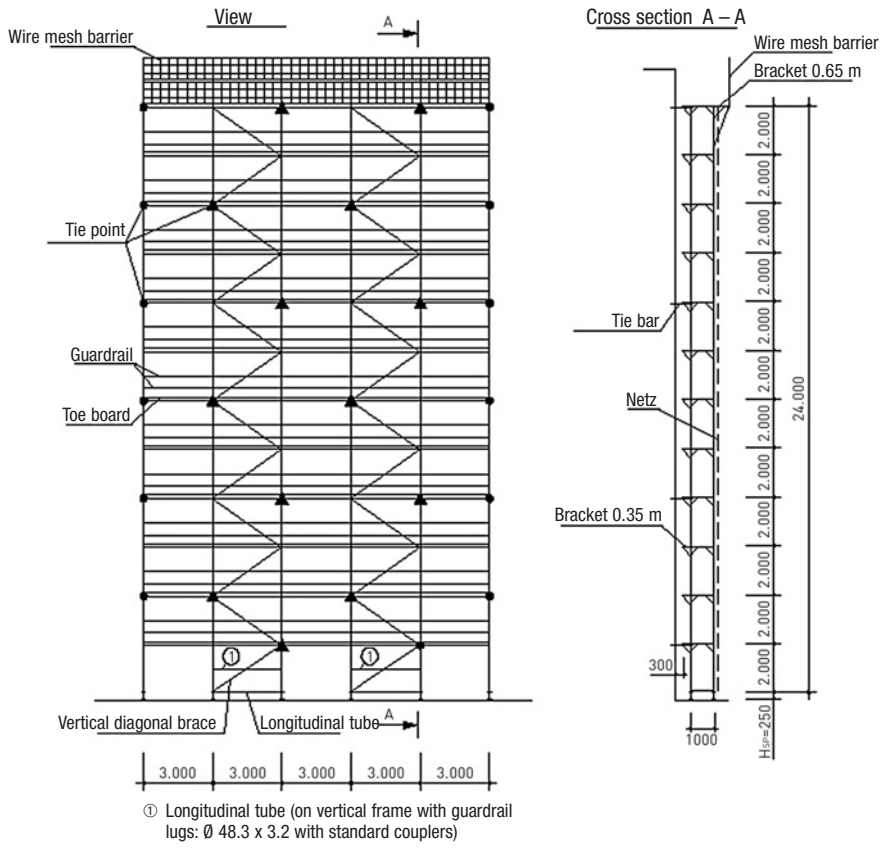
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Scaffold covered by nets in front of closed facade

Bracket version 2, L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V": two tie bars arranged in V form and attached to the inner standard

Foundation loads refer to table 5, for tie forces to table 6

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

2.5.2.2.2 Scaffold covered by nets in front of open facade

Table 7 Tie forces for scaffolds covered by nets in front of open facade in kN (working loads with no safety factors)

			Tie forces			
			Standard tie			"V" tie
			$F_{\perp}$		$F_{\parallel}$	F_{α}
Bay length	Scaffold group	Version	H = 24 m	H ≤ 22 m		
2.0 m	**5**	BM	3.0	2.8	0.5	3.9
		BV1			0.2	
	6	BM			0.5	
		BV1			0.2	
2.5 m	**4**	BM	3.8	3.5	0.5	
		BV1			0.2	
		BV2	4.0		0.2	
	5	BM	3.8		0.5	
		BV1			0.2	
3.0 m	**4**	BM	4.3	4.0	0.5	
		BV1			0.2	
		BV2	4.6	3.9	0.1	

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

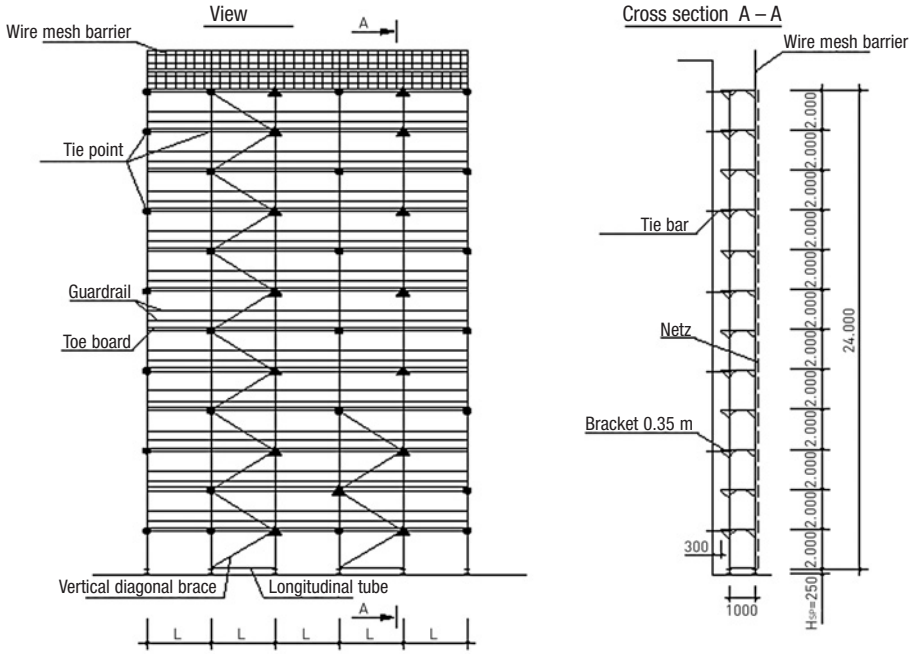
Scaffold covered by nets in front of open facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 5, for tie forces to table 7

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

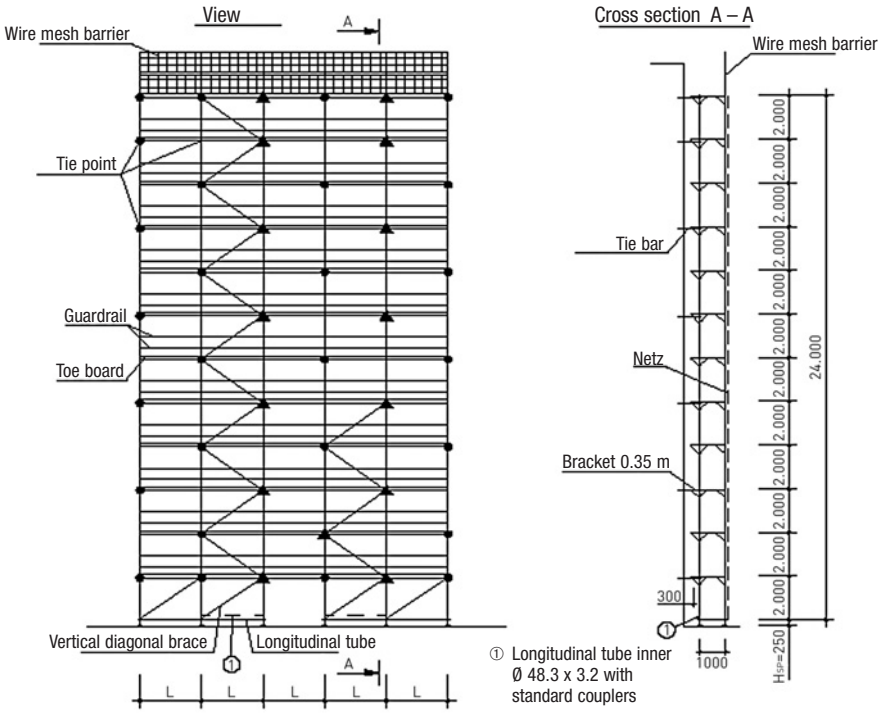
2.5.2 Major modes of erection

Scaffold covered by nets in front of open facade

Bracket version 1, **L = 2.0 m, Scaffold group 6**
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

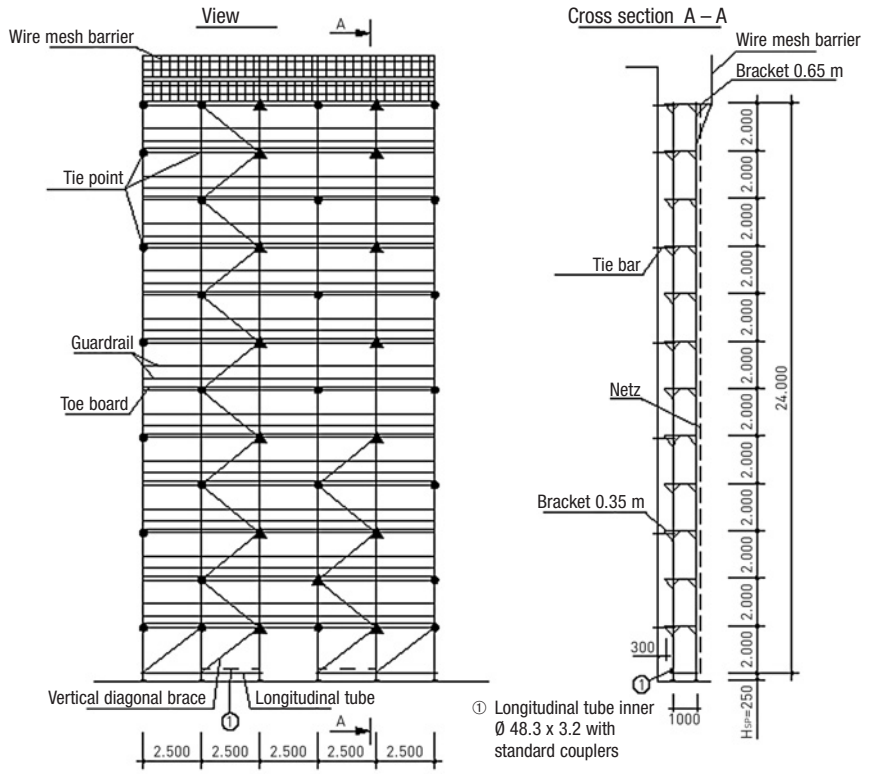
Foundation loads refer to table 5, for tie forces refer to table 7

2.5.2 Major modes of erection

Scaffold covered by nets in front of open facade

Bracket version 2, L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

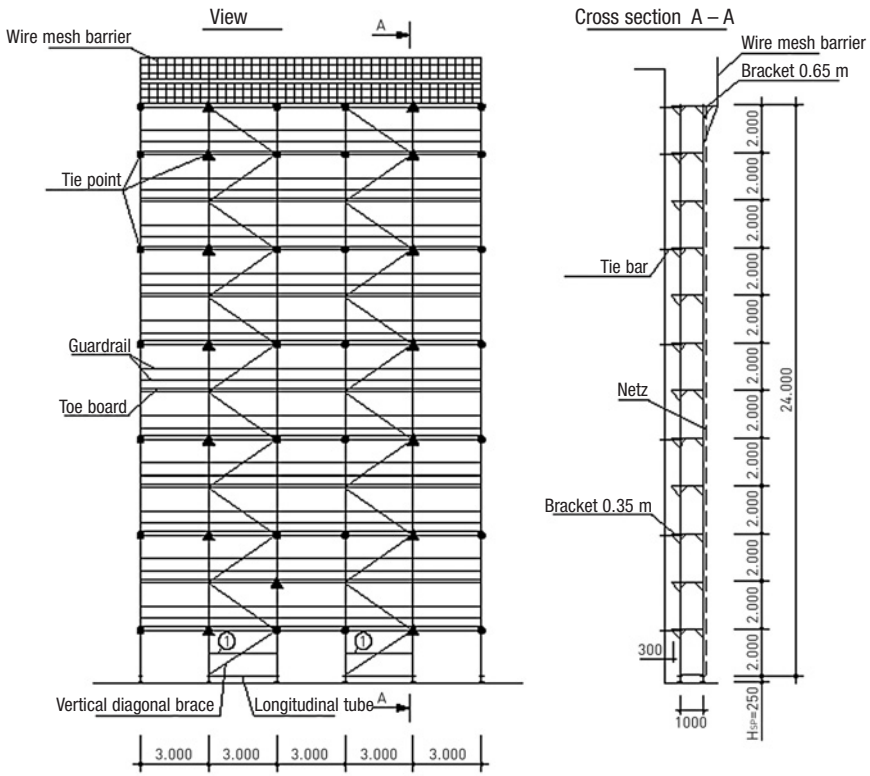
Foundation loads refer to table 5, for tie forces refer to table 7

