



ALFIX FAÇADE SCAFFOLDING



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With the publication of these Instructions for Assembly and Use, any previous version becomes invalid.

Instructions for Assembly and Use ALFIX Facade Scaffolding published by ALFIX.

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Dear ALFIX customers,

with the "ALFIX Facade scaffolding" system you have purchased a versatile and robust scaffolding.

Please follow these "Instructions for Assembly and Use" during assembly, use and dismantling to ensure safe working

Read this manual carefully. Always keep it with you when assembling, using or dismantling the scaffolding and provide it to the scaffolding erector. It explains in detail all necessary steps and safety measures in the correct order.

The drawing on page 4 provides you with an overview of the components which is useful when working with this manual.

If you wish to deviate from these "Instructions for Assembly and Use", or if you have questions regarding our "ALFIX Facade scaffolding" system, please contact us. We are happy to offer advice.

Sincerely, ALFIX GmbH

ALFIX GmbH

Langhennersdorfer Straße 15

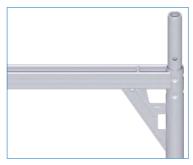
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Guardrail wedge housing

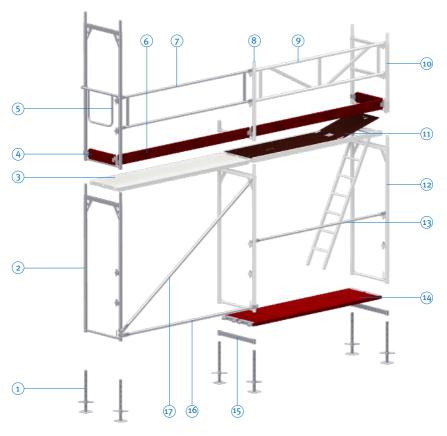


Gusset plate





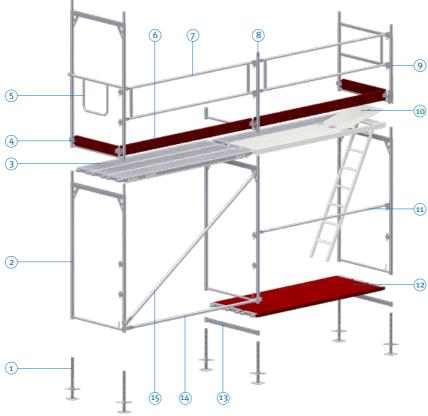
Assembling the scaffolding using bays with bay width 0.73 m



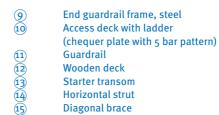
(1)	Base jack	10	End guardrail frame, aluminium
(2)	Assembly frame, steel	11)	Access deck with ladder
(3)	ALBLITZ deck, lightweight		(film-coated plywood)
<u>(4)</u>	End toeboard	(12)	Assembly frame, aluminium
(5)	Double end guardrail	13	Guardrail
<u>(6)</u>	Toeboard, wood	14)	Wooden deck
(7)	Double guardrail, steel	15	Starter transom
8	Guardrail post, aluminium	<u>16</u>)	Horizontal strut
9	Double guardrail, aluminium	17	Diagonal brace



Assembling the scaffolding using bays with bay width 1.09 m



1	Base jack
2	Assembly frame, steel
(3)	Steel deck
(4)	End toeboard
(5)	Double end guardrail
(6)	Toeboard, wood
(7)	Double guardrail, steel
8	Guardrail post, steel



2. Overview



Whether in steel or aluminium, each component of the ALFIX Facade scaffolding system has undergone a thorough quality and reliability check. All components are easy to handle, leading to quick and economical assembly and dismantling.

The ALFIX Facade Scaffolding is a scaffolding system with prefabricated components. It is available in the following bay lengths: 0.73 m - 1.09 m - 1.57 m - 2.07 m - 3.07 m, and 4.14 m. The standard widths of an assembly frame are 0.73 m and 1.09 m.

In its standard assembly configuration, the scaffolding may be used as a service scaffolding in accordance with DIN EN 12810 and 12811 and as a protection scaffold and roof edge protection scaffold (max. fall height 2.00 m). These instructions for assembly and use apply to the following scaffolding systems:

Approval number	System	Explanation
Z-8.1-862	ALFIX 70	Scaffoldings assembled using ALFIX steel assembly frames 0.73 m and other components in accordance with Z-8.1-862
Z-8.1-864	ALBLITZ 70 S	Scaffoldings assembled using ALFIX steel assembly frames 0,73 m and other components in accordance with Z-8.1-862 and Z.8.1-16.2
Z-8.1-897	ALBLITZ 70 A	Scaffoldings assembled using ALFIX aluminium assembly frames 0.73 m and other components in accordance with Z-8.1-897, Z-8.1-862, Z-8.1-16.2 and Z-8.1-844
Z-8.1-943	ALBLITZ 100 S	Scaffoldings assembled using ALFIX steel assembly frames 1.09 m and other components in accordance with Z-8.1-943, Z-8.1-862, Z-8.1-16.2, Z-8.22-939 and Z.8.1-840

Combinations with Layher components in accordance with:

Z-8.1.-16.2 Layher SpeedyScaf 70, steel

Z-8.1-844 Layher SpeedyScaf 70, aluminium

Z-8.1-840 Layher SpeedyScaf 100, steel

Z-8.22-939 Layher Allround, lightweight



The components covered by the approvals are listed in the tables in the first part of the approvals. The approvals are available in PDF on the ALFIX website or can be obtained from Deutsches Institut für Bautechnik (DIBt). For more information, please refer to chapter 5.

Proof of stability for the standard assembly configuration was furnished for structural heights of 24.00 m plus the spindle extension length. If the scaffolding system is used for scaffolding designs that deviate from the standard assembly configuration, any such deviations shall be evaluated in each individual case in accordance with the Technical Building Regulations (Technische Baubestimmungen) and the stipulations of the relevant National Technical Approval and shall be calculated for each individual case.

Approvals:

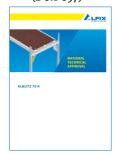
ALFIX 70 (Z-8.1-862)



ALBLITZ 70 S (Z-8.1-864)



ALBLITZ 70 A (Z-8.1-897)



ALBLITZ 100 S (Z-8.1-943)





7

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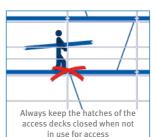
3. General notes

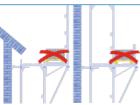


Follow the instructions for use

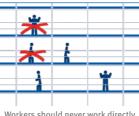


Any modifications or alterations to the scaffolding must be carried out by the scaffolding erector





Do not store any material on protection scaffold scaffoldings or temporary roofs



Workers should never work directly above or below each other







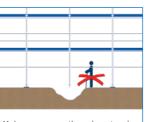
Take particular care not to fall between the scaffolding and the building







Do not jump from scaffold bays



Make sure excavations do not undermine the structural stability of the scaffold



General Instructions for Assembly / Safety Issues / Safety Measures

Scaffolding shall be assembled and dismantled only under the supervision and direction of a qualified person, qualified in scaffold assembly, moving, dismantling or alteration. Scaffolds must be assembled, moved, dismantled and altered in accordance with the stipulations of DGUV Information 201-011 (by the German Social Accident Insurance DGUV, the body that regulates occupational health and safety) "Instructions for handling service and safety scaffoldings" and the notes and provisions of DIN 4420 and/or DIN EN 12811. The German Technical Regulations on Health and Safety at the Workplace (TRBS 2121) as well as the Industrial Safety Regulations (BetrSichV) shall also be observed.

In site-related instructions for assembly and use, the employer shall decide upon the most suitable protection against risk of falling, based on a risk analysis and in accordance with the German Industrial Safety Regulations (BetrSichV). Potential measures include add-on side protection, fall arrest systems, and personal protective equipment to prevent falling (PPE). As a technical measure to prevent the risk of falls, ALFIX offers advanced side protection and the TRBS guardrail (compliant with the German technical regulations for operational safety TRBS), which are documented separately.

In case the risk analysis results in the need for protective equipment (PPE) to prevent falling, appropriate attachment points at the façade scaffolding shall be used. Please refer to page 13 for more detailed information.

Damaged scaffolding components must not be used and have to be replaced by sound material immediately. Repair work shall only be done by the manufacturer of the facade scaffolding system, i.e. ALFIX GmbH.

In accordance with the relevant German Industrial Safety Regulations, risk analyses shall be performed taking into account the particularities for each individual case in order to assess any required measures. Risk assessment must include any potential rescuing procedures.

If the scaffolding deviates from the standard assembly configuration in accordance with these Instructions for Assembly and Use, the structural stability of the scaffolding shall be verified for each individual case and site-related by means of a structural analysis. The following safety symbols are used in this manual:







Fasten safety harness



lear safety helmet



Follow the instructions for use



No unauthorised entry



the outer face of the scaffold

The diagrams shown in this manual are intended as representative examples and are not to be considered as mandatory.

3. General notes





(A) CAUTION

Scaffoldings may only be assembled, altered or dismantled under the supervision of a qualified person and by competent employees.



(A) CAUTION

The inspection protocol must include at least the following information:

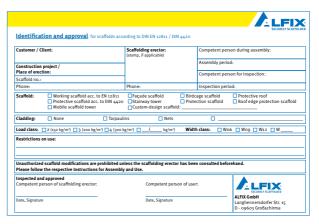
- Type of scaffolding
- Load class
- Width class
- Cladding
- Intended use
- Date
- Scaffolding manufacturer

Inspection and Documentation

The working scaffolding is only to be used upon approval by the scaffolding erector. The scaffolding erector shall ensure that assembly, dismantling and alteration works are clearly indicated at all entries using the safety sign "No unauthorised entry". Upon completion of the assembly, the scaffolding erector must provide a written protocol for the structure, which is the basis of the scaffold marking and place a copy in the labelled tamper-proof transparent plastic pocket "No access", documenting the approval of the scaffold. The protocol also documents the configuration of the scaffolding in accordance with the intended use. The user of the scaffolding shall be informed about the hazards arising from unintended use. Prior to using the scaffolding, the user shall inspect it to ensure that there are no apparent defects.

During the use of the scaffolding, any alterations, including those applied only to parts of the scaffolding, must be reported to the scaffolding erector immediately and an exceptional inspection must be carried out by a qualified person who has been appointed by the scaffolding erector.

Inspection protocols must be kept for at least 3 months after the service life of the scaffolding.



Please also refer to the approval and inspection protocol in chapter 11.



Structural stability

The supporting surface must be inspected to ensure that it has the required load-bearing capacity and appropriate load-distributing bases must be used, e.g. wooden planks 50 x 32 cm with a minimum thickness of 4.5 cm.

Protective bases (circular or angular) for base jacks ensure safe and non-slip standing but do not have a load-distributing effect (important in case surfaces do not have the required load-bearing capacity). They are made of durable plastic material. Ideally suitable for areas with public traffic: the clearly visible bases and covers help prevent accidents.



