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Installation Guidelines

Certified Window Consultant

Alfred Eckertsberger

Window Installation Guidelines



Source: [Bruckner Tower Linz](https://dywidag.at/wp-content/uploads/2020/12/20210201-1340.jpg) [available at: <https://dywidag.at/wp-content/uploads/2020/12/20210201-1340.jpg> , 10.05.2021]

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Imprint:

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Installation Guidelines

Foreword:

These "**Installation Guidelines – As of July 2026**" are primarily intended for planners, developers, site managers, and, in particular, window installation firms. The goal is to enable these target groups to correctly understand the key criteria for the connection details of windows, French doors, entrance doors, and lift-and-slide doors (hereinafter collectively referred to as "windows")—regardless of the material type—when integrating them into the building structure.

They should be able to:

- Correctly comprehend the requirements,
- Specify them appropriately and comprehensively in tenders,
- Implement them professionally,
- Assess them reliably during final inspection.



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Certified Expert
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Installation Guidelines

Scope:

By following the assembly steps described below—based on the illustrated and described assembly steps (provided they are carried out in accordance with these installation guidelines)—installation defects and the resulting structural damage (caused by improper installation) can be largely prevented in advance with a high degree of probability. The specifications generally comply with the minimum requirements of the applicable ÖNORM B 5320 and the recognized technical standards in Austria. Additionally, these installation guidelines aim, in part, to establish an even higher installation standard.

Since these guidelines—at a minimum—reflect an execution standard in accordance with ÖNORM B 5320, they also include proper installation based on the standards outlined in the "Guideline for Planning and Execution of Window and Door Installation for New Construction and Renovation" (Technical Guideline No. 20 of the Federal Association of Glazing Trades, the Association of Window and Façade Manufacturers, and the RAL Quality Association for Windows and Doors). Since the qualitative execution standard of ÖNORM B 5320 also meets the qualitative execution standard of the referenced guideline (i.e., the qualitative execution standard of ÖNORM B 5320 is at least technically and qualitatively equivalent to the referenced guideline), this document will not further reference the "Guideline for Planning and Execution of Window and Door Installation for New Construction and Renovation" separately. Instead, reference will always be made to the technically and qualitatively equivalent ÖNORM B 5320.

These installation guidelines initially cover the important and essential areas related to load transfer, fastening, and sealing of "windows," as well as the installation of external windowsills and the installation of shutter boxes (roller shutter elements) in concealed installation. Naturally, these guidelines cannot depict every single work step involved in window installation, and they do not claim to be exhaustive. If certain (partial) tasks that are standardized under ÖNORM B 5320 or the referenced guideline, or that comply with generally accepted technical standards, are not covered in detail in these installation guidelines, this does not mean that these (partial) tasks are not necessary for a successful window installation in accordance with ÖNORM B 5320, the aforementioned guideline, and the rules of technology. The same applies to the installation of external windowsills in accordance with "Arge-Fensterbank."

Installation Guidelines

It should be noted that these installation guidelines refer to a standard window connection and a standard window installation; therefore, they do not constitute an "object-specific planning", nor can they replace such planning. If "object-specific planning" is required, these installation guidelines are no longer fully applicable.

Furthermore, these installation guidelines do not take into account or replace other planning/construction requirements that may apply individually to each building (such as building physics calculations and the resulting structural and installation measures), or the calculation of isothermal profiles with corresponding structural and installation measures or product-specific additional features (such as heated glazing, soundproof ventilation, etc.).

A successful window installation, ensuring the functionality of the overall structure, can only be guaranteed if all planning requirements have been considered.

These installation guidelines do not provide any recommendations regarding the correct window products to be selected or the associated factors (installation location, wind load, driving rain tightness class, etc.). A successful window installation without subsequent structural damage can only be achieved if the correct window products are selected, considering the appropriate load assumptions.

Additionally, these installation guidelines currently focus only on execution for "traditional new construction or shell construction."

This compendium consists of [262 bound pages](#), mostly featuring illustrative visual material for professional and standard-compliant window installation.

Installation Guidelines

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No claims can be made against the author and publisher based on this publication. Technical guidelines, such as the present ones, are freely available for use by anyone; however, those who apply them are responsible for ensuring their correct application in each specific case.

Technical guidelines like these represent just one of many sources of knowledge for technically proper installation practices under normal circumstances. These guidelines can only consider the generally recognized construction and architectural standards that were in effect at the time of publication. Applying these guidelines does not exempt anyone from responsibility for their own actions. Each individual acts at their own risk and liability. No liability is assumed by SV Alfred Eckertsberger.

Note:

The steel mounting brackets depicted in the illustrations (for securing floor-level elements to the raw ceiling), along with their fastening screws, are exclusively statically calculated construction components. In everyday construction practice, steel mounting brackets and fastening screws are sometimes used that may not necessarily meet the necessary static requirements. The same applies analogously to statically calculated fasteners for frame extension packages up to 260 mm.

According to ÖNORM B 5320, any loads (such as wind loads) acting on "windows" must be safely transferred into the building structure using statically calculated fasteners. The static calculation of those steel brackets, fasteners, and fastening screws (ETA – European Technical Assessment) was conducted based on the most unfavourable wind loads occurring in Austria for buildings up to a height of 30 meters. The same applies to wind load zones 1, 2, and 3 in Germany.

Installation Guidelines

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FOREWORD

Alfred Eckertsberger

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INSTALLATION GUIDELINES "WINDOWS"

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Installation Guidelines

Expert Alfred Eckertsberger

Installation Guideline Part 1 - Load Transfer



Installation Guideline **Part 1 - Load Transfer**

Requirements analogous to ÖNORM B 5320

Load Transfer (According to ÖNORM B 5320):

Vertical and horizontal forces acting within the window plane (e.g., dead weight, wind loads) must be transferred into the wall former (building structure). This load transfer must be achieved using fasteners, load bearing and spacer blocks, brackets, or similar components. The use of filling foams and multifunctional sealing tapes for load transfer is not permitted.

Load bearing and spacer blocks must be subjected to compressive forces. Considering the type of window sash operation, they must be positioned to ensure that the window's dead load is properly transferred into the building. The width of the load bearing and spacer blocks must be adapted to the frame thickness and the intended joint formation to allow seamless execution of subsequent connection work (by follow-up trades).

Under no circumstances should load bearing and spacer blocks protrude outward beyond existing profiles; instead, they must be flush with the mullion profile, lining strip, or Purenit profile. Installed window frame profiles must not exhibit any permanent deformations. Once installed, load bearing blocks must not be removed. Temporary positioning aids (e.g., wedges) used for fixation during assembly must be removed after the elements have been securely fastened.

Load-Bearing Block Arrangement (According to ÖNORM B 5320):

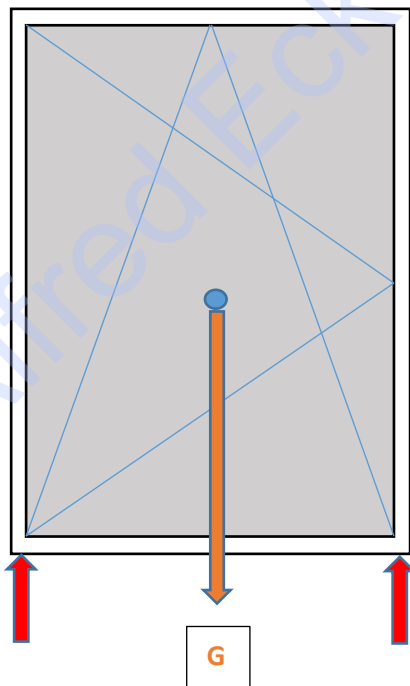
Vertically acting loads must be transferred into the building structure through horizontally arranged supporting blocks at the bottom. Horizontal loads acting within the wall plane, generated by window sashes (e.g., a closed but unlocked sash or a slightly open sash), must be dissipated into the building structure using laterally positioned supporting blocks. The arrangement must take the sash opening type into account.

Additionally, for multi-part window elements with multiple sashes, the size of each sash and its width-to-height ratio must be considered. Horizontal loads acting perpendicular to the wall plane (e.g., a window sash opened at 90° or wind loads) must be transferred into the wall former using fasteners.

Installation Guideline **Part 1** - Load Transfer

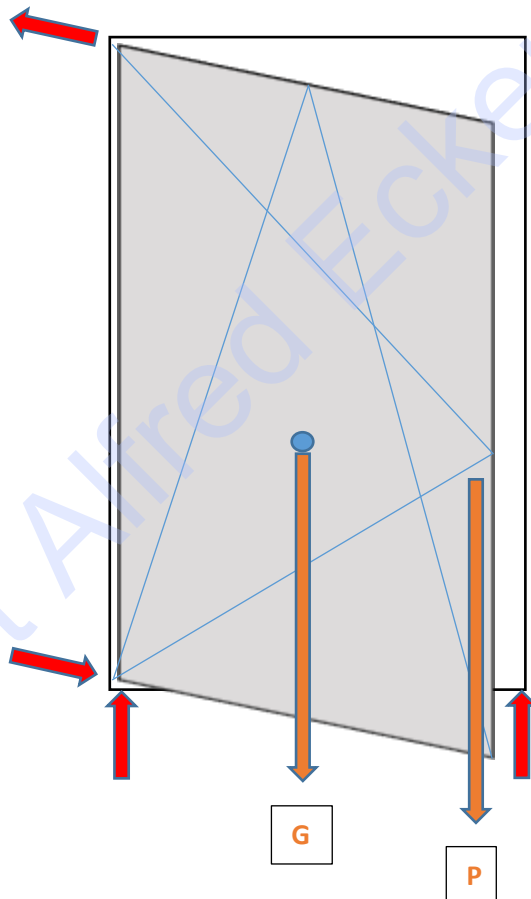
Forces acting in the window plane:

Net weight (**G**): closed sash



Installation Guideline **Part 1** - Load Transfer

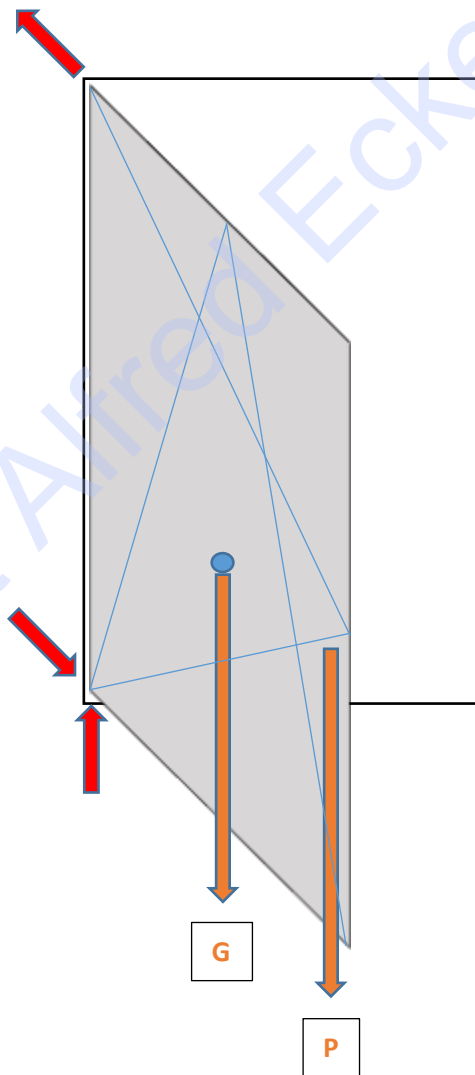
Dead weight (**G**) and vertical payload (**P**): minimum open wing



Installation Guideline **Part 1** - Load Transfer

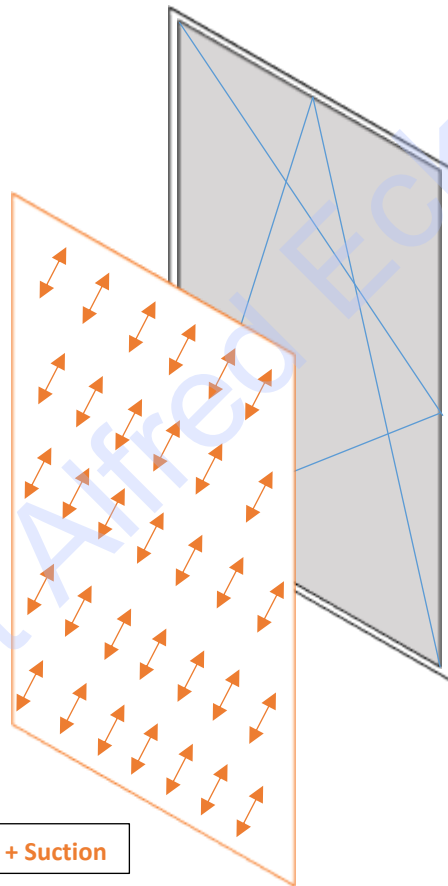
Forces acting at right angles to the window plane

Dead weight (G) and vertical payload (P): Wing open 90°



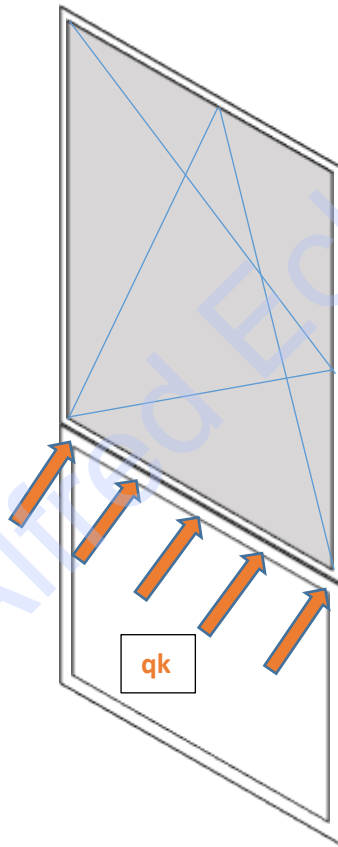
Installation Guideline **Part 1** - Load Transfer

Wind loads (pressure + suction)



Installation Guideline **Part 1** - Load Transfer

Horizontal Payloads (q_k)



Installation Guideline **Part 1** - Load Transfer

Materials (According to ÖNORM B 5320):

The material used for load-bearing and spacer blocks must be permanently dimensionally stable and have low thermal conductivity. Thermosetting plastics, hardwood, Purenit, or equivalent materials have proven to be suitable for this purpose.