2.5.2 Major modes of erection

Scaffold covered by nets in front of open facade

Bracket version 2, L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



① Longitudinal tube (on vertical frame with guardrail lugs: Ø 48.3 x 3.2 with standard couplers)

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 5, for tie forces refer to table 7

2.5.2 Major modes of erection

2.5.2.3 Scaffold covered by tarpaulins

Table 8 Foundation loads for scaffolds covered by tarpaulins in kN (working loads with no safety factors)

			Foundation loads	
Bay length	Scaffold group	Version	Inner jack	Outer jack
2.0 m	**5**	BM	11.9	16.5
		BV1	19.9	17.0
	6	BM	13.9	18.6
		BV1	23.6	19.1
2.5 m	**4**	BM	11.7	16.8
		BV1	19.4	17.4
		BV2	20.3	23.7
	5	BM	14.2	19.4
		BV1	24.1	19.9
3.0 m	**4**	BM	13.3	19.0
		BV1	22.3	19.7
		BV2	23.1	27.0

2.5.2.3.1 Scaffold covered by tarpaulins in front of closed facade

Table 9 Tie forces for scaffolds covered by tarpaulins in front of closed facade in kN (working loads with no safety factors)

			Tie forces					
			Standard tie					"V" tie
			$F_{\perp}$				$F_{\parallel}$	F_{α}
			H = 24 m		H ≤ 22 m			
Bay length	Scaffold group	Version	Tension	Compr.	Tension	Compr.		
2.0 m	**5**	BM	2.0	3.2	1.9	3.4	0.5	4.3
		BV1					0.2	
	6	BM					0.5	
		BV1					0.2	
2.5 m	**4**	BM	2.5	4.0	2.4	4.2	0.5	
		BV1					0.2	
		BV2	4.2	4.4		4.5	0.2	
	5	BM	2.5	4.0		4.2	0.5	
		BV1					0.2	
3.0 m	**4**	BM	2.9	4.6	2.7	4.8	0.5	
		BV1					0.2	
		BV2	4.8	5.0	2.6	5.1	0.2	4.2

2.5.2 Major modes of erection

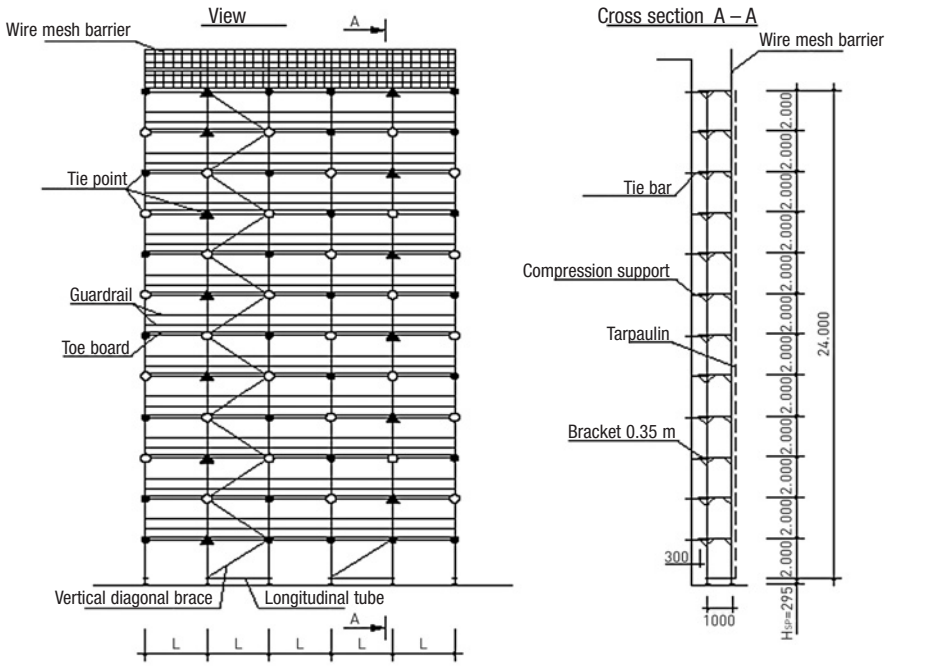
Scaffold covered by tarpaulins in front of closed facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



Covered over the full surface of the scaffold by tarpaulins at the front and ends!

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

○ Compression support only on scaffold tube Ø 48.3 x 3.2 attached to inner standard.

Foundation loads refer to table 8, for tie forces refer to table 9

Rapid-Erection Scaffolding RUX-SUPER 100

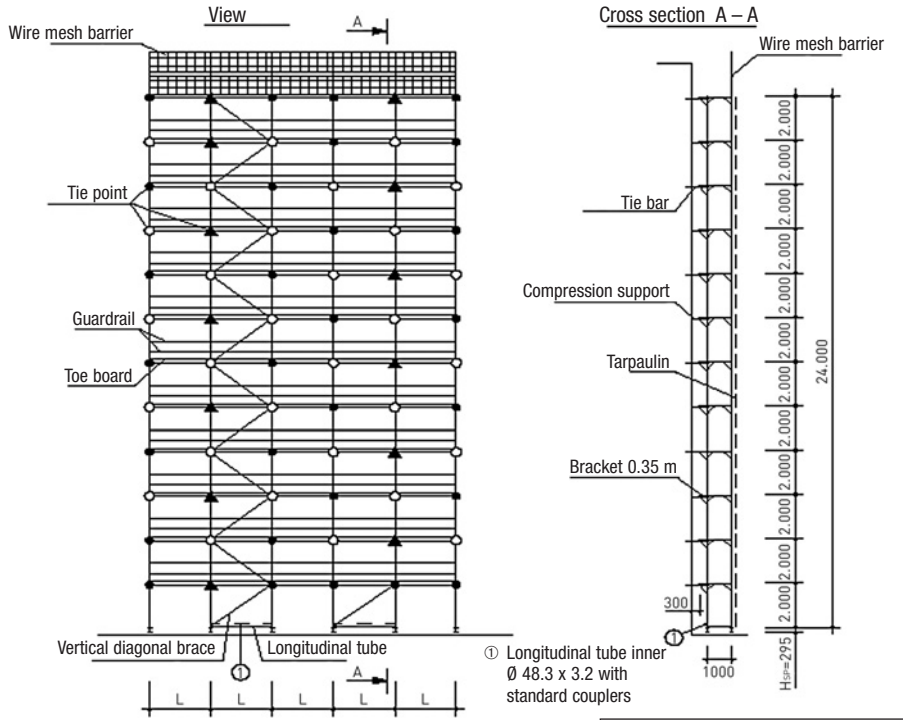
2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of closed facade

Bracket version 1, **L = 2.0 m, Scaffold group 6**
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



Covered over the full surface of the scaffold by tarpaulins at the front and ends!

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

○ Compression support only on scaffold tube Ø 48.3 x 3.2 attached to inner standard.

Foundation loads refer to table 8, for tie forces refer to table 9

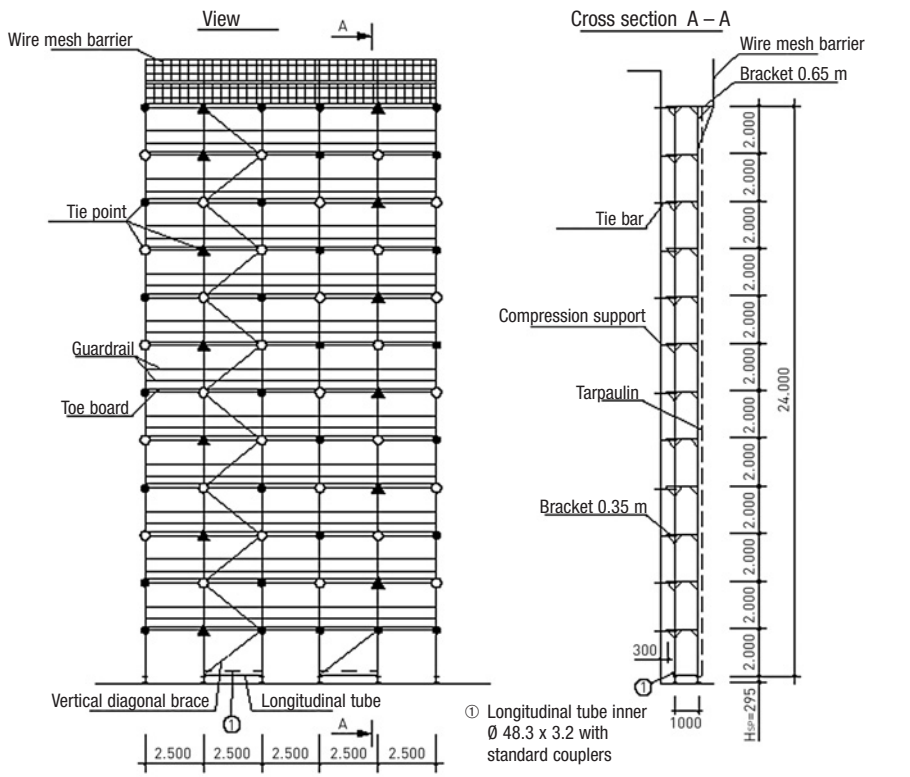
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of closed facade

Bracket version 2, L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



Covered over the full surface of the scaffold by tarpaulins at the front and ends!

TIES:

- ● Standard ties: only on tie bars attached to inner standards.
- ▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.
- ○ Compression support only on scaffold tube Ø 48.3 x 3.2 attached to inner standard.

Foundation loads refer to table 8, for tie forces refer to table 9

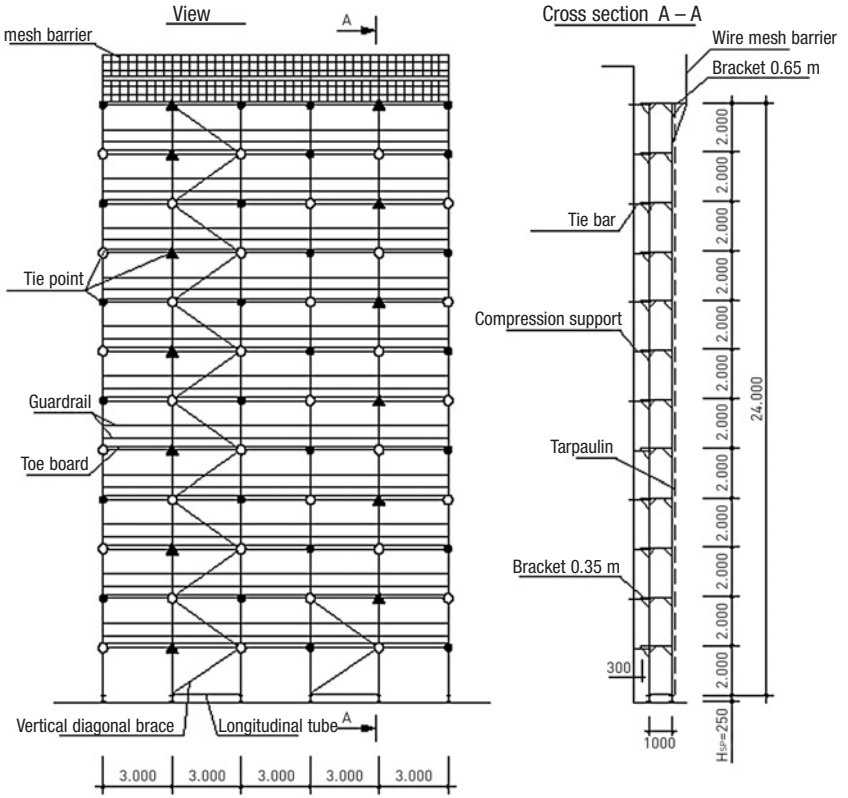
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of closed facade

Bracket version 2, L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



Covered over the full surface of the scaffold by tarpaulins at the front and ends!