For areas where tube ends pose a risk, the ends must be covered with the appropriate covers.











Angular protective base

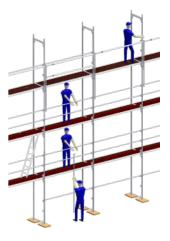


Tube end cap

Structural stability

Wooden deck

For scaffoldings with more than 3 working levels (exception: single family houses) or in case of a scaffolding length of up to 10 m and a scaffolding height of at least 14 m, suitable mechanical aids for lifting and hoisting must be used. Suitable mechanical aids for lifting and hoisting are, for example, cranes, hoists and hand-operated rope pulleys. Scaffolding bays in which vertical transportation is carried out manually, must have a 2-part side protection. In case of manual transportation, at least one person per working level is required. When passing scaffolding components by hand (vertically up or down) during assembly, workers must not stand directly above/below each other but must, at all times, stand one bay laterally offset in relation to each other. When passing scaffolding components to the side on one level, 1-part side protection on the topmost working level is required.









Protection against risk of falling

Scaffolding assembly work must be performed in such a way that falls are avoided or the risk of falls is minimised to the extent possible. Potential protection measures:

- Measures to prevent the risk of falls
- Fall arrest systems
- Personal protective equipment against falling (PPE)

Technical measures to prevent the risk of falls have priority over fall arrest systems and fall arrest systems have priority over PPE. ALFIX offers measures to prevent falls with its TRBS 2121-1 compliant side protection (advanced guardrail post and telescopic guardrail) that is repositioned during assembly or disassembly as required. Please refer to the section "Protection against risk of falling" in the Instructions for Assembly and Use of the ALFIX Facade scaffolding for more information on the use of these systems.



If the scaffolding contractor decides that, based on a risk assessment, other suitable protection measures are required, these measures must be documented in special instructions for use (instructions for assembly).

If personal protective equipment to prevent falling (PPE) is required, it must be compliant with the DIN EN standards 354/355/360/361/362/363 and / or DGUV (the German Social Accident Insurance) rule 112-198 "Use of personal fall protection equipment". The protective equipment must be examined by an expert at least every twelve months. Risk assessment must include any potential procedures for rescues following falls. Fall arresters in accordance with DIN EN 360 may also be used as part of the PPE against falls. Do not combine fall arrest systems. When using PPE against falls, make sure the anchor point of the PPE is at least 6 m above the closest impact surface. Lower anchors do not protect against fall hazards.

Please observe any additional provisions as instructed by the PPE manufacturer!

(A) CAUTION

Fall prevention measures are not required when working levels have a distance not greater than 0.30 m from other working decks with sufficient load-bearing capacity and width.



The following anchor points are allowed:

- 1 Frame corner (in gusset coupler or at standard in the corner)
- 2 Assembly frame above the guardrail wedge housing
- 3 Assembly frame directly at the guardrail wedge housing (only for steel assembly frame)
- 4 Guardrail (no anchoring to aluminium double guardrails)

Cauction:

Do not use the TRBS guardrail as an anchor point.

For further assembly work, the above-mentioned anchor points are also allowed at free-standing assembly frames.



CAUTION

For more information on PPE against falls, please refer to DGUV rule 112-198, DGUV information 201-011.

PSAgA equipment against falls in accordance with DIN EN 354 / 355 / 360 / 361 / 362 / 363.

The lanyard between the harness and carabiner must be sharp edge tested.

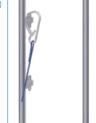














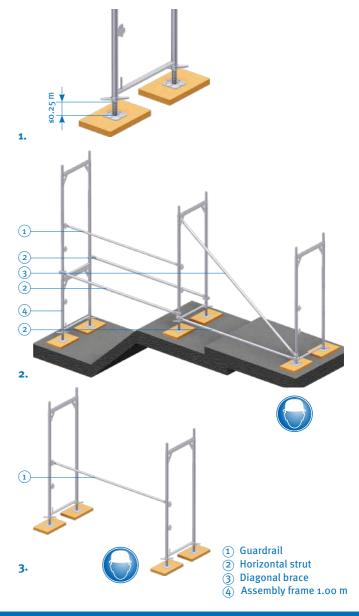




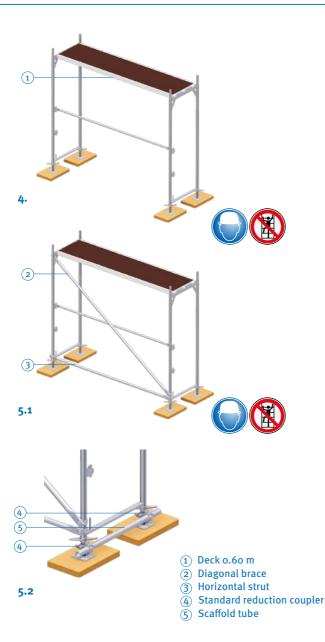


4.1 Assembling the first scaffolding bay

- 1. Only erect scaffoldings on surfaces that have a sufficient load-bearing capacity. If the surface does not have the required load-bearing capacity, load-distributing bases must be used. Install a base plate or a base jack under each scaffolding standard. Depending on the standard assembly configuration, base jacks may be extended to a maximum of 0.25 m (maximum spindle extension length). Larger extensions are allowed if the standard assembly configurations (page 36 et seq.) allow the same or upon verification of the load bearing capacity.
- 2. In case of inclined erection surfaces, for height differences, and to obtain a specified height of the working level, assembly frames with the heights 0.66 m or 1.00 m can be assembled at the base of the scaffolding. If height adjustment below scaffolding bays by means of vertical diagonal braces is required, the assembly frames used for this should also be braced with diagonal braces (e.g. one tube and two swivel couplers) and horizontal braces.
- 3. Position the assembly or passage frames vertically and at the given clearance to the facade onto the base plates or base jacks and protect the frames from falling by installing a guardrail.







4. Fit decks between the upper Uprofiles of the assembly frames. Always fit decks over the entire frame width.

Frame type	Deck	Deck
	0.32 m	o.60 m
Assembly frame 0.73 m	2X	ох
	ох	1X
Assembly frame	3X	ох
1.09 m	1X	1X
Passage frame	4x	ох
	2X	1X
	ох	2X

For load class 3, all deck types can be used.

- Assemble a diagonal brace for longitudinal bracing on the outer face of the scaffolding bay. To do this, insert the formed end of the diagonal brace into the hole of the gusset plate and subsequently swivel the diagonal brace downwards until the half-coupler on the opposite frame can be closed. Additionally fit a horizontal strut on this bay on the outer face of the scaffolding above the lower transom (see figure 5.1). Some assembly configurations also require diagonal braces and horizontal struts to be fitted on the inside of the scaffolding and base jacks to be braced using a swivel reduction coupler and scaffold tube (see figure 5.2). Please refer to the standard assembly configurations in chapter 5 for more information.
- Align the first scaffolding bay vertically and horizontally and make sure the wall clearance (distance to the wall bay edge) is no greater than 0.30 m.











4.2 Assembling further scaffolding bays

Decks

The deck surfaces are to be assembled as described on page 15, section 4. Always start assembling decks from the lower secured working level. Decks are protected from unintentional lift-off by means of the base ledgers of the next working level and guardrail posts or the protective net post on the upper working level. Always provide separate lift-off prevention for the decks and secure by means of a locking pin if no lift-off protection is provided by components arranged on the level above. Bracket 0.36 m provides lift-off prevention for the bracket deck. As with all other timber scaffold components, wooden decks rot when exposed to humidity. Damaged decks no longer provide the required load-bearing capacity and should not be used. Avoid damage to timber decks by keeping the decks dry, off the ground and well ventilated when in storage.

Diagonal braces

Diagonal braces must be installed continually as scaffolding assembly progresses. They can be fitted one above another, or spaced diagonally along the scaffold.Please refer to the standard assembly configuration for the required number of diagonal braces (chapter 5, Standard Assembly Configurations). The following applies for the assembly configuration of the diagonal braces:

- install at least one diagonal brace per working level
- no more than 5 scaffolding bays per diagonal brace
- install horizontal struts on the same level as the lower transoms in each scaffolding bay with diagonal braces

Completing the side protection

Install missing guardrails, toeboards as well as the complete end side protection on every working level that is not exclusively used for scaffolding assembly. Secure the guardrails by driving the guardrail wedge into its housing with a hammer. The side protection on the topmost working level can be installed using guardrail posts and end guardrail frames.



CAUTION

Scaffold assembly work often creates falling hazards. Therefore, suitable protection measures to prevent falls are required. Please refer to the regulations regarding fall prevention measures in the Instructions for Assembly and Use of the "ALFIX facade scaffolding - Protection against risk of falling".



Couplers

In many cases, e.g. with brackets, couplers are the only bearing element. Please note the information below to prevent accidents:

- Check couplers for damage, e.g. at the thread
- Maintain the couplers to ensure they are clean and run smoothly when needed
- Tighten couplers with nuts with a tightening torque of 50 Nm ±
- Fix wedge couplers by driving the wedge to the end-stop with a 0.5 kg hammer

Scaffold retainer / wall tie

The following variants are provided for anchoring the scaffolding to the facade:

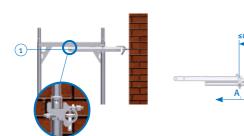
For absorbing tensile and compression loads at <u>right angles</u> to the facade, scaffold retainers / wall ties are used which can be connected means of standard couplers to the inner standards in the openings of the gusset plates or, with inner brackets, below the gusset plates. The guick-release anchor has the same function.

With scaffoldings that are covered with tarpaulins, you can also use pressure-resistant wall ties. In this case, the wall ties are to be installed in a way that the ends without hooks are supported onto the facade.

V-type anchors allow for the transmission of anchor forces at <u>right</u> <u>angles and parallel</u> to the facade. They are constructed using pairs of wall ties arranged in a V shape, connected to the inner standard at an angle of around 45° to the assembly frame level.

In individual cases, installations at up to 0.4 m below the transom are permissible.