Additionally:

- Hollow chamber profiles must not be used as load-bearing blocks.
- For all elements, load-bearing blocks must have a minimum width of 50 mm and should match the construction depth of the frame profiles, lining strip profiles, frame extensions, and Purenit profiles.
- The spacing between load-bearing blocks must not exceed 500 mm for floor-level elements (regardless of the materials used for the floor connection profiles) and 300 mm for lift-and-slide doors.
- For window elements, additional load-bearing blocks must always be placed beneath vertical mullions and meeting rails in the parapet area.
- For window elements with individual field widths of ≥ 1000 mm (clear frame opening), additional load-bearing blocks must also be placed in the parapet area, positioned at the centre of each field.
- The horizontal placement of load-bearing blocks must also be specifically aligned with the vertical plane of hardware components (corner bearings).

Installation Guideline Part 1 - Load Transfer

- For French doors, additional fastenings (for load transfer) must be installed in the frame area (threshold) and floor connection profile at both the corner bearing and the scissor hinge area. The exact execution of these measures depends on the acting loads (sash weight + glass weight).
- If fixed window elements are installed using standard lining strips or additional profiles (such as frame extensions) with a low construction height, additional load-bearing blocks are required. These blocks must be positioned horizontally in the parapet area, aligned centrally in the vertical plane of the glazing load-bearing blocks.

Installation Guideline **Part 1** - Load Transfer

Arrangement of supporting blocks

 additional supporting block



Installation Guideline **Part 1** - Load Transfer

Arrangement of supporting blocks

 additional supporting block



Installation Guideline **Part 1** - Load Transfer

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Window

Arrangement of the supporting block in the area of the corner bearing



Installation Guideline **Part 1** - Load Transfer

French doors area scissor storage

Mounting Variant 1

 additional attachment



Installation Guideline **Part 1** - Load Transfer

French doors area scissor storage

Mounting Variant 1

 additional attachment



Installation Guideline **Part 1** - Load Transfer

French doors area scissor storage

Mounting Variant 1

➡ additional attachment



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting Variant 1

 **additional attachment**



Installation Guideline **Part 1** - Load Transfer

French doors area corner storage

Mounting Variant 1

 additional attachment



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting Variant 2



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting Variant 2



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting variant 2

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting variant 2

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting variant 2

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting variant 2

 additional attachment



Installation Guideline **Part 1** - Load Transfer

French doors area corner storage

Mounting variant 2

 additional attachment



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting variant 2

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting Variant 3

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

French doors area corner storage

Mounting Variant 3

 **additional attachment**



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks

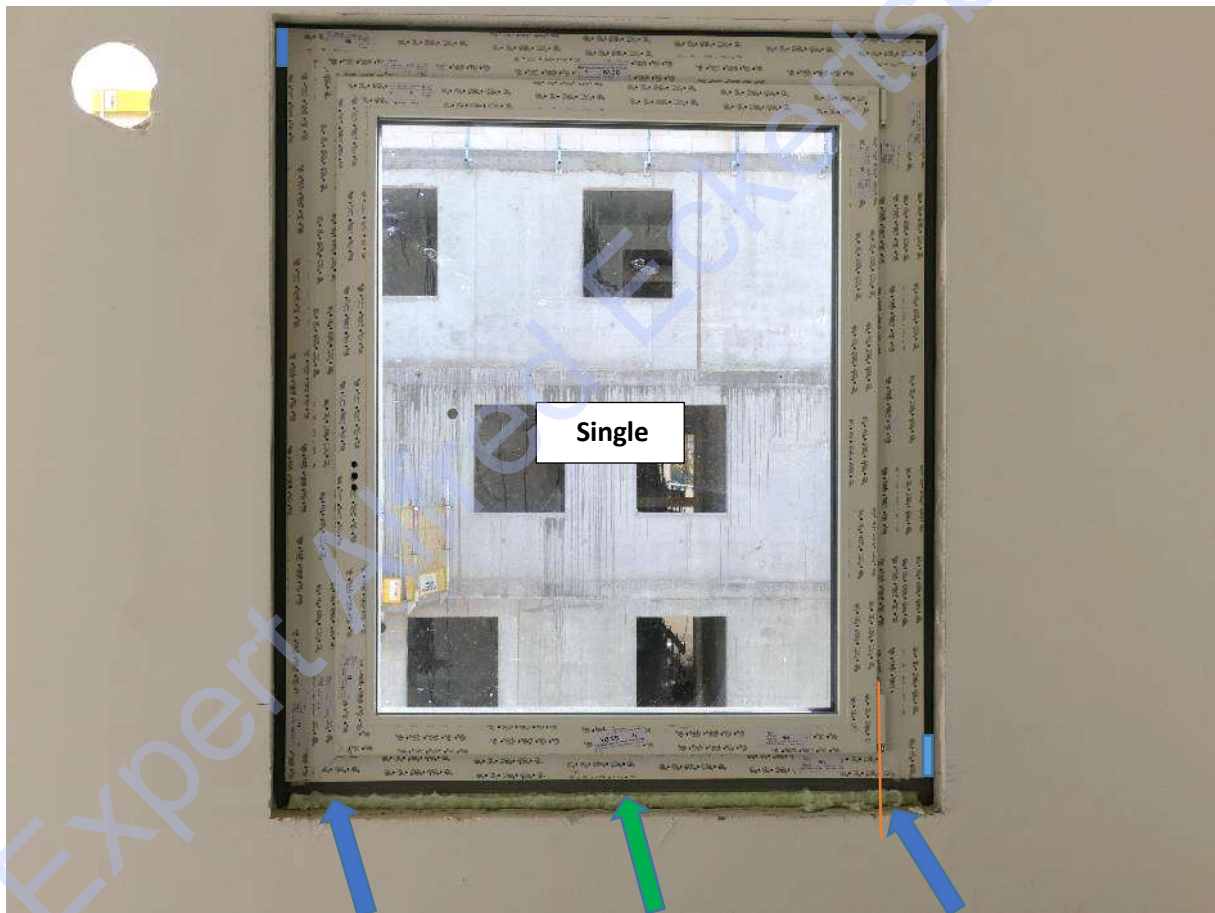


Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Arrangement of supporting blocks

 additional supporting block



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Arrangement of supporting blocks

 additional supporting block



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Version with transom

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Version with mullion

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Version with mullion

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≤ 1000 mm

Version with transom

Arrangement of supporting blocks

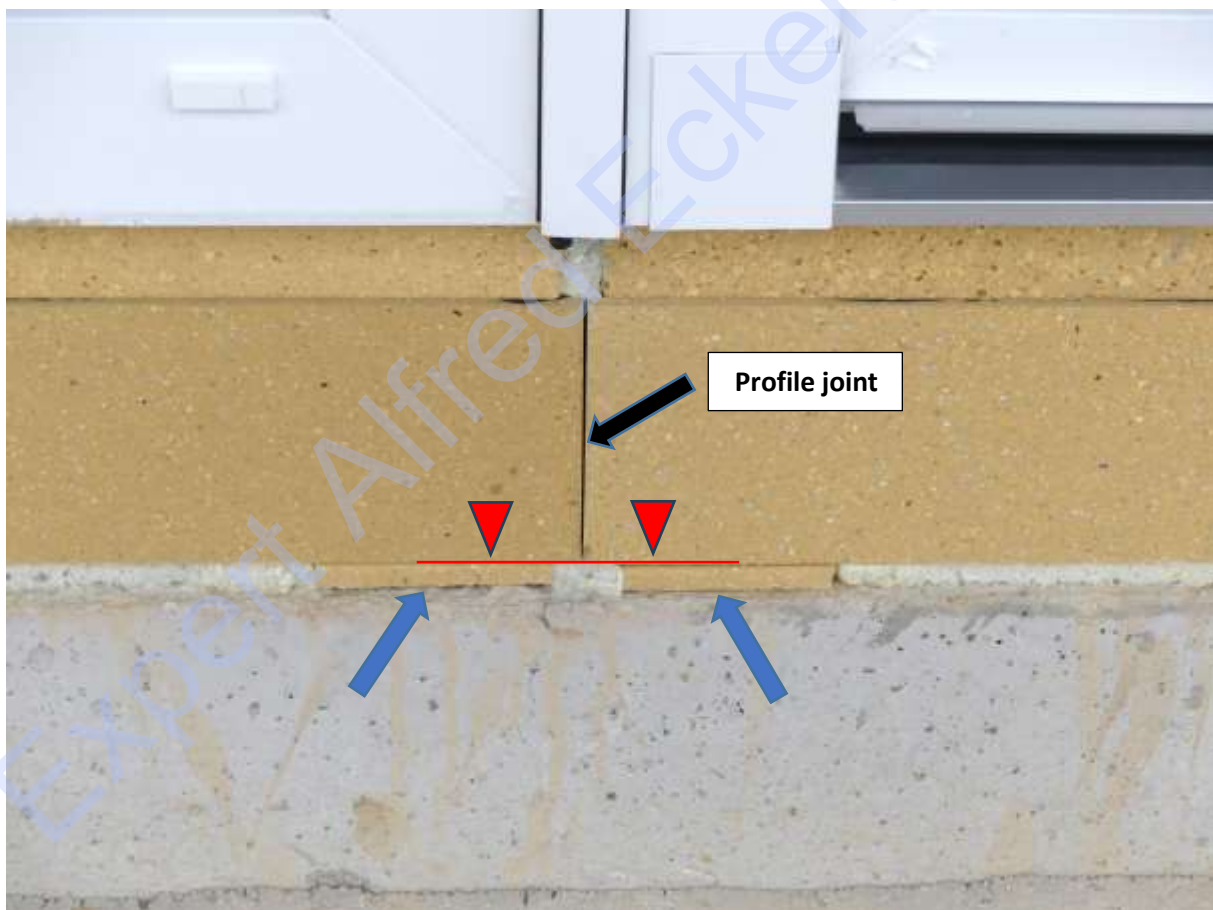
 additional supporting blocks



Installation Guideline Part 1 - Load Transfer

pay attention to the alignment of the supporting blocks in a horizontal plane

for vertical profile butt joints



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline **Part 1** - Load Transfer

Window single-span stick lights ≥ 1000 mm

Version with mullion

Arrangement of supporting blocks

 additional supporting block



Installation Guideline Part 1 - Load Transfer

Window

Arrangement of the supporting block in the area of the corner bearing



Installation Guideline **Part 1** - Load Transfer

Fixed glazing

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline **Part 1** - Load Transfer

Fixed glazing

Arrangement of the supporting block

 additional supporting block



Installation Guideline **Part 1** - Load Transfer

Fixed glazing

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline **Part 1** - Load Transfer

Fixed glazing

Arrangement of supporting blocks

 additional supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Lift-and-slide door

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Lift-and-slide door

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks

Arrange the load-bearing blocks flush with the floor connection profile on the outside



Installation Guideline Part 1 - Load Transfer

Arrangement of supporting blocks

Arrange the supporting blocks flush on the outside with the lining strip profile



Installation Guideline **Part 1** - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline Part 1 - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline Part 1 - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline Part 1 - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline Part 1 - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline **Part 1** - Load Transfer

Load transfer diagonally (diagonal blocking)



Installation Guideline **Part 1** - Load Transfer

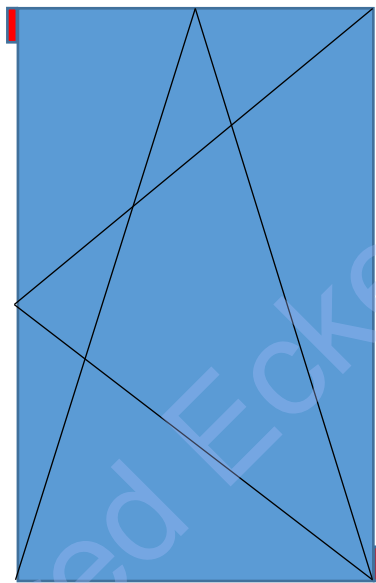
Load transfer diagonally (diagonal blocking)



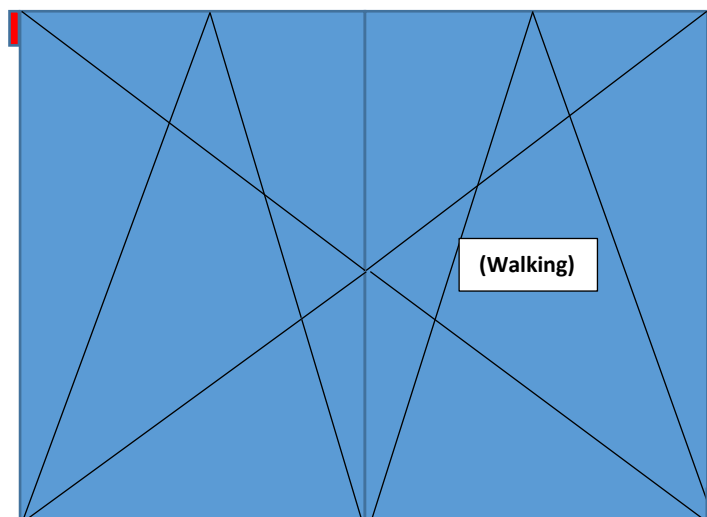
Installation Guideline **Part 1** - Load Transfer

Diagonal blocks (spacer blocks)