TIES:

- ● Standard ties: only on tie bars attached to inner standards.
- ▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.
- ○ Compression support only on scaffold tube Ø 48.3 x 3.2 attached to inner standard.

Foundation loads refer to table 8, for tie forces refer to table 9

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

2.5.2.3.2 Scaffold covered by tarpaulins in front of open facade

Table 10 Tie forces for scaffolds covered by tarpaulins in front of open facade in kN (working loads with no safety factors)

			Tie forces			
			Standard tie			"V" tie
			$F_{\perp}$		$F_{\parallel}$	F_{α}
Bay length	Scaffold group	Version	H = 24 m	H ≤ 22 m		
2.0 m	**5**	BM	4.5	4.1	0.5	4.0
		BV1			0.2	
	6	BM	4.5	4.1	0.5	4.0
		BV1			0.2	4.5
2.5 m	**4**	BM	5.6	5.1	0.5	4.0
		BV1			0.2	
		BV2	6.2	5.7	0.2	4.5
	5	BM	5.6	5.1	0.5	4.0
		BV1			0.2	4.5
3.0 m	**4**	BM	6.4	5.8	0.5	4.5
		BV1			0.2	
		BV2	7.1	6.5	0.2	5.0

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

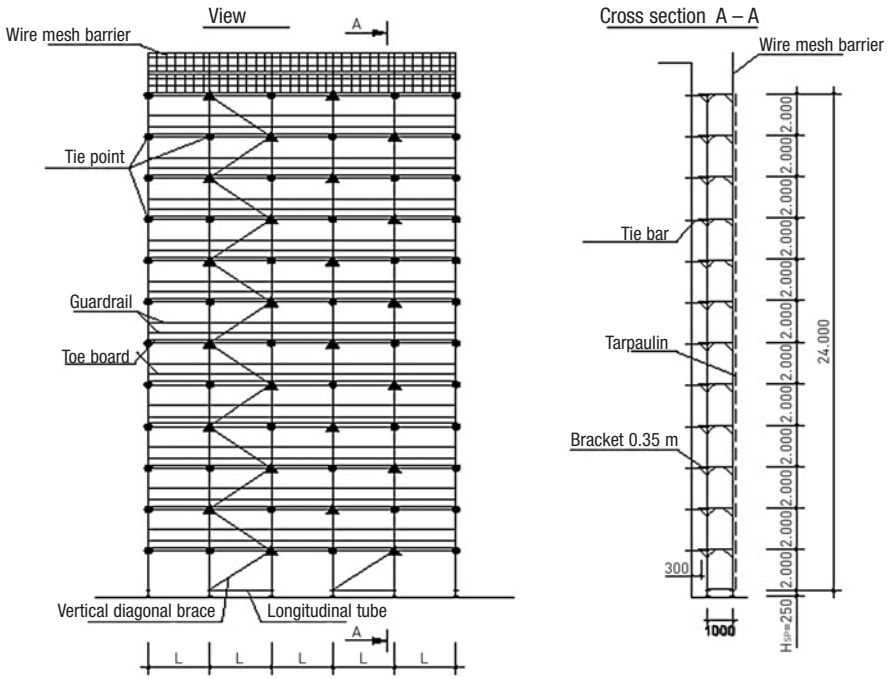
Scaffold covered by tarpaulins in front of open facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 8, for tie forces refer to table 10

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

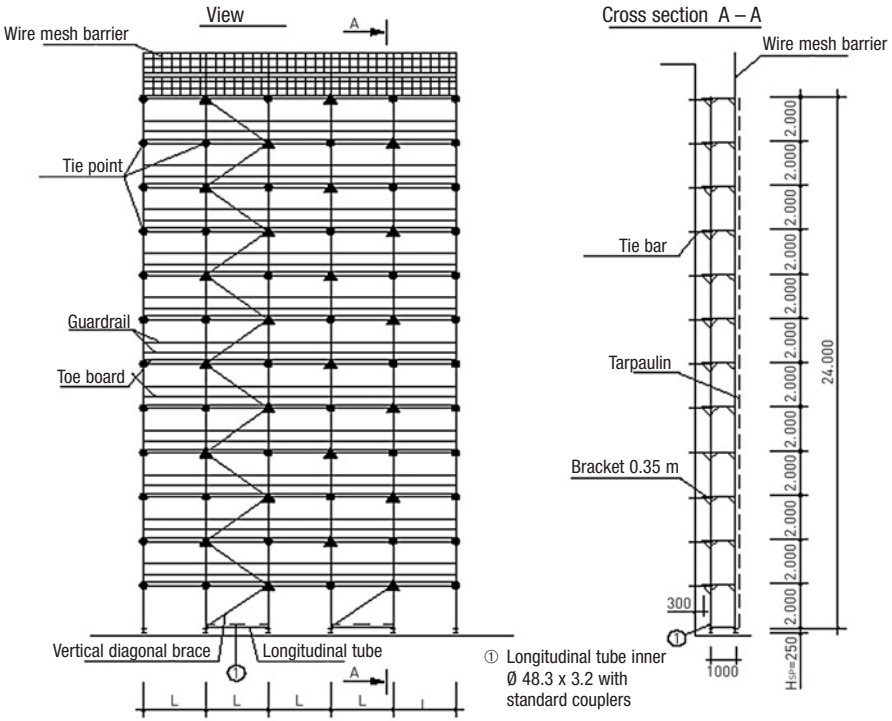
2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of open facade

Bracket version 1, **L = 2.0 m, Scaffold group 6**
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 8, for tie forces refer to table 10

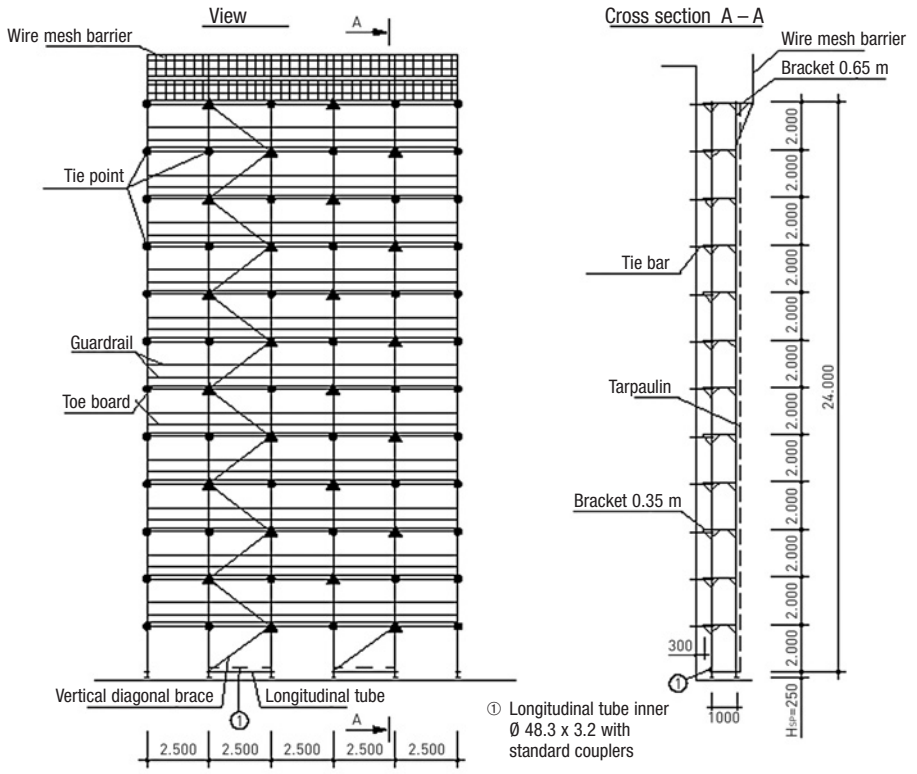
Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of open facade

Bracket version 2, L = 2.5 m, Scaffold group 4

Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 8, for tie forces refer to table 10

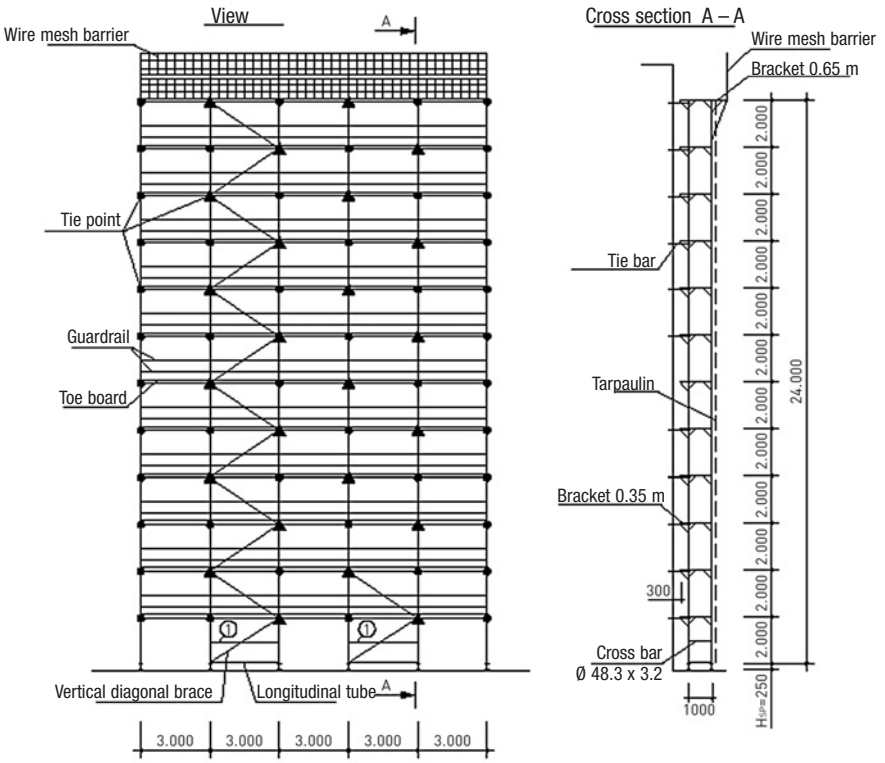
These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

Scaffold covered by tarpaulins in front of open facade

Bracket version 2, L = 3.0 m, Scaffold group 4

Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



① Longitudinal tube (on vertical frame with guardrail lugs: Ø 48.3 x 3.2 with standard couplers

TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Foundation loads refer to table 8, for tie forces refer to table 10