Quick-release anchor



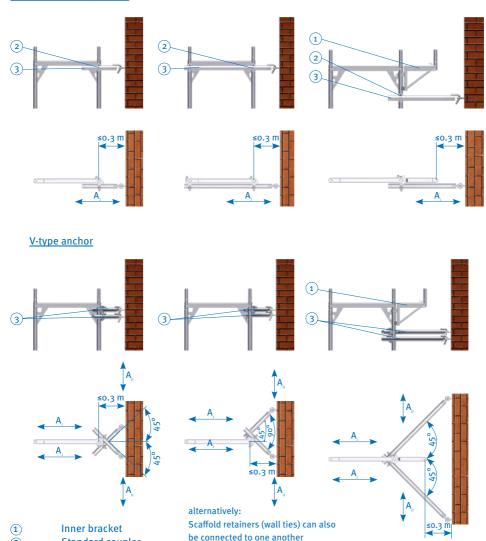
0

Ouick-release anchor





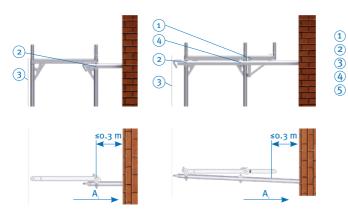
Scaffold retainer / wall tie



Standard coupler Scaffold retainer / wall tie



Compression-resistant bracing

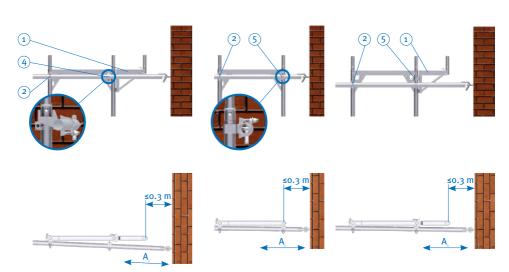


Inner bracket
Standard coupler
Tarpaulin
Anchor coupler

Gusset coupler

Anchor coupler

Gusset coupler



SECURELY SCAFFOLDED

4. Assembly sequence

Scaffolding anchors

Scaffolding anchors must be installed continually as scaffolding assembly progresses. Accordingly, anchorage in accordance with the standard assembly configuration must be fully installed before erecting the next level. Use ring screws for scaffolding with a diameter of no less than 12 mm and plastic expansion anchors (dowels) or similar for fastening in accordance with the required load-bearing capacities.

Anchor configuration and anchor forces

Please refer to the standard assembly configuration for the required anchoring arrangements and anchor forces. This covers all assembly variants and add-on components. Any stated forces are service loads.

4.3 Standard bay

Assemble further scaffolding bays as described above, starting from the first bay.

Install longitudinal bracing consisting of vertical diagonal brace and horizontal strut

in at least every 5th bay. Please refer to the standard assembly configurations for the required number of diagonal braces and horizontal struts. Some assembly configurations additionally require the installation of diagonal braces in an assembly frame and bracing between the base jacks (see chapter 5, Standard assembly configurations).

Please also note that aluminium double guardrails must be installed for assembly configurations with aluminium assembly frames in connection with brackets.

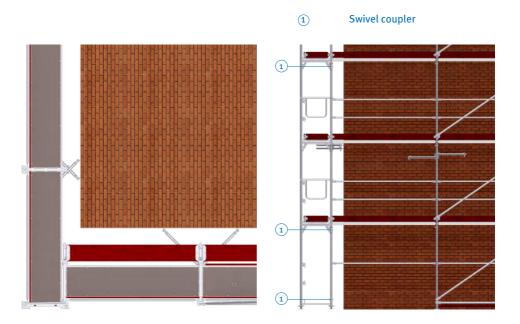


4.4 Corner formation

4.4.1 External corners

To erect a scaffolding around the corner of a building, proceed as shown in the figure below. Connect two assembly frames at an angle of 90° using two swivel couplers, one of which is inserted in the opening of the gusset plate. Now install a base jack under these standards. During further assembly, these standards are again connected using a swivel coupler at height intervals of 4 m. Also anchor the neighbouring standards at height intervals of 4 m using V-type anchors.

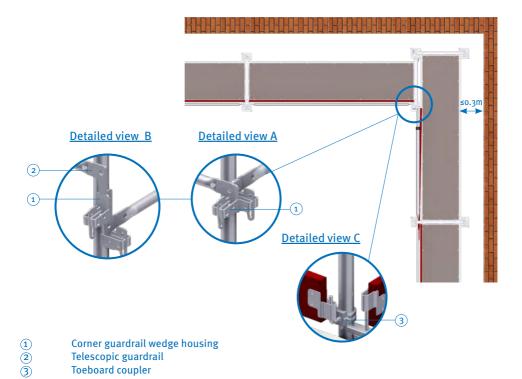
Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.





4.4.2 Internal corners

To form internal corners, we advise you to disposition the assembly frame in such a way that it protrudes. Connect the assembly frames to one another in the same way as they are assembled for external corners. Provide side protection in the protruding scaffolding bay by means of a telescopic rear guardrail and a toeboard. Guardrails can easily and quickly be attached by means of the corner guardrail wedge housing. These are placed at an angle of 90° degrees in the guardrail wedge housing at the assembly frame of the internal corner, wedged and as such serves to accommodate the telescopic guardrail (see Figure detailed view A and B). Fix the toeboard to the internal corner using a toeboard coupler (see detailed view C). Fit the other side of the toeboard between the standard of the assembly frame and the toeboard pin or another toeboard.





4.5 Ladder access

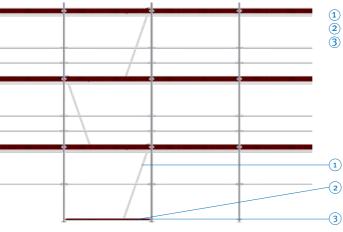
Before you start working on the first working level, provide an inner ladder access to higher levels. Access decks are available for this purpose. On the lowermost level of the ladder access section two transoms must be installed onto the base jacks to accommodate a deck to bear the first ladder. Always keep the hatches of the access decks closed when not used for access. If possible, always arrange the passageways in an offset way. Provide access to the scaffolding at intervals of 50 m (scaffolding length).

Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.



In accordance with TRBS 2121 (German technical rule for operational safety 2121), access to the different working levels must be provided by means of stairways for scaffoldings with a height (ascent height) of 10.00 m or more!

- Access deck with ladder
 Deck
 - Starter transom



4.6 Stairway access

The stairway access is set up in front of the facade scaffolding. The frames of the facade scaffolding to which the access bay is connected are to be anchored at height intervals of $H=4\,\mathrm{m}$, independent of any other determined anchor arrangement. Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.

Start by installing the base jacks within the spacing grid when erecting a stairway access.

The base jacks may be omitted at the inner standards of the access bay. The distance between the inner standard of the access bay and

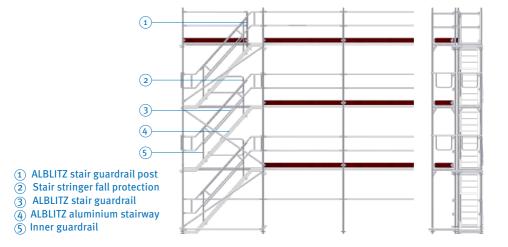


the outer standards of the facade scaffolding is < 0.11 m (axial distance). Then install a starter transom onto the base jack on the side of entry. An assembly frame can be mounted on the opposite side. Now fit the first platform stairway into the assembly frame and starter transom.

Then fit an assembly frame onto the starter transom. Now fit another assembly frame on the exit side, install a guardrail and a double end guardrail and brace the bay with a diagonal brace. The access bay is connected to the facade scaffolding by means of a scaffold tube ≥1.00 m with standard coupler to both standards of the access bay and to the outer standard of the facade scaffolding below the U-ledger at a height interval of 4 m, starting at H = 2 m and at the base above the base ledger. Close the gap between the deck and the platform stairway by fitting intermediate decks (width 0.19 m). Now install the next platform stairway along with the stair stringer fall protection to the internal stairway stringer above the second step of the respective stairway. The stair stringer fall protection serves as a rail as of the first working level.

Repeat these working steps until the required height is reached.

We advise using a guardrail post at the top level. This allows an opening to be created to ensure access to the top level. Optionally, the last access to the top level can also be provided by means of a bracket bay fitted to the stairway access at the end.



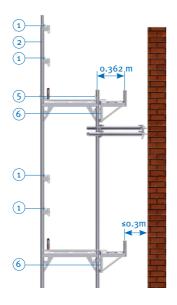


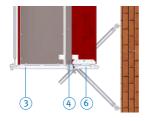
4.7 Facade scaffolding with widening brackets

Two brackets allow for widening the deck surface. Assemble brackets and, if possible, decks, from the secured level below. In all other cases, a separate risk assessment for the assembly must be conducted and any identified required safety measures must be implemented.

4.7.1 Bracket 0.36 m

Depending on the standard assembly configuration (see chapter 5), bracket 0.36 m is used with a narrow deck (width 0.32 m) and preferably installed on the inner (IB-S) face of the scaffolding, whereas installation on the outer (OB-S) face is also possible. The halfcoupler that is welded onto the bracket is connected via the opening in the gusset plate of the assembly frame. The decks are secured against unintentional lift-off by means of the integrated lift-off preventer. On the inner face, the bracket can be fitted at any working level, on the outer face only at the top level. Close the gap between the bracket deck and the bay deck by means of a cap cover. Mount the deck onto the bracket from the working level below. Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.





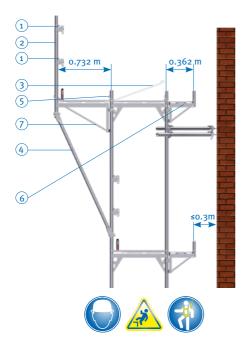
- Guardrail
- Guardrail postLift-off preventer
- Gap cover
- Locking pinBracket 0.36 m

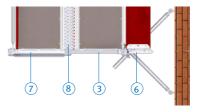




4.7.2 Bracket 0.73 m

Bracket 0.73 m is used with a broad deck (width 0.60 m) or two narrow decks (width 0.32 m each) on the outer face of the scaffolding (OB-L). Fitting to the assembly frame as with bracket 0.36 m. The hole in the gusset plate allows for both the bracket and the vertical diagonal brace to be connected. The gap between the outer bracket deck and the bay deck is to be closed with an intermediate deck. The decks are secured against unintentional lift-off through the installation of guardrail posts or protective net post with an integrated lift-off preventer and a locking pin. Bracket 0.73 m may only be mounted on the outer face on the top working level. The decks are to be mounted from the working level below. Do not assemble an access deck onto the bracket. Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.





- Guardrail 1 2 3 4 5 6 7 8
 - Guardrail post
 - Lift-off preventer
 - Diagonal cross brace
- Locking pin
 - Bracket o.36 m
- Bracket 0.73 m
- Intermediate deck

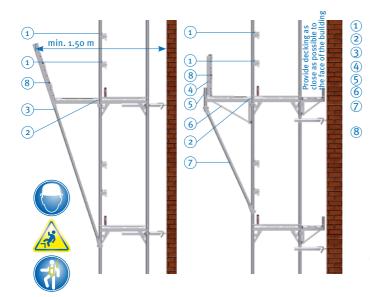


4.8 Facade scaffolding with protective roof

The protective roof is constructed using a 3.00 x 0.60 m protective roof support or a bracket 0.73 m with diagonal brace and temporary roof extension with locking pin. The decks are fitted as described in section 4, page 15, as close as possible to the face of the building. One broad or two narrow decks are fitted to the post of the protective roof extension. Decking shall be fitted in a way that gaps do not exceed 2 cm.

The protective roof shall be separated from the working surface by a guardrail. Storage of materials on the protective roof is not permitted. It is advised to fit the protective roof on the level of the second working level at a height of 4 m. Before assembling the protective roof, the assembly frames are to be anchored at each node. Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.