Window

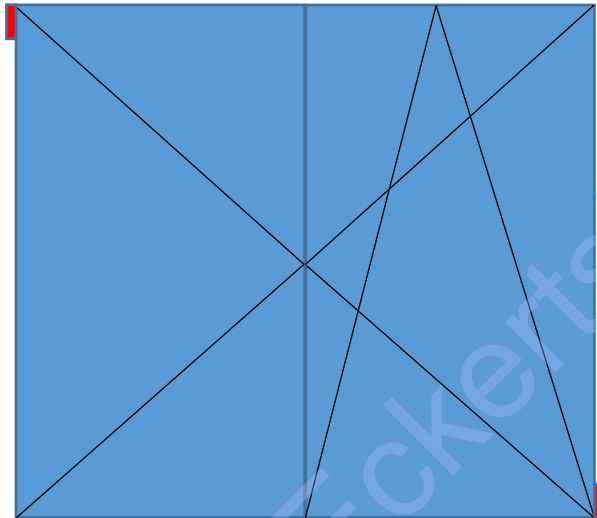


Window

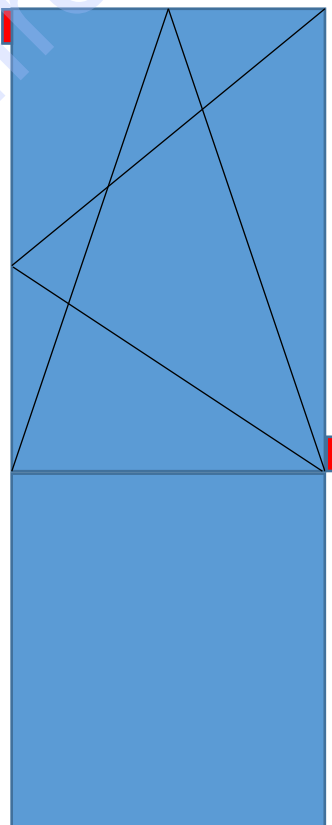


Installation Guideline **Part 1** - Load Transfer

Window



Window



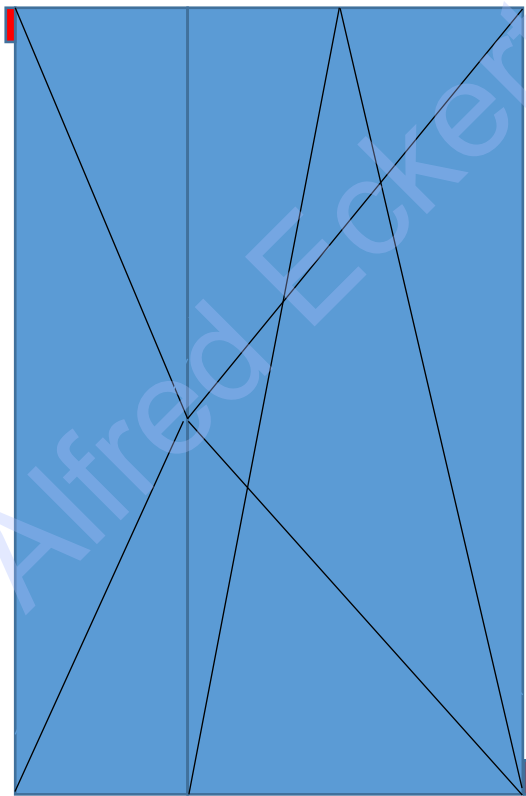
Installation Guideline **Part 1** - Load Transfer

Lift-and-slide door



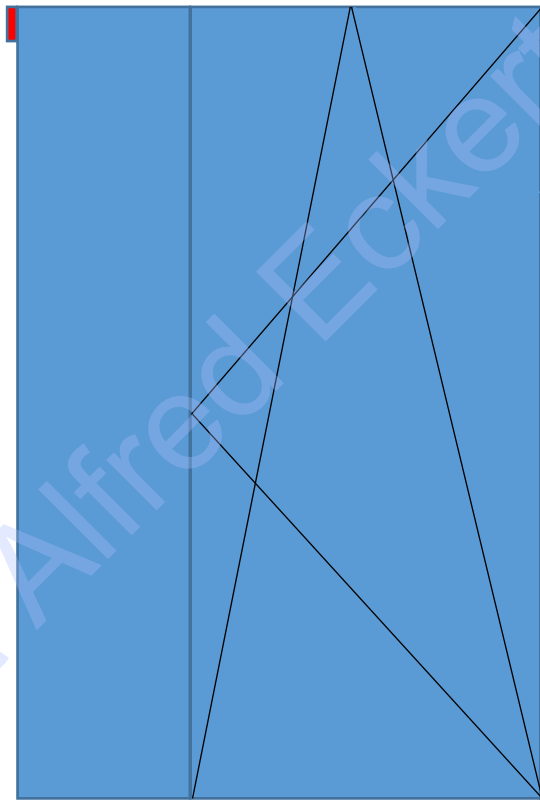
Installation Guideline Part 1 - Load Transfer

French doors



Installation Guideline **Part 1 - Load Transfer**

French doors



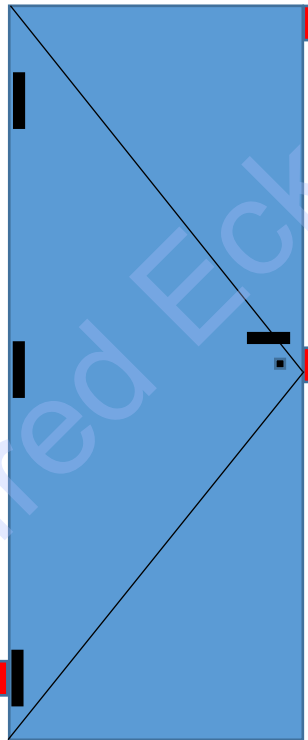
Installation Guideline Part 1 - Load Transfer

French doors



Installation Guideline **Part 1** - Load Transfer

Doorstep



Installation Guideline Part 1 - Load Transfer

Material of the load-bearing / spacer blocks or equivalent Materials
(regardless of the required dimensions)



Source: Ralmont-PTW GmbH

Installation Guideline Part 1 - Load Transfer

Material of the load-bearing / spacer blocks or equivalent Materials

(regardless of the required dimensions)



Installation Guideline Part 1 - Load Transfer

Material of the load-bearing / spacer blocks or equivalent Materials
(regardless of the required dimensions)



Installation Guideline Part 1 - Load Transfer



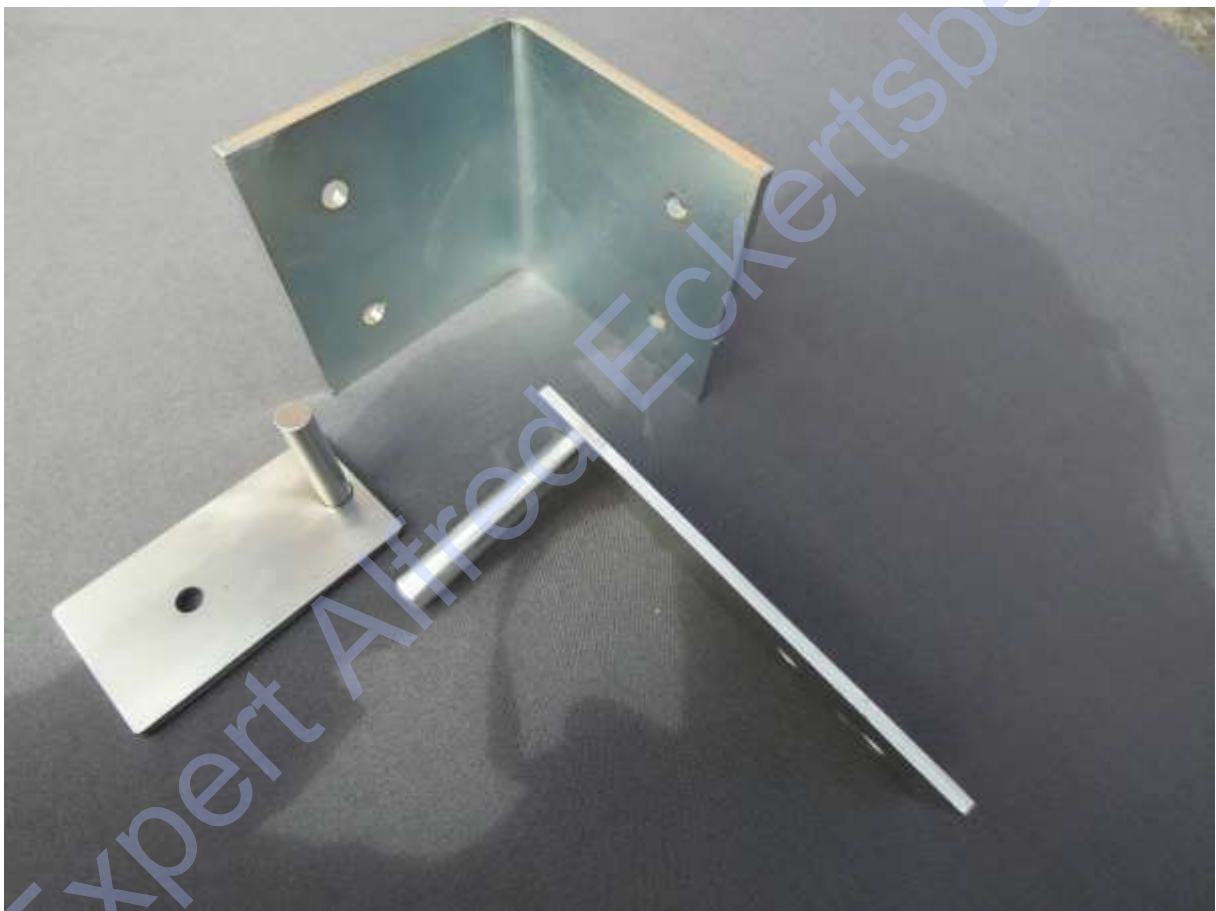
Installation Guideline Part 1 - Load Transfer



Installation Guideline Part 1 - Load Transfer



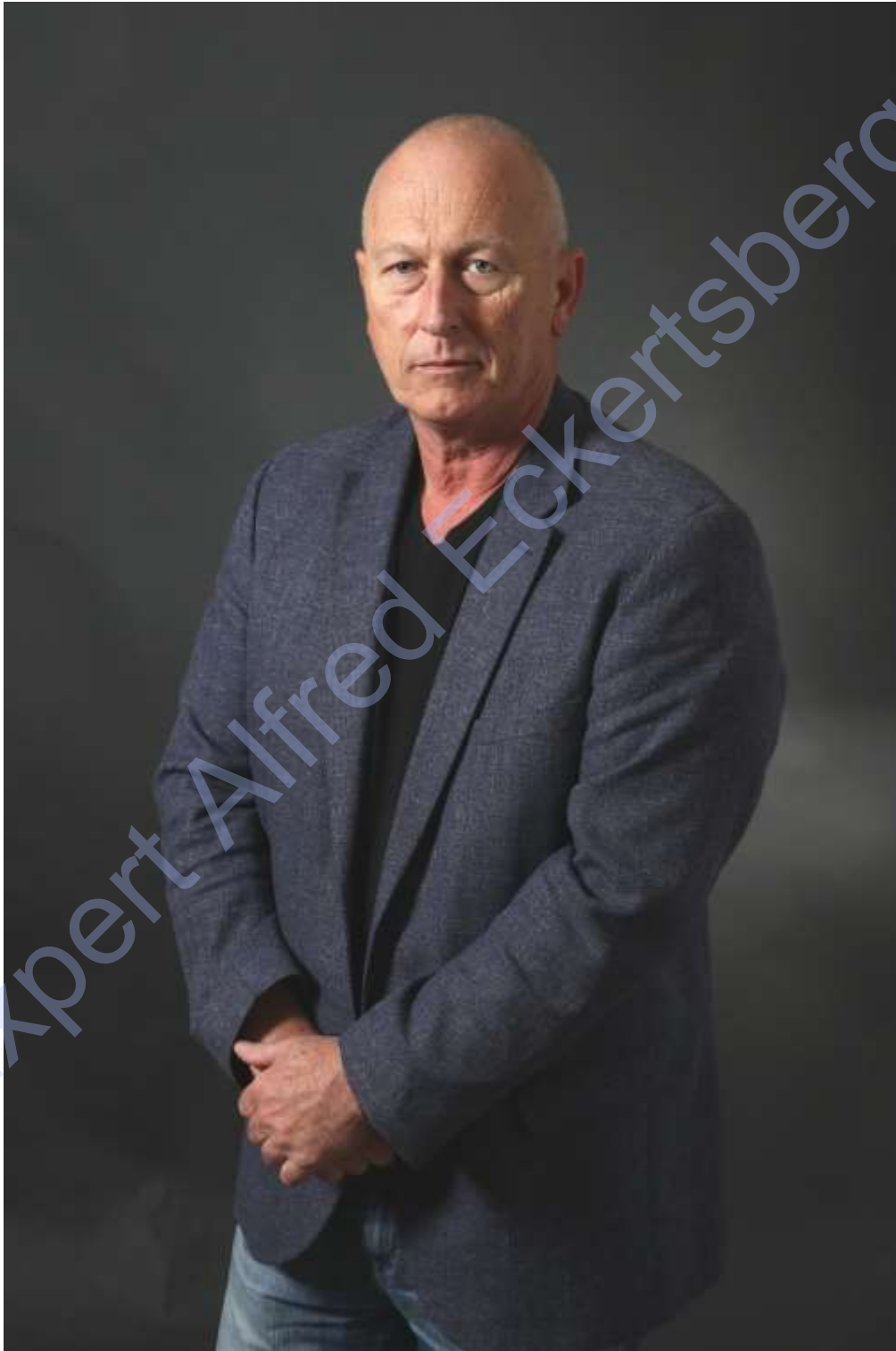
Installation Guideline Part 1 - Load Transfer



Installation Guideline Part 1 - Load Transfer

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Installation Guideline **Part 2 - Fastening**



Installation Guideline **Part 2 - Fastening**

Requirements analogous to ÖNORM B 5320

Fastening (According to ÖNORM B 5320):

The fastening of windows and French doors must securely transfer all planned forces acting on the building components into the structural wall (building body). The position and number of fasteners must be determined based on structural calculations. Conversely, no forces (loads) from the building itself should be transferred to the windows.

Deformations, such as permissible deflections of a lintel, must be absorbed permanently and without damage through an appropriate window connection design. Therefore, specific measures are required in these areas concerning:

- The type and method of fastening.
- The type and method of insulation for the building connection joint (window connection).

Key Principles for Fastening:

- Windows and French doors in punched facades must be continuously and mechanically fastened using suitable fastening systems, following the processing guidelines of the selected fastening system.
- Fastening with nails or insulation materials (e.g., expansion foams) is strictly prohibited.
- Drilling into masonry using impact drills for fastening elements is not allowed.
- For double-leaf French doors (meeting stile design), additional measures are required in the lintel or ceiling area at the sash contact point.
- Due to increased pressure loads (force impact) in these areas, additional fasteners (such as wall anchors, fastening screws, etc.) must be installed in the frame profiles and frame extensions.