2.5.2 Major modes of erection

2.5.2.4 Fitting the ancillary components

2.5.2.4.1 Widening brackets

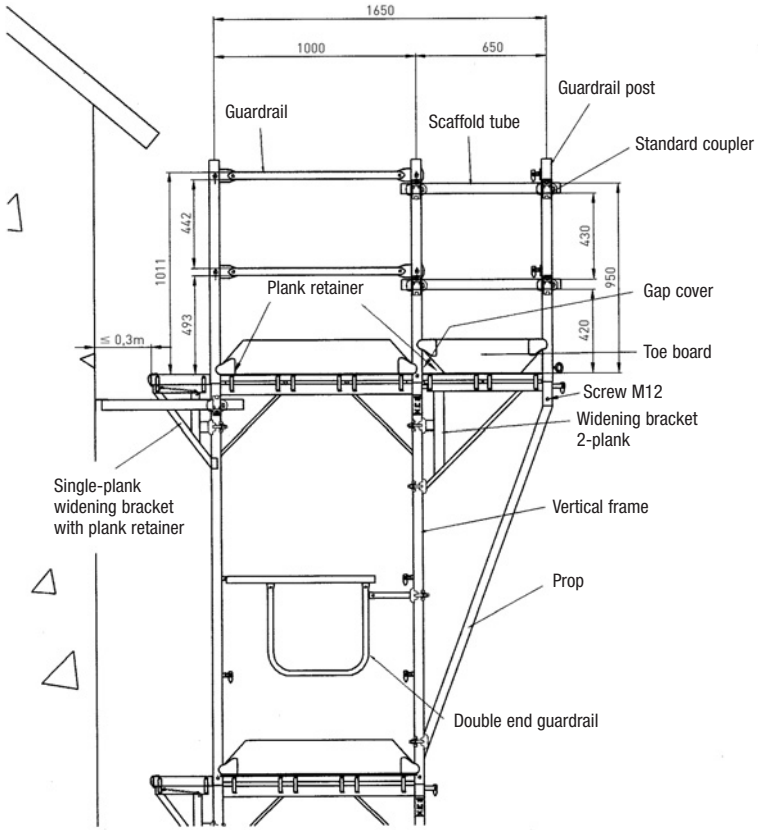


Illustration 19 Scaffold with widening brackets.

2.5.2 Major modes of erection

2-plank widening brackets (0.65 m)

The 2-plank 0.65 m brackets are used to widen the topmost lift on the outer side of the scaffold. They are connected by the welded couplers to the outer standards of the vertical frames and additionally supported by props. The upper ends of these props are connected on the outer side of the brackets by means of M 12 screws,the bottom ends, with the welded couplers, are connected to the outer standards of the vertical frames.

The gap between the decking on the brackets and the decking on the vertical frames is closed by appropriate filler boards.

The decking on the brackets is secured by fitting guardrail posts with transoms or by fitting wire mesh barrier posts. The decking at this lift is to be secured above the vertical frames by means of special plank retainers.

Single-plank widening brackets (0.35 m with no props)

The single-plank 0.35 m with no props are used to widen the working area on the inner side of the scaffold. They may be fitted at all lifts.

The brackets are connected by means of welded couplers to the inner standards of the vertical frames.

The brackets are also equipped with integrated plank retainers.

Single-plank widening brackets (0.35 m with props)

The single-plank 0.35 m brackets with props can be used to widen the topmost lift on the outer side of the scaffold (alternatively for normal widening by means of 2-plank brackets 0.65 m).

The brackets are connected by means of welded couplers to the outer standards of the vertical frames.

The guard rail posts are slotted onto the tubular spigots 38 mm dia. to which the guardrails and the toe boards are fitted.

The gap between the decking on the bracket and that on the vertical frames is closed by means of appropriate filler boards.

The decking on the consoles is automatically secured by the flat bars welded to the guard rail posts.

2.5.2 Major modes of erection

2.5.2.4.2 Protective roof brackets

The protective roof is arranged at the same level as the second lift.

The roof can be constructed of 2- or 3-plank widening brackets (0.65 m or 1.00 m wide). The choice of construction is to be made in accordance with the requirements of the local site conditions (refer to Ill. 20 a, 20 b, and 21).

The widening brackets are fitted to the outer standards of the vertical frames by means of the welded couplers. Support props are required underneath the 3-plank brackets. The top ends of these props are connected by M 12 screws to the outer side of the brackets, the bottom ends by the welded couplers to the outer standards of the vertical frames (refer to Ill. 21).

Decking planks are placed on the brackets and the gap between the planks and the gap on the vertical frames covered by appropriate filler boards.

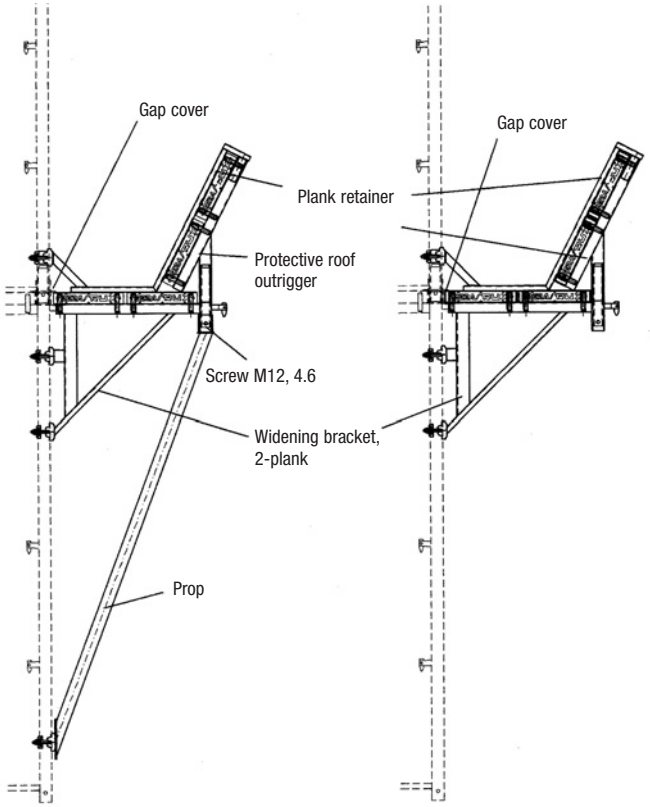
The protective roof outriggers are slipped on to the tube connectors 38 dia. on the outer side of the bracket and covered by normal decking planks.

The plank retainers are subsequently inserted into the top ends of the outriggers and connected to the standards of the vertical frames by means of the welded couplers.

The decking is to be placed as close as possible to the facade, for example, by using battens in accordance with DIN 4420 placed on scaffold tubes of 48.3 mm dia. x 3.2.

The surface of the protective roof is to be partitioned off by guardrails located between the outer standards of the vertical frames.

2.5.2 Major modes of erection



Ill. 20a 2-plank protective roof with prop.

Ill. 20a 2-plank protective roof with no prop.

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.2 Major modes of erection

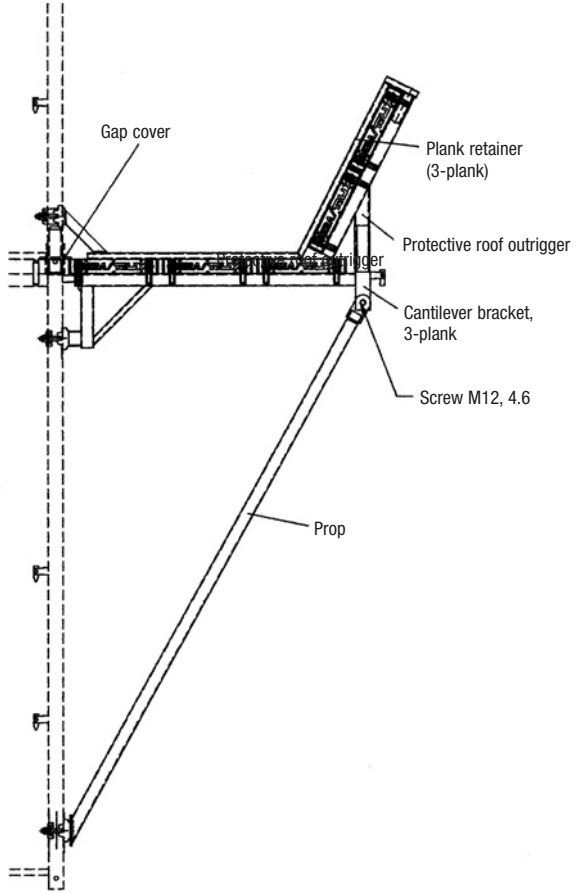


Illustration 21 3-plank protective roof.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.2 Major modes of erection

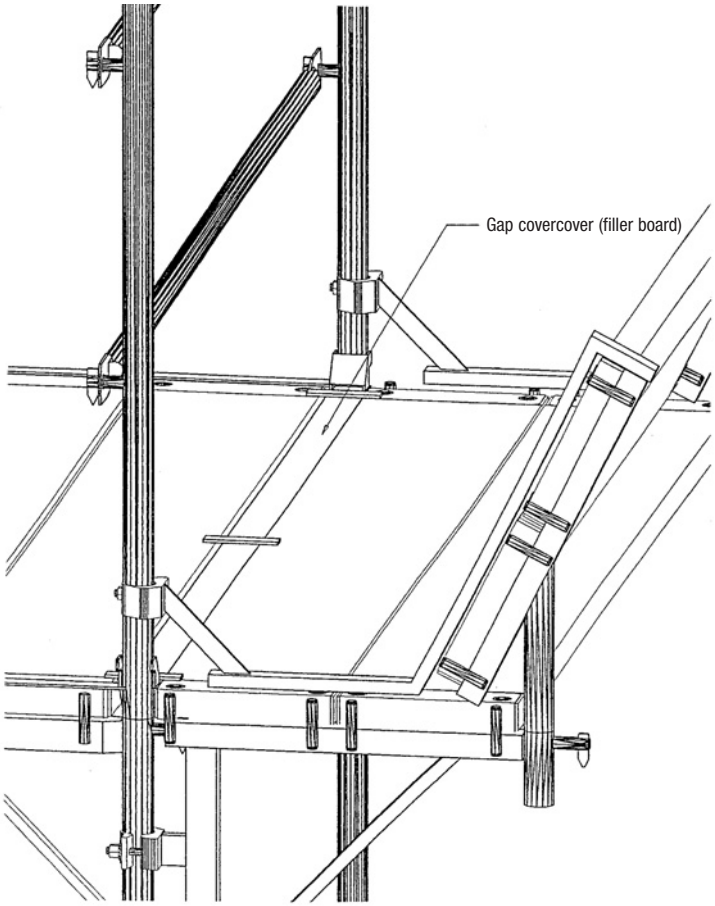


Illustration 22 Gap covercover (filler board).

2.5.2 Major modes of erection

2.5.2.4.3 Roof safety barrier

For the purpose of creating a roof safety barrier in accordance with DIN 4420, m wide supports are arranged above the vertical frames. In the event that the minimum space between the eaves and the barrier of 0.70 m cannot be achieved, the scaffold must be widened, using outer 0.65 m brackets and the 0.65 m wide barrier supports fitted above these brackets. The widening bracket of 0.65 m width is to be additionally equipped with the prop (refer to Ill. 24).

The tubes of the supports are slipped over the tube connectors 38 mm dia. of the vertical frames, or of the outer 0.65 m brackets, and secured by M 12 screws. The wire mesh is then hooked onto the gravity fingers of the posts. The necessary guard rails, intermediate rails and toe boards are integrated in the wire mesh so that no additional guarding needs to be fitted.

The protective wall can also consist of approved safety nets. These nets are either to be threaded, mesh for mesh, to two guard rails attached to the upper and lower gravity locks on the posts or fixed in position by means of quick-action straps.