Proceed with the assembly of the protective roof brackets and, if possible, decks, from the secured lower level. In all other cases, a separate risk assessment for the assembly must be conducted and any identified required safety measures must be implemented.



Guardrail
Gap cover
Protective roof support
Protective roof extension
Locking pin
Bracket 0.73 m
Diagonal cross brace
1.77 m
Wooden decks









4.9 Roof edge protection scaffold

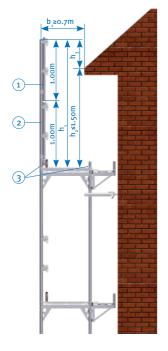
The fall arrest scaffolding is constructed using side-protection meshguards or protection nets and protection net supports. For larger roof overhangs, the fall arrest scaffolding can be constructed using bracket 0.73 m with a diagonal brace placed underneath. The minimum distance between the eaves and the protective wall must be 0.70 m. For protective walls with a height of 2.00 m the deck surface must not be positioned lower than 1.20 m below the eaves.

Fall arrest scaffoldings must be installed for roofs with roof pitches of 22.5° up to 60°, when the distance between the falling edge and the floor is 2.00 m or more.

- minimum deck width o.60 m
- the height difference between the deck and the falling edge must not exceed 1.50 m
- create a protective wall with stable nets and / or side-protection meshguards

Always install side protection meshguards after anchoring the fall arrest and brick guard level (tipping hazard). Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.

The height distance between the scaffolding deck and the edge of the eaves (h_2) is calculated by a formula in accordance with the width of the scaffolding deck (distance eaves - side protection: b_1) and the height of the side protection (h_2) . See German publication Baustein-Merkheft 408 - Gerüstbau (scaffolding) B121.



Side-protection

Protective net post

meshguard or protection net

Locking pin

(1)

Formula:

 $\begin{aligned} & h_{_{1}} \geq h_{_{2}} + 1.50 \text{ m} - b_{_{1}} \\ & h_{_{1}} \geq 1.00 \text{ m} \\ & h_{_{3}} + b_{_{1}} \geq 1.50 \text{ m} \\ & h_{_{3}} \geq 1.50 \text{ m} - b_{_{1}} \end{aligned}$

Example:

2.00 m ≥ 1.20 m + 1.50 m -0.73 m 2.00 m ≥ 1.00 m 0.80 m + 0.73 m ≥ 1.50 m 0.80 m ≥ 1.50 - 0.73 m



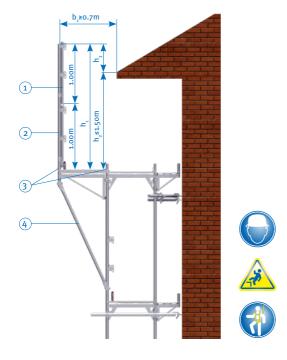






Do not assemble an access deck onto bracket 0.73 m!

Proceed with the assembly of the next brackets and, if possible, decks, from the secured lower level. In all other cases, a separate risk assessment for the assembly shall be conducted and any additional required safety measures shall be issued.



- Side-protection meshguard or protection net
- 2 Protective net post
- (3) Locking pin
- (4) Diagonal cross brace

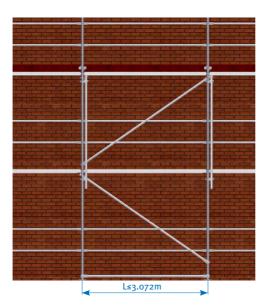


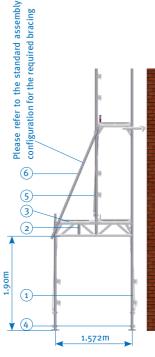
4.10 Passage frame

Passage frames let you erect facade scaffoldings while maintaining unobstructed and safe passage. Passage frames have relocatable connectors, which allow fitting assembly frames with an axial distance of 0.73 m and 1.09 m onto the passage frames.

The passage frames on the inner and outer levels are braced for assembly using horizontal struts and vertical diagonal braces. Decks must be fitted over the entire width of the passage frame. Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.

- Inner and outer vertical diagonal brace
- 2 Passage frame
- (3) Decks
- Inner and outer horizontal struts
- Outer vertical diagonal brace
- 6 Scaffold tube Ø 48.3







4.11 Bridging construction

Steel lattice girders of different lengths are used for bridging a section of standards:

Bay width 3.07 m for lattice girder 6.20 m Bay width 2.57 m for lattice girder 5.20 m Bay width 2.07 m for lattice girder 4.20 m

The lattice girders are installed at a height of approximately 4.00 m. The top chords are secured by means of standard couplers (classes B or BB) to the openings of the gusset plates of the assembly frames, the lower chords to the standards, also by means of standard couplers. To accommodate the assembly frame that needs to be supported, it is recommended to connect a 0.67 m or 1.00 m assembly frame in the same way at half the span. If it is not possible to connect the upper coupler to the gusset plate of the supported frame, an additional coupler must be fitted at the middle assembly frame above and the outer assembly frames below the standard coupler in order to increase the slip resistance. Select the mounting position of the lattice girder in a way that the assembly frame that needs to be supported is connected within the "node" between the diagonal braces at the upper chord of the lattice girder.

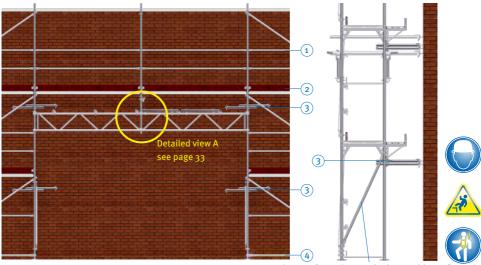
(A) CAUTION

When installing bridging constructions, there is an increased risk of falls.

Protective measures against falls are required.

- 1) Guardrail
- Toeboard
- 3 V-type anchor
 - Horizontal strut

Design when using inner bracket 0.36 m



Please refer to the standard assembly configuration for the required use of the diagonal cross brace

4. Assembly sequence

Stabilise the upper chords of the lattice girders to prevent lateral shifting. This can be done in two ways:

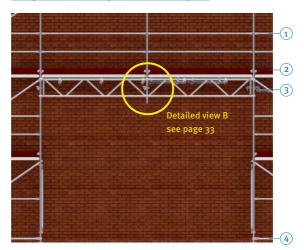
- Anchor both upper chords of the lattice girders to the facade;
- anchorage intervals of no more than 1.00 m
- Horizontal bracing between the upper chords of the lattice girders; only anchor the assembly frames to the facade

Please refer to the standard assembly configurations in chapter 5 for more detailed information on anchoring and bracing.

A separate risk assessment for the assembly of the lattice girders, decks and side protection components shall be conducted and any additional required safety measures shall be issued.

Design: without using inner bracket 0.36 m





Please refer to the standard assembly configuration for the required use of the diagonal cross brace

Bracing of the upper chords of the lattice girder with wall ties or by means of a scaffold tube bracing unit

Guardrail

Toeboard

V-type anchor

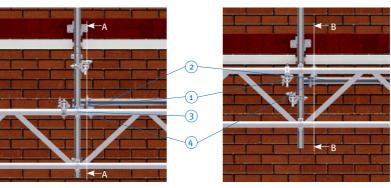
Horizontal strut



Detailed view of the connections in case of bridging

Detailed view A - when using inner bracket 0.36 m

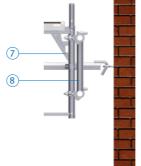
Detailed view B - without using inner bracket 0.36 m



Sectional view A - A

Sectional view B - B





- Scaffold retainer / wall tie
- Scaffold tube bracing unit
- 1 2 3 4 5 6 7 8 Standard coupler class BB with coupler placed above
- Swivel coupler
- Inner bracket
- Assembly frame 1.00 m
- Assembly frame 0.67 m
- Lattice girder



(A) CAUTION

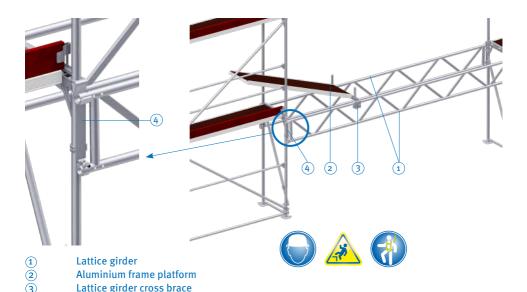
When installing bridging constructions, there is an increased risk of falls. Protective measures against falls are required.

4.12 Lattice girder cross brace

Assembly frames in conjunction with lattice girders can also be supported by using the ALFIX lattice girder cross brace.

Its design allows for easy sliding of the lattice girder cross brace onto the top chord of the lattice girder without the need for elaborate adjustment. Lattice girder cross braces may only be used for scaffoldings of load class 3 with 200 kg/m² and a maximum of 10 levels above the level with the cross brace.

First fit the lattice girder suspension to the respective assembly frame (on both sides, i.e. at the inner and outer standard) using the tube connector. Then fit and secure the assembly frame. The lattice girder suspensions are fitted to the assembly frame from the lower level. We advise you to open the coupler of the lattice girder suspension as it makes fitting the lattice girder easier. The lattice girder (5.20 m / 7.71 m) can now be fitted and coupled in accordance with the bay length.

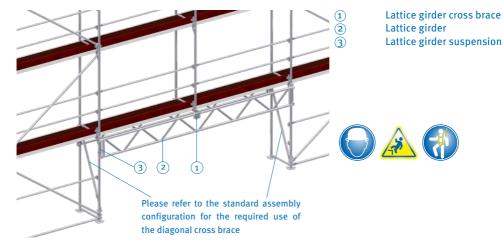


Lattice girder suspension



Now fit the lattice girder cross brace onto the lattice girder and position it. In order to do this, it is advised to fit a deck into the designated U-profile and to move the cross brace with the deck over the lattice girder. Remove the linchpin of the lattice girder cross brace before positioning the cross brace and reinstall the linchpin afterwards. Now, the assembly frame, guardrails and the decks can be assembled.

Anchor and brace the top chords (horizontal bracing) in accordance with the standard assembly configuration.



4.13 Scaffold cladding

Scaffolding nets are attached to the outer standard of the scaffolding frame with zip ties at intervals of maximum 20 cm. The eyelet spacing of the tarpaulin must correspond to the system dimension of the scaffolding.

4.14 Dismantling the scaffolding

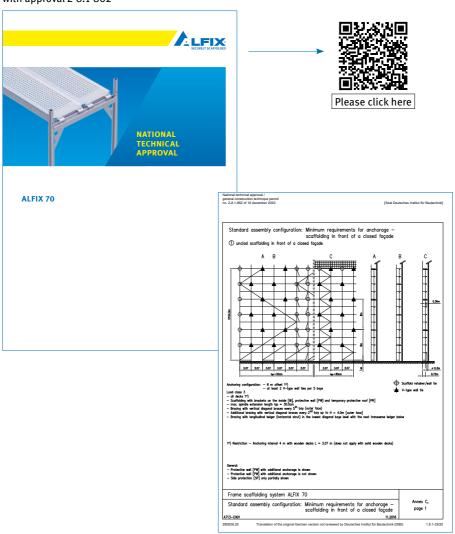
Scaffolding structures are dismantled in the reverse order of erection. Loose components must be fully broken down and lowered to ground level immediately. Do not throw or drop any parts.