Installation Guideline Part 2 - Fastening

Additional Fastening Requirements:

- The spacing between structurally calculated steel mounting brackets must not exceed 500 mm for floor-level elements. The same applies to structurally calculated fastening elements for frame extension packages up to 260 mm in ceiling and lintel areas.
- Floor-level elements must be secured using structurally assessed components, such as steel brackets and fastening screws. The placement and installation of the steel brackets must ensure that subsequent trades (e.g., screed installation, floor covering work, etc.) can be carried out without obstruction.
- Fastening elements must also undergo structural assessment when installing high frame extension packages in lintel and ceiling areas.
- In lintel or ceiling areas, if the installation gap exceeds 30 mm, 5 mm thick aluminium flat profiles (approx. 50 × 200 mm) must be used instead of the originally planned wall anchors. The window frame is then screwed into the building structure using the aluminium flat profile.
- This requirement also applies to wide elements, to prevent deformation of the frame profiles due to self-weight in lintel areas. The number and placement of these reinforcements must be determined based on the structural requirements.

Installation Guideline **Part 2 - **Fastening****

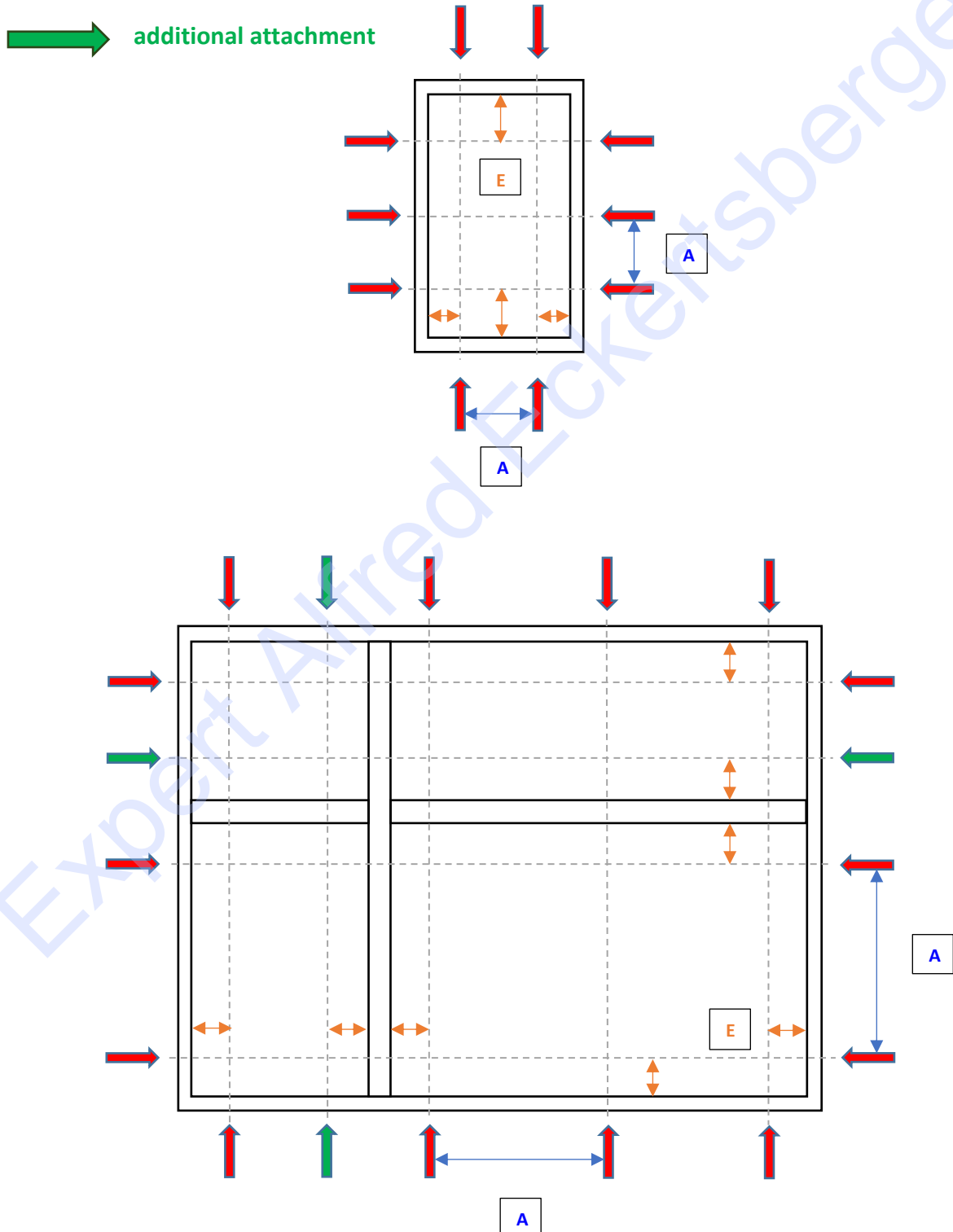
- **For French doors, special attention must be given to the sufficient length of fastening screws when connecting the window frame to Purenit profiles at the floor level. Purenit profiles must be securely screwed to the window frame using an interlocking system to ensure a strong, load-bearing connection. The manufacturer's installation guidelines must be strictly followed.**

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Installation Guideline **Part 2 - Fastening**

Mounting distances "Windows":

Unless otherwise stated by the window manufacturer itself, the following provisions analogous to ÖNORM B 5320 apply as a basis.



Installation Guideline **Part 2 - Fastening**

Legend:

A Mounting distance

E Mounting distance from the inner corner



Attachment point

- The **maximum mounting distance must be 700 mm.**
- The **fastening distance from the inner corner must be 100 mm to 200 mm,**
measured from the inside corner of the window frame.
- For an (inner) frame light ≤ 450 mm, one attachment point is sufficient.

Furthermore:

When using the fastening materials, it is mandatory to comply with the manufacturer's or processing guidelines with regard to processing and use. When fastening by means of "direct screwing", the required minimum edge distances from the soffit edge (outside) must be observed.

Installation Guideline **Part 2 - Fastening**

➡ "Anchor point"



Installation Guideline Part 2 - Fastening



Installation Guideline **Part 2 - Fastening**



Installation Guideline **Part 2 - Fastening**



Installation Guideline Part 2 - Fastening



Installation Guideline **Part 2 - Fastening**



Installation Guideline **Part 2 - Fastening**

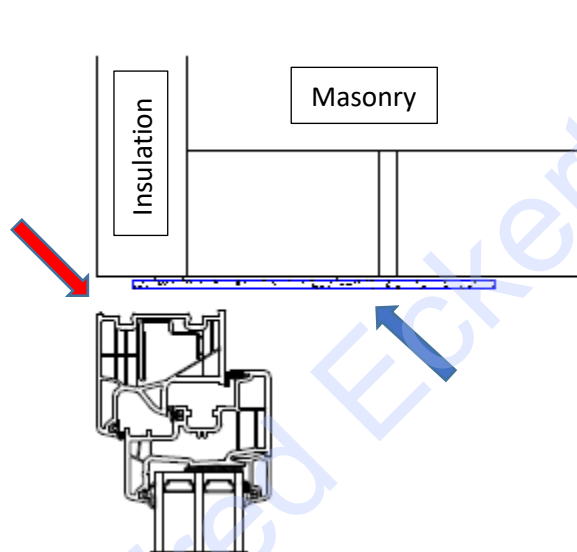


Installation Guideline **Part 2 - Fastening**

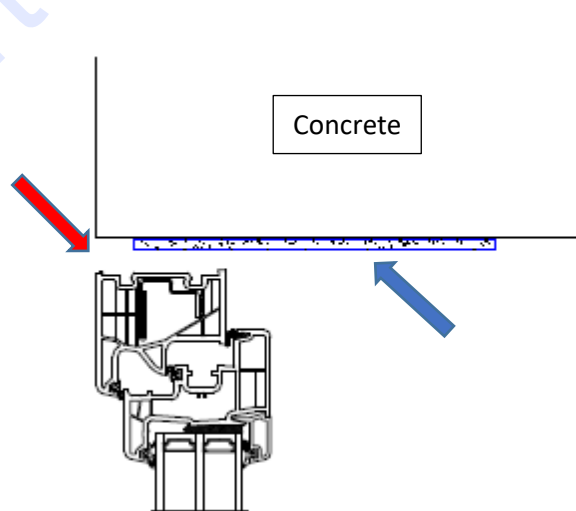
Version with **aluminium flat profile** - for windows and French doors