Erection of the wire mesh or net barrier is only to be commenced when all the ties in this area on the top-most lift have been installed. The distance of the barrier from the fall edge must be at least 0.70 m.

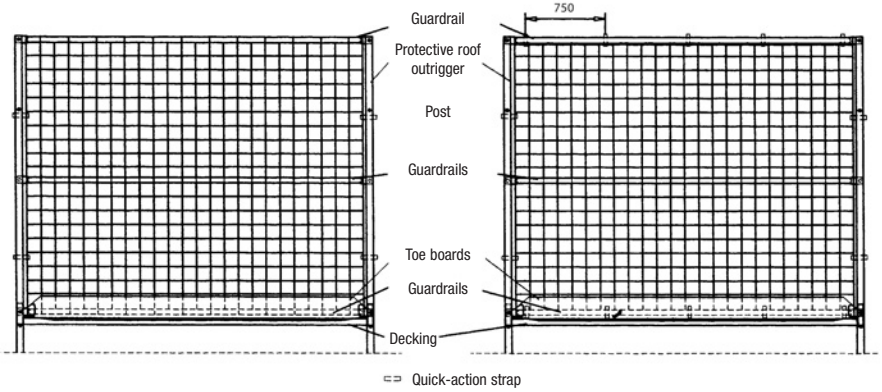


Illustration 23 Barrier with approved safety nets.

2.5.2 Major modes of erection

Attention! + h2 at least 1,50 m
h1 at least 1,00 m
h maximum 1,50 m

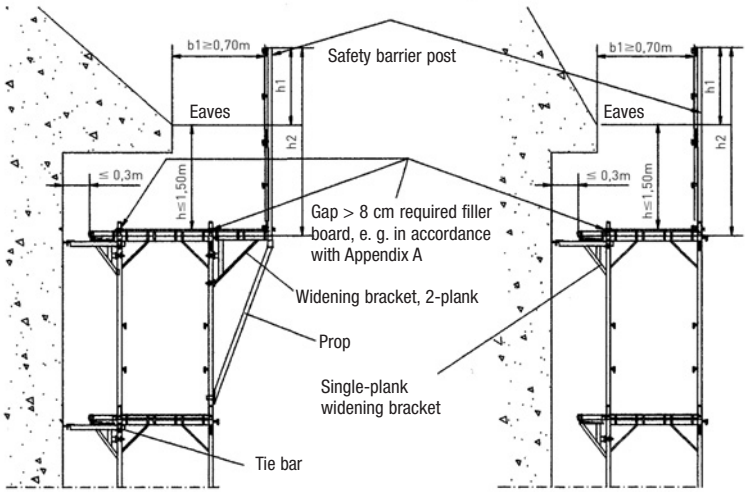


Illustration 24 Roof safety barrier (with and without widening bracket).

2.5.3 Special modes

2.5.3 Special modes of erection

The following modes of erection serve to broaden the range of erection opportunities available:

– Erection using passage frames.

– Bridging.

– Topmost lift not tied.

– Access ladders.

2.5.3.1 Erection using passage frames

Passage frames are used to create a passage-way over the ground on which the scaffold is erected (see illustration 25). The distance between the standards of the passage frame is 1.65 m.

The passage frame consists of a frame connector and two standards bolted together by means of two M 12 screws. Care must be take to ensure that the gravity locks on the standards are located on the outer side of the frame.

Braces are required between the frame on the inner and outer sides.

– Longitudinal tubes (ledgers) are to be attached to the gravity locks in all bays above the jack nuts and at the centre of the frame standards.
– Two tubes 48.3 dia. x 3.2 are fitted, one on top of the other, to create the vertical diagonal braces and which are attached to the standards by means of swivel couplers. The diagonal braces are required in every 5th bay.

Tubes of 48.3 dia. x 3.2 are to be used as vertical diagonal braces at the second scaffold lift and attached to the standards of the vertical frames by means of swivel couplers. Standard vertical diagonals are used from the third lift and up which are attached to the gravity locks in the outer position.

Decking (planks) are to be fitted over the full width of the passage frames. They are fitted to the tubular spigots welded to the cross bearer rails. In addition to the vertical frames fitted on top of the decking, the planks are to be secured using special plank retainers.

The maximum permissible extension length (L_{Sp}) of the base jacks when using passage frames is 295 mm (jack extension length H_{Sp} = distance from bottom edge of vertical frame standard to bottom edge of base plate).

2.5.3 Special modes

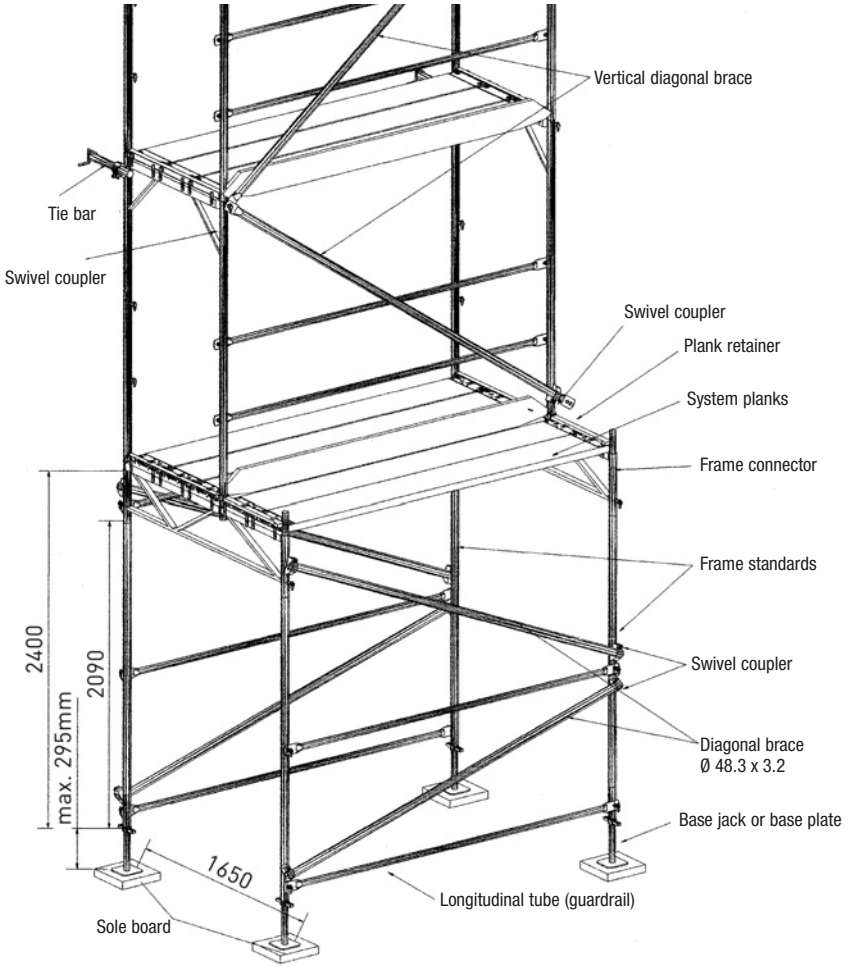


Illustration 25 Construction of a scaffold bay using passage frames.

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.3 Special modes

Supplementary erection measures:

In the case of several modes of erection, additional erection measures are to be adopted :

– The inner standards of the passage frames are to be reinforced by additional scaffold tubes 48.3 dia. x 3.2 each connected by three swivel couplers parallel to the standards (see Ill. 26 and pages 79 to 83).

– Cross braces are required above the passage frames between the outer standards of the vertical frames and the outer standards of the passage frames. These braces are to consists of scaffold tubes 48.3 dia. x 3.2 connected at their top ends by means of swivel couplers to the outer standards. For the purpose of connecting the bottom end of the brace, a scaffold tube of 48.3 dia. x 3.2 with standard couplers must first of all be fitted in the longitudinal direction to the standards of the passage frame; the bottom ends of the brace are then attached by means of couplers to the longitudinal tube (see Ill. 26 and refer to pages 79, 82 and 83).

– Additional vertical diagonal braces between the inner standards of the vertical frames (only if the first lift cannot be tied, see pages 78 and 79). Scaffold tubes of 48.3 dia. x 3.2 are to be used for this purpose connected by swivel couplers to the inner standards.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.3 Special modes

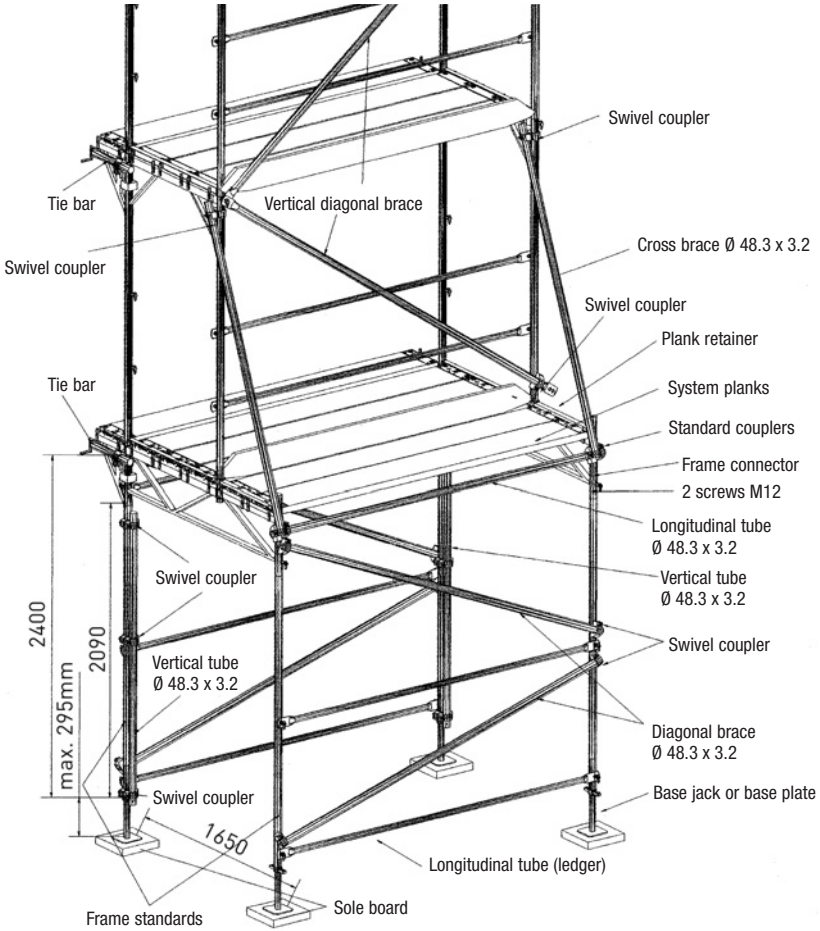


Illustration 26 Supplementary measures to be adopted in the area of the passage frame.

2.5.3 Special modes

Table 11 Foundation loads and tie forces of the erection with passage frames in kN (working loads with no safety factors).