Adequate protection and safety measures against falls must be provided during the process of dismantling as well. The anchor points of the scaffolding should not be dismantled until the next level above is completely dismantled.



5.1 ALFIX 70: Z-8.1-862

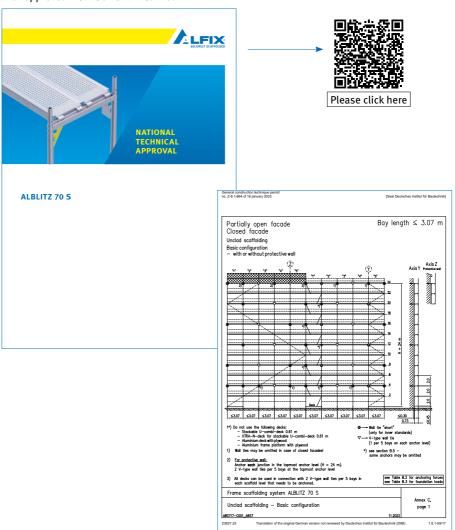
Scaffoldings assembled using ALFIX steel assembly frames 0.73 m and other components in accordance with approval Z-8.1-862





5.2 ALBLITZ 70 S: Z-8.1-864

Scaffoldings assembled using ALFIX steel assembly frames 0.73 m and other components in accordance with approval Z-8.1-862 and Z-8.1-16.2





5.3 ALBLITZ 70 A: Z-8.1-897

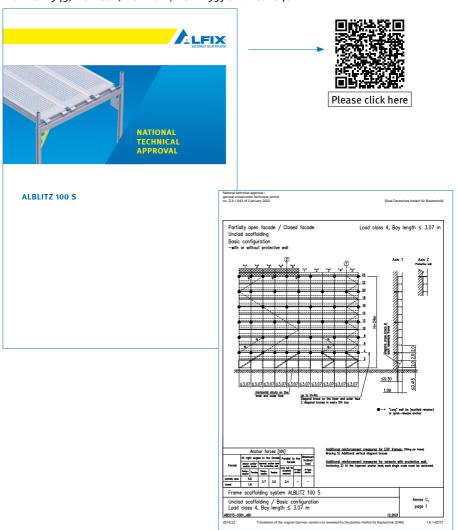
Scaffoldings assembled using ALFIX aluminium assembly frames 0.73 m and other components in accordance with Z-8.1-897, Z-8.1-862, Z-8.1-16.2 and Z-8.1-844





5.4 ALBLITZ 100 S: Z-8.1-943

Scaffoldings assembled using ALFIX steel assembly frames 1.09 m and other components in accordance with Z-8.1-943, Z-8.1-862, Z-8.1-16.2, Z-8.22-939 and Z-8.1-840







Assembly frame 0.73 m, steel Art.-no.: 10 11 067L; 0.67 x 0.73 m

Art.-no.: 10 11 100L; 1.00 x 0.73 m Art.-no.: 10 11 150L; 1.50 x 0.73 m Art.-no.: 10 11 200L; 2.00 x 0.73 m

Art.-no.: 10 11 204L; 2.00 x 0.73 m; 4 guardrail wedge housings Art.-no.: 10 12 204; 2.00 x 1.09 m; 4 guardrail wedge housings



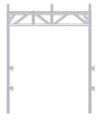
Assembly frame 1.09 m, steel

Art.-no.: 10 12 067; 0.67 x 1.09 m Art.-no.: 10 12 100; 1.00 x 1.09 m Art.-no.: 10 12 150; 1.50 x 1.09 m Art.-no.: 10 12 200; 2.00 x 1.09 m



Assembly frame, aluminium

Art.-no.: 10 00 067; 0.67 x 0.73 m Art.-no.: 10 00 100; 1.00 x 0.73 m Art.-no.: 10 00 150; 1.50 x 0.73 m Art.-no.: 10 00 200; 2.00 x 0.73 m



Passage frame, 3-part, steel

Art.-no.: 10 19 006; 2.20 x 1.57 m



Double end guardrail, steel

Art.-no.: 10 62 073; 0.73 m Art.-no.: 10 62 109; 1.09 m



End guardrail frame, steel

Art.-no.: 10 63 073L; 1.00 x 0.73 m Art.-no.: 10 63 109; 1.00 x 1.09 m



End guardrail frame, aluminium

Art.-no.: 10 52 073; 1.00 x 0.73 m



Guardrail post, single, steel

Art.-no.: 10 65 100L



Guardrail post, aluminium

Art.-no.: 10 53 100; 1.00 x 0.73 m



Guardrail post, single aluminium

Art.-no.: 10 54 000

Guardrail post, steel

Art.-no.: 10 64 073L; 1.00 x 0.73 m Art.-no.: 10 64 100; 1.00 x 1.09 m



Guardrail, steel

Art.-no.: 10 60 ***; 0.73 m - 3.07 m



Double guardrail, steel

Art.-no.: 10 61 ***; 1.57 m - 4.14 m



Diagonal brace

Art.-no.: 11 00 150; for bay length 1.50 m Art.-no.: 11 00 28*; for bay length 2.07 m Art.-no.: 11 00 32*; for bay length 2.57 m Art.-no.: 11 00 36*; for bay length 3.07 m Art.-no.: 11 00 414; for bay length 4.14 m



Diagonal cross brace

Art.-no.: 11 28 719; for bracket 0.73 m Art.-no.: 11 28 119; for bracket 1.09 m

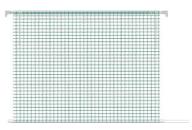


Art.-no.: 10 99 000; 1.57 m - 2.57 m Art.-no.: 10 99 001; 2.07 m - 3.07 m



Double guardrail, aluminium

Art.-no.: 10 51 ***; 1.57 m - 3.07 m



Guard net system

Art.-no.: 14 22 ***; 2.07 m - 3.07 m



Art.-no.: 10 48 ***; 0.36 m - 1.09 m

Horizontal strut

Art.-no.: 11 02 **7; 2.07 m - 3.07 m with halfcoupler

Art.-no.: 11 02 **8; 2.07 m - 3.07 m with wedge coupler





Lattice girder, steel Art.-no.: 13 75 ***; 3.20 m -7.77 m



Lattice girder aluminium Art.-no.: 13 70 ***; 3.20 m -8.20 m



Lattice girder cross brace Art.-no.: 13 81 073; 0.73 m Art.-no.: 13 81 109; 1.09 m



Protective net post Art.-no.: 10 71 077; 2.00 x 0.36/0.50/0.73 m



Protective net post Art.-no.: 10 71 109; 2.00 x 0.36/0.50/0.73/ 1.09 m



Bracket 0.36 m Art.-no.: 10 30 036



Lattice girder suspension Art.-no.: 13 85 000



Bracket 0.73 m Art.-no.: 10 30 073

Protective roof extension Art.-no.: 10 71 000



Protective roof support Art.-no.: 10 71 010

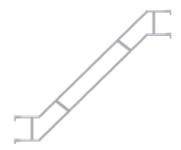


Bracket 1.09 m Art.-no.: 10 30 109





ALBLITZ stairway aluminium Art.-no.: 12 98 257; 2.57 m Art.-no.: 12 98 307; 3.07 m



ALBLITZ double stair guardrail Art.-no.: 12 98 258; 2.57 m x 2.00 m Art.-no.: 12 98 308; 3.07 m x 2.00 m



Starter transom Art.-no.: 14 01 073; 0.73 m Art.-no.: 14 01 109; 1.09 m



Inner guardrail, steel Art.-no.: 11 31 000



ALBLITZ stair guardrail post Art.-no.: 11 31 110



Spacer tube
Art.-no.: 13 61 ***; 0.40 m - 1.50 m



Quick-release anchor Art.-no.: 13 62 065



Locking pin Art.-no.: 14 50 000



Base jack
Art.-no.: 11 51 ***; 0.40 m - 0.80 m



Stair stringer fall protection
Art.-no.: 11 31 001





Steel deck; 0.32 m Art.-no.: 12 21 ***; 0.73 m -4.14 m



Wooden deck; 0.32 m Art.-no.: 12 31 ***; 0.73 m - 3.07 m



Solid aluminium deck; 0.32 m Art.-no.: 12 11 ***; 1.09 m - 4.14 m



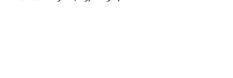
ALBLITZ frame platform; 0.60 m Art.-no.: 12 90 ***; 0.50 m - 3.07 m



Intermediate deck, steel; 0,19 m Art.-no.: 12 25 ***; 1.57 m - 3.07 m



Gap cover; 0.10 m

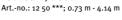


Art.-no.: 12 26 ***; 1.57 m - 3.07 m





ALBLITZ deck, lightweight; 0.60 m Art.-no.: 12 13 ***; 1.57 m - 3.07 m





End toeboard, wood Art.-no.: 12 51 073; 0.73 m Art.-no.: 12 51 109; 1.09 m





ALBLITZ access deck with ladder, film-coated plywood; 0.60 m

Art.-no.: 12 91 ***; 2.57 m - 3.07 m



ALBLITZ access deck with ladder, chequer plate with 5 bar pattern; o.60 m

Art.-no.: 12 94 ***; 2.57 m - 3.07 m



ALBLITZ access deck without ladder, film-coated plywood; 0.60 m

Art.-no.: 12 92 ***; 2.07 m - 3.07 m



ALBLITZ access deck without ladder, chequer plate with 5 bar pattern; o.60 m

Art.-no.: 12 95 ***; 2.07 m - 3.07 m



Standard coupler
Art.-no.: 13 01 019



Swivel coupler Art.-no.: 13 03 019



Halfcoupler Art.-no.: 13 02 019



Toeboard coupler
Art.-no.: 13 13 019



Gusset coupler Art.-no.: 13 06 319



Anchor coupler



Corner guardrail wedge housing
Art.-no.: 13 09 001

7. Technical details

Load-classes of the scaffolding decks

	DESIGNATION	BAY WIDTH L (m)	USE IN PROTECTION SCAFFOLD AND ROOF EDGE PROTECTION SCAFFOLD	USE IN LOAD CLASS (SERVICE CLASS)	
	Steel deck 0.32 m	≤ 2.07	allowable	6	
		2.57	allowable	5	1
		3.07	allowable	4	
		4.14	allowable	3	
	Wooden deck 0.32 m	≤ 1.57	allowable	6	
		2.07	allowable	5	
		2.57	allowable	4	
10		3.07	allowable	3	
SCAFFOLDING DECKS	Solid aluminium deck 0.32 m	≤ 2.07	allowable	6	
ING		2.57	allowable	5	
OLD		3.07	allowable	4	
CAF		4.14	-	3	
٠,	ALBLITZ deck, lightweight o.60 m	1.57	allowable	4	
		2.07	allowable	4	
		2.57	allowable	4	
		3.07	allowable	3	
	ALBLITZ frame platform o.60 m film-coated plywood	≤ 3.07	allowable	3	
	ALBLITZ access deck with ladder 0.60 m film-coated plywood	≤ 3.07	allowable	3	
	ALBLITZ access deck with ladder 0.60 m chequer plate with 5 bar pattern	≤ 3.07	allowable	3	
	ALBLITZ access deck without ladder 0.60 m film-coated plywood	≤ 3.07	allowable	3	