Built-in clearance ≥ 30 mm

eg. Variant 1



eg. Variant 2



Principle Representation

Installation Guideline Part 2 - Fastening

Version with aluminium flat profile for windows and French doors



Installation Guideline **Part 2 - Fastening**

Version with aluminium flat profile for windows and French doors



Installation Guideline Part 2 - Fastening

Version with aluminium flat profile for windows and French doors



Installation Guideline **Part 2 - Fastening**

Version with aluminium flat profile for windows and French doors



Installation Guideline Part 2 - Fastening

Version with aluminium flat profile for windows and French doors

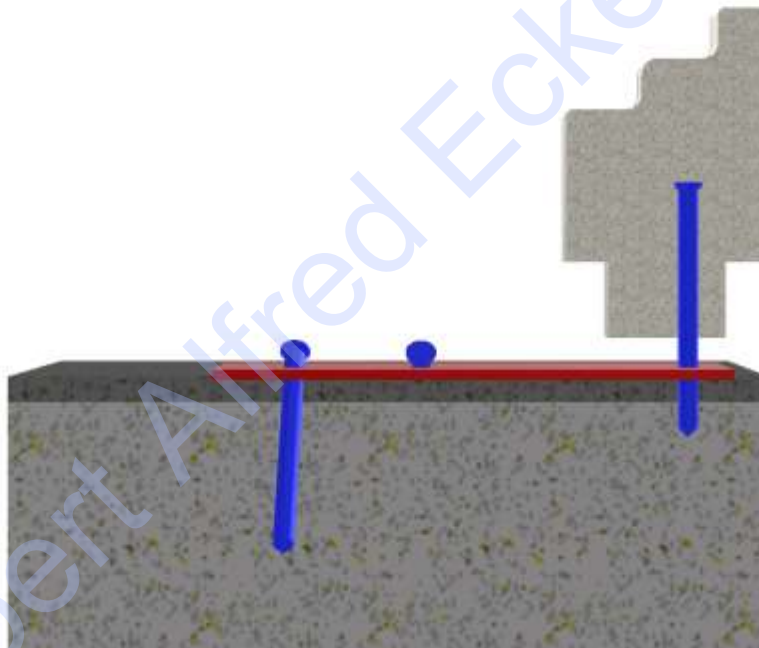
eg. for wide fixed parts



Installation Guideline **Part 2 - Fastening**

professional (recommended) fastening of window elements

Parapet Area Brick Masonry

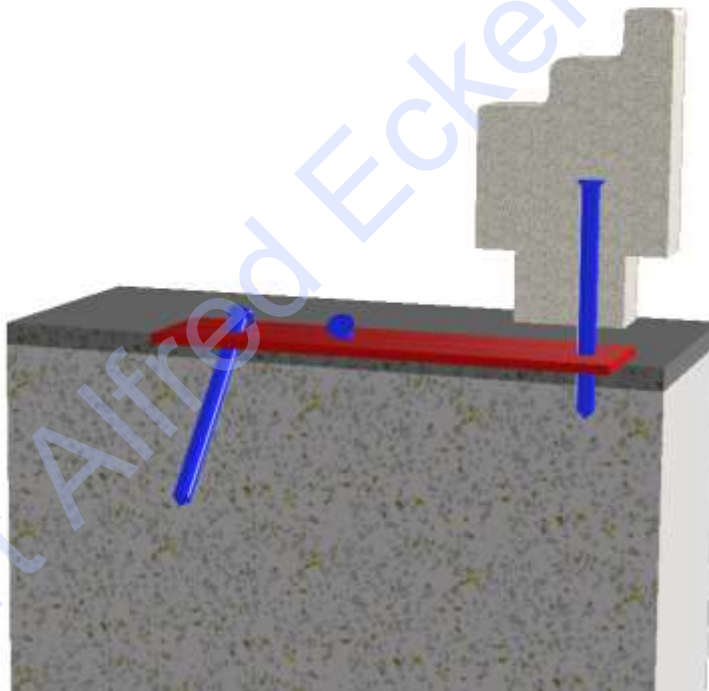


Principle Representation

Installation Guideline **Part 2 - Fastening**

professional (**recommended**) fastening of window elements

Parapet Area Brick Masonry



Principle Representation

Installation Guideline **Part 2 - Fastening**

Pole widening packages in the lintel or ceiling area



Installation Guideline **Part 2 - Fastening**

Pole widening packages in the lintel or ceiling area



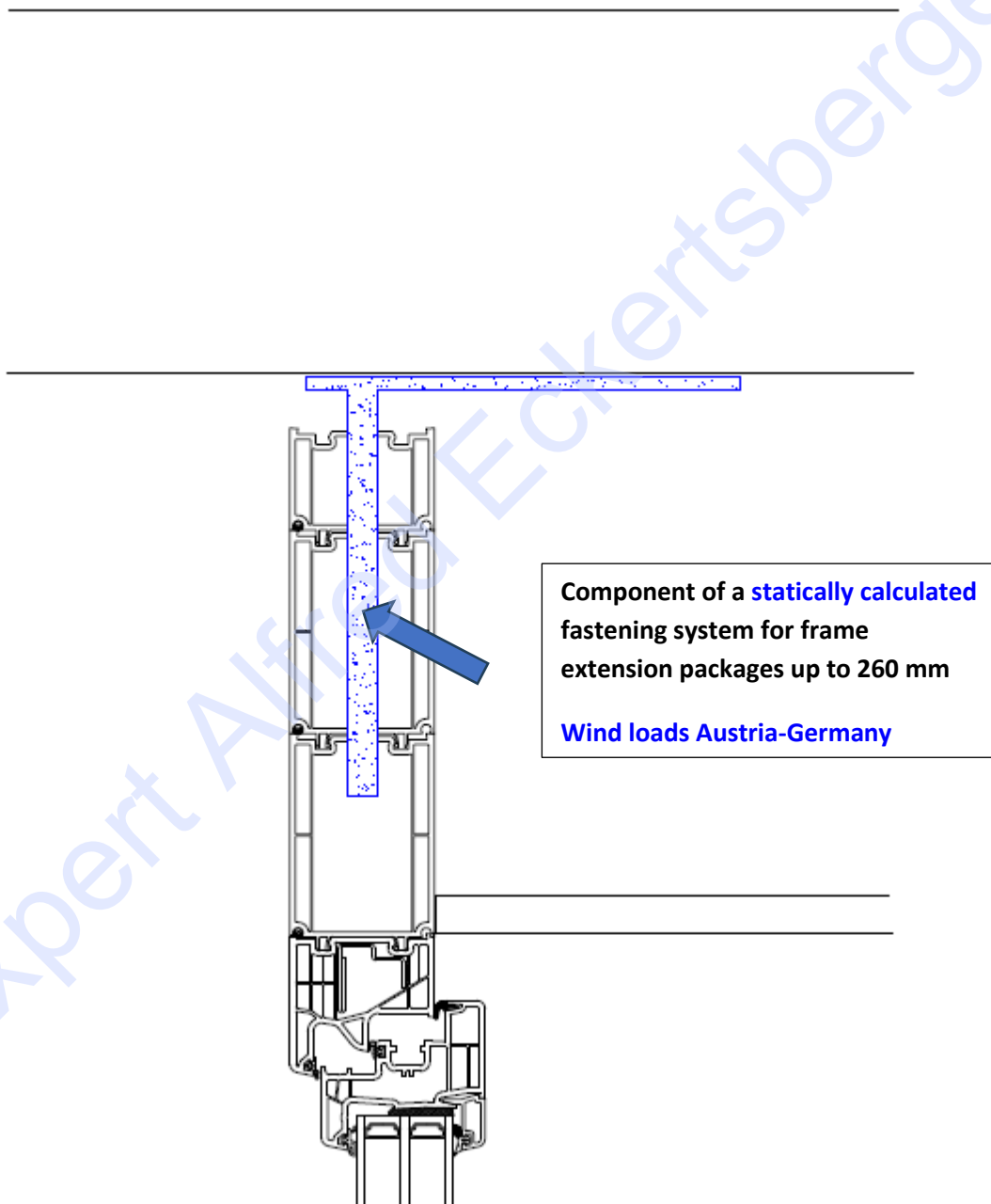
Installation Guideline Part 2 - Fastening

Pole widening packages in the lintel or ceiling area



Installation Guideline **Part 2 - Fastening**

Professional **(statically dimensioned)** fastening of window and French doors
for frame extension packages **up to 260 mm** in the ceiling area - **reinforced concrete**

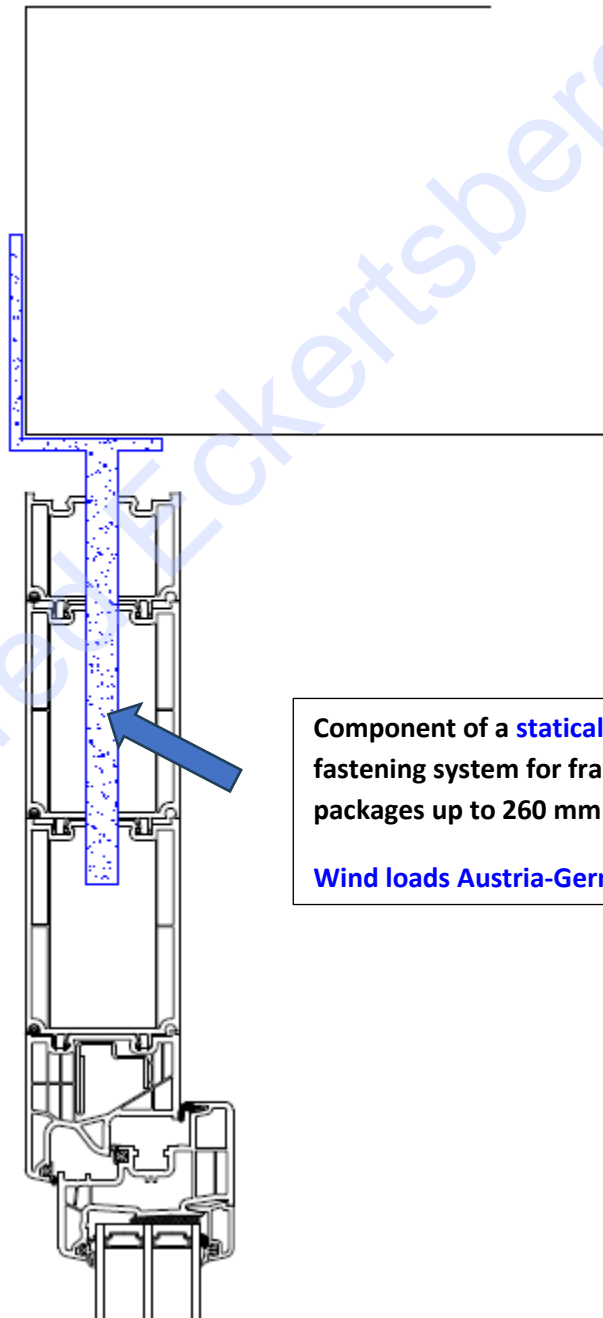


Principle Representation

Source: Expert Alfred Eckertsberger

Installation Guideline **Part 2 - Fastening**

Professional **(statically dimensioned)** fastening of window and French doors for frame extension packages **up to 260 mm** in the lintel and ceiling area - **reinforce concrete**



Component of a **statically calculated** fastening system for frame extension packages up to 260 mm

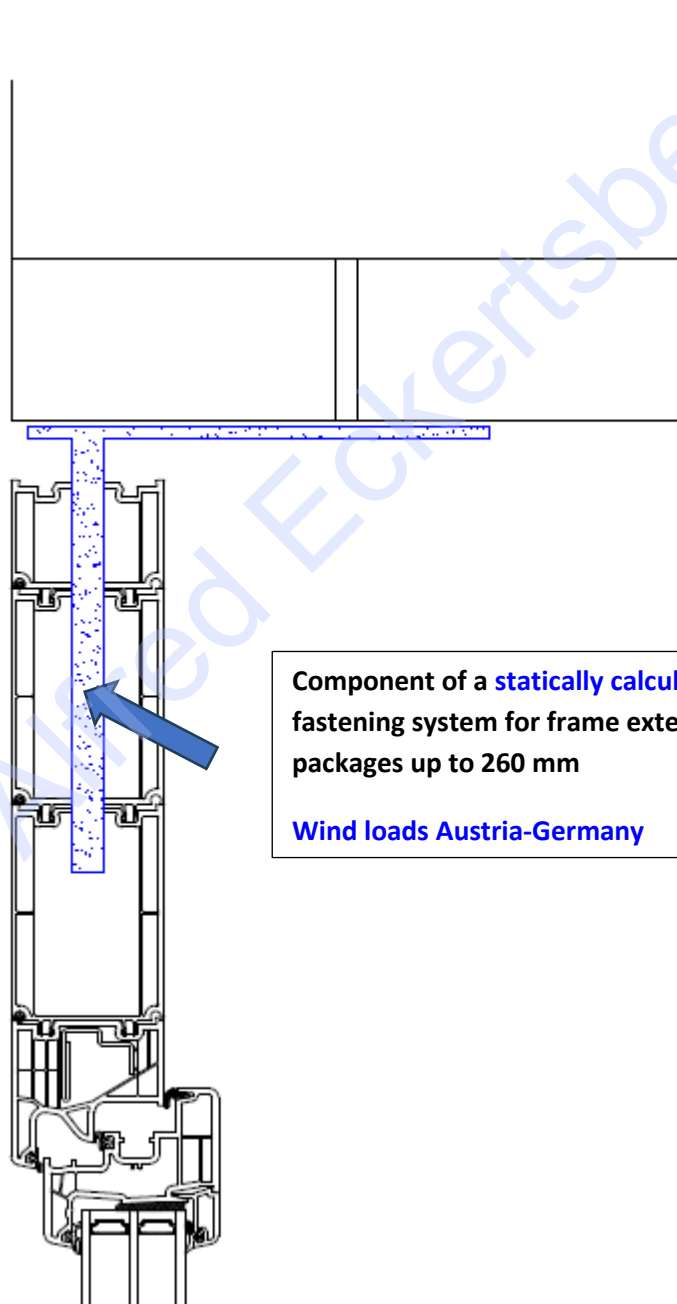
Wind loads Austria-Germany

Principle Representation

Source: Expert Alfred Eckertsberger

Installation Guideline **Part 2 - Fastening**

Professional (**statically dimensioned**) fastening of window and French doors for
frame extension packages **up to 260 mm** in the lintel area - **brick masonry**



Component of a **statically calculated**
fastening system for frame extension
packages up to 260 mm

Wind loads Austria-Germany

Principle Representation

Source: Expert Alfred Eckertsberger

Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



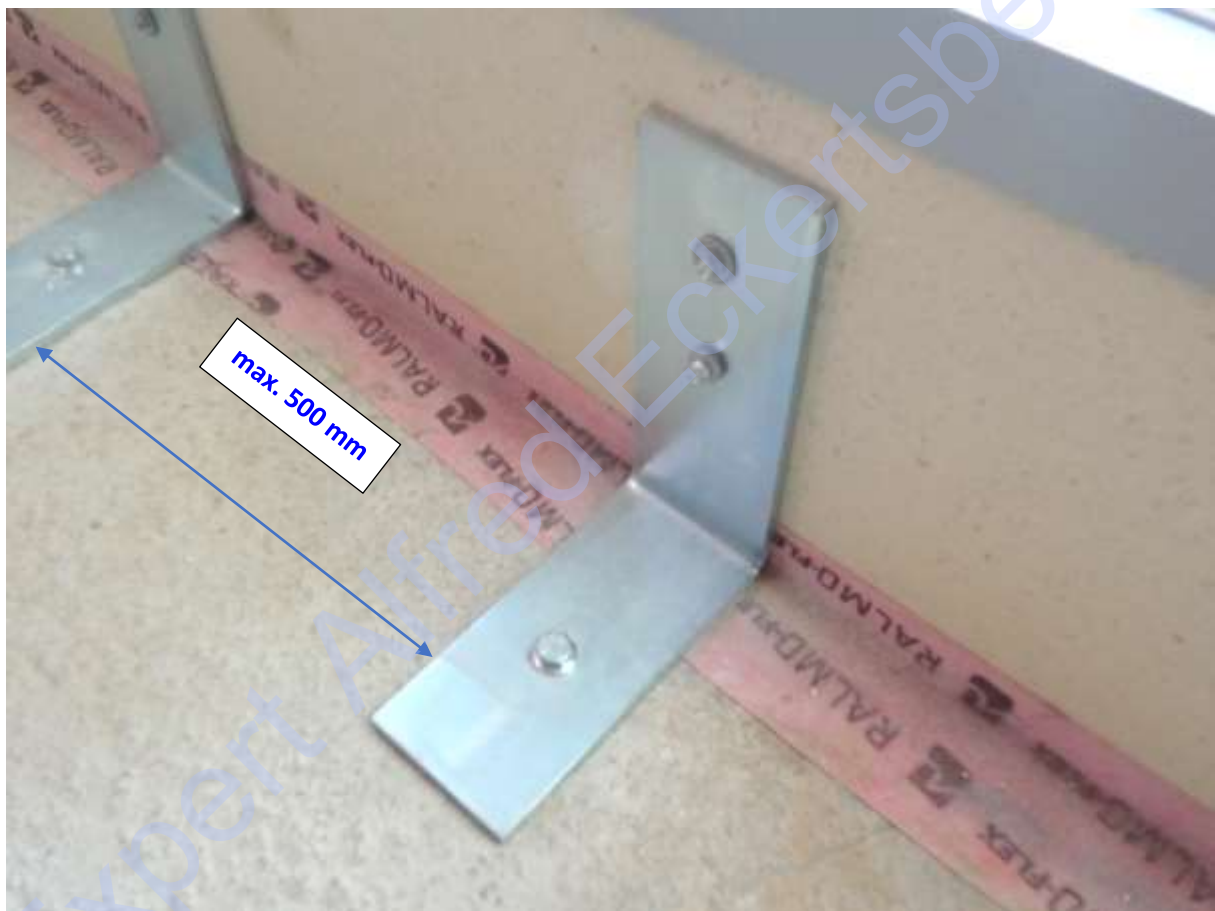
Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening



Installation Guideline Part 2 - Fastening

Screw connection window frame purenit



Installation Guideline Part 2 - Fastening

Screw connection window frame purenit



Installation Guideline **Part 2 - Fastening**

Execution of the steel mounting brackets

reg. utility model - Austrian Patent Office



Components of a statically dimensioned fastening system

Ground-level elements

for floor heights 180 mm, 200 mm, 250 mm, 300 mm

Wind loads Austria – Germany

Source: Expert Alfred Eckertsberger

Installation Guideline Part 2 - Fastening



Components of a statically dimensioned fastening system

Source: Expert Alfred Eckertsberger

Installation Guideline Part 2 - Fastening



Components of a statically dimensioned fastening system

Source: Expert Alfred Eckertsberger

Installation Guideline Part 2 - Fastening



Components of a statically dimensioned fastening system

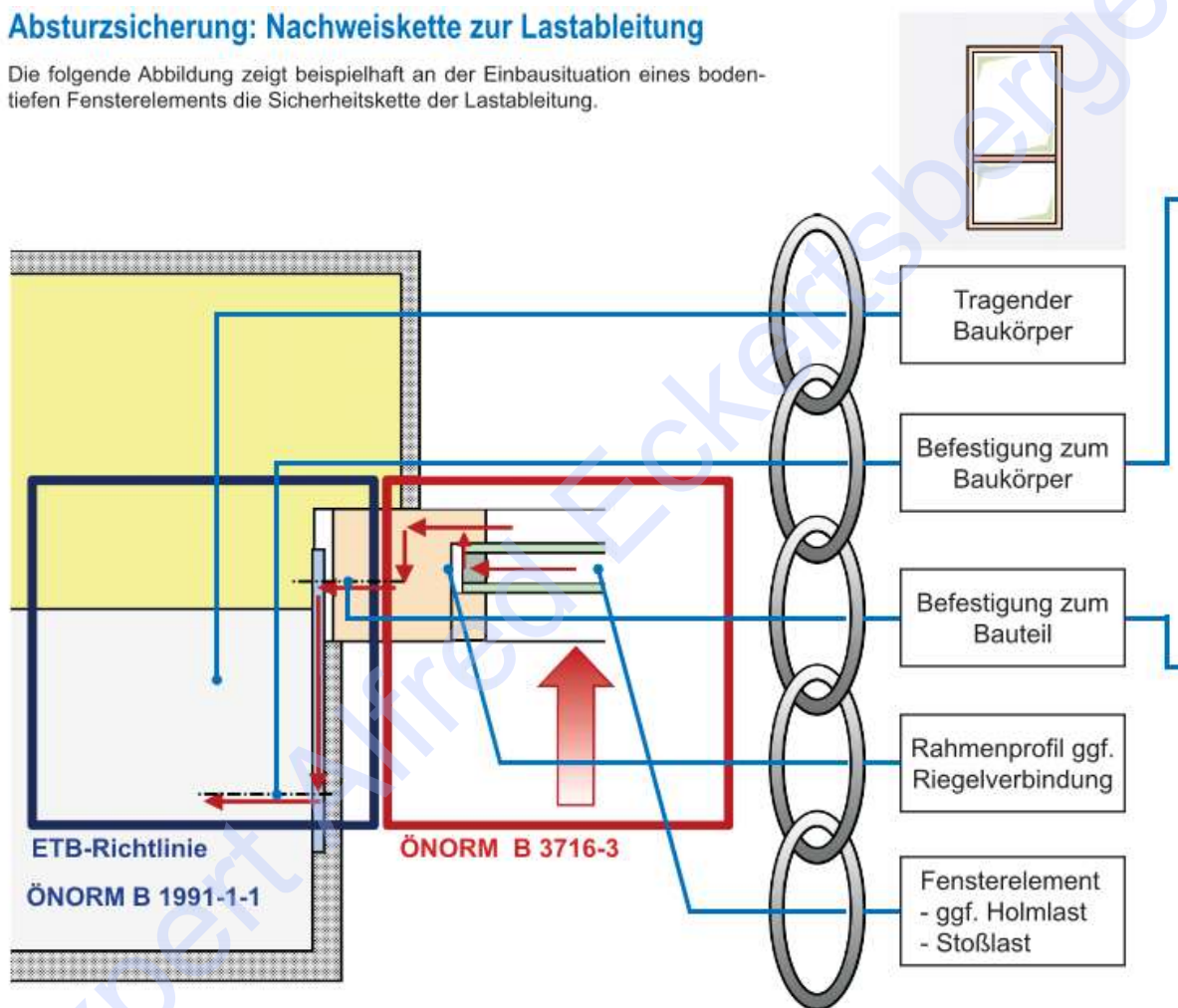
Source: Expert Alfred Eckertsberger

Installation Guideline **Part 2 - Fastening**

Fastening of fall protection elements (**Austria**)

Absturzsicherung: Nachweiskette zur Lastableitung

Die folgende Abbildung zeigt beispielhaft an der Einbausituation eines bodentiefen Fensterelements die Sicherheitskette der Lastableitung.



Sicherheitskette und Abgrenzung für den Nachweis der Absturzsicherung von Bauelement und Befestigung.
Quelle: Publikation - ift Rosenheim - Montage absturzsichernder Fenster, Türen Verglasungen, S. 5

Standards and guidelines valid in **Austria**:

ÖNORM B 5320

ÖNORM B 1991-1-4

ÖNORM B 3716-3

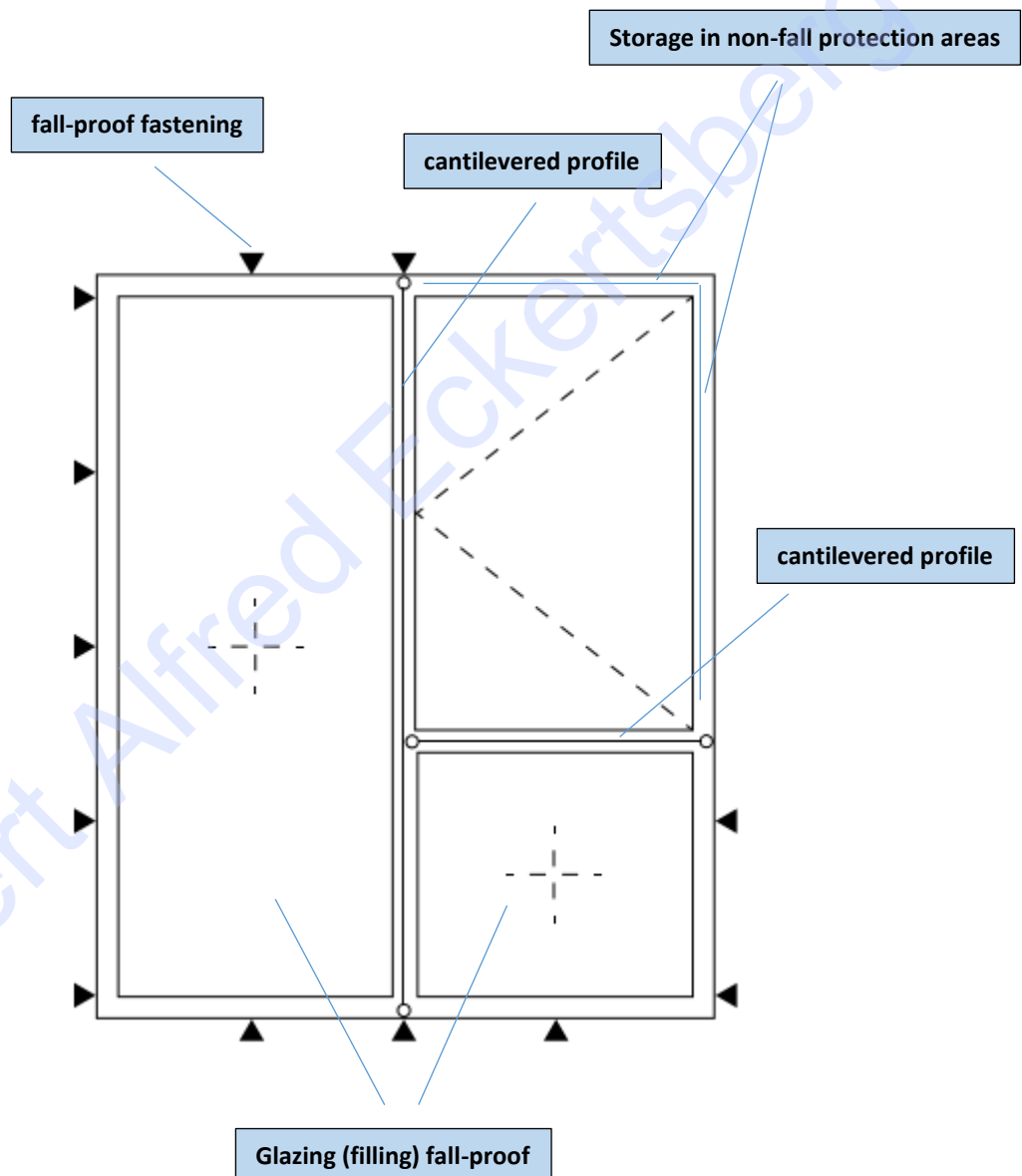
ETB guideline "Securing components against falls"

ÖNORM EN 1991-1-1

ÖNORM EN 1991-1-4

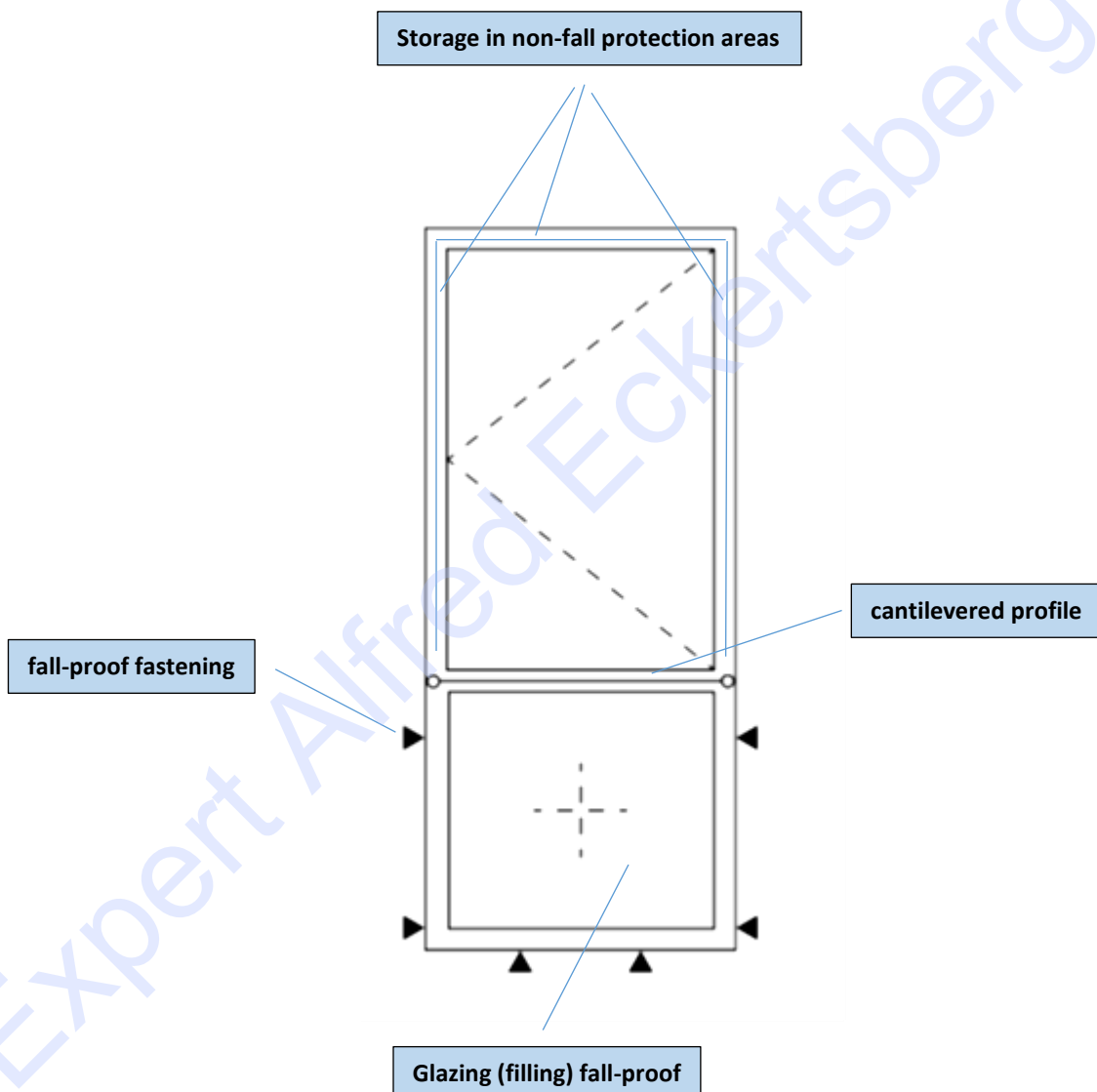
Installation Guideline **Part 2 - Fastening**

Example 1-principle representation



Installation Guideline **Part 2 - Fastening**

Example 2-principle representation

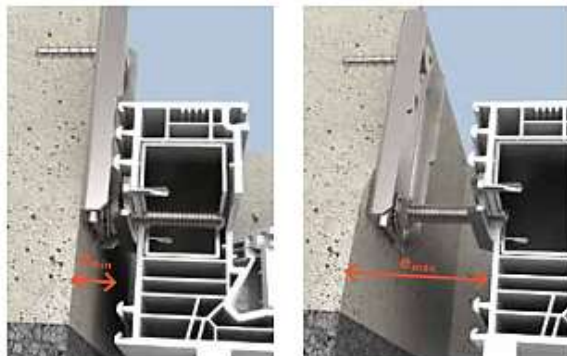


The corresponding verification regarding usability and structural aspects, as well as the selection of suitable fastening materials, must generally be carried out by the executing window installation company, regardless of the type and design of the construction itself!