			Foundation loads		Tie forces					
					Standard tie					"V" tie
					$F_{\perp}$				$F_{\parallel}$	F_{α}
			No Protective roof	With Protective roof	Closed facade		Open facade			
Bay length	Scaffold group	Version	Inner jack	Outer jack	H = 24 m	H ≤ 22 m	H = 24 m	H ≤ 22 m		
2.0 m	**5**	BM	21.1	10.0	0.7	1.3	2.5	3.6	0.5	3.2
		BV1	27.4	9.3	2.4	1.5	4.1	3.5	0.2	4.1
	6	BM	24.0	11.2	0.7	1.3	2.5	3.6	0.5	3.2
		BV1	31.8	11.2	2.4	1.5	4.1	3.6	0.2	4.6
2.5 m	**4**	BM	21.0	10.3	0.8	1.5	2.8	4.0	0.5	3.2
		BV1	27.0	9.6	2.8	1.7	4.8	4.1	0.2	4.1
		BV2	29.0	13.6	2.2	1.4	3.2	3.9	0.2	4.6
	5	BM	24.5	11.8	0.8	1.5	2.8	4.0	0.5	3.2
		BV1	32.6	11.8	2.8	1.7	4.8	4.2	0.2	4.6
3.0 m	**4**	BM	23.5	11.6	1.0	1.8	3.4	4.8	0.5	3.4
		BV1	30.7	11.7	3.1	1.9	5.3	4.6	0.2	4.6
		BV2	33.2	15.6	2.4	1.5	3.5	4.3	0.2	4.6

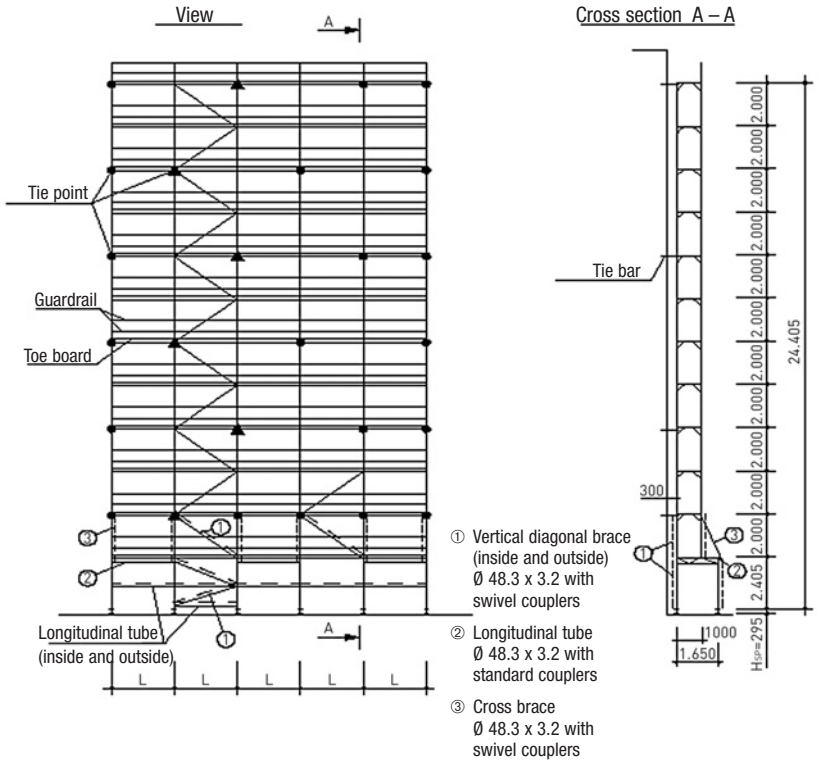
2.5.3 Special modes

Erection with passage frames (closed or open facade)

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 11

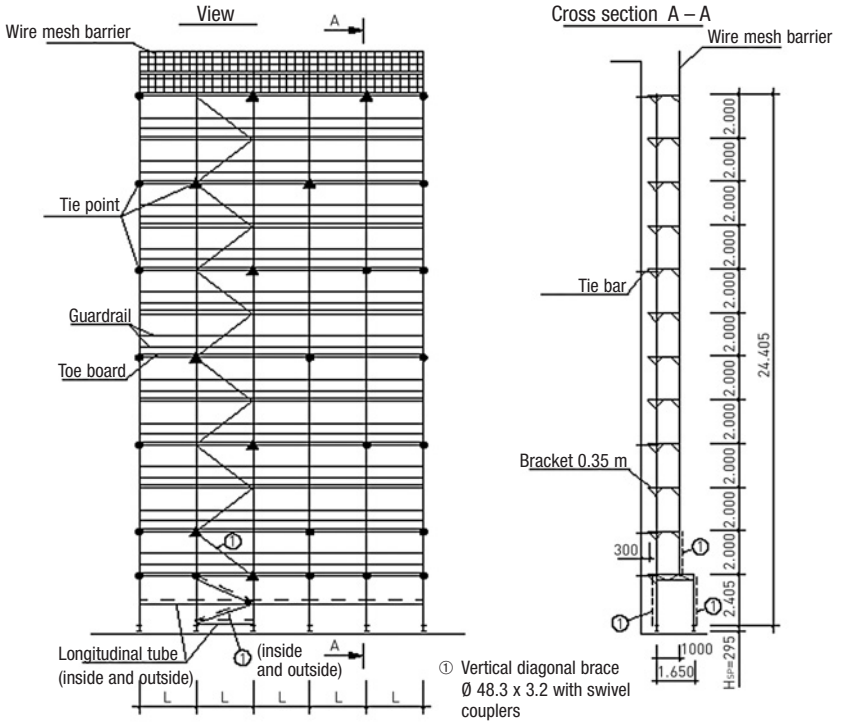
2.5.3 Special modes

Erection with passage frames (closed or open facade)

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 11

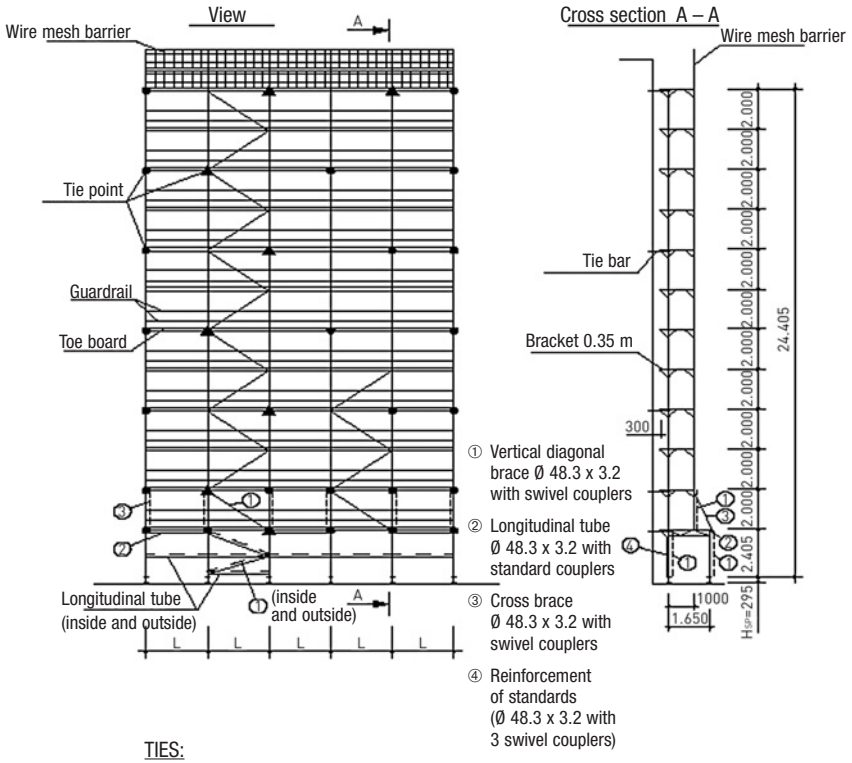
2.5.3 Special modes

Erection with passage frames (closed or open facade)

Bracket version 1, L = 2.0 m, Scaffold groups 6
L = 2.5 m, Scaffold groups 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 11

Rapid-Erection Scaffolding RUX-SUPER 100

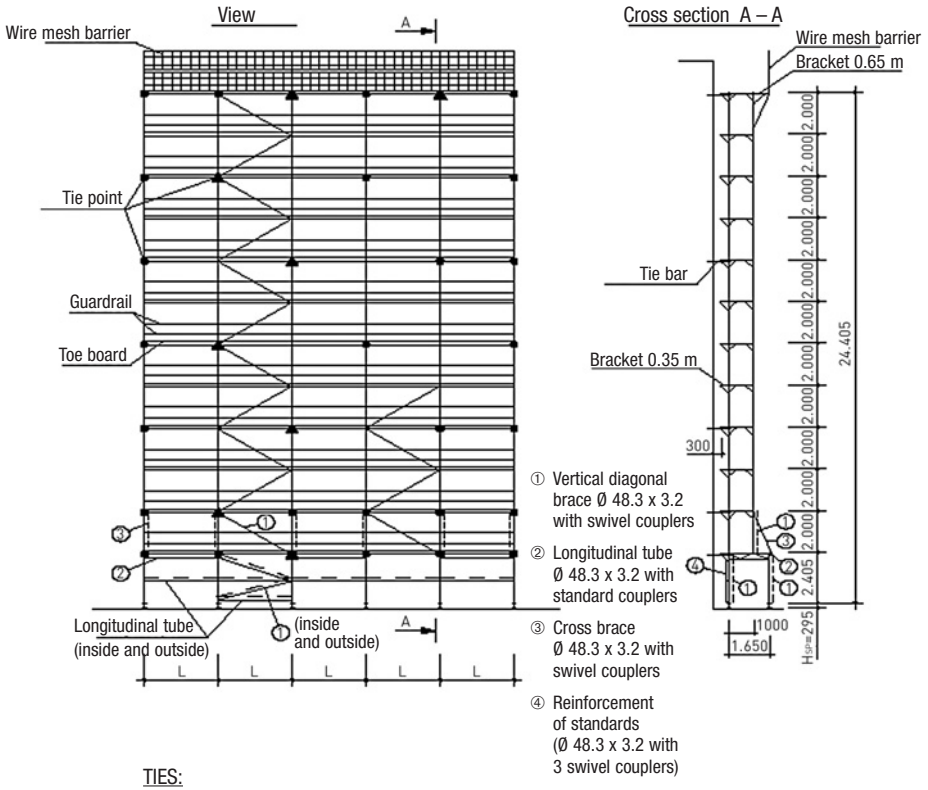
2.5.3 Special modes

Erection with passage frames (closed or open facade)

Bracket version 2, L = 2.5 m, Scaffold group 4
L = 3.0 m, Scaffold group 4

L = 2.5 m: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

L = 3.0 m: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For foundation loads and tie forces see table 11

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.3 Special modes

2.5.3.2 Bridge girders

Bridges are constructed to keep passages in the scaffolding free. The passage height is approx. 3.40 m plus the extended length of the jacks.

The bridge girders are attached to the vertical frames at the second lift by means of the welded couplers. Care is to be taken to ensure that the top edge of the girders is positioned 115 mm below the top edge of the vertical frame (refer to Ill. 27 and 28).

The top chords of the 6 m long girders are stiffened by horizontal braces. Scaffold tubes of 48.3 dia. x 3.2 are to be used for this purpose and which are connected by means of couplers (refer to pages 87 to 89). Stiffening of the top chords can also be achieved by using long tie bars which must be additionally anchored to the facade.

An intermediate support is fitted at the centre of the girders to enable fitting of the decking above. The intermediate supports are connected by means of the welded couplers to the tubular lugs at the centre of the girders. In doing so, care should be taken to ensure that the intermediate support is at the same height as the head cross bars of the vertical frames.

On those scaffolds subject to high loads, the standards to which the bridge girders are attached must be reinforced below the girders themselves (refer to pages 88 and 89). For this purpose parallel scaffolding tubes are fitted to the standards by means of five swivel couplers in each individual case (refer to Ill. 27).