Parameters of the vertical diagonal braces

Extract from approval Z-8.1-864

CES	BAY LENGTH (m)	F _{II,Rd} (kN)
L BRA	2.07	5-45
ONA	2.57	5.45
DIAG	3.07	5.37
VERTICAL DIAGONAL BRACES	F _{II,Rd}	F _{II,Rd}

Cross-section properties of the base jacks

The substitute cross-section properties of the base jacks for the stress analyses and calculations of deformation in accordance with DIN 4425 are to be assumed as follows:

	A=A _s	=	3.52 cm ²	a
JACK	I	=	4.00 cm ²	
BASEJACK	W _{el}	=	2.68 cm ²	1
	W _{pl}	=	1.25 x 2.68 = 3.35 cm ²	



Live loads on working levels

			CONCENTRATED LOAD	PARTIAL AREA LOAD		
S	CLASS	TRIBUTED LOAD q ₁ in kN/m ²	ON 500 mm x 500 mm F, in kN	ON 200 mm x 200 mm F ₂ in kN	q₂ in kN/m²	Partial area factor a _p
LEVELS	1	0.75	1.50	1.00	-	-
	2	1.50	1.50	1.00	-	-
WORKING	3	2.00	1.50	1.00	-	-
*	4	3.00	3.00	1.00	5.00	0.4
	5	4.50	3.00	1.00	7.50	0.4
	6	6.00	3.00	1.00	10.00	0.5

Overhead clearance class

	CLASS OVERHEAD CLEARANCE			
WORKING LEVELS		between the working levels h ₃	between the working levels & transoms or wall ties (scaffold retainers) h _{1a} und h _{1b}	to shoulder clearance h ₂
VORKING	H,	h ₃ ≥ 1.90 m	1.75 m ≤ h _{1a} ≤ 1.90 m 1.75 m ≤ h _{1b} ≤ 1.90 m	h ₂ ≥ 1.60 m
>	H ₂	h ₃ ≥ 1.90 m	h _{1a} ≥ 1.90 m h _{1b} ≥ 1.90 m	h ₂ ≥ 1.75 m

Scaffolding system designation in accordance with EN 12810-1

Example: Scaffolding EN 12810 - 3 D - SW06/257 - H1 - B - LA

Scaffolding EN 12810 Frame scaffolding (system scaffolding) in accordance with DIN EN 12810-1

3	Load class:	(see Table DIN EN 12811-1)

Drop test on scaffold deck

(D = design analysis with drop test, N = design analysis without drop test)

SW06/257 Width class (see Table 1 DIN EN 12811-1)

in this case between 0.60 m and 0.90 m / bay length 2.57 m

H1 Clearance class (see Table 2 DIN EN 12811-1)

B with cladding (A = without cladding, B = with cladding)

LA with ladder (LA = ladder, ST = stairway, LS = ladder and stairway)

Overhead clearance and widths of the working levels

b ffree passage width, minimum required width: 500 mm and (c - 250 mm)

c clearance distance between standards

 $\mathbf{h}_{_{13}}, \mathbf{h}_{_{15}}$ overhead clearance between scaffolding (working) levels and transoms or wall ties (scaffold retainers)

h shoulder clearance

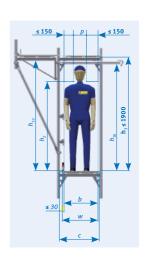
h_s overhead clearance between working levels

p clear width for the head, minimum requirement: 300 mm and (c - 450 mm)

w working level width

Width classes

in classes	
WIDTH CLASS	w in m
Wo6	0.6 ≤ W ≤ 0.9
Wo9	0.9 ≤ W ≤ 1.2
W12	1.2 ≤ W ≤ 1.5
W15	1.5 ≤ W ≤ 1.8
W18	1.8 ≤ W ≤ 2.1
W21	2.1 ≤ W ≤ 2.4
W24	2.4 ≤ W
	Wo6 Wo9 W12 W15 W18







Identification and approval for scaffolds according to DIN EN 12811 / DIN 4420

Customer / Client:	Client:	Scaffolding erector: (stamp, if applicable)	Competent person during assembly:
Construction project	project /		Assembly period:
Place of erection:	tion:		Competent person for inspection:
Scaffold no.:			
Phone:		Phone:	Inspection period:
Scaffold:	 □ Working scaffold acc. to EN 12811 □ Protective scaffold acc. to DIN 4420 □ Mobile scaffold tower 	☐ Façade scaffold ☐ Stairway tower ☐ Custom-design scaffold:	 □ Birdcage scaffold □ Protection scaffold □ Roof edge protection scaffold
Cladding:	☐ None ☐ Tarpaulins	ns 🗀 Nets	
Load class:	Load class: \Box 2 (150 kg/m²) \Box 3 (200 kg/m²) \Box 4 (300 kg/m²) \Box	(kg/m²)	Width class: \(\Brightarrow \text{Wo6} \Brightarrow \text{Wo9} \Brightarrow \text{W12} \Brightarrow \text{W}
Restrictions on use:	on use:		
Unauthorize Please follov	Unauthorized scaffold modifications are prohibited unless the scaffolding erector has been consulted beforehand. Please follow the respective Instructions for Assembly and Use.	less the scaffolding erector has I r and Use.	een consulted beforehand.
Inspected and approved	nd approved		•
Competent p	Competent person of scaffolding erector:	Competent person of user:	
Date, Signature	re	Date, Signature	ALFIX GmbH Langhennersdorfer Str. 15 D - 00603 Großschirma





Inspection protocol according to Section 14 of the German Industrial Safety Regulations (BetrSichV)

Scaffolding No visible damage components Identification - tubes, couplers, components Structural Load-bearing capacity of assembly surface/ground	No ap	Not oplicable				
Identification - tubes, couplers, components						
stability Base jacks - extension length, Struts / diagonals (at least 1 per 5 bays in every axis) Longitudinal ledger - at base height Lattice girders - bracing of compression chord, mounting Anchoring - number, anchoring surface, anchoring configuration,						
1,0,0						
Scaffold levels - fully decked or with horizontal bracing System coverings - including bracket coverings Scaffolding planks - cross-section, mounting Lift-off preventer - in case of lift-off forces Corner design - in full width, side protection Openings - gaps closed (< 2 cm / < 8 cm)						
Working and operating Three-part side protection - end protection operating Wall distance ≤ 30 cm safety Distance between structure and deck - inward side protection Accesses and ascents - number (≤ 50 m), suitability,						
height (ladders < 5 m) Traffic safety - lighting, barriers Brackets, projections - bracing, anchoring Free-standing towers - width to height, ballasting Protective wall in roof edge protection scaffold						
Mobile Castors Saclafold tower Ballasting/widening						
Identification Scaffolding marking at the accesses						
Blocking Demarcate and close off unfinished areas ("No entry")						
Design: ☐ Standard version / Instructions for ☐ Type testing ☐ Individual verfication / assembly plan Assembly and Use						
Notes/comments:						
Inspected and approved Competent person of scaffolding erector: Competent person of user:						
Date, Signature Date, Signature						



9.1 General provisions

This section describes the different assembly and anchor configurations of the ALBLITZ 70 A facade scaffolding. The configurations depend, amongst others, on the influence of wind loads (permeability) on the facade and, where installed, the type of scaffold cladding. The following applies to all assembly configurations:

- maximum structural height: 24 m plus spindle extension length
- maximum spindle extension length: 25 cm
- Edge standards must be anchored at intervals of 4 m, in case of corner formations using V-type anchors in accordance with Section 4.4
- In accordance with the standard assembly configuration, "closed" facades applies when the scaffolding is erected in front of a completely closed wall, and "open" facades applies when the wall in front of which the scaffold is erected has a maximum proportion of 60% openings
- Install the nets at the end sides as close as possible to the fa-
- Only use nets with force coefficients of $C_{f_x} \le 0.6$ and $C_{f_y} \le 0.2$, verified by an aerodynamic expert opinion
- Install diagonal braces as shown in the following figures of the standard assembly configurations in the outer plane, and in connection with the passage frame and bridging construction also in the inner plane
- Any measures that are required when installing supplementary components (widening brackets, protective roof, protective wall, bridging construction, passage frame) are described in the individual assembly configurations. The bearing reactions for the load case "scaffold in operation" given in Table 2 result from the structural height, the use of supplementary components and the intended load class. This includes the dead weight of the heaviest deck. Any stated forces are service values.
- For deviating assembly configurations, e.g. with a structural height of more than 24 m, the structural stability shall be verified for each individual case by means of a structural analysis.



For the standard assembly configuration of the "Frame scaffolding ALBLITZ 70 A", the following designation shall be used in accordance with the type of anchorage used and according to DIN EN 12810-1:2004-03:

· Short wall ties and half V-type anchor

Scaffolding EN 12810 - 3D - SW06/307 - H2 - B - LA

· Long wall ties, compression-resistant bracing and half V-type anchor

Scaffolding EN 12810 - 3D - SW06/307 - H1 - B- LA

Assembly configuration	Uncladded scaffolding	Scaffolding covered with nets
Scaffolding without brackets, with protective wall, protective roof	11.8	10.9
Scaffolding with inner brackets, with protective wall, protective roof	14.1	16.5
Scaffolding with inner brackets, outer bracket, protective wall, protective roof	17.7	18.4

Assembly configuration	Uncladded scaffolding	Scaffolding covered with nets
Scaffolding without brackets, with protective wall, protective roof	12.6	13.7
Scaffolding with inner brackets, with protective wall, protective roof	19.6	19.4
Scaffolding with inner brackets, outer bracket, protective wall, protective roof	23.2	23.5

Assembly configuration	Uncladded scaffolding	Scaffolding covered with nets
Scaffolding without brackets, with protective wall, protective roof	13.4	14.0
Scaffolding with inner brackets, with protective wall, protective roof	21.2	21.9
Scaffolding with inner brackets, outer bracket, protective wall, protective roof	24.3	25.1