Installation Guideline Part 2 - Fastening

"among others" - possible fasteners

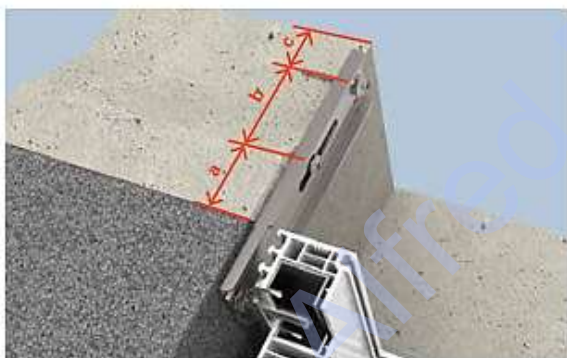
Fugenbreite «e»



Rahmenmaterial	Fugenbreite «e» (mm)	
	Direktbefestigung	
	e_{min}	e_{max}
PVC	10	35
Holz, mit AM8-UD	17	
Holz, mit AM8-T	12	25
Aluminium, mit AM8-UD	17	35
Aluminium, mit AM8-T, aufgelegt	12	
Aluminium, mit AM8-T, eingeschoben	10	

Standardmässig werden alle Schienen mit AM8-UD geliefert.
Das AM8-T kann separat bestellt werden. Siehe Lieferassortiment.
Bearbeitung Fensterahmenprofil: Bohrung Ø 10,5 mm

Anbindung Untergrund – Direktbefestigung



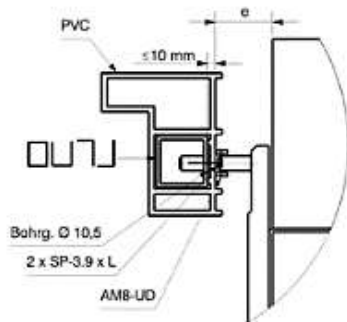
Mauertyp	a mm	b mm	c mm		
	≥ 50	min. 35	≥ 40	Ø 7,5 x 60	Ø 6 mm Schlagbohren
			≥ 50		
			≥ 60	Ø 8 x 80	Ø 5 mm Drehbohren



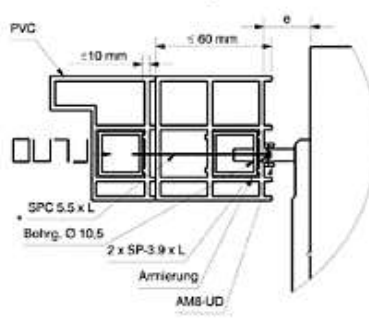
Mauertyp			
			Ø 10 x 80 Ø 10 mm Drehbohren

Installation Guideline **Part 2 - Fastening**

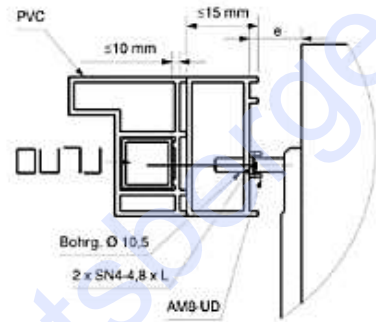
PVC armiert



PVC mit Verbreiterung armiert

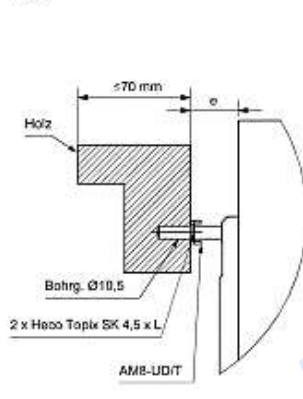


PVC mit Verbreiterung nicht armiert



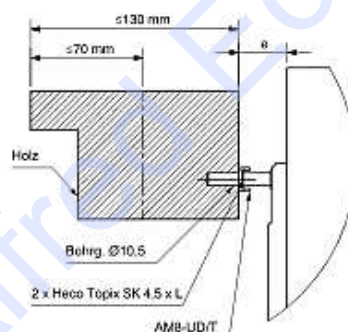
* Verbreiterungen müssen jeweils mit zwei SPC-Schrauben im Abstand von max. 150 mm zur Anbindung gekoppelt werden

Holz

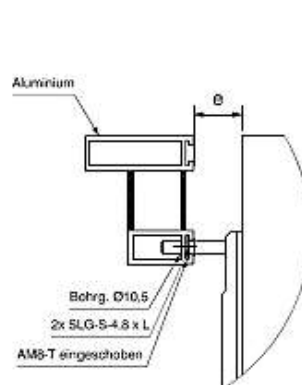
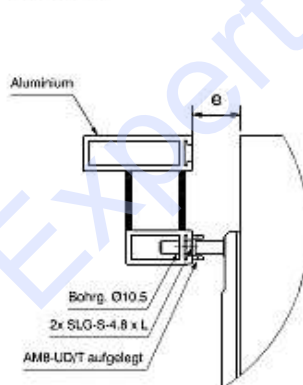


Holz

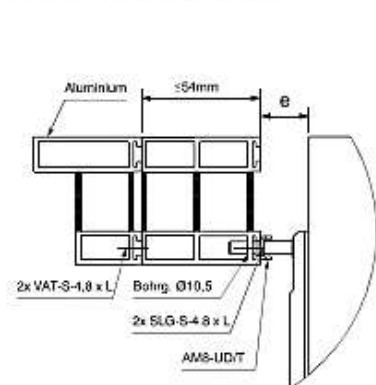
Rahmen mit grosser Ansichtsbreite (einteilig oder statisch tragfähig gekoppelt)



Aluminium



Aluminium mit Verbreiterung



Installation Guideline Part 2 - Fastening

Fall protection components



Installation Guideline Part 2 - Fastening

Fall protection components



Installation Guideline Part 2 - Fastening

Fall protection components



Installation Guideline Part 2 - Fastening

Fall protection components



Installation Guideline Part 2 - Fastening

Fall protection components



Installation Guideline Part 3 - Waterproofing



Installation Guideline **Part 3** - **Waterproofing**

Standard Window Connection (according to ÖNORM B 5320):

The standard window connection defines the minimum requirements for the standard installation of windows to the wall structure (building body). It includes filling the joint as well as the inner and outer connection. This standard connection must meet requirements regarding air permeability, resistance to driving rain, and wind load.

Requirements:

- **Foaming of the construction connection joint (window connection):**
Must be completely free of cavities using PU foam. During this process, both the substrate and the PU foam itself must be moistened with water.
- **Sealing of the construction connection joint (window connection) on the interior side:**
Must be continuously airtight.
- **Sealing of the construction connection joint (window connection) on the exterior side:**
Must be continuously resistant to driving rain. For floor-level elements, a "technical coordination" regarding the proper execution of subsequent trades (such as building waterproofing) must be planned in advance (during the planning phase).

Installation Guideline **Part 3** - **Waterproofing**

Additional Sealing Requirements:

- **Sealing of profile grooves in exterior areas (parapet area):**
Must be performed at the lateral sections of the frame profiles, at the latest during the installation of the external windowsill (if required).
- **Sealing of profile grooves (openings) in interior areas (floor, parapet, and lintel sections):**
Must be executed in the areas of element couplings, structural profiles, frame extensions, etc.
- **Sealing of profile grooves (openings) in exterior areas – lintel sections:**
Must be applied in the areas of element couplings, structural profiles, corner post profiles, frame extensions, etc. (in floor and parapet areas only if technically feasible).

Note:

When using sealing materials, the manufacturer's processing and application guidelines must be strictly followed. Only certified and tested materials may be used. If sealing membranes are applied, a spray adhesive must be used where necessary. Additionally, the processing guidelines for plaster and connection profiles provided by *Arge Putz* (Austria) must be observed and adhered to.

Installation Guideline Part 3 - Waterproofing

Generally "cavity-free" foaming



Installation Guideline **Part 3 - Waterproofing**



Source: Excerpt from "Austrian Working Group on Plaster"

Installation Guideline **Part 3** - **Waterproofing**

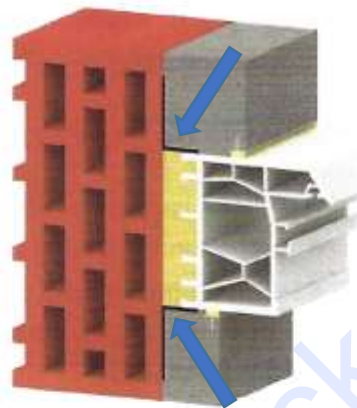


Abb. 16 – OK

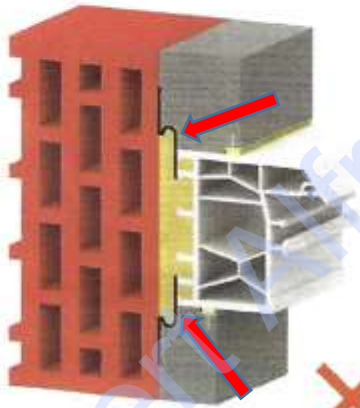


Abb. 17 – Negativbeispiel

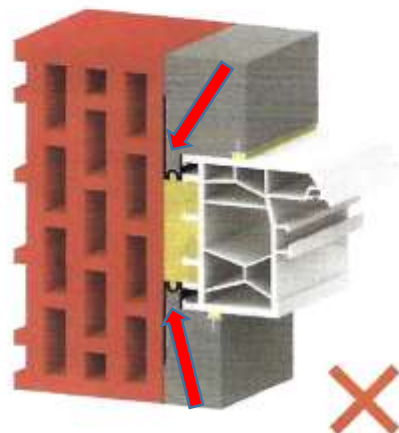


Abb. 18 – Negativbeispiel

Source: Excerpt from "Austrian Working Group on Plaster"

Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline **Part 3** - **Waterproofing**

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design



Installation Guideline **Part 3** - **Waterproofing**

Indoor design



Installation Guideline Part 3 - Waterproofing

Indoor design

Sealing profile grooves



Installation Guideline Part 3 - Waterproofing

Indoor design

Sealing profile grooves



Installation Guideline Part 3 - Waterproofing

Indoor design

Sealing profile grooves



Installation Guideline Part 3 - Waterproofing

Indoor design

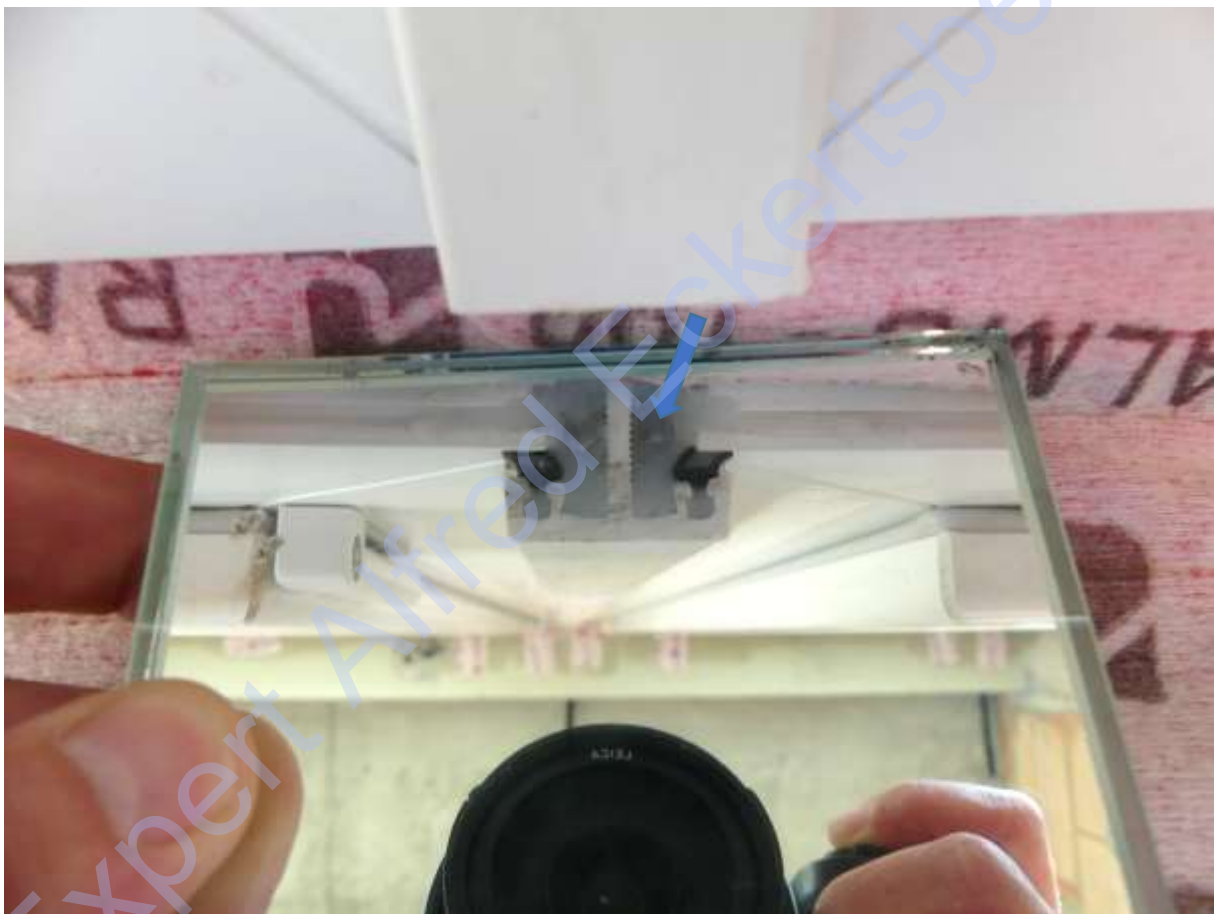
Sealing profile grooves



Installation Guideline Part 3 - Waterproofing

Indoor design

Sealing profile grooves (openings)



Installation Guideline Part 3 - Waterproofing

Indoor design

Sealing profile grooves (openings)