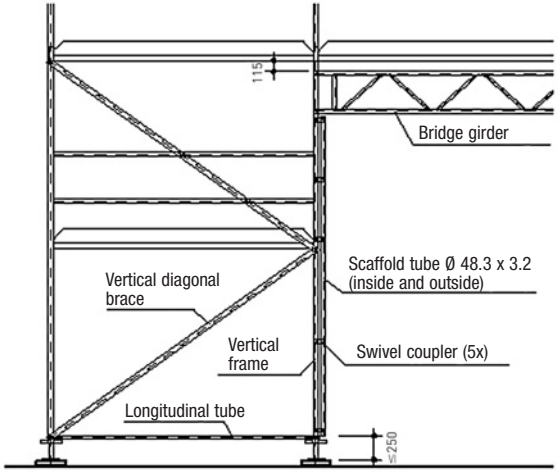


Illustration 27 Stiffening of the standards using parallel tubes.

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.3 Special modes

Alternatively, the standards below the bridge girders can also be additionally stiffened by means of tubular braces (refer to Ill. 28). Absolute care must be taken to ensure that the diagonal braces are fitted as shown (direction).

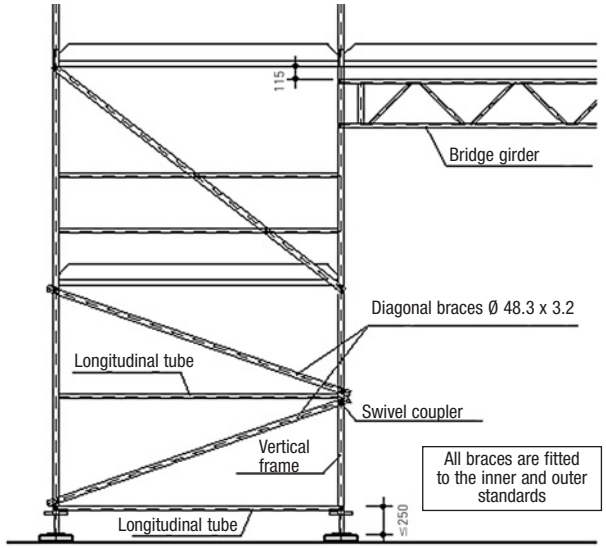


Illustration 28 Alternative stiffening of the standards using braces.

Additional lattice work is required above the girders at the inner and outer planes of the standards and which is constructed by 48.3 dia. x 3.2 tubes. Firstly, transverse bars are fitted to the inner and outer standards. The longitudinal diagonal braces and then the longitudinal tubes are connected to these cross bars as close as possible to the standards. All tubes are connected by means of standard couplers (refer to Ill. 29).

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.3 Special modes

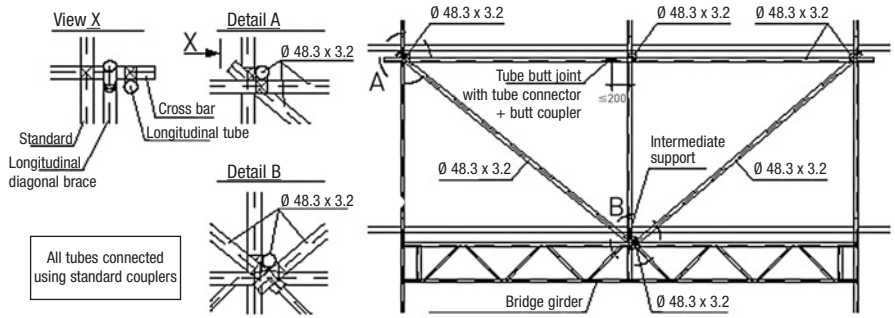


Illustration 29 Lattice work above the bridge girders.

Table 12 Foundation loads under the support frames of the bridging in kN (working loads with no safety factors)

			Foundation loads	
Bay length	Scaffold group	Version	Inner jack	Outer jack
2.0 m	**5**	BM	19.0	21.7
		BV1	30.0	23.8
	6	BM	22.0	24.7
		BV1	35.6	26.9
2.5 m	**4**	BM	18.6	22.1
		BV1	29.5	24.4
		BV2	28.7	30.8
	5	BM	22.4	25.9
		BV1	36.1	28.1
3.0 m	**4**	BM	21.0	25.4
		BV1	33.9	27.8
		BV2	33.0	35.7

For the tying forces refer to table 4 (Chapter 2.5.2.1 uncovered scaffold)

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.3 Special modes

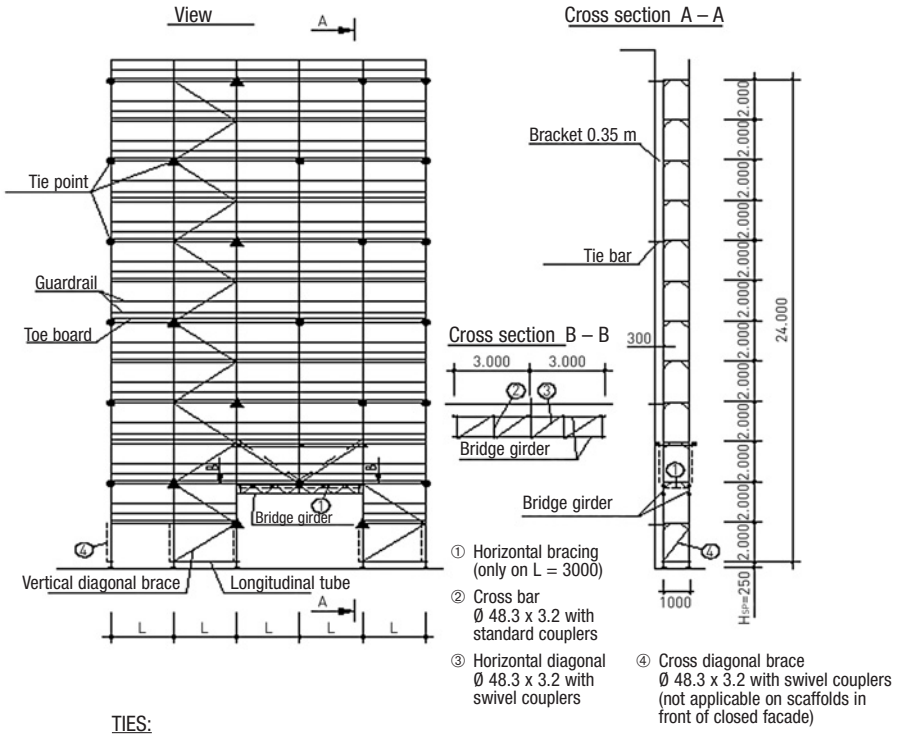
Bridging in front of closed or open facade

Basic mode, **L = 2.0 m, Scaffold groups 5 and 6**
L = 2.5 m, Scaffold groups 4 and 5
L = 3.0 m, Scaffold group 4

Bracket version 1, **L = 2.0 m, Scaffold group 5**
L = 2.5 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



For details refer to illustration 29.
Foundation loads refer to table 12, for tie forces to table 4 (Chapter 2.5.2.1)

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

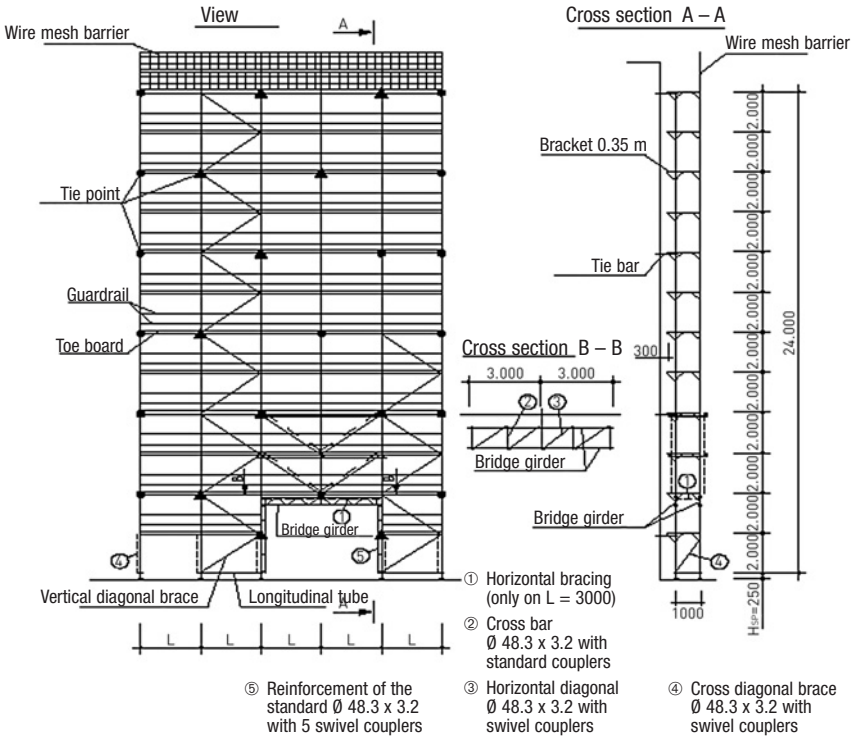
2.5.3 Special modes

Bridging in front of closed or open facade

Bracket version 1, **L = 2.0 m, Scaffold group 6**
L = 2.5 m, Scaffold group 5
L = 3.0 m, Scaffold group 4

Scaffold groups 4 and 5: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

Scaffold group 6: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For details refer to illustration 27, 28 and 29.
Foundation loads refer to table 12, for tie forces to table 4 (Chapter 2.5.2.1)

Rapid-Erection Scaffolding RUX-SUPER 100

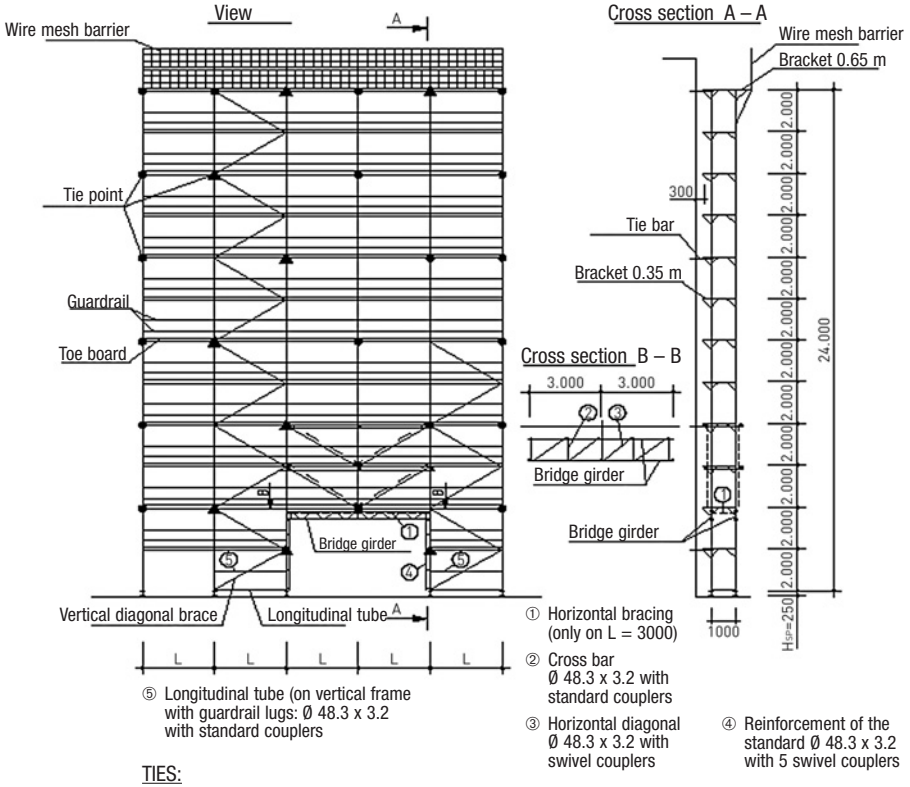
2.5.3 Special modes

Bridging in front of closed or open facade

Bracket version 2, **L = 2.5 m, Scaffold group 4**
L = 3.0 m, Scaffold group 4

L = 2.5 m: Vertical frame with base cross bar 40 x 20 x 1.5 (old design) or
Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)

L = 3.0 m: Vertical frame with base cross bar T 35 x 35 x 4.5 (new design)



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

For details refer to illustration 27, 28 and 29.
Foundation loads refer to table 12, for tie forces to table 4 (Chapter 2.5.2.1)

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.3 Special modes

2.5.3.3 Interim condition – topmost lift not tied

When the scaffold is erected at the same time as the building itself is constructed, it may remain untied at the topmost lift during the interim periods.