Components of the standard assembly configuration

Designation	Annex A, page
Vertical frame 2.00 x 0.73 m, aluminium	1
Vertical frame 1.00 x 0.73 m, aluminium	2
Vertical frame 0.66 x 0.73 m, aluminium	2
Vertical frame 2.00 x 0.73 m, aluminium	4
Vertical frame 1.00 x 0.73 m, aluminium	4
Vertical frame 0.66 x 0.73 m, aluminium	4
Base jack 0.40 m	5
Base jack o.6o m	5
Base jack, reinforced / Base jack o.8o m	6
Diagonal braces 2.07 x 2.00 m	7
Diagonal braces 2.57 x 2.00 m	7
Diagonal braces 3.07 x 2.00 m	7
Diagonal cross brace 1.77 m	7
Double guardrail 1.57 m, aluminium	8
Double guardrail 2.07 m, aluminium	8
Double guardrail 2.57 m, aluminium	8
Double guardrail 3.07 m, aluminium	8
Handrail / guardrail o.73 m	9
Handrail / guardrail 1.09 m	9
Handrail / guardrail 1.57 m	9
Handrail / guardrail 2.07 m	9
Handrail / guardrail 2.57 m	9
Handrail / guardrail 3.07 m	9
Double guardrail 1.57 m	9
Double guardrail 2.07 m	9
Double guardrail 2.57 m	9
Double guardrail 3.07 m	9



Designation	Annex A, page
End guardrail 0.73 m	11
Double end guardrail 0.73 m	11
Aluminium guardrail post, single	12
Aluminium guardrail post o.73 m	12
Aluminium end guardrail post / Aluminium end guardrail frame 0.73 m	12
Wall tie (scaffold retainer) o.30 m	13
Wall tie (scaffold retainer) o.47 m	13
Wall tie (scaffold retainer) 1.00 m	13
Wall tie (scaffold retainer) 1.50 m	13
Wall tie (scaffold retainer) 2.00 m	13
Quick release anchor 0.65 m	13
Anchor coupler	13
Toeboard 1.57 m	14
Toeboard 2.07 m	14
Toeboard 2.57 m	14
Toeboard 3.07 m	14
End toeboard	14
Bracket o.36 m	15
Bracket o.73 m	15
Protective roof bracket / Protective roof support 1.30 m	16
Protective roof bracket / Protective roof support	17
Protective net post	18
Safety side meshguard 1.57 m	19
Safety side meshguard 2.07 m	19
Safety side meshguard 2.57 m	19
Safety side meshguard 3.07 m	19
Robust deck / Aluminium frame platform 0.73 x 0.61 m	20
Robust deck / Aluminium frame platform 1.09 x 0.61 m	20
Robust deck / Aluminium frame platform 1.57 x 0.61 m	20



Designation	Annex A, page
Robust deck / Aluminium frame platform 2.07 x 0.61 m	20
Robust deck / Aluminium frame platform 2.57 x 0.61 m	20
Robust deck / Aluminium frame platform 3.07 x 0.61 m	20
Robust access deck / Aluminium access deck 2.07 x 0.61 m	21
Robust access deck / Aluminium access deck 2.57 x 0.61 m	21
Robust access deck / Aluminium access deck 3.07 x 0.61 m	21
Robust access deck / Aluminium access deck with ladder 2.57 x 0.61 m	22
Robust access deck / Aluminium access deck with ladder 3.07 x 0.61 m	22
Robust deck / Aluminium frame platform 0.73 x 0.32 m	23
Robust deck / Aluminium frame platform 1.09 x 0.32 m	23
Robust deck / Aluminium frame platform 1.57 x 0.32 m	23
Robust deck / Aluminium frame platform 2.07 x 0.32 m	23
Robust deck / Aluminium frame platform 2.57 x 0.32 m	23
Robust deck / Aluminium frame platform 3.07 x 0.32 m	23
Box-type deck / Solid aluminium deck 0.73 x 0.32 m	24
Box-type deck / Solid aluminium deck 1.09 x 0.32 m	24
Box-type deck / Solid aluminium deck 1.57 x 0.32 m	24
Box-type deck / Solid aluminium deck 2.07 x 0.32 m	24
Box-type deck / Solid aluminium deck 2.57 x 0.32 m	24
Box-type deck / Solid aluminium deck 3.07 x 0.32 m	24
Access deck 1.57 x 0.61 m, stackable	25
Access deck 2.07 x 0.61 m, stackable	25
Access deck 2.57 x o.61 m, stackable	25
Access deck 3.07 x 0.61 m, stackable	26
Kombi access deck 2.07 x 0.61 m, stackable	27
Kombi access deck 2.57 x 0.61 m, stackable	27
Kombi access deck 3.07 x 0.61 m, stackable	27
Kombi access deck with ladder 2.57 x 0.61 m, stackable	28
Kombi access deck with ladder 3.07 x 0.61 m, stackable	28



Designation	Annex A, page
Kombi deck 1.57 x 0.61 m	29
Kombi deck 2.07 x 0.61 m	29
Kombi deck 2.57 x o.61 m	30
Kombi deck 3.07 x 0.61 m	30
Kombi access deck 2.57 x 0.61 m	31
Kombi access deck 3.07 x 0.61 m	31
Aluminium deck, slip-resistant 0.73 m	32
Aluminium deck, slip-resistant 1.09 m	32
Aluminium deck, slip-resistant 1.57 m	32
Aluminium deck, slip-resistant 2.07 m	32
Aluminium deck, slip-resistant 2.57 m	32
Aluminium deck, slip-resistant 3.07 m	32
Storey ladder	33
Lift-off preventer 0.36 m	34
Lift-off preventer 0.73 m	34
Locking pin	34
Horizontal strut 1.57 m	35
Horizontal strut 2.07 m	35
Horizontal strut 2.57 m	35
Horizontal strut 3.07 m	35
U-starter transom 0.73 m	36
Lattice girder ledger 0.73 m	36
Lattice girder 5.14 m	37
Lattice girder 6.14 m	37
Passage frame 2.20 x 1.50 m	38
Advanced guardrail post	39
Advanced end guardrail	40
Telescopic guardrail 2.00 - 3.07 m	40



9.2 Standard assembly configurations of uncladded scaffoldings

Standard assembly configurations of uncladded scaffoldings for different designs with brackets and other supplementary components in accordance with the data given in Table 3 are shown in the figures. Any other designs are listed in Table 4.

Table 3: Standard assembly configurations of uncladded scaffoldings in front of open or closed facades

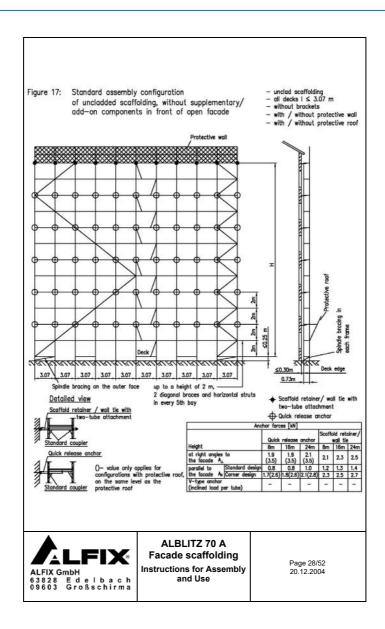
maximum bay length [m]	Scaffold configuration with	Open / closed facade Figure
3.07	Protective wall, Protective roof	17, 18
3.07	Protective wall, Protective roof, Consoles intérieures	19
3.07	Protective wall, Protective roof, Inner brackets, Outer bracket	20



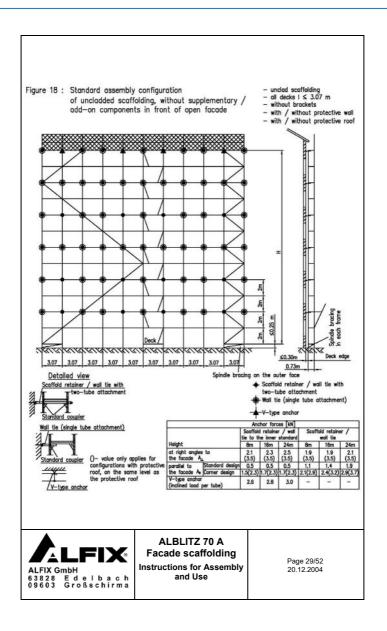
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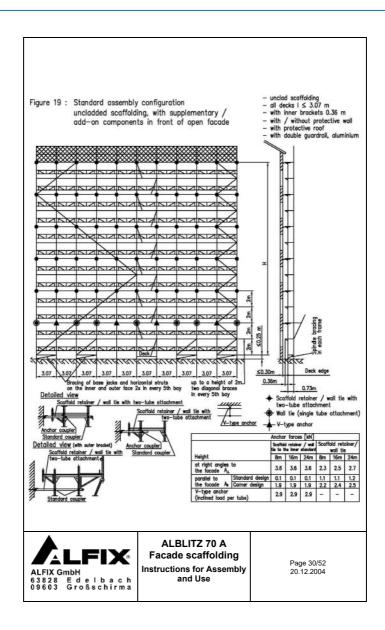














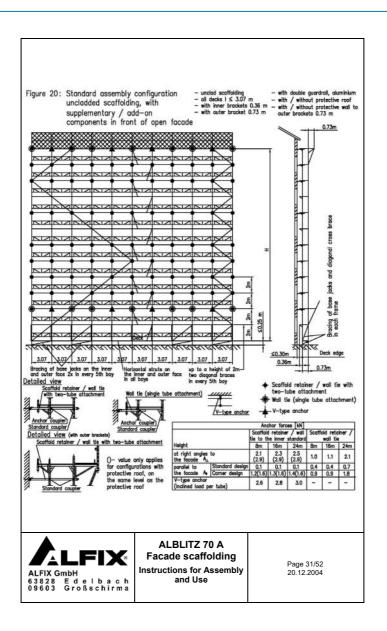




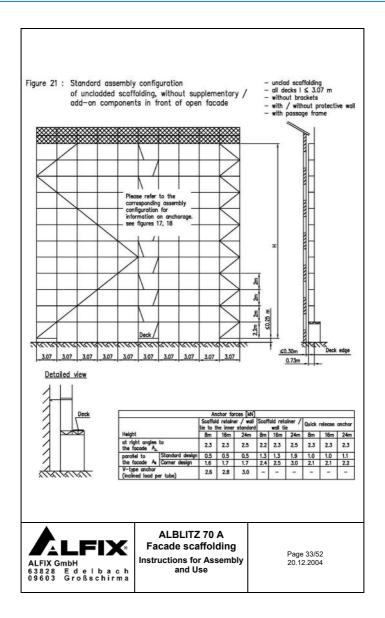
Table 4: Assembly configurations of uncladded scaffoldings in front of open or closed facades

maximum bay length [m]	Scaffold configuration with	Passage frame Figure	Bridging with lattice girders Figure
3.07	Protective wall, Protective roof	21	23, 24
3.07	Protective wall, Protective roof, Inner brackets, Outer bracket	22	25