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

Outdoor design



Installation Guideline Part 3 - Waterproofing

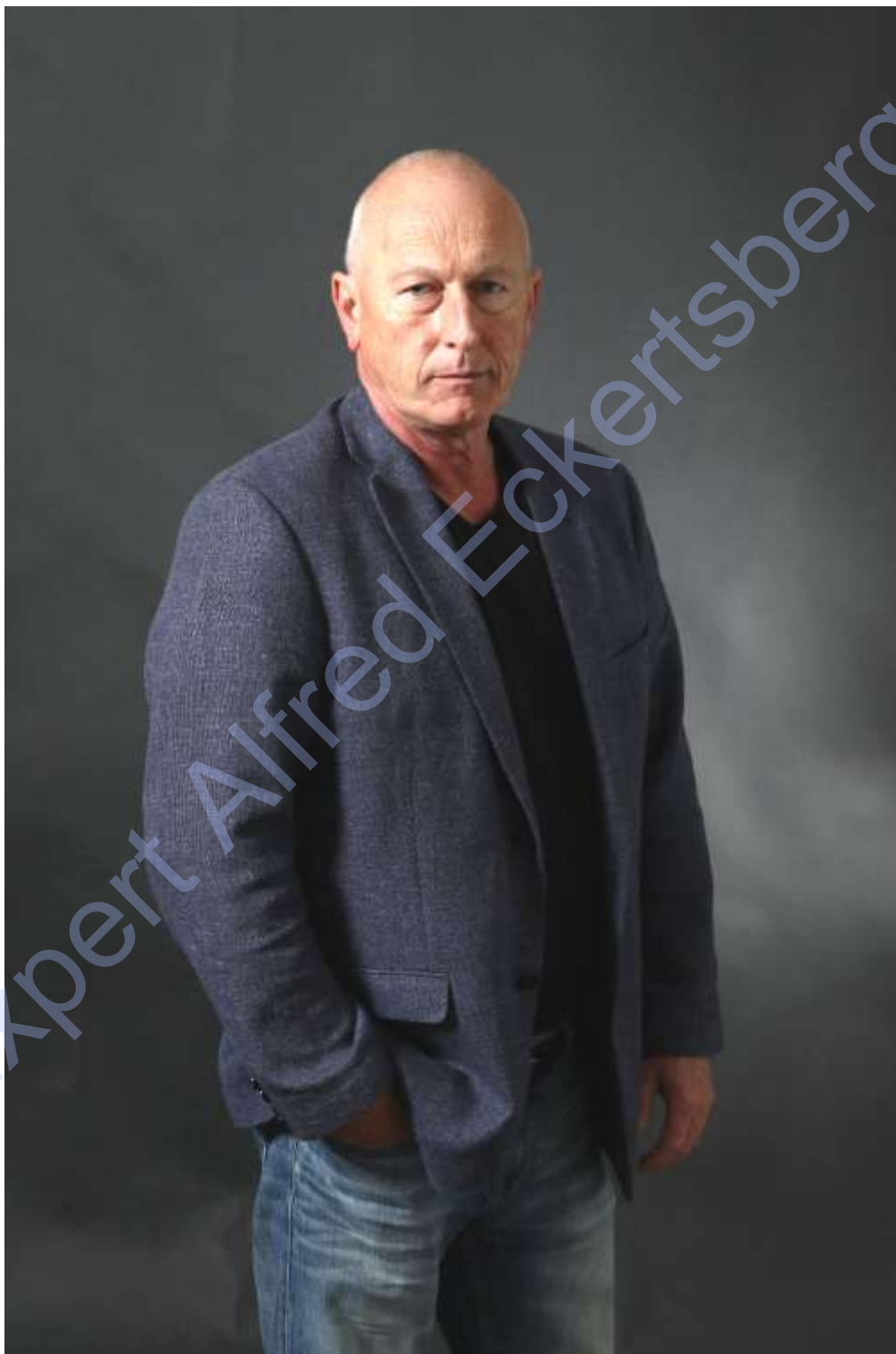
Outdoor design



Installation Guideline Part 3 - Waterproofing

Expert Alfred Eckertsberger

Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

Requirements According to "Arge-Fensterbank" – **Austria**

A) Installation of External Windowsills During Window Installation, Before Applying the ETICS (External Thermal Insulation Composite System) or Plaster Façade

Requirements:

- **Watertight Connection:**
The external windowsill must be securely sealed to the windowsill connection profile of the window using pre-compressed sealing tape (Class BG1 – 600 Pa).
- **Fastening:**
The attachment of the external windowsill to the windowsill connection profile must only be done using non-rusting fastening screws (*Niro-quality*).
- **Slope Requirement:**
The external windowsill must have an outward slope of at least 5° to ensure proper water drainage.
- **Projection:**
The windowsill must extend at least 40 mm beyond the finished façade system.
- **Movable End Caps:**
Only flexible end caps may be used to accommodate thermal expansion of the external windowsill without causing damage.

Installation Guideline Part 4 - Installation of Exterior Window Sill

- **Precise Alignment:**

The installation of the external windowsill must be perfectly aligned in the horizontal plane to ensure a flush and even fit.

- **Windowsill Brackets:**

- If required (depending on the installation situation), system-specific windowsill brackets must be professionally installed in a sufficient number.
- The maximum spacing between windowsill brackets is 500 mm, with at least two brackets per windowsill.
- The maximum distance between the windowsill brackets and the end caps must not exceed 80 mm.

- **Sealing Requirements:**

- A pre-compressed sealing tape (watertight) must be installed between the window frame and the windowsill end cap.
- If necessary, profile grooves in the parapet area must be sealed on the exterior at the lateral sections of the window frame.

- **Manufacturer's Guidelines:**

The installation and processing guidelines of the manufacturer must be strictly followed.

Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline **Part 4** - Installation of Exterior Window Sill



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

locally arranged pre-compressed sealing tape (driving rain-proof)



Installation Guideline Part 4 - Installation of Exterior Window Sill

locally arranged pre-compressed sealing tape (driving rain-proof)



Installation Guideline Part 4 - Installation of Exterior Window Sill

locally arranged pre-compressed sealing tape (driving rain-proof)



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline **Part 4** - Installation of Exterior Window Sill



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

B) Installation of External Windowsills After Window Installation, After Applying the ETICS (External Thermal Insulation Composite System)

"Vienna Installation" – Predominantly Used in Austria

Requirements:

- **Watertight Connection:** The external windowsill must be connected to the window's sill connection profile using a pre-compressed sealing tape (Class BG1-600 Pa).
- **Fastening:** The windowsill must only be attached to the sill connection profile using non-corrosive fastening screws ("Niro quality").
- **Slope:** The windowsill must have an outward slope of at least 5°.
- **Overhang:** The windowsill must extend at least 40 mm beyond the finished façade system.
- **End Caps:** Non-movable end caps (e.g., exposed concrete end caps) may also be used.
- **Sealing:** The windowsill end caps must be sealed at the rear corners using system-specific butyl patches.

Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

- **Adhesive Application:** The external windowsill must be attached using system-approved and tested adhesive (sealant) in a bead-like pattern, oriented towards the front.
- **Bead Spacing:** The adhesive beads must be spaced no more than 150 mm apart and must end approximately 30 mm before the front edge of the façade.
- **Sealing with Pre-Compressed Sealing Tape:**
 - Class BG1-600 Pa (grey colour) sealing tape must be professionally applied in the side reveal areas.
 - The compression level of the tape must be adjusted to the joint width (installation gap).
- **Sealing of Profile Grooves:**
 - In the parapet area, profile grooves must be sealed in the side areas of the frame profiles (if required).
- **Manufacturer's Guidelines:**

The installation and processing guidelines of the manufacturer must be strictly followed.

Installation Guideline Part 4 - Installation of Exterior Window Sill

Mounting substrate sealing slurries



Installation Guideline Part 4 - Installation of Exterior Window Sill

Mounting substrate sealing slurries



Installation Guideline **Part 4** - Installation of Exterior Window Sill

Arrangement of assembly adhesive



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of assembly adhesive



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of assembly adhesive



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline **Part 4** - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline Part 4 - Installation of Exterior Window Sill

Arrangement of pre-compressed sealing tape (reveal area)



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

any necessary profile groove sealing, at the latest during the installation of the exterior windowsill



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

Connection Design for External Windowsill: Guide Rail for Sun Protection, Window Frame

- The drainage of the guide rail must be directed onto the windowsill.
- Guide rails must be positioned within the lateral upstand of the windowsill.
- Minimum distance of 5 mm between the guide rail and the windowsill.
- Sealing between the guide rail and the window frame must be watertight against driving rain.



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline Part 4 - Installation of Exterior Window Sill



Installation Guideline **Part 4** - **Installation of Exterior Window Sill**

Sealing between guide rail and window frame - driving rain proof



Installation Guideline Part 4 - Installation of Exterior Window Sill

Sealing with sealing film



Installation Guideline Part 4 - Installation of Exterior Window Sill

Sealing with sealing film



Installation Guideline Part 4 - Installation of Exterior Window Sill

Sealing with sealing film



Installation Guideline Part 4 - Installation of Exterior Window Sill

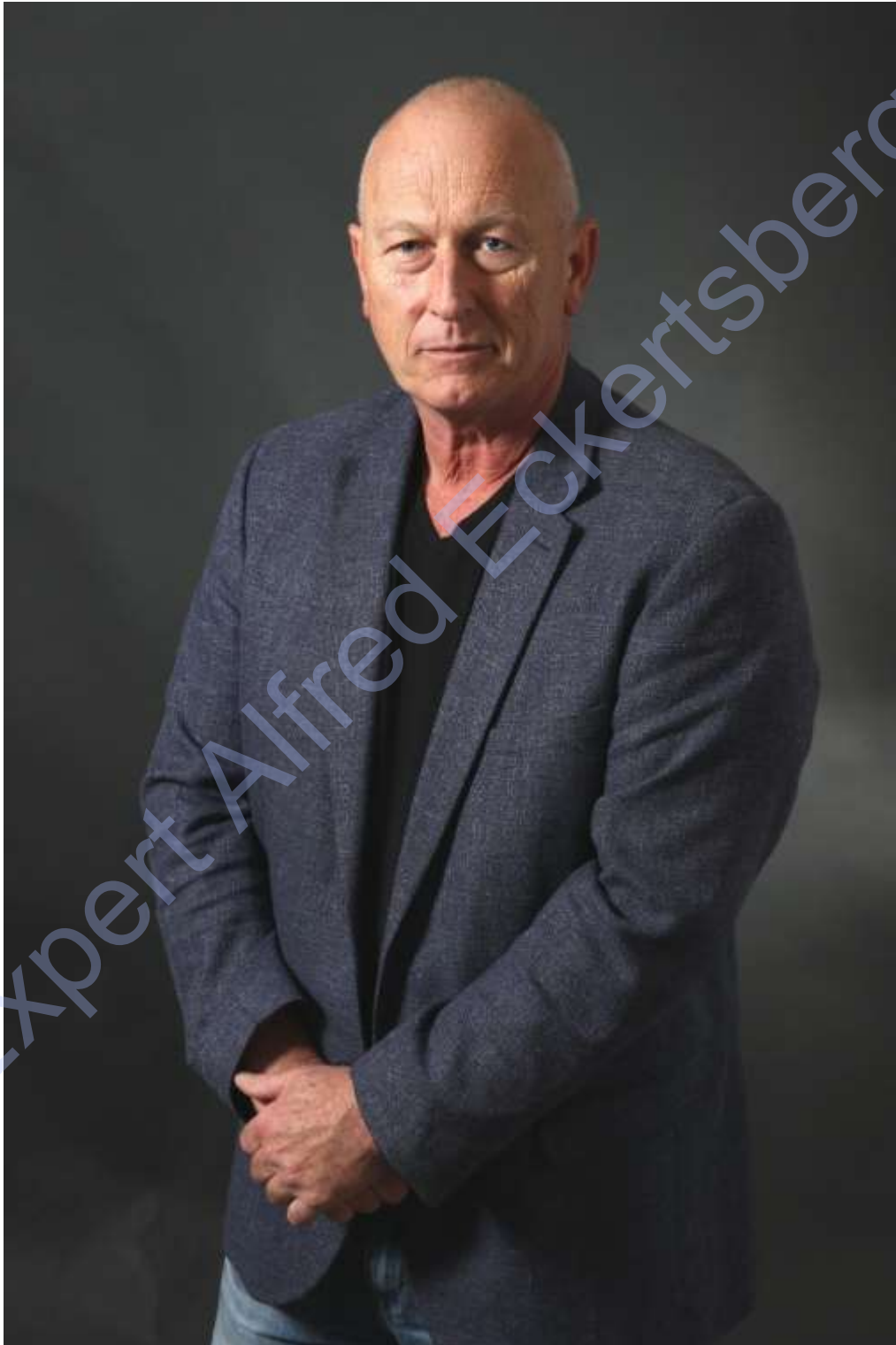
Sealing with sealing film



Installation Guideline Part 4 - Installation of Exterior Window Sill

Expert Alfred Eckertsberger

Installation Guideline **Part 5 - Installation of Blind Box, Flush-Mounted Version**



Installation Guideline **Part 5 - Installation of Blind Box, Flush-Mounted Version**

Excerpt from the valid ÖNORM B 6400-1 (Austria)

1.1 Prerequisites for processing

1.1.1 Construction process

Before starting the work, it should be ensured that:

- no subsequent moisture penetration of the substrate and the ETICS occurs (e.g. due to screed laying, interior plaster production, missing sheet metal). The construction schedule must be adjusted accordingly.
- no standing water accumulates in the area in the plinth, splash water or ground contact area,
- all work from the previous trades in the connection areas of windows, doors and roof junctions has been completed
- the necessary connection details are planned before the start of work,
- **all building components are installed to such an extent that no water can penetrate the ETICS via these components and a driving rain-proof connection is possible,**
- joints of wall formers are sealed,
- the hollow cores of the bricks are sealed and
- the final ground level is defined.

Connections of the ETICS to built-in parts (windows, doors, French doors) in accordance with this ÖNORM do not replace those measures that are necessary to meet the requirements for the driving rain and wind tightness of the building connection as specified in ÖNORM B 5320.

Note:

Sealing measures were carried out on installed Venetian blind box elements

(flush-mounted design). **However, the same applies to installed external roller shutter elements (plastered version).**

Installation Guideline **Part 5** - Installation of Blind Box, Flush-Mounted Version

.....resulting in

Connection design for Venetian blind box: connection to the building,
waterproofing measures

Insulation towards the building structure must be free of cavities



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Insulation towards the building structure generally free of cavities



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Insulation towards the building structure generally free of cavities



Installation Guideline **Part 5** - Installation of Blind Box, Flush-Mounted Version

Insulation towards the building structure generally free of cavities



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing is required to prevent water ingress into the ETICS in general!



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

as a result, waterproofing to the building is also required



Installation Guideline **Part 5** - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline **Part 5** - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline Part 5 - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation Guideline **Part 5** - **Installation of Blind Box, Flush-Mounted Version**

Sealing



Installation Guideline **Part 5** - Installation of Blind Box, Flush-Mounted Version

Sealing



Installation guidelines - Valid Standards and Guidelines

The standards in force at the time of preparation under other standards and guidelines:

ÖNORM B 5320 (edition 01.11.2024)

ÖNORM B 3716-3 (edition 01.01.2015)

ETB guideline "Securing components against falls" (edition 06.1985)

ÖNORM EN 12600 (edition 01.05.2003)

ÖNORM EN 15651-1 (edition 01.05.2017)

ÖNORM EN 14351-1 (edition 01.11.2016)

ÖNORM EN 1991-1-1 (edition 01.12.2020)

ÖNORM EN 1991-1-4 (edition 15.05.2011)

ÖNORM B 1991-1-4 (edition 01.04.2023)

ÖNORM EN 12210 (edition 15.08.2016)

ÖNORM B 6400-1 (edition 01.04.2026)

ÖNORM EN 1992-1-1 (edition 01.10.2021)

ÖNORM EN 13115 (edition 15.11.2020)

ÖNORM B 6000 (edition 01.01.2026)

ÖNORM EN 17333-5 (edition 15.05.2020)

ÖNORM EN ISO 11600 (edition 15.09.2011)

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