Single-plank widening brackets 0.35 m can be fitted at each lift. On the outer side, however, widening brackets are only be fitted when the topmost lift has been tied.

The actual work level may be, at the most, only one lift above the topmost tie point.

During this condition, each standard of the scaffold must be tied at every second lift. When the full height has been reached, and the scaffold is tied at the last lift, the pattern of ties can be appropriately modified (refer to Chapter 2.5.2) to coincide with the final condition of the scaffold.

The permissible extension length of the jacks H_{SP} depends on the final condition of the scaffold. Equally, additional measures are to be observed which may be necessary with the scaffold in its final condition (for example, cross diagonal braces in the vertical frame plane).

Foundation loads:

The prevailing foundation loads result from the final condition of the scaffold.

Tying forces:

The following maximum tying forces occur with the scaffold in its interim condition as described here (open or closed facade):

Short tie bar (standard tie): at the right angle to the facade: $F_{\perp} = 3.5$ kN
parallel to the facade: $F_{||} = 0.2$ kN

Triangular tie bar (V tie; inclined load per tube): $F_{\alpha} = 5.2$ kN

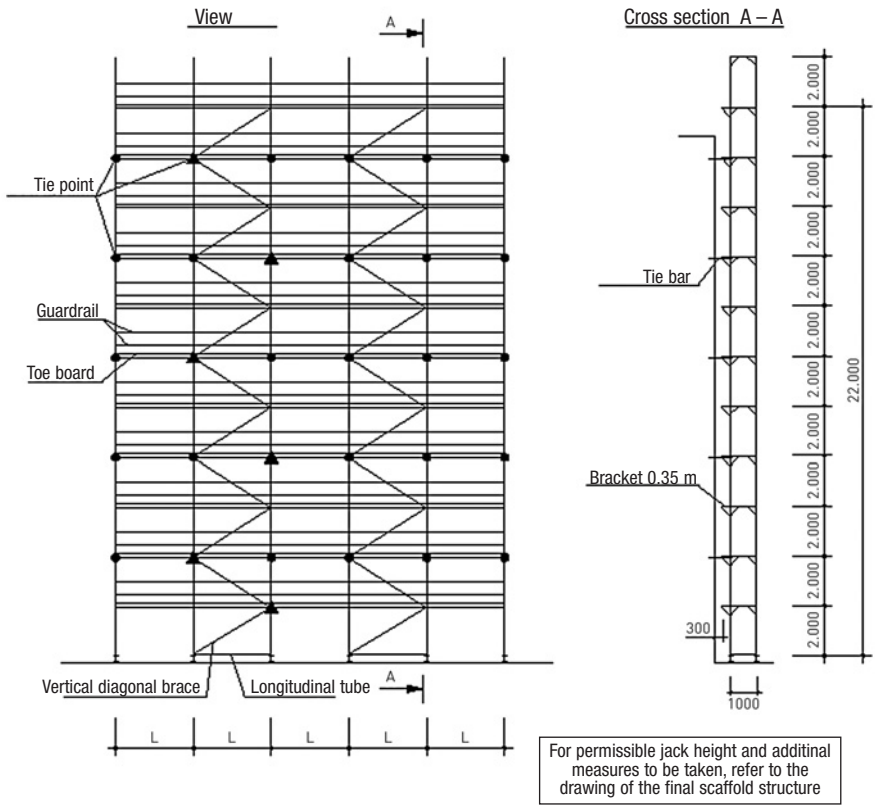
It should be noted that with the scaffold in its final condition, higher tie forces can occur.

2.5.3 Special modes

Scaffold not tied at the topmost lift

This version is only permitted as an interim condition when the scaffold is erected at the same time as the building is constructed.

The vertical frames to be used depend on the final condition of the scaffold.



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

Uncovered scaffold depicted

2.5.3 Special modes

2.5.3.4 Access ladders

For access ladders, the 0.59 m wide aluminium ladder frames with ladders are fitted and a 0.29 m wide plank arranged alongside. The aluminium ladder frames are fitted such that the ladders are alternatively in the right-hand and left-hand position.

Planks are to be fitted directly above the jacks to additional supports slotted over the jacks prior to erection of the vertical frames.

The perimeter standards of the access ladders are to be tied at each tie level to the facade. The vertical distance of the ties may not exceed a maximum of 4.0 m.

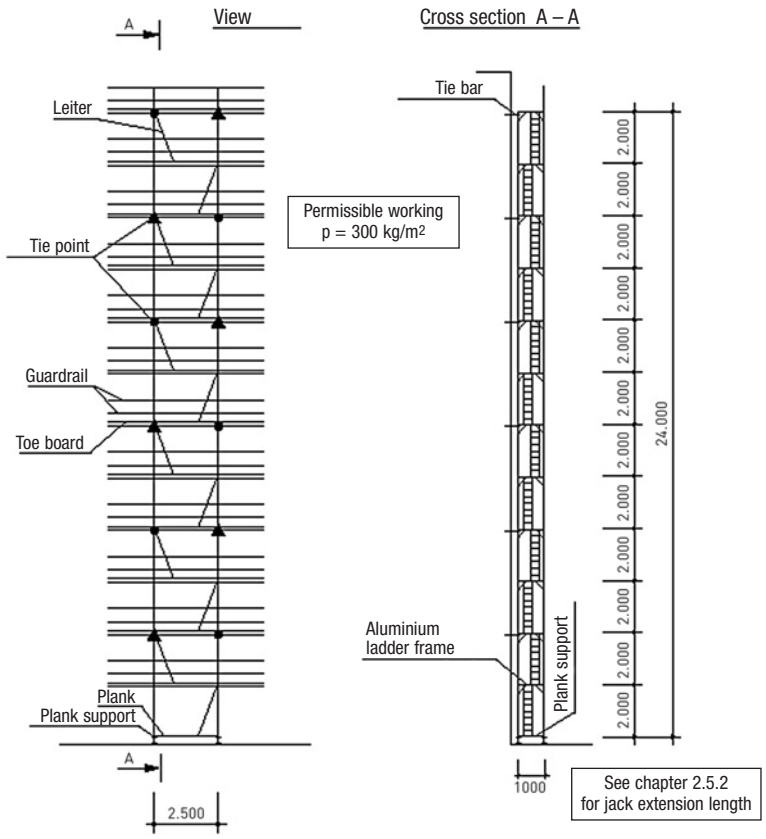
This procedure can be used on the following modes of erection:

Scaffold group 5 (max. 450 kg/m^2 on one lift – l = 2,00 m)

Scaffold group 4 (max. 300 kg/m^2 on one lift – l = 2,50 m)

Rapid-Erection Scaffolding RUX-SUPER 100

2.5.3 Special modes



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

These instructions for erection and use are only valid for the original Rapid-Erection Scaffolding RUX-SUPER 100 from RUX GmbH, Hagen!

2.5.3 Special modes

2.5.3.5 Access ladder placed in front of main scaffold

In this case a separate 0.65 m wide scaffold bay is placed in front of the actual working scaffold (main scaffold) to which the aluminium ladder frames and ladders are fitted. This bay is to be located as close as possible to the main scaffold.

Planks are to be fitted directly above the jacks to additional supports slotted over the spindles prior to erection of the vertical frames.

The aluminium ladder frames are to be fitted such that the ladders themselves are alternately in the left-hand and right-hand positions.

The gap between the decking of the access ladder and that of the main scaffold is closed by gap covers (filler boards) at each lift.

Both vertical frames of the bay, placed in front of the main scaffold, are attached to the main scaffold at each lift. For this purpose, 1 m long scaffolding tubes 48.3 dia. x 3.2 are used which are then connected by means of standard couplers to the standards of the bay and those of the main scaffold. The scaffold is to be tied to the facade at these points.

Vertical diagonal braces are to be fitted to the outer side of the access ladder.

The access ladder is to be subjected to a maximum load of 200 kg/m^2 per lift (Scaffold Group 3 as per DIN 4420/Part 1).

The main scaffold is to be constructed in line with Chapter 2.5.2.

Foundation loads:

The maximum foundation loads under the access ladder placed in front of the main scaffold are:
Inner standards: 5.1 kN
Outer standards: 9.3 kN

Tying forces:

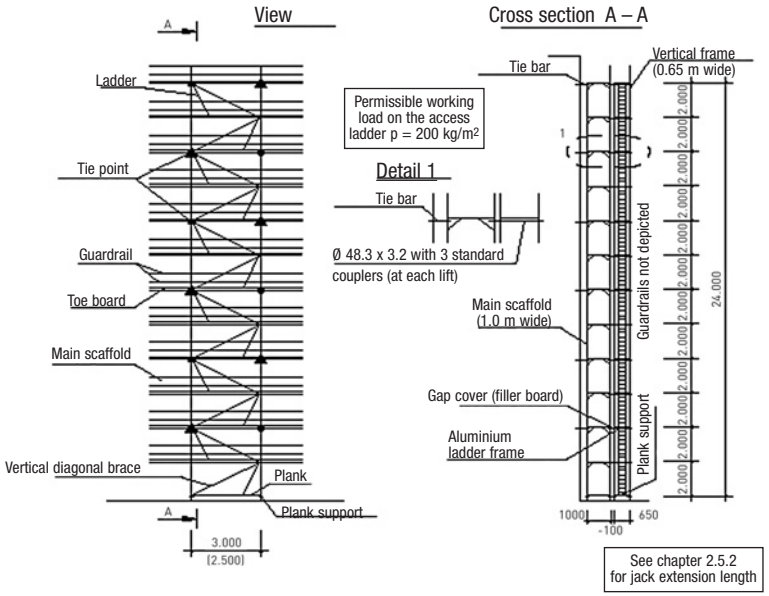
The following tying forces result from the design of the bay placed in front of the main scaffold and must therefore be combined with those of the actual main scaffold itself.

	Closed facade	Open facade
Standard tie	0.4 kN	1.1 kN
"V" tie (inclined load per tube)	0.3 kN	0.8 kN

2.5.3 Special modes

Access ladders located in front of main scaffold

Scaffold bay with 0.65 m wide vertical frames.



TIES:

● Standard ties: only on tie bars attached to inner standards.

▲ "V" ties: two tie bars arranged in V form and attached to the inner standard.

3 Dismantling the RUX-SUPER 100 rapid-erection scaffolding

To dismantle the scaffolding, adopt the procedures described in Chapters 2.1 to 2.5 in reverse order.

The scaffold components are not to be thrown down.

4 Use of the RUX-SUPER 100 rapid-erection scaffolding

The RUX-SUPER 100 rapid-erection scaffolding can be used in conformity with the Scaffold Groups stated and in line with the stipulations of the “Safety regulations for work, safety and system scaffolds (frame and modular scaffolds)“ (Booklet ZH 1/534.1 issued by the Construction Professional Association).