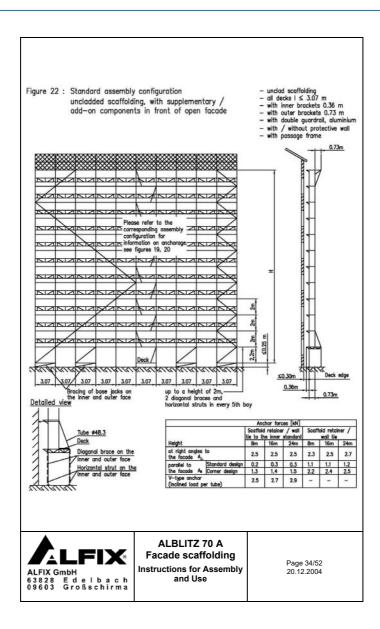
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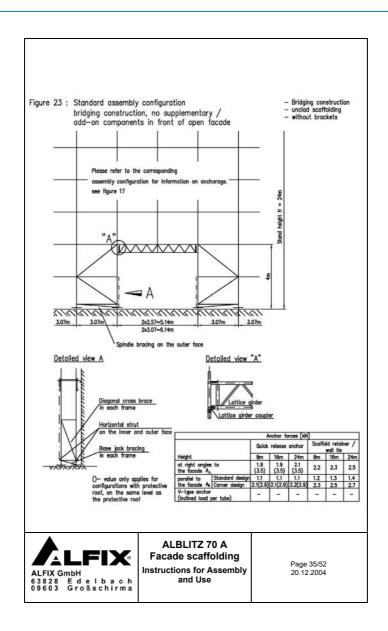




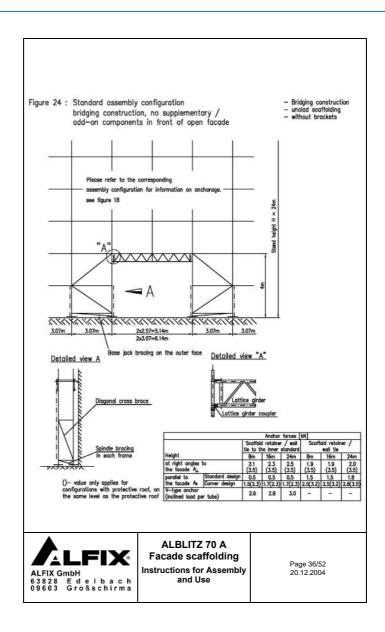




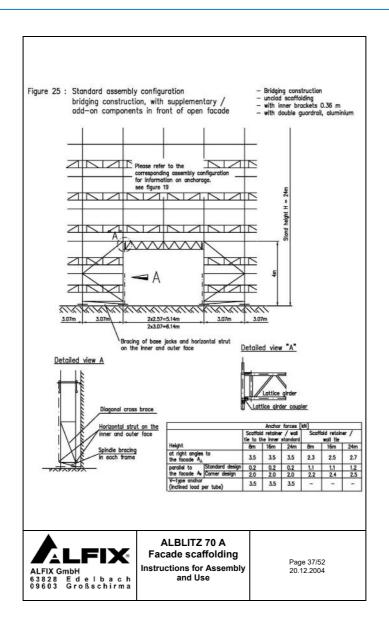














9.3 Standard assembly configurations of scaffoldings cladded with nets

Standard assembly configurations of scaffoldings cladded with nets for different designs with brackets and other supplementary components in accordance with the data given in Table 5 are shown in the figures.

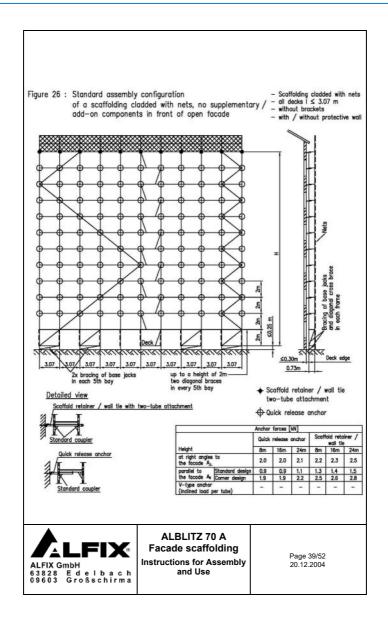
Table 5: Standard assembly configurations of scaffoldings cladded with nets in front of open or closed facades

maximum bay length [m]	Scaffold configuration with	Open / closed facade Figure
3.07	Protective wall	26, 27
3.07	Protective wall, Inner brackets	28
3.07	Protective wall, Inner brackets, Outer bracket	29

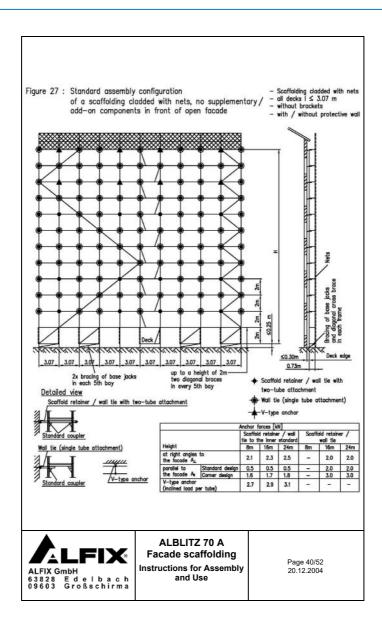
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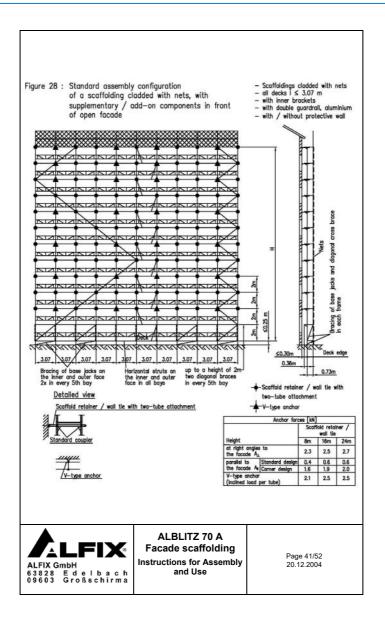














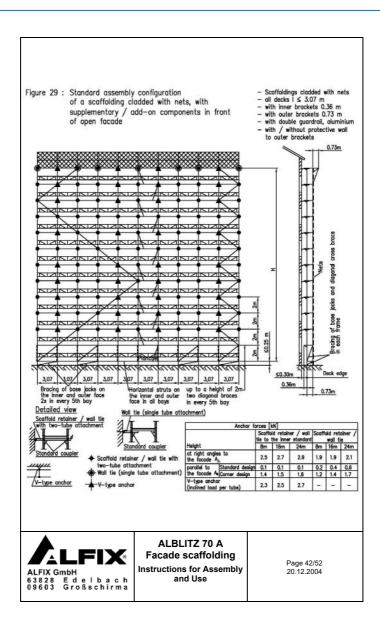




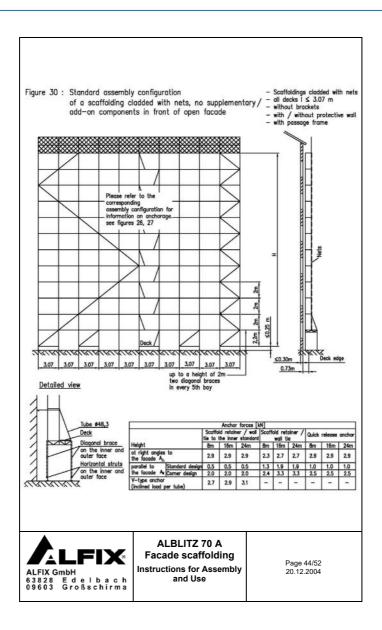
Table 6: Standard assembly configurations of scaffoldings cladded with nets in front of open or closed facades

maximum bay length	Scaffold configuration with	Passage frame	Bridging with lattice girders
[m]		Figure	Figure
3.07	Protective wall	30	32
3.07	Protective wall, Consoles intérieures	31	33
3.07	Protective wall, Inner brackets, Outer bracket	31	34

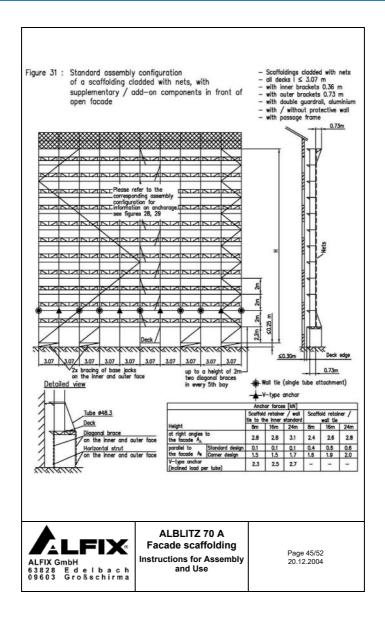
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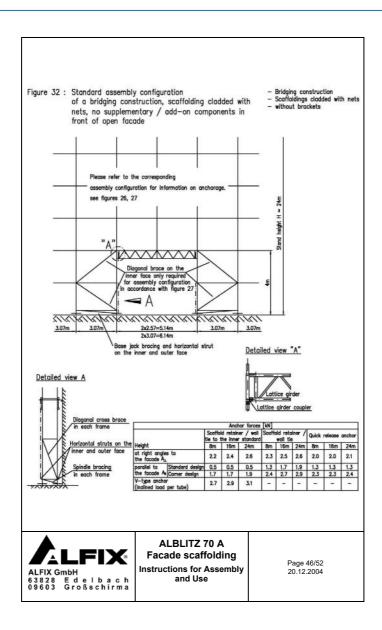




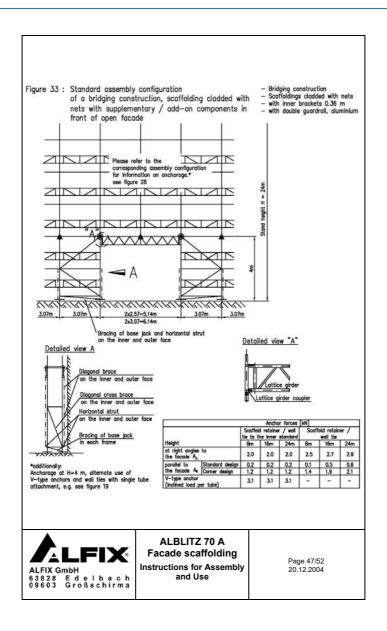




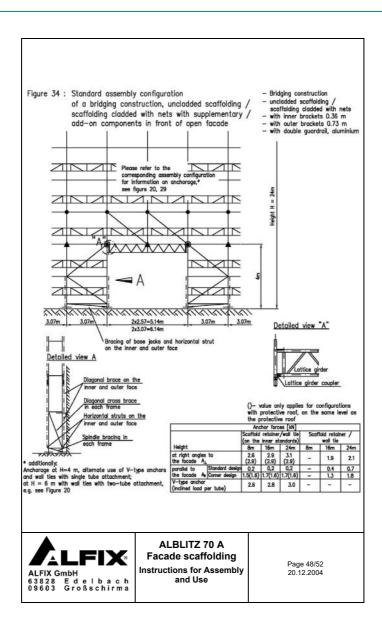












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